



TÜRKİYE ŞİŞE VE CAM FABRİKALARI A.Ş.

US\$550,000,000 6.95% Notes due 2026

guaranteed on a partial and several basis by each of

Trakya Cam Sanayii A.Ş.

Paşabahçe Cam Sanayii ve Ticaret A.Ş.

Anadolu Cam Sanayii A.Ş.

Soda Sanayii A.Ş.

Türkiye Şişe ve Cam Fabrikaları A.Ş., a joint stock company (the “*Issuer*”), is issuing US\$550,000,000 6.95% Notes due 2026 (the “*Notes*”). The payments of all amounts due in respect of the Notes and under the Trust Deed defined below will be guaranteed on a partial and several (not joint) basis by Trakya Cam Sanayii A.Ş. (“*Trakya Cam*”), Paşabahçe Cam Sanayii ve Ticaret A.Ş. (“*Paşabahçe*”), Anadolu Cam Sanayii A.Ş. (“*Anadolu Cam*”) and Soda Sanayii A.Ş. (“*Soda Sanayii*”) (each a “*Guarantor*” and, together, the “*Guarantors*”), each pursuant to a guarantee set out in the Trust Deed (each a “*Guarantee*” and, together, the “*Guarantees*”). The Guarantees (subject to adjustment as described in the Conditions of the Notes) are subject to limitations of US\$183,333,333 in the case of Trakya Cam, US\$110,000,000 in the case of Paşabahçe, US\$110,000,000 in the case of Anadolu Cam and US\$36,666,667 in the case of Soda Sanayii and, accordingly, the aggregate amount of the Guarantees (*i.e.*, US\$440,000,000) is less than the principal amount of the Notes (and would cover less of such principal if any interest and/or other amounts payable by the Issuer in respect of the Notes and under the Trust Deed (including to persons other than the investors in the Notes) are paid under the Guarantees). Investors in the Notes will not have any recourse to the Guarantors for payments in respect of the Notes in excess of these amounts under their respective Guarantees, notwithstanding that the amount of any failure to pay by the Issuer is greater than such amounts, nor will any Guarantor have any obligation to make up any shortfall if another Guarantor fails to make full and prompt payment under its Guarantee. Any moneys received by the Trustee under a Guarantee (including as a result of any enforcement action taken against any Guarantor) will, in accordance with the provisions of the Trust Deed, be applied in or towards payment *pari passu* and rateably of all principal and interest then due and unpaid in respect of the Notes (subject to the priority of payments prescribed by the Trust Deed, which stipulates that certain payments (including amounts payable to the Trustee) due under the Trust Deed will have priority over amounts due under the Notes). See “*Terms and Conditions of the Notes – Condition 4*” and “*Risk Factors – Risks Relating to the Notes Generally – Limited Guarantees*.”

INVESTING IN THE NOTES INVOLVES RISKS. PROSPECTIVE INVESTORS SHOULD CONSIDER THE FACTORS SET FORTH UNDER “RISK FACTORS” FOR A DISCUSSION OF CERTAIN OF THESE RISKS.

The Notes will be constituted by a trust deed (the “*Trust Deed*”) among the Issuer, the Guarantors and Citibank, N.A., London Branch (the “*Trustee*”). The Notes and the Guarantees have not been and will not be registered under the Securities Act of 1933, as amended (the “*Securities Act*”), of the United States of America (the “*United States*” or “*U.S.*”) or any other federal, state or other securities laws of the United States, the United Kingdom or any other jurisdiction, and are being offered: (a) for sale in the United States (the “*U.S. Offering*”) to qualified institutional buyers (each a “*QIB*”) as defined in, and in reliance upon, Rule 144A under the Securities Act (“*Rule 144A*”) and (b) for sale to persons other than U.S. persons (each a “*U.S. person*”) as defined in Regulation S under the Securities Act (“*Regulation S*”) in “*offshore transactions*” (the “*International Offering*”) and, with the U.S. Offering, the “*Offering*”) in reliance upon Regulation S. QIBs that are prospective purchasers of the Notes are hereby notified that the seller of the Notes to them might be relying upon the exemption from the registration requirements of Section 5 of the Securities Act provided by Rule 144A. Investors will be deemed to have made or be required to make certain representations and warranties in connection with their investment in the Notes. For a description of certain restrictions on the sale and transfer of investments in the Notes, see “*Plan of Distribution*,” “*Transfer Restrictions*” and “*Selling Restrictions*” herein. Where the “*United States*” is referenced herein with respect to Regulation S, such shall have the meaning provided thereto in Rule 902 of Regulation S. Interest on the Notes will be paid semi-annually in arrear on the 14th day of each March and September; *provided that* if any such date is not a Business Day (as defined below), then such payment will be made on the first following Business Day. Principal of the Notes is scheduled to be paid on 14 March 2026 but may be paid earlier under certain circumstances as further described herein. The Notes initially will be sold to investors at a price equal to 98.376% of the principal amount thereof. This Offering Circular (this “*Offering Circular*”) has been approved by the Central Bank of Ireland as competent authority under Directive 2003/71/EC (as amended or superseded, the “*Prospectus Directive*”). The Central Bank of Ireland only approves this Offering Circular as meeting the requirements imposed under Irish and European Union (the “*EU*”) law pursuant to the Prospectus Directive. Such approval relates only to Notes that are to be admitted to trading on a regulated market for the purposes of Directive 2014/65/EU (as amended, “*MiFID II*”) and/or that are to be offered to the public in any member state of the European Economic Area (the “*EEA*”). Application has been made to the Irish Stock Exchange plc trading as Euronext Dublin (“*Euronext Dublin*”) for the Notes to be admitted to its official list (the “*Official List*”) and to trading on its regulated market (the “*Regulated Market*”); *however*, no assurance can be given that such application will be accepted. The Regulated Market is a regulated market for the purposes of MiFID II.

References in this Offering Circular to the Notes being “*listed*” (and all related references) shall mean that the Notes have been admitted to the Official List and have been admitted to trading on the Regulated Market.

Application has been made to the Capital Markets Board (the “*CMB*”) of the Republic of Turkey (the “*Turkey*”), in its capacity as competent authority under Law No. 6362 (the “*Capital Markets Law*”) of Turkey, for its approval of the Issuer’s issuance and sale of the Notes outside of Turkey. No Notes may be sold before the necessary approvals are obtained from the CMB. The CMB-approved issuance certificate (*ihraç belgesi*) and the CMB approval letter relating thereto (together, the “*CMB Approval*”) have been obtained on 27 April 2018 and a written approval of the CMB relating to the Notes (whether in form of a tranche issuance certificate (*tertip ihraç belgesi*) or in any other form required under applicable law) is required to be obtained on or before the issue date (the “*Issue Date*”) of the Notes.

Under current Turkish tax law, withholding tax at the rate of 0% applies to interest on the Notes. See “*Taxation - Certain Turkish Tax Considerations*.”

The Notes are expected to be rated upon issuance “*BB+*” by Fitch Ratings Limited (“*Fitch*”) and “*Ba2*” by Moody’s Investors Service Limited (“*Moody’s*”) and, with Fitch, the “*Rating Agencies*”). The Issuer has also been rated by each Rating Agency as set out on page 119. Each of the Rating Agencies is established in the EU and is registered under Regulation (EC) No. 1060/2009, as amended (the “*CRA Regulation*”), and is included in the list of credit rating agencies published by the European Securities and Markets Authority (“*ESMA*”) on its website (at <https://www.esma.europa.eu/supervision/credit-rating-agencies/risk>) in accordance with the CRA Regulation. A rating is not a recommendation to buy, sell or hold securities and may be subject to revision, suspension or withdrawal at any time by the assigning rating agency.

The Notes are being offered under Rule 144A and Regulation S by each of BNP Paribas, Citigroup Global Markets Limited, HSBC Bank plc and J.P. Morgan Securities plc (each a “*Joint Bookrunner*” and, collectively, the “*Joint Bookrunners*”), subject to their acceptance and right to reject orders in whole or in part.

The Notes will initially be represented by global certificates in registered form (the “*Global Certificates*”), one or more of which will be issued in respect of the Notes (the “*Rule 144A Notes*”) offered and sold in reliance upon Rule 144A (a “*Restricted Global Certificate*”) and will be registered in the name of Cede & Co., as nominee for the Depository Trust Company (“*DTC*”), and one of which will be issued in respect of the Notes (the “*Regulation S Notes*”) offered and sold in reliance upon Regulation S (the “*Unrestricted Global Certificate*”) and will be registered in the name of a nominee of a common depository for Euroclear Bank SA/NV (“*Euroclear*”) and Clearstream Banking S.A. (“*Clearstream, Luxembourg*”). It is expected that delivery of the Global Certificates will be made in immediately available funds on the Issue Date. References herein to Notes shall, where applicable, be deemed to refer to beneficial interests in the applicable Global Certificate.

Joint Bookrunners

BNP PARIBAS

Citigroup

HSBC

J.P. Morgan

The date of this Offering Circular is 12 March 2019.

This Offering Circular constitutes a prospectus for the purposes of the Prospectus Directive. This document does not constitute a prospectus for the purpose of Section 12(a)(2) of, or any other provision of or rule under, the Securities Act.

RESPONSIBILITY STATEMENT

The Issuer confirms that: (a) this Offering Circular (including the information incorporated herein by reference) contains all information that in its view is material in the context of the issuance and offering of the Notes, (b) the information contained in, or incorporated by reference into, this Offering Circular is true and accurate in all material respects and is not misleading, (c) any opinions, predictions or intentions expressed in this Offering Circular (including in any of the documents (or portions thereof) incorporated herein by reference) on the part of the Issuer or any Guarantor are honestly held or made by the Issuer or such Guarantor, as the case may be, and are not misleading in any material respects, and there are no other facts the omission of which would make this Offering Circular or any of such information or the expression of any such opinions, predictions or intentions misleading in any material respect, and (d) all reasonable enquiries have been made by the Issuer (and, if applicable, a Guarantor) to ascertain such facts and to verify the accuracy of all such information and statements.

The Issuer accepts responsibility for the information contained in (including incorporated by reference into) this Offering Circular. To the best of the knowledge and belief of the Issuer (having taken all reasonable care to ensure that such is the case), the information contained in this Offering Circular (including the information incorporated herein by reference) is in accordance with the facts and does not omit anything likely to affect the import of such information. To the best of the knowledge and belief of each Guarantor (having taken all reasonable care to ensure that such is the case), the information relating to itself and its Guarantee contained in this Offering Circular (including such information incorporated herein by reference) is in accordance with the facts and does not omit anything likely to affect the import of such information. Each Guarantor accepts responsibility only for the information contained in the Offering Circular (including the information incorporated herein by reference) relating to itself and its Guarantee.

This Offering Circular is to be read in conjunction with all documents that are incorporated herein by reference (see "*Documents Incorporated by Reference*"). This Offering Circular shall be read and construed on the basis that such documents are incorporated into, and form part of, this Offering Circular.

To the fullest extent permitted by law, none of the Joint Bookrunners, the Trustee or the Agents accept any responsibility for: (a) the information contained in (including incorporated by reference into) this Offering Circular or any other information provided by the Issuer or a Guarantor in connection with the Notes or for any statement consistent with this Offering Circular made, or purported to be made, by a Joint Bookrunner or on its behalf in connection with the Notes and (b) any acts or omissions of the Issuer, a Guarantor or any other person in connection with the issue and offering of the Notes. Each Joint Bookrunner, the Trustee and each Agent accordingly disclaims all and any liability that it might otherwise have (whether in tort, contract or otherwise) in respect of the accuracy or completeness of any such information or statements. None of the the Joint Bookrunners, the Trustee or the Agents expressly undertake to review the financial condition or affairs of the Issuer or the Guarantors during the life of the Notes or to advise any investor or potential investor in the Notes of any information coming to their attention.

No person is or has been authorised by the Issuer or the Guarantors to give any information or to make any representation not contained in or not consistent with this Offering Circular or any other information supplied by (or with the consent of) the Issuer or a Guarantor in connection with the Notes and, if given or made, such information or representation must not be relied upon as having been authorised by the Issuer, the Guarantors or any of the Joint Bookrunners.

Neither this Offering Circular nor any other information supplied by (or on behalf of) the Issuer, the Guarantors or any of the Joint Bookrunners in connection with the Notes: (a) is intended to provide the basis of any credit or other evaluation or (b) should be considered as a recommendation by the Issuer, the Guarantors or any of the Joint Bookrunners that any recipient of this Offering Circular or any such other information should invest in the Notes. Each investor contemplating investing in the Notes should: (i) determine for itself the relevance of the information contained in (including incorporated by reference into) this Offering Circular, (ii) make its own independent investigation of the financial condition and affairs, and its own appraisal of the creditworthiness, of the Issuer and the Guarantors and (iii) make its own determination of the suitability of any such investment in light of its own

circumstances, with particular reference to its own investment objectives and experience, and any other factors that are relevant to it in connection with such investment, in each case, based upon such investigation as it deems necessary.

This Offering Circular does not constitute an offer of, or an invitation by or on behalf of the Issuer, the Guarantors, the Trustee, the Agents and the Joint Bookrunners to subscribe for or purchase any Notes. This Offering Circular is intended only to provide information to assist potential investors in deciding whether or not to subscribe for or purchase Notes in accordance with the terms and conditions specified by the Joint Bookrunners. The Notes may not be offered or sold, directly or indirectly, and this Offering Circular may not be circulated, in any jurisdiction except in accordance with legal requirements applicable to such jurisdiction.

Neither the delivery of this Offering Circular nor the offering, sale or delivery of any Notes shall in any circumstances imply that the information contained herein is correct at any time subsequent to the date hereof (or, if such information is stated to be as of an earlier date, subsequent to such earlier date) or that any other information supplied in connection with the Notes is correct as of any time subsequent to the date indicated in the document containing the same.

GENERAL INFORMATION

The distribution of this Offering Circular and/or the offer or sale of Notes might be restricted by law in certain jurisdictions. None of the Issuer, the Guarantors or the Joint Bookrunners represent that this Offering Circular may be lawfully distributed, or that the Notes may be lawfully offered or sold, in any such jurisdiction or assume any responsibility for facilitating any such distribution, offering or sale. In particular, no action has been taken by the Issuer or any Guarantor that is intended to permit a public offering of the Notes or distribution of this Offering Circular, any advertisement or any other material in any jurisdiction in which action for that purpose is required. Accordingly: (a) no Notes may be offered or sold, directly or indirectly, and (b) neither this Offering Circular nor any advertisement or other offering material relating to the Notes may be distributed or published in any jurisdiction except, in each case, under circumstances that will result in compliance with all applicable laws. Persons into whose possession this Offering Circular or any Notes come(s) must inform themselves about, and observe, any such restrictions on the distribution of this Offering Circular and the offering and/or sale of Notes. In particular, there are restrictions on the distribution of this Offering Circular and the offer and/or sale of Notes in (*inter alia*) the United States, the United Kingdom and Turkey. See “*Transfer Restrictions*” and “*Selling Restrictions*.”

In making an investment decision, investors must rely upon their own examination of the Issuer, the Guarantors and the terms of the Notes, including the merits and risks involved. The Notes and the Guarantees have not been approved or disapproved by the Securities and Exchange Commission (the “SEC”) of the United States or any other securities commission or other regulatory authority in the United States and, other than the CMB Approval described herein, have not been approved or disapproved by any securities commission or other regulatory authority in Turkey or any other jurisdiction, nor have the foregoing authorities (other than the Central Bank of Ireland to the extent described herein) approved this Offering Circular or confirmed the accuracy or determined the adequacy of the information contained in this Offering Circular. Any representation to the contrary might be unlawful.

None of the Joint Bookrunners, the Issuer, the Guarantors or any of their respective counsel or other representatives make any representation to any actual or potential investor in the Notes regarding the legality under any applicable law of its investment in the Notes.

The Notes might not be a suitable investment for all investors. Each potential investor contemplating making an investment in the Notes must make its own investigation and analysis of the creditworthiness of the Issuer and the Guarantors and its own determination of the suitability of that investment in light of its own circumstances, with particular reference to its own investment objectives and experience, and any other factors that are relevant to it in connection with such investment. In particular, each potential investor in the Notes should consider, either on its own or with the help of its financial and other professional advisers, whether it:

- (a) has sufficient knowledge and experience to make a meaningful evaluation of the Notes, the merits and risks of investing in the Notes and the information contained in (including incorporated by reference into) this Offering Circular or any applicable supplement hereto,

(b) has access to, and knowledge of, appropriate analytical tools to evaluate, in the context of its particular circumstances, an investment in the Notes and the impact such investment will have on its overall investment portfolio,

(c) has sufficient financial resources and liquidity to bear all of the risks of an investment in the Notes for an indefinite period of time, including where the currency for principal and interest payments is different from the potential investor's currency,

(d) understands thoroughly the terms of the Notes and is familiar with the behaviour of financial markets, and

(e) is able to evaluate possible scenarios for economic, interest rate and other factors that might affect its investment in the Notes and its ability to bear the applicable risks for an indefinite period of time.

Legal investment considerations might restrict certain investments. The investment activities of certain investors are subject to applicable laws and/or to review or regulation by certain authorities. Each potential investor in the Notes should consult its legal advisers to determine whether and to what extent: (a) Notes are legal investments for it, (b) Notes can be used by it as collateral for various types of borrowing and (c) other restrictions apply to its purchase or pledge of any Notes. Financial and other regulated institutions should consult their legal advisers or the appropriate regulators to determine the appropriate treatment of their investments in the Notes under any applicable risk-based capital or other rules.

The Issuer has obtained the CMB Approval required for the issuance of the Notes. In addition to the CMB Approval, a written approval from the CMB relating to the approval of the issue of the Notes (whether in form of a tranche issuance certificate (*tertip ihraç belgesi*) or in any other form required under applicable law) is required to be obtained by the Issuer on or prior to the Issue Date. Pursuant to the CMB Approval, the offer, sale and issue of Notes have been authorised and approved in accordance with Decree No. 32 on the Protection of the Value of the Turkish Currency (as amended from time to time, "*Decree 32*") and the Communiqué on Debt Instruments No. VII-128.8 (the "*Debt Instruments Communiqué*") and its related legislation and regulations.

In addition, in accordance with the CMB Approval, the Notes may only be offered or sold outside of Turkey. Under the CMB Approval, the CMB has authorised the offering, sale and issue of Notes on the condition that no transaction that qualifies as a sale or offering of Notes in Turkey may be engaged in. Notwithstanding the foregoing, in accordance with Decree 32, residents of Turkey may purchase or sell securities (such as the Notes) denominated in a currency other than Turkish Lira in offshore transactions on an unsolicited basis; *provided* that such purchase or sale is made through licensed banks authorised by the Banking Regulation and Supervision Agency (the "*BRSA*") of Turkey or licensed brokerage institutions authorised pursuant to CMB regulations and the purchase price is transferred through such licensed banks. As such, Turkish residents should use such licensed banks or licensed brokerage institutions when purchasing Notes and should transfer the purchase price through such licensed banks.

Notes offered and sold to QIBs in reliance upon Rule 144A will be represented by beneficial interests in one or more permanent Global Certificate(s) in fully registered form without interest coupons. Such Restricted Global Certificate(s) will be deposited on or about the Issue Date with Citibank N.A., London Branch, in its capacity as custodian (the "*Custodian*"), and will be registered in the name of Cede & Co. as nominee for DTC. Notes offered and sold in "offshore transactions" to persons other than U.S. persons pursuant to Regulation S will be represented by beneficial interests in a permanent Global Certificate in fully registered form without interest coupons. Such Unrestricted Global Certificate will be deposited on or about the Issue Date with a common depositary (the "*Common Depositary*") for Euroclear and Clearstream, Luxembourg and will be registered in the name of a nominee for the Common Depositary. Except as described in this Offering Circular, beneficial interests in the Global Certificates will be represented through accounts of financial institutions acting on behalf of beneficial owners as direct and indirect participants in DTC, Euroclear and Clearstream, Luxembourg (together, the "*Clearing Systems*"). Except as specifically described in this Offering Circular, owners of beneficial interests in the Global Certificates will not be entitled to have the Notes registered in their names, will not receive or be entitled to receive physical delivery of the Notes in definitive form and will not be considered holders of the Notes under the Notes, the Trust Deed and the Agency Agreement.

An application has been made to admit the Notes to listing on the Official List and to have the Notes admitted to trading on the Regulated Market; *however*, no assurance can be given that such application will be accepted.

Each investor in the Notes will also be deemed to have made certain representations and agreements as described herein. Any resale or other transfer, or attempted resale or other attempted transfer, of the Notes that is not made in accordance with the transfer restrictions might subject the transferor and/or transferee to certain liabilities under applicable securities laws.

Pursuant to the Debt Instruments Communiqué, the Issuer is required to notify the Central Registry Agency (*Merkezi Kayıt Kuruluşu A.Ş.*) (trade name: Central Registry İstanbul (*Merkezi Kayıt İstanbul*)) (“*Central Registry İstanbul*”) within three İstanbul business days from the Issue Date of the Notes of the amount, Issue Date, ISIN, interest commencement date, maturity date, interest rate, name of the custodian and currency of the Notes and the country of issuance.

PROHIBITION OF SALES TO EEA RETAIL INVESTORS

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the EEA. For these purposes, a retail investor means a person who is one (or more) of: (a) a retail client as defined in point (11) of Article 4(1) of MiFID II or (b) a customer within the meaning of Directive 2002/92/EC (as amended or superseded, the “*Insurance Mediation Directive*”), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Consequently, no key information document required by Regulation (EU) No 1286/2014 (as amended, the “*PRIIPs Regulation*”) for offering or selling the Notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

MIFID II PRODUCT GOVERNANCE / ELIGIBLE COUNTERPARTIES AND PROFESSIONAL CLIENTS ONLY TARGET MARKET

Solely for the purposes of each manufacturer’s product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (a) the target market for the Notes is eligible counterparties and professional clients only, each as defined in MiFID II, and (b) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a “*distributor*”) should take into consideration the manufacturers’ target market assessment; *however*, a distributor subject to MiFID II will remain responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the manufacturers’ target market assessment) and determining appropriate distribution channels.

NOTIFICATION UNDER SECTION 309B(1)(C) OF THE SECURITIES AND FUTURES ACT (CHAPTER 289) OF SINGAPORE

In connection with Section 309B of the Securities and Futures Act (Chapter 289) of Singapore (the “*SFA*”) and the Securities and Futures (Capital Markets Products) Regulations 2018 (the “*CMP Regulations 2018*”), the Issuer has determined the classification of the Notes as prescribed capital markets products (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

Some statements in this Offering Circular might be considered to be forward-looking statements. Forward-looking statements include (without limitation) statements concerning the Group’s plans, objectives, goals, strategies, future operations and performance and the assumptions underlying these forward-looking statements. When used in this Offering Circular, the words “anticipates,” “estimates,” “expects,” “believes,” “intends,” “plans,” “aims,” “seeks,” “may,” “might,” “will,” “should” and any similar expressions generally identify forward-looking statements. These forward-looking statements appear in a number of places throughout this Offering Circular, including (without

limitation) in the sections titled “*Risk Factors*,” “*Use of Proceeds*,” “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*” and “*The Group and its Business*,” and include, but are not limited to, statements regarding:

- strategy and objectives,
- trends affecting the Group’s results of operations and financial condition,
- future developments in the markets in which the Group operates,
- anticipated regulatory changes in the markets in which the Group operates, and
- the Group’s potential exposure to market risk and other risk factors.

Forward-looking statements involve risks, uncertainties and assumptions. Actual results might differ materially from those expressed in forward-looking statements.

The Issuer and Guarantors have identified certain of the risks inherent in the forward-looking statements herein and these are set out under “*Risk Factors*.”

The Issuer has based these forward-looking statements on the current view of its management with respect to future events and financial performance. Although the Issuer’s management believes that the expectations, estimates and projections reflected in the forward-looking statements in this Offering Circular are reasonable as of the date of this Offering Circular, if one or more of the risks or uncertainties inherent in these forward-looking statements materialise(s), including those identified in this Offering Circular, or if any of the Issuer’s underlying assumptions prove to be incomplete or inaccurate, then the Issuer’s and/or a Guarantor’s actual results of operation might vary from those expected, estimated or predicted and those variations might be material.

There might be other risks, including some risks of which the Issuer and the Guarantors are unaware, that might adversely affect the Group’s results, the Notes or the accuracy of forward-looking statements in this Offering Circular. Therefore, potential investors should not consider the factors discussed under “*Risk Factors*” to be a complete discussion of all potential risks or uncertainties of investing in the Notes.

Potential investors should not place undue reliance upon any forward-looking statements. Any forward-looking statements contained in this Offering Circular speak only as of the date of this Offering Circular. Without prejudice to any requirements under applicable laws, each of the Issuer and the Guarantors expressly disclaims any obligation or undertaking to disseminate after the date of this Offering Circular any updates or revisions to any forward-looking statements contained herein to reflect any change in expectations thereof or any change in events, conditions or circumstances upon which any such forward-looking statement is based.

U.S. INFORMATION

The Notes and the Guarantees have not been and will not be registered under the Securities Act or any other U.S. federal or state securities laws and may not be offered or sold in the United States or to, or for the account or benefit of, a U.S. person except pursuant to an exemption from the registration requirements of the Securities Act and in accordance with all applicable securities laws of the United States and each state or other jurisdiction of the United States. Where the “United States” is referenced herein with respect to Regulation S, such shall have the meaning provided thereto in Rule 902 of Regulation S. This Offering Circular is only being submitted on a confidential basis in the United States to a limited number of QIBs and to investors with whom “offshore transactions” under Regulation S can be entered into for informational use solely in connection with the consideration of an investment in the Notes. Its use for any other purpose in the United States or by any U.S. person is not authorised. It may not be copied or reproduced in whole or in part nor may it be distributed or any of its contents disclosed to anyone other than the prospective investors to whom it is originally submitted by (or on behalf of) the Issuer or a Joint Bookrunner.

The Notes generally may be offered or sold within the United States or to, or for the account or benefit of, U.S. persons only if such U.S. persons are QIBs, in each case in registered form and in transactions exempt from registration under the Securities Act in reliance upon Rule 144A. Each investor in the Notes that is a U.S. person or is in the United States is hereby notified that the offer and sale of the Notes to it might be being made in reliance upon

the exemption from the registration requirements of Section 5 of the Securities Act provided by Rule 144A or (in certain limited circumstances) Regulation S.

Potential investors that are U.S. persons should note that the Issue Date may be more than two business days (this settlement cycle being referred to as “T+2”) following the trade date of the Notes. Under Rule 15c6-1 of the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”), of the United States, trades in the secondary market generally are required to settle in two business days unless otherwise expressly agreed to by the parties at the time of the transaction. Accordingly, investors who wish to trade Notes on the trade date relating to such Notes or the next business days will likely be required, by virtue of the fact that the Notes initially will settle on a settlement cycle longer than T+2, to specify an alternate settlement cycle at the time of any such trade to prevent a failed settlement.

AVAILABLE INFORMATION

To permit compliance with Rule 144A in connection with any resales or other transfers of Notes that are “restricted securities” within the meaning of Rule 144(a)(3) under the Securities Act, the Issuer will undertake in the Trust Deed that, during any period in which it is neither subject to Section 13 or 15(d) of the Exchange Act nor exempt from reporting pursuant to Rule 12g3-2(b) thereunder, it will provide to any holder or beneficial owner of such restricted securities or to any prospective purchaser of such restricted securities designated by such holder or beneficial owner or to the Trustee for delivery to such holder, beneficial owner or prospective purchaser, in each case upon the request of such holder, beneficial owner, prospective purchaser or Trustee, the information satisfying the requirements of Rule 144A(d)(4) under the Securities Act

STABILISATION

In connection with the issue of the Notes, J.P. Morgan Securities plc (the “*Stabilisation Manager*”) (or persons acting on behalf of the Stabilisation Manager) might over-allot Notes or effect transactions with a view to supporting the market price of an investment in the Notes at a level higher than that which might otherwise prevail; *however*, stabilisation might not necessarily occur. Any stabilisation action or over-allotment might begin on or after the date on which adequate public disclosure of the terms of the offer of the Notes is made and, if begun, might cease at any time, but it must end no later than the earlier of 30 days after the Issue Date and 60 days after the date of the allotment of the Notes. Any stabilisation action or over-allotment must be conducted by the Stabilisation Manager (or persons acting on behalf of the Stabilisation Manager) in accordance with all applicable laws and rules. Notwithstanding anything herein to the contrary, the Issuer may not (whether through over-allotment or otherwise) issue more Notes than have been authorised by the CMB.

PRESENTATION OF FINANCIAL AND OTHER INFORMATION

As the Issuer and the Guarantors (other than Paşabahçe) are listed on the Turkish stock exchange referred to Borsa İstanbul (the “*Borsa İstanbul*”), the Consolidated Financial Statements and each such Guarantor’s Guarantors’ Financial Statements (each as defined below) are required to be prepared in conformity with Turkish Financial Reporting Standards and Turkish Accounting Standards (collectively, “*TAS*”) promulgated by the Public Oversight and Accounting Standards Authority of Turkey (the “*POA*”) in accordance with the “Communiqué on Financial Reporting in Capital Markets” Serial II, No. 14.1, promulgated in the Official Gazette dated 13 June 2013 and No. 28676 (as amended, supplemented or restated from time to time).

As required by paragraph 11.1 of Annex IX of Commission Regulation (EC) No. 809/2004, please note that the Consolidated Financial Statements incorporated by reference herein have not been prepared in accordance with the International Financial Reporting Standards (“IFRS”) as promulgated by the International Accounting Standards Board (“IASB”) adopted pursuant to the procedure of Article 3 of Regulation (EC) No. 1606/2002 and that there might be certain differences in the financial information had Regulation (EC) No. 1606/2002 applied to the historical financial information presented herein. A narrative description of such differences as they apply to the Group has been included in Appendix 1 (“Overview of Significant Differences Between IFRS and TAS”).

The Group’s consolidated financial statements incorporated herein by reference include: (a) the Group’s audited annual consolidated financial statements as of and for the year ended 31 December 2018 (including comparative information for 2017) (including the notes thereto and the independent auditors’ report thereon, the “*2018 Consolidated Financial Statements*”), (b) the Group’s audited annual consolidated financial statements as of and for the year ended 31 December 2017 (including comparative information for 2016) (including the notes thereto and the independent auditors’ report thereon, the “*2017 Consolidated Financial Statements*” and (c) the Group’s audited annual consolidated financial statements as of and for the year ended 31 December 2016 (including the notes thereto and the independent auditors’ report thereon but excluding: (i) any information with respect to 2015 and (ii) any financial information therein that was reclassified as of and for the year ended 31 December 2016 in the 2017 Consolidated Financial Statements as a result of a reclassification between the gross revenue and marketing, selling and distribution expenses line items (see “*-Reclassification*”)) (the “*2016 Consolidated Financial Statements*” and, with the 2018 Consolidated Financial Statements and the 2017 Consolidated Financial Statements, the “*Consolidated Financial Statements*”). The reclassification referenced above was reflected in the 2017 Consolidated Financial Statements in the comparative information for 2016 set forth therein and the 2016 Consolidated Financial Statements thus do not reflect this reclassification.

Financial statements for each of the Guarantors are also incorporated herein by reference as described in “*Documents Incorporated by Reference*” below (the “*Guarantors’ Financial Statements*”).

The 2017 Consolidated Financial Statements, the 2018 Consolidated Financial Statements and the Guarantors’ Financial Statements as of and for each of the years ended 31 December 2017 and 2018 have been audited by Güney Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik Anonim Şirketi, a member firm of Ernst & Young Global Limited (“*EY*”), in accordance with the Turkish Standards on Auditing issued by the POA and the standards on auditing issued by the CMB (the “*Turkish Standards on Auditing*”).

The 2016 Consolidated Financial Statements and the Guarantors’ Financial Statements as of the year ended 31 December 2016 have been audited by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. (“*PwC*”), in each case, in accordance with the Turkish Standards on Auditing and the Independent Standards on Auditing, which is a component of the Turkish Standards on Auditing, as stated in PwC’s independent auditors’ reports relating to such financial statements.

Unless otherwise indicated, the sources for statements and data concerning the Group and its business are based upon best estimates and assumptions of the Issuer’s management. Management believes that these assumptions are reasonable and that its estimates have been prepared with due care. The data concerning the Group included herein, whether based upon external sources or based upon the Group’s internal research, constitute the best current estimates of the information described.

The contents of any website referenced herein do not form part of (and are not incorporated into) this Offering Circular.

Reclassification

As set forth in the table below, certain financial information as of and for the year ended 31 December 2016 included in the 2016 Consolidated Financial Statements was reclassified (refer to Note 2.1 in the 2017 Consolidated Financial Statements) in the 2017 Consolidated Financial Statements to reflect a reclassification between the gross revenue and marketing, selling and distribution expenses. The Group accounted for freight costs and similar expenses related to sales contracts under the marketing, selling and distribution expenses line item rather than as a deduction from gross revenue.

	As of 31 December 2016		
	Previously Reported	Reclassification	Reclassified⁽¹⁾
	<i>(TRY millions)</i>		
Sales	8,421.7	147.8	8,569.5
Costs of sales	(5,891.6)	-	(5,891.6)
Gross profit from trading activity	2,530.1	147.8	2,677.9
General and administrative expenses.....	(756.4)	-	(756.4)
Marketing, selling and distribution expenses	(912.3)	(147.8)	(1,060.1)
Research and development expenses.....	(74.0)	-	(74.0)
Other operating income	488.7	-	488.7
Other operating expenses	(283.7)	-	(283.7)
Income from investments in associates and joint ventures	105.9	-	105.9
Operating profit	1,098.4	-	1,098.4

(1) As reported in the 2017 Consolidated Financial Statements presented as comparatives. See Note 2.1 of the 2017 Consolidated Financial Statements.

Alternative Performance Measures

To supplement the Consolidated Financial Statements and the Guarantors' Financial Statements presented in accordance with TAS, the Group uses certain ratios and measures included in this Offering Circular that might be considered to be "alternative performance measures" (each an "APM") as described in the ESMA Guidelines on Alternative Performance Measures (the "ESMA Guidelines") published by ESMA on 5 October 2015. The ESMA Guidelines provide that an APM is understood as "a financial measure of historical or future financial performance, financial position, or cash flows, other than a financial measure defined or specified in the applicable financial reporting framework." The ESMA Guidelines also note that they do not apply to APMs "disclosed in accordance with applicable legislation, other than the applicable financial reporting framework, that sets out specific requirements governing the determination of such measures."

Any APMs included in this Offering Circular are not alternatives to measures prepared in accordance with TAS and might be different from similarly titled measures reported by other companies. The Issuer's management believes that this information, when considered in conjunction with measures reported under TAS, is useful to investors because it provides a basis for measuring the organic operating performance in the periods presented and enhances investors' overall understanding of the Group's financial performance. In addition, these measures are used in internal management of the Group, along with financial measures reported under TAS, in measuring the Group's performance and comparing it to the performance of its competitors. In addition, because the Group has historically reported certain APMs to investors, the Issuer's management believes that the inclusion of APMs in this Offering Circular provides consistency in the Group's financial reporting and thus improves investors' ability to assess the Group's trends and performance over multiple periods. APMs should not be considered in isolation from, or as a substitute for, financial information presented in compliance with TAS.

For the Group, measures that might be considered to be APMs in this Offering Circular (and that are not defined or specified by TAS or any other legislation applicable to the Issuer) include (without limitation) the following (such terms being used throughout this Offering Circular as they are defined below):

EBITDA for a particular period means operating profit before financial income and expense for such period *plus* depreciation and amortisation from the statement of cash flows for such period.

EBITDA margin for a particular period means EBITDA for such period *divided by* revenues for such period.

net financial debt to EBITDA ratio as of a particular date means net financial debt as of such date *divided by* EBITDA for the indicated period preceding such date.

The following are definitions of terms used in connection with the calculation of the net financial debt to EBITDA ratio (such terms being used in this Offering Circular as defined below):

net financial debt as of a particular date means short-term financial debt as of such date *plus* long-term financial debt as of such date *minus* cash and cash equivalents as of such date.

short-term financial debt as of a particular date means the sum of short-term borrowings, short-term portion of long-term borrowings and other financial liabilities, each as of such date.

Currency Presentation and Exchange Rates

In this Offering Circular, all references to:

- (a) “*Turkish Lira*” and “*TRY*” refer to the lawful currency for the time being of Turkey,
- (b) “*U.S. dollars*,” “*US\$*” and “*\$*” refer to United States dollars,
- (c) “*euro*” and “*€*” refer to the currency introduced at the start of the third stage of European economic and monetary union pursuant to the Treaty on the Functioning of the European Union, as amended, and
- (d) “*rubles*” refer to the lawful currency for the time being of the Russian Federation (“*Russia*”).

No representation is made that any currency amounts in this Offering Circular could have been or could be converted into any other currency at any particular rate or at all. For a discussion of the effects on the Group of fluctuating exchange rates, see “*Risk Factors – Risks Relating to the Group and its Business – Foreign Exchange and Currency Risk*.”

Certain Defined Terms, Conventions and Other Considerations in Relation to the Presentation of Information in this Offering Circular

Capitalised terms that are used but not defined in any particular section of this Offering Circular have the meaning attributed thereto in “*Terms and Conditions of the Notes*” or any other section of this Offering Circular.

In this Offering Circular, “*Issuer*” means Türkiye Şişe ve Cam Fabrikaları A.Ş. on a standalone basis and “*Group*” means the Issuer and its subsidiaries (and, with respect to consolidated accounting information, entities that are consolidated into the Issuer). Unless otherwise noted, references to “*management*” are to the members of the Issuer’s board of directors and statements as to the Issuer’s or Group’s beliefs, expectations, estimates and options are to those of the Issuer’s management.

In this Offering Circular, the term “*law*” shall (unless the context otherwise requires) be deemed to include legislation, regulations and other legal requirements.

Certain figures and percentages included in this Offering Circular have been subject to rounding adjustments (e.g., certain Turkish Lira amounts have been rounded to the nearest million) and, accordingly, figures shown in the same category presented in different tables might vary slightly and figures shown as totals in certain tables might not be an arithmetic aggregation of the figures that precede them.

All of the information contained in this Offering Circular concerning relevant markets and the Group's competitors has been obtained (and extracted without material adjustment) from publicly available information or management estimates. Certain information under the heading "*Book-Entry Clearance Systems*" has been extracted from information provided by the Clearing Systems. Where third-party information has been used in this Offering Circular, the source of such information has been identified. The Issuer and (to the extent related to itself) each Guarantor confirm that all such information has been accurately reproduced and, so far as they are aware and are able to ascertain from the relevant published information, no facts have been omitted that would render the reproduced information inaccurate or misleading. Without prejudice to the generality of the foregoing statement, third-party information in this Offering Circular, while believed to be reliable, has not been independently verified by the Issuer, the Guarantors or any other person.

The language of this Offering Circular is English. Certain legal references and technical terms have been cited in their original language in order that the correct technical meaning may be ascribed to them under applicable law. In particular, but without limitation, the titles of Turkish laws and the names of Turkish institutions referenced herein have been translated from Turkish into English. The translations of these titles and names are direct and accurate.

The Issuer and the Guarantors have extracted substantially all of the information contained in this Offering Circular concerning the Turkish market and its competitors from publicly available information, including press releases and filings made under various laws. Unless otherwise indicated, all data relating to the Turkish economy, including statistical data, have been obtained from the website of the Turkish Statistical Institute (*Türkiye İstatistik Kurumu*) ("*TurkStat*") at www.turkstat.gov.tr, the website of the Central Bank of Turkey (*Türkiye Cumhuriyet Merkez Bankası*) (the "*Central Bank*") at www.tcmb.gov.tr or the website of the Ministry of Treasury and Finance of Turkey (the "*Turkish Treasury*") at www.hazine.gov.tr. Data have been downloaded/observed on various different days and might be the result of calculations made by the Issuer, and therefore might not appear in the exact same form on such websites or elsewhere. Such websites do not, and should not be deemed to, constitute a part of, or be incorporated into, this Offering Circular. In the case of the presented statistical information, similar statistics might be obtainable from other sources, although the underlying assumptions and methodology, and consequently the resulting data, might vary from source to source. Where information has been sourced from a third party, such publications generally state that the information they contain has been obtained from sources believed to be reliable but that the accuracy and completeness of such information is not guaranteed.

Information in this Offering Circular regarding the shareholders of the Issuer and (other than shareholdings by the Issuer and other members of the Group) the Guarantors has been based upon public filings, disclosure and announcements by such shareholders.

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APPENDIX 1 - Overview of Significant Differences Between IFRS and TAS

OVERVIEW

Headquartered in İstanbul, Turkey, the Group is one of the world’s leading manufacturers of glass products, operating from facilities located in 13 countries with approximately 22,000 employees. The Group’s history began in 1934 when Mustafa Kemal Atatürk, the founder of the Turkish republic, obtained a Council of Ministers decree to entrust Türkiye İş Bankası A.Ş. (“*İşbank*”) with the establishment of the Turkish glass industry, which resulted in İşbank’s establishing the “Paşabahçe Glass Plant” with a daily capacity to produce 25,000 bottles. The plant was registered as “Türkiye Şişe ve Cam Fabrikaları A.Ş.” (*i.e.*, the Issuer). While the Group’s core business is the manufacture of glass products, including being active in elements of the chemicals industry that support glass production, the Group is also engaged in complementary industrial and commercial operations related to glass production (*e.g.*, research and development activities, marketing, sales through retail stores and distribution), energy trading and insurance.

The shares of the Issuer, which is the holding company of the Group, have been publicly traded on the Borsa İstanbul since 1986. In addition, the Issuer’s subsidiaries Trakya Cam, Anadolu Cam, Soda Sanayii and Denizli Cam Sanayii ve Ticaret A.Ş. (“*Denizli Cam*”) are also listed on the Borsa İstanbul. İşbank, one of the largest Turkish private commercial banks, owned a direct controlling stake of 67.11% (and indirectly, including through its subsidiaries, 67.14%) of the Issuer’s shares.

As of 31 December 2018, the Group had total assets of TRY 27,767.6 million, as compared to TRY 21,307.5 million and TRY 19,152.5 million as of 31 December 2017 and 2016, respectively. The Group’s consolidated total revenues for 2018 were TRY 15,550.3 million, increasing by 37.4% from TRY 11,318.5 million for 2017, itself an increase of 32.1% from TRY 8,569.5 million for 2016. The Group’s EBITDA increased by 56.7% to TRY 4,889.7 million in 2018 as compared to TRY 3,119.8 million in 2017, which itself was an increase of 47.2% from TRY 2,119.6 million in 2016. As described in this Offering Circular, these significant increases are a combined result of increases in sales (both due to increased volumes and prices) as well as acquisitions and the depreciation of the Turkish Lira.

The Group divides its businesses into four main operational segments: flat glass (the “*Flat Glass Group*”), glassware (the “*Glassware Group*”), glass packaging (the “*Glass Packaging Group*”) and chemicals (the “*Chemicals Group*”). The following tables reflect the Group’s total assets, revenue, EBITDA and EBITDA Margin as of the indicated dates or for the indicated periods, as applicable, by operational segments:

	As of 31 December					
	2016		2017		2018	
Total Assets	<i>(TRY millions, except percentages)</i>					
Flat Glass	7,154.9	30.8%	8,329.3	33.3%	10,671.2	32.2%
Glassware	3,264.7	14.1%	3,312.4	13.3%	4,285.1	12.9%
Glass Packaging	4,425.2	19.1%	4,171.2	16.7%	4,985.8	15.0%
Chemicals	3,832.7	16.5%	4,492.3	18.0%	7,029.9	21.2%
Other	4,527.9	19.5%	4,678.4	18.7%	6,192.1	18.7%
Total⁽¹⁾	23,205.4	100.0%	24,983.5	100.0%	33,164.0	100.0%
Consolidation Adjustments ...	(4,052.9)		(3,676.0)		(5,396.4)	
Consolidated Total	19,152.5		21,307.5		27,767.6	

⁽¹⁾ Segmental breakdown of total assets is based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the 2018 Consolidated Financial Statements.

	2016		2017		2018	
Revenue	<i>(TRY millions, except percentages)</i>					
Flat Glass.....	3,016.2	30.7%	4,331.2	34.4%	5,875.1	35.1%
Glassware	1,803.5	18.3%	1,955.8	15.5%	2,528.9	15.1%
Glass Packaging	1,830.0	18.6%	2,410.8	19.2%	3,239.2	19.4%
Chemicals.....	2,432.3	24.7%	2,916.8	23.2%	3,971.0	23.7%
Other.....	757.5	7.7%	973.9	7.7%	1,110.3	6.6%
Total⁽¹⁾.....	9,839.6	100.0%	12,588.4	100.0%	16,724.5	100.0%
Consolidation Adjustments	(1,270.1)		(1,269.9)		(1,174.1)	
Consolidated Total	8,569.5		11,318.5		15,550.3	

⁽¹⁾ Segmental breakdown of revenue is based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the 2018 Consolidated Financial Statements.

	2016		2017		2018	
EBITDA	<i>(TRY millions, except percentages)</i>					
Flat Glass.....	993.5	35.5%	1,179.4	36.7%	1,860.1	37.9%
Glassware	260.3	9.3%	287.5	8.9%	460.6	9.4%
Glass Packaging	729.3	26.1%	615.6	19.1%	895.7	18.2%
Chemicals.....	691.3	24.7%	878.9	27.3%	1,479.3	30.1%
Other.....	124.6	4.5%	254.6	7.9%	213.6	4.4%
Total⁽¹⁾.....	2,799.0	100.0%	3,216.0	100.0%	4,909.3	100.0%
Consolidation Adjustments	(679.4)		(96.3)		(19.6)	
Consolidated Total	2,119.6		3,119.8		4,889.7	

⁽¹⁾ Segmental breakdown of EBITDA is based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the 2018 Consolidated Financial Statements.

	2016	2017	2018
EBITDA Margin⁽¹⁾			
Flat Glass.....	32.9%	27.2%	31.7%
Glassware	14.4%	14.7%	18.2%
Glass Packaging	39.9%	25.5%	27.7%
Chemicals.....	28.4%	30.1%	37.3%
Other.....	16.5%	26.1%	19.2%

⁽¹⁾ Segmental breakdown of EBITDA Margin is based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment.

Business Segments

As noted above, the Group divides its businesses into four main operational segments referred to as the Flat Glass Group, the Glassware Group, the Glass Packaging Group and the Chemicals Group. Each of these segments is summarised below, with further information being provided in “*The Group and its Business*” below (the financial information with respect to which is provided on the same consolidating basis described in the footnotes to the preceding tables).

Flat Glass Group. The Flat Glass Group, which employs state-of-the-art technologies to produce architectural glass (*e.g.*, flat glass, patterned glass, coated glass, mirror and laminated glass), automotive

glass, solar control glass (including solar panels and energy conserving glass), encapsulated glass and glass for home appliances, furniture manufacturing and agriculture, is the Group's largest business, constituting 35.1% of the Group's revenues and 37.9% of the Group's EBITDA in 2018.

Trakya Cam, the flagship company of the Flat Glass Group, was (with annual production capacity of almost 1.8 million tonnes) the largest producer by capacity of flat glass in Turkey in 2018 according to management estimates. During 2018, the Flat Glass Group had a 70.2% market share in the Turkish market in terms of tonnes sold and, with an annual production capacity of 3.2 million tonnes, a 3.7% market share globally in terms of production capacity according to management estimates. As of 31 December 2018, the Flat Glass Group ranked fifth globally and (when including its capacity in Turkey) first in Europe in terms of production capacity according to management estimates.

The Flat Glass Group operates, solely and through joint ventures, 13 float glass production lines, including fully owning seven in Turkey, two in Bulgaria, two in Italy and one in India. In association with Saint-Gobain S.A. ("*Saint-Gobain*"), a French multinational company, Trakya Cam operates jointly one float line in each of Russia (70% owned by the Flat Glass Group) and Egypt (30% owned by the Flat Glass Group).

Trakya Cam made its first expansion into flat glass production outside of Turkey in 2006, opening a flat glass manufacturing facility in Bulgaria, which was followed by the commissioning of a mirror plant and processed glass plant in late 2006 and an automotive glass plant in July 2010. In 2013, Trakya Cam further expanded in Bulgaria by opening a laminated and coated glass facility. Also in 2013, Trakya Cam continued its expansion in Europe by acquiring Richard Fritz Holding GmbH ("*Richard Fritz*"), a German company that is one of the leading suppliers of encapsulated automotive glass and currently operates production facilities in Germany, Hungary and Slovakia. In 2015, Trakya Cam invested in new automotive glass factories in Russia and Romania. Trakya Cam acquired all of the assets of Italy-based flat glass producer Sangalli Vetro Porto Nogaro S.p.A. ("*Sangalli Vetro Porto*") and Sangalli Vetro Manfredonia S.p.A. ("*Sangalli Vetro Manfredonia*") in 2016 and 2018, respectively, and, as a result, became (when including its capacity in Turkey) the largest flat glass producer in Europe in terms of production capacity according to management estimates. The Sangalli Vetro Manfredonia (now known as "*Sisecam Flat Glass South Italy*") flat glass production facility, which is located in southern Italy and is currently undergoing cold repair work, has a production capacity of 190 thousand tonnes per year, a laminating line with four million square metres per year capacity, a coating line with four million square metres per year capacity and a satin coating line with 1.5 million square metres per year capacity.

As part of its expansion between 2007 and 2016, Trakya Cam made several investments in new production lines, including two float lines and a coated glass line in 2007 and a laminated glass line in 2008, all in Bursa-Yenişehir, an energy glass line, a frosted glass line and a mirror glass line for the Mersin plant in 2010, 2011 and 2012, respectively, and a float line and laminated glass line for the Polatlı plant in 2014 and 2016, respectively. In January 2018, Trakya Cam commenced the construction of a new glass line for the Polatlı plant, which is expected to become operational during the second half of 2020.

In 2013, Trakya Cam entered into a 50/50 joint venture with Indian producer Hindusthan National Glass and Industries Limited ("*HNGIL*") for a float glass line company in India named HNG Float Glass Limited ("*HNG*"). In 2018, Trakya Cam purchased HNGIL's interest in HNG for US\$85.7 million and renamed the company Sisecam Flat Glass India Limited ("*Sisecam India*").

Glassware Group. Through its "Paşabahçe" brand name, the Glassware Group is the Group's most widely known business. The Glassware Group constituted 15.1% of the Group's revenues and 9.4% of the Group's EBITDA in 2018. In 2018, according to management estimates, the Glassware Group had a 67.2% market share in the Turkish market and a 8.0% market share globally, was ranked third globally and (when including its sales throughout Turkey) second in Europe, in each case in terms of revenue. Paşabahçe is the flagship company of the Glassware Group, and its glassware (including Paşabahçe-branded products) is sold throughout Turkey and internationally, with Europe and the countries of the Commonwealth of Independent States (the "*CIS*") being the largest markets.

The Glassware Group is primarily engaged in the design, production and marketing of glassware for household use, but also owns a chain of Paşabahçe-branded retail stores and operates a cardboard packaging production business that principally produces cardboard for the safe transportation of glassware. The Glassware Group, which includes Paşabahçe and 14 principal operating subsidiaries thereof, operates seven factories in Turkey, Russia, Bulgaria and Egypt and 53 Paşabahçe-branded retail stores (50 in Turkey, one in Milan, Italy, one in Qatar and one e-store).

In addition to its Turkish production facilities, the Glassware Group has significant international operations, which represent 50.0% of the Glassware Group's production capacity. In 2003, Paşabahçe acquired OOO Posuda ("*Posuda*"), a glass houseware product company that operates a factory in Russia. This acquisition was followed in 2005 by the establishment of Paşabahçe Bulgaria-EAD ("*Paşabahçe Bulgaria*"), a company operating a factory producing glass household articles in Bulgaria. In 2017, Paşabahçe acquired the assets of Pearl for Glass Manufacturing S.A.E. ("*Pearl for Glass Manufacturing*"), an Egyptian manufacturer of glassware, in line with its strategy of increasing international sales, which (in addition to meeting the demands of the Egyptian market) will be sought by increasing sales to the United States pursuant to the favourable conditions under the Qualified Industrial Zone Agreement among Egypt, Israel and the United States.

Glass Packaging Group. The Glass Packaging Group, which produces glass packaging in various shapes and colours for (*inter alia*) water, mineral water, beverages, carbonated beverages, fruit juices, milk, beer, wines and spirits, as well as food containers and containers for use by the pharmaceutical and cosmetic sectors, constituted 19.4% of the Group's revenues and 18.2% of the Group's EBITDA in 2018. In 2018, the Glass Packaging Group had a 58.4% market share in the Turkish market in terms of sales volume and a 2.7% market share globally in terms of production capacity according to management estimates and, as of 31 December 2018, was ranked fifth globally and (when including its capacity throughout Turkey) fifth in Europe in terms of production capacity according to management estimates. The Glass Packaging Group is led by Anadolu Cam, which, with an annual production capacity in Turkey of about 1.2 million tonnes, was the leading producer of glass packaging in Turkey in 2018. With operations in four countries, the Glass Packaging Group operates 10 production facilities, of which three are in Turkey (Mersin, Eskişehir and Bursa-Yenişehir), five are in Russia, one is in Georgia and one is in Ukraine.

Chemicals Group. The Chemicals Group, the Group's second largest business and operated mainly through Soda Sanayii, represented 23.7% of the Group's revenues and 30.1% of the Group's EBITDA in 2018. In 2018, the soda ash business had a 48.0% market share in the Turkish market in terms of tonnes sold and a 3.4% market share globally in terms of production capacity according to IHS Markit Ltd. ("*IHS*") and, as of 31 December 2018, was: (a) the ninth largest soda ash producer globally (according to IHS) and (when including its capacity throughout Turkey) fifth largest in Europe in terms of production capacity (according to management estimates), (b) the leading sodium dichromate, basic chromium sulfate and chromic acid producer globally (each according to management estimates) and (c) the largest producer of soda and chromium chemicals in Turkey (each according to management estimates). In 2018, according to management estimates, the market share of basic chromium sulfate (BCS) in the Turkish, European and global markets was 72.0%, 45.0% and 28.0%, respectively, and the market share of chromic acid in the same markets was 62.0%, 17.0% and 15.0%, respectively. Soda Sanayii operates a soda ash production facility in both Mersin, Turkey (the "*Mersin Soda Plant*"), which was established in 1969, and Lukavac, Bosnia (the "*SSL Soda Plant*"), and also has an indirect 25% stake in Solvay Sodi AD ("*Solvay*") through Solvay Şişecam Holding AG, an Austrian subsidiary. The Mersin Soda Plant obtains its basic raw materials, limestone and brine, from its own quarries and produces light and dense soda ash and refined sodium bicarbonate.

Soda Sanayii is also active in the production of chromium-based chemicals, operating through its Kromsan Chromium Compounds Factory (the "*Kromsan Plant*") in Mersin, Turkey, which was acquired by the Group in 1982, and Cromital S.p.A. ("*Cromital Italy*"), which operates a plant in Italy (the "*Cromital Plant*"), which was partially acquired in 2005 and became wholly owned in 2011. The Kromsan Plant produces sodium bichromate, basic chromium sulfate, chromic acid, chromium nitrate, chromium chloride and sodium sulphate. The Cromital Plant produces liquid basic chromium sulfate.

These facilities produce the primary inputs for various categories of products, including glass and detergent, with their customers (which include other members of the Group) principally operating in the glass, consumer goods, chemicals, leather surface treatment and pharmaceutical industries. The Chemicals Group also operates a co-generation plant in Mersin, the energy from which supplies a portion of the significant electricity needs of the Chemicals Group.

Other Businesses. In addition to its four primary operational segments described above, the Group also engages in the following businesses (among others): foreign trade, insurance and energy activities, which in the aggregate represented 6.6% of the Group's revenues and 4.4% of the Group's EBITDA in 2018.

The Group undertakes its foreign trade activities (*i.e.*, the trading of its produced products (excluding energy)) from Turkey through Şişecam Dış Ticaret A.Ş. ("*Şişecam Dış Ticaret*"), which allows the Group to benefit from tax incentives on registered export sales made by foreign trade companies such as Şişecam Dış Ticaret, provides operational efficiencies by reducing the delivery time and establishes standards for the Group's export operations. In 2018, Şişecam Dış Ticaret made exports from Turkey exceeding US\$750 million.

The Group undertakes its insurance activities through Şişecam Sigorta ve Aracılık Hizmetleri A.Ş. ("*Şişecam Sigorta*"). Şişecam Sigorta is one of the main insurance agencies of Anadolu Sigorta A.Ş., a major insurance company in Turkey and a subsidiary of İşbank, the Group's controlling shareholder. Şişecam Sigorta mainly provides transportation, residential and automobile insurance to the Group and its employees domiciled in Turkey.

The Group undertakes its energy activities through Şişecam Enerji A.Ş. ("*Şişecam Enerji*"). Şişecam Enerji currently has an energy supply licence (dated 10 July 2014) and a natural gas wholesale licence (dated 3 September 2014) that allow it to trade electricity for 20 years and to trade wholesale natural gas for 30 years counted from the date of the relevant licence. These licences allow Şişecam Enerji to trade, purchase and sell electricity and natural gas and import and export electricity. These licences also allow Şişecam Enerji to store compressed natural gas in underground storage facilities and to invest in capacity and infrastructure to perform these activities. Şişecam Enerji actively seeks opportunities to import natural gas and liquified natural gas to create value and reduce the Group's energy costs and is also responsible for selling the electricity generated by the Group's cogeneration facility.

Şişecam Enerji's active involvement in both the Turkish electricity and natural gas markets enables the Group not only to procure energy needs at favourable prices but also to take advantage of buying and selling opportunities in those markets.

Strengths

The Issuer's management believes that the Group's key strengths include the following:

Strong production team focused on efficiency and quality

The Group has a diversified, experienced and technical workforce that is focused on production efficiency and benefits from the know-how acquired by the Group during its more than 85 years in operation. The Group's employee base includes experienced production specialists that have been with the Group for over 20 years and young engineers with a diversified educational background. The Group's experience and technical capabilities are enhanced by the Group's goal of having the latest technological innovations such as Industry 4.0 technologies and Six Sigma methodologies. The Group's workforce coupled with the state of the art technologies in each of the Group's plants allow the Group to achieve high levels of production efficiency across its business segments.

The Group's employees are also trained to quickly integrate new technologies with existing production lines, which allows the Group to rapidly design and produce new products and adapt to new product trends to meet its customers' needs. Furthermore, the Group's R&TD departments have teams specialised in furnace systems and modelling, which also supports the optimisation in the production lines. The Group know-how, thrive for quality and production efficiency standards are implemented each time the Group enters a new market or acquires a new asset. R&TD and production teams collaborate closely on the site of any acquired facility to achieve the necessary optimisations and integrations while rapidly and swiftly increasing the capacity levels of the Group.

Geographical diversification and strategic footprint with low cost production

While the Group's historical base has been Turkey, its expansion in recent decades has enabled the Group to benefit from geographical diversity from both a production and sales perspective. India, an expansion target for Şişecam Flat Glass (which recently completed the acquisition of its joint venture partner's share in Sisecam India), Egypt, in which Paşabahçe recently acquired Pearl for Glass Manufacturing, and Romania, in which the Group has an auto glass manufacturing facility, reflect the Group's expanding strategic footprint. The Group currently operates production facilities in 13 countries and, in 2018, had sales to more than 150 countries, including Italy, Egypt, the United States, China, Bulgaria, the United Kingdom, France, Spain, Lebanon and Germany, allowing the Group to leverage its production capabilities and know-how in various geographies, mitigate factors such as seasonality and the cyclicity of individual business lines, enjoy a natural hedge for foreign exchange risk and diversify its exposure to the economic, political and other risks associated with the countries in which it is located.

From a production perspective, the majority of the Group's production facilities are located in strategic, low-cost locations, including Turkey, Russia, Egypt, India and Eastern Europe, which has allowed the Group to maintain a competitive cost structure and gain increasing access to markets outside of Turkey. The Group's increasing presence in Europe (excluding Turkey and Russia), such as through the Flat Glass Group's recent acquisition of Sisecam Flat Glass South Italy, pairs the Group's exposure to the higher growing but more volatile emerging markets with the relatively more stable developed economy in Europe. In 2018, 61.0% of the Group's total sales revenue came from outside of Turkey, 23.0% of which was in Europe (excluding Turkey and Russia), and 43.0% of its production (by volume) was located outside of Turkey.

The Group's geographic footprint also provides cost-competitive benefits by minimising the costs for transportation and logistics, which is crucial for the distribution of glass products given that transportation outside of a radius of more than 500-600 kilometres from the relevant factory is generally not cost-effective in the glass packaging and flat glass industry. The expanding geographic spread of the Group's warehouses enhances the synergy within the Group's operations. In addition, the Group's strategic location of production facilities provides advantageous access to both rapidly growing regional markets and mature markets.

Strong brand recognition

The Group has well-recognised brands in each of the business segments in which it operates. For example, the "Paşabahçe" brand, which was established in 1934, is widely recognised by consumers as the leading glassware brand in Turkey, associated with high quality, well-designed and durable products. "Nude," a new brand for the Group's Glassware Group, was launched in 2014 in Milan and Paris and has become a recognised global brand. In 2018, the "Nude" series was marketed through a yearlong collaboration with well-known fashion icon and businesswoman Iris Apfel, launching a "Nude x Iris Apfel" campaign globally, including in New York, Milan, London and İstanbul.

In the flat glass segment, the "Şişecam Flat Glass" brand, as the pioneer of float glass and a leading manufacturer in Turkey and the Balkans, enjoys strong brand and image recognition throughout the region in all of its primary business lines. The "Şişecam Glass Packaging" brand is the leading glass packaging name in Turkey, as evidenced by its supplying leading global food and beverage brands such as Coca-Cola, Tuborg and Anadolu Efes. The Glass Packaging Group's Russian operations also have a strong brand image based upon quality, customer service and a portfolio of market-leading customers. In the Chemicals Group, the "Şişecam Chemicals" brand, with the Chemical Group's large production capacity, high product quality and horizontally-integrated research and technological development ("R&TD") activities, is recognised by its customers as a dependable and consistent producer of soda ash and leather chemicals, the latter of which are internationally recognised under the Tankrom® brand name.

Balanced and diversified product portfolio

The Group's management believes that the Group is the only company in the world that operates in all the primary areas of glass production (flat glass, automotive glass, glass packaging, glassware and glass fibre), which diversity allows it to have a diversified business portfolio. This diversification also allows the Group to mitigate cyclicity in individual business lines, such as the variable demand for architectural glass from the construction

industry or automotive glass from the automotive industry, and also enables it to leverage research and development advances from one segment to the others. In addition, this diversity enables the Group to evaluate growth opportunities in different segments in order to seek to optimise its financial performance.

Widespread sales and distribution network

In 2018, by leveraging its extensive sales and distribution network, the Group exported its products from Turkey to more than 150 countries (with North and Central America representing 7%, South America representing 6%, Europe (including Russia) representing 50%, Asia (excluding the Middle East) representing 12%, the Middle East representing 14%, Africa representing 10% and Oceania representing 1%, respectively, of the Group's revenues from Turkish exports). In 2018, the Group was recognised by the Turkish Exporters Assembly as the Turkish company that exported to the most countries during 2017.

Having a global distribution network supports the market's perception of the Group as a reliable and high quality supplier and facilitates the Group's access to global strategic customers. As transportation and logistics are crucial for the safe distribution of glass products, employing a global distribution network and (with 43 plants in 13 countries) increasingly geographically diverse production footprint allows the Group to be competitive in multiple regions. This network also enables the Group to maintain close touchpoints with its customers, which is a strategic goal of all of the Group's business segments. In addition, with the recent investments in India and Egypt, the Group has strengthened its sales and distribution networks, and it continues to analyse further expansion possibilities in existing or new markets.

Leading market position across business segments and own energy generation capabilities provides the Group with economies of scale and the reduction of production costs

The Group benefits from significant economies of scale and synergies across its business segments due to its total annual production, including (in 2018) 4.9 million tonnes of glass and 2.4 million tonnes of soda ash. As the glass production process requires significant levels of investment in both physical plant and research and development, only market participants with sufficient critical mass are able to compete effectively, creating significant barriers to entry to new market participants.

Soda ash and other raw materials produced by the Chemicals Group are used in the Group's own glass production, which vertical integration enables the Group to reduce total production costs. In addition, while the Group's business segments have their own management, the Group centralises many activities (including procurement and R&TD), which enables the Group to take advantage of economies of scale and the benefits of synergy across its different segments. For example, research in energy-efficiency in the building and operation of glass furnaces benefits the entire Group's glass production operations. These cost advantages support the Group's ability to compete effectively, including during periods of particularly intense price competition, and enhance the Group's operating margins in those business segments. In addition, the Group's R&TD capabilities enable the Group's companies to diversify their product range further by deploying new development techniques implemented in other Group companies.

As the glass and chemical production industries are energy-intensive, in 1997 the Group began producing its own electricity, which has allowed the Group to reduce the energy costs for the production of certain of its products. In 2018, the Group's own production of electricity reached 1.2 billion kWh, of which 1.0 billion kWh was generated by Soda Sanayii's cogenerator and 0.2 billion kWh was generated by Camiř Elektrik Üretim A.ř. ("Camiř Elektrik"). By leveraging its own energy generation capacity, the Group is able to purchase electricity from third parties when market prices are low (when available) and sell, through řiřecam Enerji, internally-produced electricity in the open market when market prices are higher.

Leading market position in Turkey and product diversification provide a platform for future expansion

The Group is one of the world's leading manufacturers of glass products and one of the leading manufacturers in Turkey. In Turkey in 2018, the Flat Glass Group had a 70.0% market share in terms of tonnes sold, the Glassware Group had a 67.2% market share in terms of revenue, the Glass Packaging Group had a 58.4% market share in terms

of sales volume and the Chemicals Group had a 48.0% market share in terms of tonnes of soda ash sold, each according to management estimates. The Group's strong presence in Turkey and its ability to offer a diversified glass portfolio brings competitive advantages, specifically in connection with the products it offers, as the Group can be more selective on the type and quality of products it brings to the market and on the pricing conditions of such products. In addition, the Group's design and production abilities can rapidly respond to customer needs, enhancing and expanding its product portfolio quickly, thus creating strong and sustainable customer relationships.

The Group has leveraged its leading market position, the diversity of its portfolio and the favourable demand dynamics for flat glass products in Turkey to expand its business in Turkey and around the world as reflected by the sales growth pattern of the Group and its increasing presence in new and attractive markets.

Strong research and technological development activities

In the past few years, the Group has increased its R&TD efforts to develop highly innovative, environmentally-friendly products and production technologies in order to minimise harmful compounds that might threaten the environment. The Group strengthens its innovation and cooperation approach by entering into joint studies and projects in coordination with universities and public and private research centres, such as through its partnership with 14 Turkish universities and seven foreign universities during 2018. These partnerships, which include joint doctorate programmes supported financially by the Group, result in research projects that not only benefit the Group but also expand the pool of researchers for later hire into the Group's R&TD facilities. Furthermore, the Group recently established a collaboration agreement with the military defense sector, which has resulted in new areas of development of glass technologies.

The Group's Science and Technology Centre employed (as of 31 December 2018) 147 full-time researchers (62% of whom held graduate degrees) and 18 designers who work in specialised laboratories. The equipment and tools used in these laboratories are continuously improved and modernised. In recent years, the Group's R&TD efforts have been selected for a number of awards and recognition from the Ministry of Science, Industry and Technology of Turkey, including "The Best Cooperation and Interaction Centre" and "The Best Glass and Glass Products Division," both in 2015, and an "Intellectual Property Competence" award in 2017.

Strong financial performance and financial profile

Glass production is a capital-intensive business and the cost and scale of the technologies involved requires considerable investment. A single flat glass line, representing 200,000 to 250,000 tonnes/year of annual production, would be expected to require an investment of at least US\$150 million and would also require reliable access to significant amounts of energy, raw materials and a logistics and distribution infrastructure. Accordingly, only well-capitalised and financially sound companies are able to compete successfully and grow as their customers grow. The Issuer's management believes that the Group's prudent financial model, financial risk management, investment policy, strong cash position, a low net financial debt to EBITDA ratio compared to competitors and access to stable financing are significant strengths in funding the Group's future expansion in the glass and chemicals markets, thereby allowing it to offer customers a reliable partner to support their own growth.

In addition, the Group's management believes that the Group has a prudent foreign exchange management policy that benefits from long foreign exchange positions. The Group maintains the majority of its cash and cash equivalent balances in U.S. dollars and other hard currencies, which allows it to hedge changes in the value of the Turkish Lira. In addition, the Group's increasingly international footprint allows it to maintain foreign exchange positions and be less subject to the volatility of the Turkish Lira. New investment and expansion decisions are taken to strengthen this international footprint, reflecting the Group's vision to generate value globally.

Strategy

The Group's strategic objective is sustainable value-creating growth with operational excellence. The Group pursues this objective principally through the following strategies: (a) continually focusing on operational excellence in all of its business lines, (b) investing in sophisticated technology and digital transformation to increase operational efficiency and reduce operational costs, (c) increasing revenues by deploying technology-driven product development,

(d) making selective acquisitions in the fields in which the Group currently operates to create additional synergies while identifying, and preparing the Group to enter into, potential new business lines and geographies and (e) building global product brands. Each of these strategies is described in greater detail below:

Continued operational excellence

A fundamental part of the Group's strategy is to strive for excellence in all areas of operation to create a value-generating platform. Consistent with sectoral trends, operational efficiency is a top priority for the Group. The Group's operational excellence strategy is mainly driven by the following factors:

Strong Sales/Excellent Marketing: The Group seeks to consolidate its strength in its existing market geographies to increase turnover and profits derived from non-Turkish operations and achieve a sustainable level of profitability, thereby reducing the Group's dependence upon any market.

Operational Processes and Cost Efficiency: The Group aims to design sustainable operation processes, continuously undertake R&TD, realise the digital transformation of processes and operations, ensure effective resource management through its global supply chain, integrate purchasing and enable total cost management, particularly with respect to energy costs.

R&TD Innovation Technology: The Group seeks to improve production technologies and increase productivity, follow technology trends and innovations closely, add value added products to its portfolio, support digitalisation applications and increase competencies with innovative partnerships.

Excellent Global Human Resources: The Group aims to provide a strong corporate culture through global adaptation and integration, as well as to improve employee experience, achieve workforce continuity by developing supportive human resources processes and support digital transformation through an agile organisational structure.

Global Corporate Infrastructure: The Group focuses on the integration and development of its global corporate infrastructure, seeking to increase synergy with best practices for supporting the Group's strategic objectives.

Globalisation and Strategic Partnerships: The Group is committed to the development of strategies for entering new markets in order to achieve the goal of deepening its existing business areas and creating value in new business areas, and continuously evaluates cooperation and technological opportunities that might contribute to sustainable growth, profitability and market strength.

Sustainability: The Group, utilising a transparent management approach, is dedicated to adhering to the principles of sustainability described in the United Nations' sustainable development goals in the context of a global, reliable and financially stable company.

Technology and infrastructure transformation to accelerate operational excellence

In line with the Group's operational excellence strategy, the Group's management believes that investment in technology and infrastructure is key to increase operational efficiency and reduce operational costs. The Group expects to continue to invest in sophisticated technology and infrastructure to improve its overall performance and accelerate its business goals. For example, a recent transformation of support functions, such as human resources, finance, procurement and R&TD, has enhanced processes and achieved significant cost reductions.

Operational efficiency will be strengthened by structuring the Group's production processes with "Industry 4.0" initiatives, which (starting in 2017) seek to digitalise processes throughout the Group, and making investments in automatization and modernisation to increase production capacity. For example, a new glass packaging furnace and glass fibre facility, which began operations in 2019, employs modern equipment compatible with the Group's "Industry 4.0" platform, which is expected to reduce the Group's costs both for glass production and on-going facility maintenance. In addition to its investments in production technology, the Group's marketing activities

have also been digitalised, with all of the websites of the Group's business segments having been recently updated, and an omni-channel sales strategy is set to be realised to increase touchpoints for the Group's retail customers.

Deploying technology-driven product development

Given the rapid impact that technological advancement has had on both production and customer needs, the Group's commitment to R&TD is an essential part of its strategy. A principal objective of the Group, which has a long history of adopting and developing new technologies, is the development of value-added products and improvements in energy usage and production efficiencies to ensure sustainable revenue growth while delivering customer-centric efficient and integrated processes.

There are several examples of innovative products in each of the Group's business units. For example, in flat glass, the Group's R&TD expenditures enabled the Flat Glass Group to be the first manufacturer in the regions in which it operates to adopt innovative float glass techniques. In addition, the Flat Glass Group's Tempered Solar Glass Low-E, which reduces heat loss by 50% compared to traditional insulated glass, has been selected to be used in the new İstanbul airport. In glassware, the new "Stem Zero" collection with ion shielding technology has enabled glassware to be twice as strong and flexible as glassware made by the Group before the development of this technology. In glass packaging, R&TD research focuses on producing lighter products, polymeric coating, antibacterial packaging solutions, decoration paintings, 3D bottle designs and flexibility in working with different types and colours.

Identifying, and preparing the Group to enter into, potential new business lines and geographies

Having already moved from being a regional leader to a globally recognised company, the Group seeks to continue to expand its global market share to become one of the top three glass producers in the world. To maintain its leadership position in Turkey, the Group added a new furnace for the Glass Packaging Group and a new glass fibre production facility for the Chemicals Group in 2018 and is planning to open a new production line for the Flat Glass Group in 2020. Outside of Turkey, the Group expects to continue its expansion by making selective investments in its existing business lines. The Group also continuously analyses potential new business lines that might contribute to its growth in a financially sound manner.

In the pursuit of cost-effective global expansion, the Issuer's management envisages that strategic cooperation and ventures in collaboration with other companies will continue to play an important role just as has been the case in the Group's partnerships with Saint-Gobain in Egypt and Russia and with HNGIL in India. In certain attractive cases, such as in its recent acquisition of Pearl for Glass Manufacturing in Egypt and Sisecam Flat Glass South Italy, the Group acts independently. The Group is constantly evaluating investment opportunities, including in emerging markets in which it can replicate its successful combination of operating low-cost production facilities near high-demand markets. For the Glass Packaging Group, with its pursuit of increasing customer penetration and diversifying its revenue generation channels, the Group looks for growth opportunities in areas outside of the locations of its production facilities.

The Group also looks for start-ups and other opportunities to create additional synergies with its existing business segments or to find new and innovative solutions, including merger and acquisition opportunities for entering new business lines that might enable new market positioning with sustainable growth potential and strong partners for digitalisation. Along with operational excellence, opportunities for growth are examined in a highly selective manner by taking into account many different parameters, such as macroeconomic conditions and potential risks.

Building global product brands

As noted in "*Strengths*" above, the Group enjoys strong brand recognition in Turkey, the CIS and Eastern Europe. As part of its strategy, the Group has taken steps towards becoming a global brand, including through its investments in Eastern Europe, the CIS, Italy, India and Egypt and the deployment of an integrated marketing strategy. For example, Paşabahçe's vision is to have its name on each and every table around the world and, towards that end, it opened a store in Milan, Italy, launched "Nude" in 2014, has teamed with successful retailers such as Ikea and is planning to extend its distribution channels. As part of its globalisation strategy, and leveraging on its existing brand

recognition in the countries in which it operates, the Glassware Group opened its first franchise store in Qatar in 2018 and is planning to open retail stores in Europe and the member countries of the Gulf Cooperation Council within the next five years, which it also expects to do via a franchise model. The Group's management believes that the franchise model will allow the Group to expand its presence in different countries, thereby expanding the recognition of its brands and building a platform for the globalisation of its products, while avoiding some of the costs of opening company-owned stores.

RISK FACTORS

An investment in the Notes involves risk. Investors in the Notes assume the risk that the Issuer and/or the Guarantors might become insolvent or otherwise be unable to make all payments due in respect of the Notes or the applicable Guarantee. There is a wide range of factors that individually or together might result in the Issuer and/or the Guarantors becoming unable to make all payments due in respect of the Notes or the applicable Guarantee. It is not possible to identify all such factors or to determine which factors are most likely to occur as the Issuer and the Guarantors might not be aware of all relevant factors and certain factors that they currently deem not to be material might become material as a result of the occurrence of future events of which the Issuer and the Guarantors do not have knowledge as of the date of this Offering Circular. The Issuer and the Guarantors have identified in this Offering Circular a number of factors that might materially adversely affect their ability to make payments due under the Notes or the applicable Guarantee.

In addition, factors that are material for the purpose of assessing the market risks associated with the Notes are also described below.

Prospective investors in the Notes should also read the detailed information set out elsewhere in (or incorporated by reference into) this Offering Circular and reach their own views prior to making any investment decision relating to the Notes; however, the Issuer and the Guarantors do not represent that the risks set out herein are exhaustive or that other risks might not arise in the future. Prospective investors in the Notes should consult with an appropriate professional adviser to make their own legal, tax, accounting and financial evaluation of the merits and risks of investing in the Notes.

Risks Relating to the Group and its Business

Macroeconomic Risk - The Group faces risks relating to the economic environment in Turkey, Russia, the EU and the other jurisdictions in which the Group operates and to which it exports its products, as well as global economic conditions

The Group's ability to generate revenue depends significantly upon the economic conditions in its key operating markets, which include Turkey, Russia and (increasingly) other countries in Europe. Reduced growth rates or economic contraction in any of the Group's key markets, particularly as any such decreases affect discretionary consumer spending, might negatively affect demand for the Group's products or its ability to expand its presence in these markets. Declining demand in such markets also might result in increasing levels of price competition among producers, thereby requiring the Group to focus closely on the relative benefits of maintaining market share at the expense of lower margins.

For example, the Flat Glass Group's high-value products and the Glassware Group's products are primarily supplied to customers in (or to producers who sell to customers in) the retail, tourism, construction, automotive and foodservice industries, and demand for such customers' products and services might be materially negatively affected by declines in spending by consumers on discretionary items such as vehicles, white goods, tourism and going to restaurants. See also "Risks Relating to Turkey" below.

While Turkey's growth has remained positive and Europe (excluding Turkey and Russia) has recovered, both were impacted significantly by the global financial crisis that began about 10 years ago and the impact of such events continues to affect consumer sentiment and governmental action. In addition, financial and sovereign debt issues in Russia, including as a result of the sanctions and other economic and political pressures applied by the EU and the U.S., might lead to further significant, and potentially longer-term, economic issues such as reduced economic growth, any of which might adversely affect the Group's business, financial condition and/or operating results. These global economic conditions have significantly impacted economic markets, with retail businesses, including for the Group's customers, being particularly affected. Consequently, the Group's success will depend, in part, upon its ability to manage economic uncertainty, especially in its most significant markets in Turkey, Russia and Europe. See also "Risks Relating to Turkey – Political Developments" below.

Emerging Market Operations - The Group has significant operations in emerging markets, where it is exposed to economic and political risks

While the Group has recently increased its production and sales exposure within Europe, it remains primarily operating in emerging markets, including Turkey, Russia, Georgia, Bulgaria, Egypt, Bosnia Herzegovina, Romania, India and Ukraine. The Group's operations in emerging markets might expose the Group to risks greater than those associated with more economically developed markets as operations in emerging markets are generally subject to additional risks, including: (a) greater levels of political, economic and social instability, which might make it difficult for the Group to anticipate future business conditions in these markets, (b) local legal and regulatory uncertainty and increased risks of the expropriation or nationalisation of property, (c) the introduction of exchange controls, foreign investment controls (including restrictions on foreign investments in sectors considered to be strategically important) and other restrictions by foreign governments and (d) sanctions, boycotts and embargoes that might be imposed by the international community on countries in which it operates. For example, the continuing disputes between Russia and the EU and the U.S., including with respect to military actions in Ukraine, have impacted commerce in Russia and might be expanded in such a manner that might more directly affect the Group's operations and/or the local economies.

Such factors might affect the Group's results by causing interruptions to its operations, an increase in production costs and/or decreases in customer demand for the Group's products, and might also limit the Group's ability to successfully expand into new markets. Moreover, emerging market economies are often affected by developments in other emerging market countries and, accordingly, adverse changes in emerging markets elsewhere in the world might have a negative impact on the markets in which the Group operates. If the Group is unable to effectively manage these risks, then these risks might result in a material adverse effect on its business, financial condition and/or results of operations.

Potential Overcapacity - An increase in glass production capacity, whether by the Group or the industry in general, without a corresponding increase in demand might lead to an oversupply of glass products and cause prices for the Group's products to decline

The profitability of glass production companies is heavily influenced by the interaction of the supply of and demand for glass products. Historically, there has been an oversupply of glass products in the countries in which the Group operates, as steady growth in glass production capacity has exceeded what has been only modest growth in demand during recent years. While the rate of creation of new production capacity has recently been declining, the Group's markets continue to experience increasing levels of supply, including from new producers and existing producers looking to find new markets to which to apply their capacity. The construction of new capacity affecting the balance of supply and demand, including in markets outside the Group's primary markets, might drive down prices for the Group's products and/or create challenges to the Group's business strategies.

There can be no assurance that demand for the Group's products will meet or exceed the Group's capacity. If the Group's production capacity increases and there is no corresponding increase in demand for its products, or if existing demand declines, then the prices the Group receives for its products might materially decline, which might have a material adverse effect on the Group's business, financial condition and/or results of operations. In addition, such a lack of demand might require the Group to reduce its production levels, including to levels that are less efficient to operate, or even to idle certain production lines or factories, either of which might negatively impact its operating efficiency. The combination of lower prices and increased per unit production costs might have a material negative impact on the Group's business, financial condition and/or results of operations.

It should be noted that, rather than dramatically reducing production, the high levels of fixed costs of operating glass production plants encourage producers (including the Group) to maintain high levels of output even during periods of reduced demand. This can lead to excess inventory levels and exacerbate the pressure on profit margins, including after demand improves. The Group's profitability is dependent, in part, upon its ability to spread fixed costs over an increasing number of products sold and shipped. Decreased demand or the need to reduce inventories might decrease the Group's ability to absorb fixed costs and materially impact the Group's business, financial condition and/or results of operations.

Competition - The Group faces intense competition from other producers, including producers of glass alternatives

The Group is subject to intense competition from other producers of glass products against whom the Group competes on the basis of consumer preference, price, quality, customer service, reliability of delivery and marketing. In the Chemicals Group, the Group also has experienced increasing competition from other Turkish producers of soda ash. Changes in the Group's position in terms of any of these competitive factors might cause customers, both existing and potential, to use other suppliers or even to use an alternative material for their products.

The Group's main competitors in each of its business segments are as follows: (a) in the Flat Glass Group, NSG, Asahi, Saint-Gobain and Guardian, (b) in the Glassware Group, Arc International, Libbey Inc. and Bormioli Rocco, (c) in the Glass Packaging Group, Owens-Illinois, Saint-Gobain, Vitro, the Ardagh Group and Vetropack Holding, and (d) in the Chemicals Group, Lanxess, Vishnu, Brother Chemicals, Elementis, Solvay International Chemical Group, the Ciech Chemical Group, Tata, JSC "Soda" and Eti Soda. In the Turkish market, certain companies (including the Ciner Group) have in recent years entered the glass packaging segment with new capacities.

In addition to the factors described above, production and technological innovations by the Group's competitors might have a materially negative effect on the Group's existing business. If the Group is unable to respond to competitive pressures, including technological advances, then this might materially adversely affect the Group's business, financial condition and/or results of operations.

In addition to the competition provided by the glass competitors identified above, the Glass Packaging Group is subject to competition from makers of alternative forms of packaging, such as aluminium cans and plastic containers. Beyond these traditional "rigid" alternatives, there has been an increasing use of non-rigid packaging options, including flexible pouches and aseptic cartons, in serving the packaging needs of certain end-use markets, such as for juice containers. Decisions by the Group's customers as to which packaging to use are heavily influenced by the preferences of consumers, such as purchasers of beer and carbonated beverages. As glass packaging tends to be more costly than the alternatives, adverse effects from consumer purchasing decisions might be more significant during periods of economic downturn when end-user price sensitivity is at its highest. Any transition from glass to alternatives might also lead to higher acceptance by consumers of these alternatives, potentially leading to longer term reductions in consumer spending on products in glass packaging. Similar events might impact the Group's other businesses, such as plastic alternatives to the Glassware Group's products.

Pressures from glass competitors and producers of alternative forms of packaging have at times resulted in excess capacity in certain markets and have led to capacity adjustments and significant pricing pressures in the rigid packaging market. Furthermore, new threats from production innovations might be a disadvantage to the Group's existing business. If the Group is unable to respond to competitive technological advances, then this might materially adversely affect the Group's business, financial condition and/or results of operations.

Turkish Construction Industry - The Flat Glass Group is heavily affected by the performance of the Turkish construction industry

As a producer of architectural glass, which represented 64.5% of the Flat Glass Group's revenues in 2018, the Flat Glass Group is heavily affected by the performance of the construction industry, particularly in Turkey. The Turkish construction industry experienced a period of extended growth until early 2018, reflecting increases in per capita GDP, which led to an increase in demand for architectural glass applications ranging from high-end office and residential complexes to basic housing requirements; *however*, the industry was severely impacted by macroeconomic conditions in Turkey in 2018, including as a result of the depreciation of the Turkish Lira and an increase in inflation, which negatively impacted the cost of construction materials, leading to a slowdown in construction activity. As construction is a cyclical business, it is to be expected that a decline in growth (or even an absolute decline) will occur periodically, including significant declines as has been seen recently in Turkey. Any sustained downturn in the construction industry might have a material adverse effect on the Flat Glass Group's, and hence on the Group's, business, financial condition and/or results of operations.

Automotive Industry - Developments in the automotive industry might affect the Flat Glass Group's sales

Automotive glass, in particular sales to leading automotive brands in the European market, represents a significant portion of the Flat Glass Group's output, with revenues from automotive glass representing 35.5% of the Flat Glass Group's sales revenues in 2018. The importance of this market to the Group has increased in recent years due to the 2013 acquisition by Trakya Cam of a 90% stake in the Romanian glass manufacturer Glass Corp. S.A. ("Glass Corp."), the remaining shares of which were purchased in 2016, and the 2013 acquisition of Richard Fritz, which operates production facilities in Germany, Hungary and Slovakia. Demand for vehicles, and thus in the automotive glass segment, is dependent upon the wider performance of the European economy. In recent years, demand for vehicles in Europe has been buoyed by the strengthening European economy and, based upon data published by the European Automobile Makers Association, new passenger car registrations in the EU recorded their highest total new annual registrations since before the global financial crisis; *however*, the industry has historically been cyclical and it is to be expected that a decline in growth (or even an absolute decline) will occur periodically. For example, in 2018 domestic automotive sales decreased 35% when compared to 2017 mainly due to foreign exchange volatility and inflation.

As European car producers have attempted to contain production costs, including the cost of components, they have to a certain extent relocated production and component supply to comparatively low cost jurisdictions in key locations, and the Flat Glass Group has been able to take advantage of these developments through its operations in Turkey, Bulgaria, Slovakia and Hungary. Although the Group benefits from the strategic locations of its operations, allowing it to benefit from lower transportation costs to key markets for its products, any significant increase in the Flat Glass Group's cost base in its automotive glass operations might erode its advantage in this area, causing a loss of competitiveness and diminishing sales. Any such loss of sales might have a material adverse effect on the Flat Glass Group's, and hence on the Group's, business, financial condition and/or results of operations.

Consumer Demand for Glassware - The sales of the Glassware Group are affected by changes in consumer demand

Many of the Glassware Group's products (representing 12.5% of its revenues in 2018) are marketed and sold through retail channels directly to consumers, while those supplied to the tourism and hotel, restaurant and catering industries ("HoReCa") are also indirectly dependent upon consumer demand. Glassware, and in particular the higher end brands (which carry increased margins), might be considered to be discretionary consumer items on which consumers are likely to reduce their spending in times of economic downturn. During times of uncertainty, consumers have reduced their shopping. The hospitality industry, which drives the Glassware Group's non-consumer sales, is similarly sensitive to such pressures. Any sustained economic downturn or other decline in consumer activity in either Turkish or international markets might lead to declines in demand for the Glassware Group's products and a subsequent loss of sales and/or increased price competition.

In addition, the market for consumer glassware is affected by changes in aesthetics and shifts in consumer preferences. Any failure by the Glassware Group to keep up to date with such trends might have a material adverse effect on its sales. Any such loss of sales might have a material adverse effect on the Glassware Group's, and consequently on the Group's, business, financial condition and/or results of operations.

Energy Costs - Energy costs and interruptions in energy supplies have had and might continue to have a material adverse effect on the Group's business, financial condition and/or results of operations

The glass and chemical production industries are energy-intensive. The Group requires having a continuous supply of power, primarily natural gas but also electricity and (to a lesser extent) steam coal, to manufacture its products and conduct its business. Energy prices have historically been subject to significant price volatility, which is likely to continue. As natural gas is the primary source of energy for the Group's operations, the Group's operating results are linked to the cost of natural gas, particularly in the Chemicals Group, which has energy-intensive operations that are dependent upon natural gas and steam coal. High energy prices or price increases over an extended period of time, particularly in relation to natural gas, might have a material adverse effect on the Group's operating income and profitability, which the Group has experienced in previous periods, particularly in 2011, 2012 and 2018, as a result of an increase in tariffs charged by Turkish natural gas and energy providers. Changes in energy taxation and regulation in certain jurisdictions might also have an adverse effect on the Group's operating income and profitability.

While the Group maintains its own capacity to generate electricity in Turkey to meet a portion of its energy needs, this is supplied to the Group's companies at market prices, which might increase in the future, leading to a significant increase in operating costs for those individual companies, which in turn might have a material adverse effect on those companies' costs of production and their competitiveness, and thus in turn on the Group's business, financial condition and/or results of operations. In addition, as the Group's operations expand beyond the growth in its electricity generation capacity, and particularly for Group companies outside of Turkey, the Group's ability to protect itself through self-generation will be increasingly limited and any disruption to the needed supply of energy might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Raw Material Costs - Changes in the availability or price of raw materials have had and might continue to have a material adverse effect on the Group's business, financial condition and/or results of operations

Though the Group sources many of the raw materials it requires from multiple sources, including from its own resources within the Chemicals Group, it is required to source many of its inputs, including certain raw materials such as chromium ore and anthracite, from third party suppliers. In many cases, the suppliers of these materials are limited in number, exposing the Group to limited price competition among its suppliers. The Group's raw materials, whether sourced internally or from third parties, might be subject to price increases and/or temporary shortages and are subject to disruption due to weather, transportation problems, production delays and other factors. In such an event, there can be no assurance that the Group would be able to secure raw materials from its own resources, from sources other than its current suppliers, on terms as favourable as its current terms or even at all. Any such cost increases, to the extent that the Group is not able to offset these costs by sufficiently raising the prices of its products, might have a material adverse effect on the Group's business, financial condition and/or results of operations. In addition, loss of access to sufficient quantities and qualities of raw materials might cause the Group's production to slow or be halted until sufficient inputs can be obtained, which might result in a loss of customers (including through their perception of the Group's reliability).

Production Cost Increases - The Group is subject to production cost increases in all of its production locations, which might affect its profitability

Although the Group operates production facilities in many countries in which production costs are generally lower than in other countries in which certain of the Group's competitors manufacture their products, there can be no assurance that the benefit of comparatively low production costs will continue. Inflation in the countries in which the Group operates production facilities affects certain of the production costs, including for labour, energy and certain supplies. Any increase in the cost of production for the Group's facilities, whether as a result of increasing labour costs, administrative overhead or otherwise, might increase overall operating costs, which might have a material adverse effect on the Group's business, financial condition and/or results of operations. See also "*Risks Relating to Turkey – Inflation Risk.*"

Dependence upon Customers' Success - The Group's sales depend heavily upon its customers' success in selling their own products and services

With the exception of the Paşabahçe retail stores and sales through retailers such as Ikea, the Group's sales are largely made to manufacturers and other businesses that provide services or manufacture products for consumers. For example, the Flat Glass Group sells its products to contractors and automotive companies, the Glass Packaging Group sells its products to consumer food and beverage companies and even the Glassware Group obtains a portion of its sales from hotels, restaurants and caterers. The level of demand for glass products from these businesses is impacted significantly by the demand that the Group's customers have from their own customers, which is itself dependent not only upon economic conditions but also upon how successful the Group's customers are in anticipating and satisfying consumer trends.

For example, sales of the Glass Packaging Group's products are based upon a number of factors, including economic conditions, end-consumer preferences and urbanisation trends. Economic conditions, including slowing or negative GDP growth, inflation and declining GDP per capita and disposable income might have a material adverse impact upon the Glass Packaging Group's sales and profitability through a decline in the sales volume of the segment's customers. The weakening of consumer confidence, declining income and asset values and other adverse factors related to weak economic conditions have resulted, and might in the future result, in reduced spending by consumers

of the products sold by the segment's customers, resulting in decreased demand by such customers for the bottles and other products sold by the Glass Packaging Group. Similarly, if the Glass Packaging Group's customers are competitively unsuccessful in their own markets, such as missing a trend towards or away from a particular type of beverage, then that will also result in decreased demand of the Glass Packaging Group's products.

One example of the impact on the Group's products resulting from consumer demand for its customers' products can be seen in the alcoholic beverage industry. In certain markets, particularly Russia and Turkey, government initiatives to decrease the consumption of alcohol have resulted in declining growth rates (and even declines) in consumer demand for beer and spirits. In such markets, social as well as health concerns relating to alcohol have led to increased taxation on alcoholic beverages, a greater focus on underage drinking and certain limits on sales, which has contributed (and is likely to continue to contribute) to decreased demand for the Glass Packaging Group's products. More recently, carbonated beverages have also experienced increasing regulatory and consumer attention on their impact on well-being and health and fitness, such as concerns about obesity. These and other societal trends might have a material adverse effect on the Glass Packaging Group's, and hence on the Group's, business, financial condition and/or results of operations. See also "*-Taxation and Regulation of Beverages*" below.

Similar examples can be seen in the levels of consumer demand for automobiles, which is influenced by numerous factors such as fuel cost, taxes and evolving consumer preferences, and residential construction, which has been influenced by increasing urbanisation in the Group's primary markets. As a result, the Group's business, financial condition and/or results of operations are dependent upon not only the Group's own success in satisfying its customers' needs but also on the success of the Group's customers with their own customer base and addressing evolving trends in their own businesses.

Trade Barriers – Tariffs and other trade barriers might be imposed that might negatively impact the Group's ability to export products or increase the costs for such exports

Every country imposes certain barriers to cross-border trade, from basic licensing requirements to more comprehensive quotas or other limits on imports, including tariffs and other barriers affecting sectors or imports from particular countries. The Group and its customers are required to monitor and comply with these requirements, which can dramatically affect not only the Group's ability to export products but also market prices of its products. Should any jurisdiction increase its barriers in a manner that affects the Group's products, such as imposing tariffs on glass or prohibiting imports from a country in which the Group has a production facility, then this might have a material adverse effect on the Group's business, financial condition and/or results of operations. Recent international trends towards protectionism might increase these barriers.

Even if such barriers do not directly affect the Group's products, they might affect the markets in which the Group operates. For example, if a large importing country were to impose significant tariffs or other trade barriers on glass imports that it receives from an exporting country, then that exporting country might turn to other markets in order to sell its products, which could bring it into direct competition with the Group. Such an event might result in significant pricing pressure on the Group's products in the applicable market as the new competitor is aggressively seeking to replace its lost market.

Concentration – Certain of the Group's business rely upon large customers, the loss of any of which could have a material negative effect on the Group

Certain of the Group's business lines, such as automotive glass and glass packaging, sell to a limited universe of potential customers (*e.g.*, the small number of auto manufacturers in the world and the dominant beverage companies in different markets). While no customer currently represents a material percentage of the Group's total sales or net income, a number of customers do account for a significant portion of the sales of one of the Group's four primary business segments. The loss of one or more of those customers could have a material adverse effect on the Group's business, financial condition and/or results of operations.

Certain of the Group's business lines also sell to industries that are subject to consolidation. Should any of the Group's significant customers participate in any such consolidation, then it might result in increased concentration of the Group's sales and/or a loss of a customer. Consolidation can also result in increased pricing pressure in the applicable sector as the customer acquires greater purchasing power, which can cause not only direct pricing pressure

by the Group's customers but (even where consolidation occurs outside of the Group's customer base) also general pressure on market prices. As the Group generally does not have contracts with long-term price commitments from its customers, pricing is a continuous consideration for the Group's business.

Seasonality - Demand for certain of the Glass Packaging Group's food and beverage packaging products are affected by seasonal consumption cycles and adverse weather conditions

Sales of the Glass Packaging Group's products are affected by seasonal consumption cycles. The Glass Packaging Group experiences the strongest demand for its beverage glass packaging products when temperatures rise, particularly during the summer months when cold beverages are in demand. While this element of the business is thus subject to certain anticipated variation through the year, adverse weather conditions, such as unseasonably cool or wet weather in the spring and summer months, might adversely affect sales volumes and might have a material adverse effect on the Glass Packaging Group's, and thus on the Group's, business, financial condition and/or results of operations.

Taxation and Regulation of Beverages - Taxation and regulation of the beverage industries in the Glass Packaging Group's key markets might affect demand for its products

Alcoholic, soft drinks and other beverages produced by customers in the Glass Packaging Group's key markets are subject to regulation and taxation. Taxation of beverage products might comprise excise and other indirect taxes, in addition to general consumption taxes such as value added tax, and in many jurisdictions such excise and other indirect taxes make up a large proportion of the cost of beverages charged to customers. In particular, Turkey and Russia have increased excise taxes on alcoholic beverages in order, in part, to depress demand, whereas certain other jurisdictions have imposed (or proposed imposing) taxes on soft drinks to depress demand due to concerns that they contribute to obesity. These or other increases in taxes or the imposition of additional taxes on beverages applicable to the products produced by the Glass Packaging Group's customers might adversely affect sales by reducing overall consumer consumption and therefore reducing demand for the Glass Packaging Group's products, which might have a material adverse effect on the Glass Packaging Group's, and thus on the Group's, business, financial condition and/or results of operations.

In addition to taxation, various regulations have been imposed on alcoholic beverages, such as restrictions on, or prohibition of, alcoholic beverage advertising in the mass media or certain sales channels. In certain markets, laws have been adopted to require deposits on, and recycling of, glass containers. Such regulations in the Glass Packaging Group's key markets might have a material adverse effect on the demand for its customers' products and thus on its sales and operating and financial results and its strategy to expand operations in spirits and other high alcohol content beverages such as wine and champagne. For example, in Turkey there is a prohibition on alcoholic beverage advertising in the mass media and other general sales channels. In addition, advertising targeting persons who are under age 18 is restricted in Turkey, including restrictions on alcoholic beverage producers in sponsoring certain events where young people are in attendance. Russia has banned the advertising of alcoholic products on television, radio, the internet, public transport, billboards and the print media.

There can be no assurance that additional restrictions on, or prohibition of, alcoholic, soft drink and other beverage advertising and limitations on consumption in the Glass Packaging Group's key markets will not be introduced in the future. Any such restrictions or prohibitions might lead to a reduction in consumer demand for alcoholic and other beverage products, which might limit demand for the Glass Packaging Group's products and have a material adverse effect on the segment's, and thus on the Group's, business, financial condition and/or results of operations. See also "- Dependence upon Customers' Success."

Expansion - The Group's expansion strategy is subject to a number of risks that might adversely affect its business, financial condition and/or results of operations

As it has in recent years with the 2013 acquisition of a 90% stake in Glass Corp. (the remaining shares of which it purchased in 2016), the 2013 acquisition of Richard Fritz, the acquisition of a 50% stake in HNG and the concurrent execution of a joint venture agreement with HNG, the 2017 acquisitions of a float line in Italy and Pearl for Glass Manufacturing in Egypt, the 2018 acquisitions of the remaining shares in HNG and the assets now known as Sisecam Flat Glass South Italy and the multiple capacity increases in recent years at existing plants, the Group aims

over the longer term to capitalise on strategic opportunities to expand its glass product and chemicals production activities. Although the Group focuses on high growth markets, as these markets mature the opportunities for growth might become more limited. No assurance can be made that the Group will be able to successfully carry out further acquisitions, investments and business integrations.

The Group's future expansion is likely to require further acquisitions of or investments in other companies in different geographies. The Group's ability to execute further acquisitions or investments is subject to a number of risks, including: (a) it might not be able to identify suitable targets or acquire businesses or operations on favourable terms, (b) the cost paid might prove to be too high as a result of various factors, including a significant change in market conditions, limited opportunity to conduct due diligence or an unexpected change in the acquired business and/or relevant laws, (c) it might experience increasing competition for targets, which might result in decreased availability of suitable targets or might increase the cost of such targets, (d) it might experience difficulties in the execution of acquisitions as a result of a number of factors, including legal, financial and antitrust challenges, and (e) it might not have the necessary financial resources or might not be able to obtain the necessary financing, on commercially acceptable terms or at all, to finance such acquisitions. Such transactions might also involve the assumption of certain actual or potential, known or unknown, liabilities, such as for environmental remediation, that might have an impact on the Group's financial risk profile.

Moreover, the Group will need to successfully integrate such businesses or operations in an efficient and effective manner. This is subject to a number of uncertainties, including: (a) the incurrence of unanticipated expenses, (b) the failure to realise anticipated synergies or a delay in realising such synergies, (c) the diversion of management's attention from other business concerns and potential disruption to the Group's on-going business, (d) the inability to successfully consolidate functional areas and (e) for non-Turkish operations, the inability (or higher cost) to hire high quality bilingual personnel who are willing to be located at the new facilities (see "*Personnel*" below).

Any failure to successfully acquire or integrate a business, or the acquisition of a business with risks or liabilities of which the Group was unaware or had not anticipated appropriately, might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Foreign Exchange and Currency Risk - The Group is exposed to currency risk

The Group presents its consolidated financial statements in Turkish Lira, which is the functional currency of the Issuer and its Turkish subsidiaries, joint ventures and associates. Subsidiaries, joint ventures and associates outside Turkey generally use their local currency as their functional currency. The results of operations of those subsidiaries, joint ventures and associates whose functional currency is not Turkish Lira are translated into Turkish Lira at the applicable exchange rate for inclusion in the Group's consolidated financial statements. The translation effect resulting from the fluctuations in the exchange rate between the Turkish Lira and the relevant functional currencies of Group members might have a material adverse effect on the Group's financial condition and/or results of operations.

In recent years, concern over sovereign debt in the eurozone caused significant fluctuations of the euro relative to other currencies, including the Turkish Lira. Additionally, significant changes in the value of the Turkish Lira in relation to foreign currencies, particularly the U.S. dollar, the euro and the ruble, will affect the Group's cost of goods sold and its operating margins and might result in exchange losses or otherwise have a material negative effect on its business, financial condition and/or results of operations. For example, the Group's financial performance and results of operations are partially dependent upon the results of its operations in Russia, which represented 13.3% of the Group's revenues in 2018. As a result, the Group is exposed to the fluctuations of the ruble, which has been volatile in recent years primarily due to the fluctuations in oil prices, the performance of the Russian economy and recent political events, including the economic sanctions imposed by the United States and the European Union. The recent significant volatility in the value of the Turkish Lira itself has had, and will likely continue to have, significant impacts on the Turkish Lira-equivalent value of the Group's assets and liabilities, increasing as the Turkish Lira depreciates and decreasing as the Turkish Lira strengthens. See also "*Exchange Rate Risk - The Turkish Lira exchange rate has historically been volatile, which might adversely affect Turkey's general economy as well as the Group's business, financial condition and/or results of operations.*"

In addition, the Group sells its products in over 150 countries, acquires materials that are priced in different currencies and incurs some financial obligations in different currencies, each of which is affected by fluctuations in

the applicable currency exchange rates. Furthermore, some of the Group's operations are, due to the current levels of exchange rates, currently in low cost jurisdictions; *however*, that competitive advantage might decline if the relevant local currency gains in value when compared to the Turkish Lira and other relevant currencies. Any strengthening of these local currencies (particularly against the U.S. dollar and euro) would lead to an increase in the cost of the Group's exports, which might affect sales and have a material adverse effect on the Group's business, financial condition and/or results of operations. Currency volatility thus might increase the Group's costs for material, decrease the Turkish Lira-equivalent value of sales and/or increase the Turkish Lira-equivalent of foreign currency-denominated obligations and costs, which might have a material adverse effect on its business, financial condition and/or results of operations.

Furthermore, since the majority of the Group's outstanding indebtedness is denominated in foreign currency (€437.7 million, US\$539.9 million (including the amounts outstanding under the US\$500,000,000 4.25% notes due 2020 that it issued in May 2013 (the "*Existing Notes*")) and RUB17.6 billion, as of 31 December 2018; see "*Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources - Borrowings*"), a depreciation of the Turkish Lira might increase the Group's financial obligations and materially affect the Group's ability to service its indebtedness, which might lead to the acceleration of such indebtedness by the applicable creditors and/or otherwise negatively impact the Group's business, financial condition and/or results of operations.

Operations outside Turkey – The Group's extensive operations outside Turkey expose it to additional risks

While a substantial portion of the Group's operations are in Turkey, it also maintains operations in other jurisdictions, including Russia, Bulgaria, Bosnia-Herzegovina, Hungary, Georgia, Slovakia, Romania, Ukraine, Germany, Italy, Egypt and India. The Group's operations outside of Turkey are subject to differing regulatory environments and domestic conditions, which requires the Group to engage in operations in relevant local currencies such as the euro, ruble, Leva, Egyptian Pound and Indian Rupee. Adverse legal, political and economic conditions in the countries in which the Group operates, including foreign exchange rate fluctuations, changes in regulatory conditions, increased competition, changes in commodity prices and the prices of raw materials, might have a material adverse effect on the Group's operations, financial condition and/or results of operations.

Furthermore, the potential for additional sanctions implemented by the U.S. and/or the European Union against Russia or *vice versa*, turmoil, deteriorating macroeconomic conditions and actual or threatened military actions in the countries in which the Group operates (in particular, in Russia) might have a material adverse effect on the Group's investments and operations in those countries. In particular, any worsening of the sanctions and conflicts in eastern Ukraine and Russia might materially adversely affect the Group's operations, financial condition and/or results of financials. This might limit the Group's ability to undertake certain operations. For further information with respect to Russia, see "*-Risks Relating to Russia*" below.

While the current political disputes among Middle East countries have not affected the operations of the Group in Egypt, any escalation of the conflicts, including any events such as war, economic or political deterioration and the depreciation of the Egyptian Pound, might have a material adverse effect on the Group's Egyptian operations, financial condition and/or results of operations.

Risks Relating to Russia – Political developments and macroeconomic conditions affecting Russia might affect the Group's operations

In 2018, 13.8% of the Group's revenues were in Russia. As a result, negative political developments and macroeconomic conditions in Russia might have a material adverse effect in the Group's business, financial condition and/or results of operations.

In 2014 and 2015, Russia experienced an economic downturn characterised by a substantial depreciation of its currency, sharp fluctuations of interest rates, a decline in disposable income, a steep decline in the value of shares traded on its stock exchanges, a material increase in the inflation rate and a decline in the gross domestic product. In response to the decrease of oil prices between 2014 and 2016, which significantly reduced fiscal revenue, the Russian government cut spending sharply. In 2016 and 2017, some of these economic trends reversed or moderated, with the ruble strengthening, oil prices increasing, inflation rates declining significantly and the rate of decline in gross

domestic product moderating. In 2018, oil prices recovered to an average of US\$71 per barrel (a 30.7% increase year-over-year), and the economic recovery boosted tax revenue from non-hydrocarbons. As a result, Russia's GDP increased 2.8% in 2018; *however*, economic conditions continue to be unstable and future changes might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Russia continues to be dependent upon oil prices and, as a result, any decrease in oil prices might have deleterious macroeconomic and other negative effects on Russia, including increased volatility in currency values and a weaker overall business environment. In addition, weaker private consumption due to higher interest rates and rising inflation (driven largely by an increase in VAT that came into effect in January 2019), might, in the future, negatively affect the ability of the Group to conduct its business in Russia.

In March 2018, Vladimir Putin was re-elected as president for a fourth term. Russia's continuing involvement in the Syrian crisis, the alleged attempt to influence U.S. and other elections, its relations with the European Union and the current situation in Ukraine continue to create uncertainty. Russia's conditions are also impacted by the imposition of economic sanctions by the United States, the European Union and certain other countries on certain Russian government officials, private individuals and Russian companies, as well as "sectoral" sanctions affecting specified types of transactions with certain participants in certain industries, including certain Russian financial institutions, and sanctions that prohibit most commercial activities of U.S. and EU persons in Crimea and Sevastopol. In the course of 2017 and 2018, these sanctions have been successively expanded and extended. There is significant uncertainty regarding the extent or timing of any potential further economic or trade sanctions and the ultimate outcome of the Ukrainian crisis. Political and economic sanctions might affect the Group's ability to operate in Russia, which might negatively impact the Group's business, financial condition and/or results of operations.

In connection with the current economic conditions (including the variable price of oil) and political situation (including the above-described sanctions), the value of the Russian ruble has been volatile. In 2018, the Russian ruble depreciated against the U.S. dollar by 8.7% after having appreciated by 5.6% in 2017 and by 16.4% in 2016. The ruble's volatility might materially adversely affect the Group's business, financial condition and/or results of operations.

Should the Russian economy experience a contraction or slower growth in the future, then this might adversely affect the Group's business, financial condition and/or results of operations.

Environmental Laws - The Group is subject to various environmental and other legal requirements and might be subject to new or changing requirements of this kind in the future that might result in the incurrence of substantial costs

The Group's operations and production facilities are subject to extensive international, national, provincial, regional and local laws relating to environmental protection. Examples of such laws that might affect the Group's business include requirements regarding remediation of contaminated soil, groundwater and buildings, water supply and use, water discharges, air emissions, waste management, glass recycling, packaging, noise pollution, asbestos and other deleterious materials and the generation, storage, handling and transportation of hazardous materials. Compliance with these laws might result in significant capital expenditures as well as other costs and liabilities, and might also limit the availability of materials and substances used by the Group in its manufacture of glass products and chemicals.

The scope of such laws varies across the different jurisdictions in which the Group operates. The Group must comply with the legal requirements in the jurisdictions in which it operates or markets products, as well as those binding upon its customers who use the Group's products in their own markets. The Group has incurred, and expects to continue to incur, operational costs to comply with such legal requirements, and these costs might increase in the future. Environmental laws that affect the Group's business in Turkey and other jurisdictions have become increasingly stringent and likely will continue to be more restrictive. These requirements might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Sites at which the Group operates often have a long history of industrial activities and might be, or have been in the past, engaged in activities involving the use of materials and processes that might give rise to contamination and result in potential liability to remediate, as well as claims for alleged damage to persons or property. Liability

might be imposed upon members of the Group as owners, occupiers or operators of contaminated facilities. These legal requirements might apply to contamination at sites that the Group presently owns, occupies or operates, or that it formerly owned, occupied or operated, or that were formerly, owned, occupied or operated by companies that the Group has acquired. Regarding companies acquired by the Group, there can be no assurance that due diligence investigations identify or accurately quantify all material environmental matters related to the acquired facilities. Furthermore, the closure of a site might accelerate the need to investigate and remediate any contamination at the site.

Should the Group's operations cause environmental damage in the future or currently unknown conditions be discovered, the Group might be required to undertake additional remedial measures. The costs associated with remediation works can be substantial and might have a material adverse effect on the Group's business, financial condition and/or results of operations. In addition, publicity regarding environment damage caused by a facility owned, occupied or operated by the Group might have a material adverse effect on the Group's reputation, including among its customers, who might seek to avoid association with the Group.

The Group's business is energy intensive, which results in the emission of products of combustion and the high temperature oxidation of atmospheric nitrogen (*i.e.*, carbon dioxide and oxides of nitrogen). The Group is subject to laws that restrict air emissions. Given the growing concerns about climate change and the effects of greenhouse gas emissions, the Group is likely to have to reduce and otherwise manage its own emissions so as to meet regulatory requirements. In order to comply with possible air emission restrictions, significant upgrade works might be necessary at some sites, which might potentially involve significant capital investment, which might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Health and Safety Laws - Changes in health and safety laws and product requirements and their enforcement might have a material impact on the Group's operations

Stricter product requirements, health and safety laws and enforcement policies might result in substantial additional costs and liabilities for the Group. Compliance with these laws might result in significant capital expenditures as well as other costs and liabilities, which might have a material adverse effect on the Group's business, financial condition and/or results of operations. Furthermore, there can be no assurance that the Group will be able to meet all future health and safety or product regulations, or that it will have sufficient funds to make the necessary capital expenditures.

Changes in laws imposing restrictions upon, and conditions for the use of, food contact materials or on the use of materials and agents in the production of the Group's products and stringent laws related to the construction and automotive industries might adversely affect the Group's business. Changes to health and food safety regulations might increase costs and also might have a material adverse effect on revenues if, as a result, consumer attitudes toward end-products for which the Group provides packaging were to be materially negatively affected.

With respect to its production facilities, the Group is subject to numerous obligations relating to the safe operating environment of its facilities. Complying with these obligations, including expenditures that might be necessary to implement additional safety protections, might increase the Group's production costs.

Operational Risks - The Group is exposed to operational risks, including production hazards and mechanical and technical failures that might adversely affect its business

The Group is exposed to operational risks, including the risk of unanticipated equipment breakdown or failure at its production facilities, which might cause interruptions in production or a process shutdown while repairs are carried out. Interruptions in production or process shutdowns (which might be followed by delays in restarting the production process) might reduce the Group's production volumes. In particularly adverse circumstances, such events might disrupt the Group's ability to comply with the expectations of its customers or the contractual obligations of the Group with such customers.

The Group's primary production processes involve heating glass to extremely high temperatures and operating heavy machinery and other equipment, which entail a number of risks and hazards, including industrial accidents, leaks and ruptures, explosions, fires, mechanical failures and environmental hazards, such as spills, storage

tank leaks, polluting emissions, discharges or releases of hot glass or toxic or hazardous substances and gases, all with potential requirements for environmental remediation and civil, criminal and administrative sanctions and liabilities. These hazards might cause unplanned business interruptions, unscheduled downtime, transportation interruptions, personal injury and loss of life, severe damage to (or destruction of) property and equipment, environmental contamination and other environmental damage, civil, criminal and administrative sanctions and liabilities and third party claims, any of which might have a material adverse effect on the Group's business, financial condition and/or results of operations. For example, in March 2019, there was a small fire at one of the Group's Russian plants that, while it did not cause any disruptions to the plant's operations, resulted in seven casualties and is being investigated by the Group and Russian authorities.

The Group might also be subject to interruptions in production or the loss of inventory as a result of catastrophic events such as floods, other natural disasters, fires or explosions, particularly in relation to its operations in Turkey, which are located in high-risk earthquake zones. See "*— Earthquake Risk.*" Moreover, the Group is increasingly reliant upon its information technology and systems, which systems might be vulnerable to operational or security challenges such as telecommunications failures, interruptions and security breaches. Any interruptions in the Group's production capacity, the loss of inventory or interference with its information technology and/or systems might require the Group to incur significant expenses to remedy the situation, which might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Earthquake Risk - A number of the Group's production facilities in Turkey are located in high-risk earthquake zones

Most of Turkey's population and economic resources are located in a first-degree earthquake risk zone (the zone with the highest level of risk of damage from earthquakes) and a number of the Group's facilities in Turkey are located in high-risk earthquake zones. The Group's headquarters in İstanbul and its facilities in Denizli, Bursa, Bahkesir and Kocaeli are located in first degree earthquake risk zones, whereas its production facilities in Eskişehir are in second degree earthquake zones, the production facilities in Mersin are in third degree earthquake zones and the production facilities in Ankara (Polatlı) and Kırklareli (Lüleburgaz) are in fourth degree earthquake risk zones. Although the Group maintains earthquake insurance, business interruption insurance and insurance for loss of profits, there can be no assurance that it will be fully compensated for losses under these policies. In addition, any such events might (even if covered by insurance) result in a temporary or permanent loss of customers as those customers turn to other suppliers during any disruption to the Group's production capacity. The occurrence of a severe earthquake might adversely affect one or more of the Group's facilities or the Turkish economy in general, causing an interruption in, and an adverse effect on, the Group's business, financial condition and/or results of operations.

Access to Funding - The Group's operations might suffer if it is unable to access funding to meet its capital expenditure needs

Glass manufacture is a capital intensive business that requires significant investment in plant and machinery, both for modernisation/maintenance and expansion. In addition, the Group's commitment to R&TD is essential for maintaining technical innovation and efficiency. Because of this, the requirements for capital expenditures are significant and can, as in the Group's large investment cycle in 2012 to 2015, adversely affect the Group's cash flow. The Group has historically financed its investments through a combination of self-financing, equity, bank lending, bond issuances and project finance loans from multilaterals.

Particularly in light of the historical volatility of emerging market financings, the Group: (a) might have difficulty extending and/or refinancing its existing foreign currency-denominated indebtedness, hindering its ability to avoid the interest rate risk inherent in maturity mismatches of assets and liabilities, and (b) is susceptible to depreciation of the Turkish Lira (which would thus increase the amount of Turkish Lira that it would need to make payments on its foreign currency-denominated obligations). Should these risks materialise, these circumstances might have a material adverse effect on the Group's business, financial condition and/or results of operations.

A downward change in the ratings published by rating agencies of either Turkey or members of the Group (for instance, in July 2018, Fitch downgraded the sovereign rating of Turkey to "BB" from "BB+" and, in August 2018, Moody's downgraded the sovereign rating of Turkey to "Ba3" (outlook negative) from "Ba2" (outlook negative) and S&P downgraded the sovereign rating of Turkey to "B+" (outlook stable) from "BB-" (outlook stable)) might

increase the costs and/or limit the availability of new indebtedness and/or the refinancing of the Group's existing indebtedness.

In the event that such external sources of funding were to become more expensive or difficult to secure, whether due to overall market conditions or circumstances relating specifically to the Group, the Group's maintenance programme and expansion plans might have to be postponed, scaled back or abandoned, which might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Labour Relations - Organised strikes or work stoppages by unionised employees might disrupt production and/or lead to additional costs

The Group's operations are highly labour-intensive and many of the Group's operating companies are party to collective bargaining agreements with labour unions, which cover the majority of the Group's employees. Upon the expiration of any collective bargaining agreement, the Group's operating companies might be unable to negotiate acceptable contracts with labour unions, which might result in strikes by the affected workers and increased operating costs as a result of higher wages or benefits paid to union members. As a result of the Group's increasing international production, the Group is subject to labour conditions in multiple jurisdictions, increasing the risk of labour-related disruptions within the Group. If workers were to engage in a strike or other work stoppage in connection with a collective bargaining agreement or otherwise, then the Group might experience a significant disruption of operations and/or higher ongoing labour costs, which might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Insurance - The Group's existing insurance coverage might be insufficient and future coverage might be difficult or expensive to obtain

Although the Group believes that its insurance policies provide adequate coverage for the risks inherent in the Group's business, these insurance policies typically exclude certain risks and are subject to certain thresholds and limits. There can be no assurance that the Group's property, plant and equipment and inventories will not suffer damage due to unforeseen events or that the proceeds available from the Group's insurance policies will be sufficient to protect it from all possible loss or damage resulting from such events, including loss of customers. If the Group's insurance coverage proves to be inadequate, then it might cause significant disruption to the Group's operations, which might have a material adverse effect on its business, financial condition and/or results of operations.

The Group might suffer indirect losses, such as business disruption or third party claims of damages, as a result of an insured risk event. While the Group carries business interruption insurance and general liability insurance, these are subject to certain limitations, thresholds and limits and might not fully cover all indirect losses.

The Group renews its insurance policies on an annual basis. The cost of coverage might increase to an extent that the Group might choose to reduce policy limits or agree to certain exclusions from or limitations on coverage. Among other factors, adverse political developments, security concerns and natural disasters in any country in which the Group operates might materially adversely affect available insurance coverage and/or result in increased premiums for available coverage and/or additional exclusions from coverage.

Personnel - The Group's failure to attract and retain key personnel might adversely affect its business

The Group's success depends to a large degree upon the services of its senior management team and key researchers and other personnel with relevant expertise. Failure to attract and retain such personnel or to ensure that their experience and knowledge is retained within the Group might have an adverse effect on the Group's operations. In addition, the Group must compete with other companies in each of its markets for suitably qualified personnel, including employees having a deep understanding of the local markets and the intricacies of sales, marketing and distribution of the Group's products. With the Group's increasing international presence, the need for dual-language employees knowledgeable in the glass industry has also become of greater importance. If the Group is unable to attract and retain key personnel, this might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Holding Structure - The Group operates with a holding company structure and the Issuer is dependent upon its subsidiaries

The Issuer's results of operations and financial condition are to a significant extent dependent upon the financial performance of its subsidiaries, joint ventures and associates. The Issuer's ability to pay amounts due on the Notes will depend upon the level of cash generated by the Issuer's own operations, the level of distributions, interest payments and loan repayments (if any) received by the Issuer from its operating subsidiaries, joint ventures and other associated undertakings, any amounts received by the Issuer on disposals of assets and equity holdings and the level of the Issuer's cash balances. The ability of a Guarantor to make payments under its Guarantee is similarly affected by the results of its own subsidiaries, joint ventures and associates.

The ability of any of the Issuer's direct or indirect subsidiaries, joint ventures and associates to pay dividends or to make other payments or advances to the Issuer (or a Guarantor) depends upon their individual operating results and any statutory, regulatory or contractual restrictions to which they might be or might become subject and, in some cases, the Issuer's (or a Guarantor's) receipt of such payments or advances might be subject to negative tax consequences.

Dependence upon Information Technology Systems – The Group's operations might be adversely affected by interruptions to, cyber-attacks on or the improper functioning of its information technology systems

The Group's business, financial performance and ability to meet its strategic objectives (including in its R&TD operations) depend to a significant extent upon the functionality of its information technology ("IT") systems and its ability to increase systems capacity, which is of increasing importance as the Group seeks to increase its automation and digitalisation. The proper functioning of the Group's financial control, risk management, accounting, customer service and other IT systems are critical to the Group's business and its ability to compete.

Any failure, interruption or breach in security of the Group's IT systems might result in failures or interruptions in the Group's risk management, general ledger and/or other important operations. In addition, any cyber-attack on the Group's IT systems could disable them, corrupt the quality and reliability of their processes or even result in the theft of the Group's proprietary research and other knowledge, which could be used by competitors. A disruption (even short-term) to the functionality of the Group's IT systems, cyber-attacks or other problems with the Group's IT systems might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Dependence upon Licences – Group members might be unable to maintain or secure the necessary licences for carrying on their business

A number of the Group's operations require facilities, environmental and other licences. The Issuer's management believes that the Issuer and each of its subsidiaries, joint ventures and associates is in compliance with its existing material licence and reporting obligations; nevertheless, if it is incorrect, or if any member of the Group were to suffer a loss of a licence, breach the terms of a licence or fail to obtain any further required licences, then this might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Control by İşbank – The Issuer is controlled by İşbank, whose interests might not be aligned with the interests of the Issuer or its creditors

The Issuer is controlled by İşbank, which owned a direct controlling stake of 67.11% (and indirectly, through its subsidiaries, 67.14%) of the Issuer's shares. As a result, İşbank has the power to elect a majority of the Issuer's board of directors and to determine the outcome of almost all matters to be decided by a vote of the Issuer's shareholders. The interests of İşbank might differ from those of the Issuer and its creditors and İşbank might prevent or delay the Issuer from making certain decisions, might take certain actions that would benefit İşbank or might take certain actions that fail to protect the interests of the Issuer's other constituencies, including investors in the Notes. Furthermore, any change in the control of İşbank might result in changes in İşbank's actions with respect to the Group, including with respect to the appointment of directors. For example, recently government officials have made some comments regarding a potential transfer to the Turkish Treasury of the shares in İşbank held by the Republican

People's Party (the "CHP"), which is currently the main opposition party. After Mustafa Kemal Atatürk passed away, his shares in İşbank were transferred to the CHP in accordance with his testamentary will. On 17 September 2018, the Bank made a public announcement in Turkey stating that: (a) under Mustafa Kemal Atatürk's will, any dividends on these shares are paid to two non-profit organisations, the Turkish Language Institute and the Turkish Historical Society, and (b) the İşbank Personnel Supplementary Pension Fund, which acts on behalf of the active and retired employees of İşbank and held 40.13% of the shares of İşbank as of such date, appoints the majority of the members of the Board of Directors. As of 31 December 2018, CHP's shares comprised 28.09% of İşbank's outstanding share capital. See "Shareholders and Related Party Transactions."

Covenant Restrictions - Restrictive covenants in the Conditions and the Group's other obligations might restrict the Group's ability to operate its business

The Conditions will contain covenants limiting, among other things, the Issuer's ability and the ability of certain members of the Group (including the Guarantors) to create certain liens, incur additional debt, enter into transactions with affiliates, make certain asset sales, make certain restricted payments, merge or consolidate with other entities and lease all or substantially all of their properties and assets. See Condition 5 (*Covenants*). Members of the Group are also subject, and might in the future become subject, to similar or other restrictions on its operations.

As a result of such obligations, the Group might be limited in the manner in which it can conduct its business. A failure to comply with the restrictions contained in the Conditions might lead to an Event of Default, and a breach of covenants in other obligations might lead to a similar event with respect thereto, which might result in an acceleration of indebtedness. Furthermore, the occurrence of such an event in one debt facility might cross-default to one or more of the Group's other debt facilities, thereby resulting in the potential acceleration of multiple debt facilities even though the breach occurred with respect to only one of them.

There can be no assurance that the Group, including as a result of its operating results, will be able to ensure compliance with its obligations under the Conditions or other debt facilities or to remedy any such default. In addition, in the event of acceleration of the Notes or any other debt facility, the Issuer might not have or be able to obtain sufficient funds to make any accelerated payments.

Turkish Disclosure Standards – Turkish disclosure standards differ in certain significant respects from those in other countries, potentially resulting in a lesser amount of information being available

Historically, the reporting, accounting and financial practices applied by Turkish companies (including listed companies) have differed in certain respects from those applicable to companies in the EU, the United States, the United Kingdom or in other similar economies. There is less publicly available information on businesses in Turkey than is regularly published by similar businesses in the EU, the United States, the United Kingdom or in other similar markets and any information that is published might only be presented in Turkish. Furthermore, listed companies in Turkey, such as the Issuer and the three listed Guarantors, are not required to submit their interim financial information to the review of independent public accountants and, therefore, the interim financial statements published by Group entities will only be prepared by the Group's management without the review of an independent public accountant. As a result, the financial information included in the interim financial statements of the Issuer and the Guarantors might not accurately reflect the financial condition and results of operation of the Issuer, the Guarantors and their respective consolidated subsidiaries and/or might be subject to material audit adjustments when the next audited financial statements are prepared.

The Group maintains its accounting systems and prepares its accounts in accordance with the relevant laws and publishes quarterly and annual financial results in accordance with TAS. These accounts are not prepared on a basis consistent with IFRS. There are differences between IFRS and TAS. A summary of such differences as they apply to the Group has been included elsewhere in this Offering Circular, including potential differences that might materially affect the Group's results of operations and financial position (see Appendix 1 - "*Overview of Significant Differences Between IFRS and TAS*"). Potential investors should rely upon their own examination of the Group, the terms of the Notes and the financial and other information contained in this Offering Circular.

Risks Relating to Turkey

Political Developments – The Group’s business, financial condition and/or results of operations are subject to changes in the political environment

Negative changes in the political environment, including the inability of the Turkish government to devise or implement appropriate economic programmes, might adversely affect the stability of the Turkish economy and, in turn, the Group’s business, financial condition and/or results of operations. Unstable coalition governments have been common, and Turkey has had numerous, short-lived governments, with political disagreements frequently resulting in early elections, which has resulted in political and economic uncertainty.

Events surrounding future elections and/or the results of such elections might contribute to the volatility of Turkish financial markets and/or have an adverse effect on investors’ perception of Turkey, including with respect to the independence of Turkey’s financial institutions, and Turkey’s ability to adopt macroeconomic reforms, support economic growth and manage domestic social conditions. Perceptions of political risk have also increased as a result of increased violence in Turkey, including relating to terrorist attacks (see “– *Terrorism and Conflicts*”), the pending creation of an executive presidency and media reporting.

On 15 July 2016, the Turkish government was subject to an attempted coup by a group within the Turkish army. The Turkish government and the Turkish security forces (including the Turkish army) took control of the situation in a short period of time and the ruling government remained in control. On 20 July 2016, the government declared a three month state of emergency in the country, entitling the government to exercise additional powers. Under Article 120 of the Turkish Constitution, in the event of serious indications of widespread acts of violence aimed at the destruction of the free democratic order, a state of emergency may be declared in one or more regions of, or throughout, the country for a period not exceeding six months; *however*, this period may be extended. The state of emergency was extended seven times for additional three month periods pursuant to Article 121 of the Turkish Constitution, ending as of July 2018.

Following the coup attempt, the government has initiated legal proceedings against numerous institutions, some of which were closed down and their assets and receivables seized, and arrested, discharged or otherwise limited thousands of members of the military, the judiciary and the civil service, restricted media outlets and otherwise taken actions in response to the coup attempt, including expansion of these actions to members of the business community and journalism sector. Investigations with respect to the attempted coup are on-going. There might be further arrests and actions taken by the government in relation to these investigations, including changes in policies and laws. Further investigations and arrests might impact the ability of the Group’s customers to meet their obligations to the Group. Although, through the date of this Offering Circular, the Group’s operations have not been materially affected by the attempted coup, the political and social circumstances following the attempted coup, its aftermath (including rating downgrades of Turkey and the Group) or any other political developments might have a negative impact on the Turkish economy (including the value of the Turkish Lira, international investors’ willingness to invest in Turkey and/or domestic demand), Turkey’s relationships with the EU, the United States and/or other jurisdictions, Turkey’s institutions and regulatory framework, the Issuer’s and/or the Group’s business and/or financial condition and/or the value and/or market price of an investment in the Notes.

On 4 November 2016, several members of the Turkish parliament from the People’s Democratic Party (*Halkların Demokratik Partisi*) (*HDP*), including its two then co-leaders, were arrested.

In a referendum held on 16 April 2017, the majority of the votes cast approved proposed amendments to certain articles of the Turkish Constitution, including to extend the powers of the president. Accordingly (*inter alia*), upon the effectiveness of such amendments on 9 July 2018: (a) the then current parliamentary system was transformed into a presidential one, (b) the president was entitled to be the head of a political party and to appoint the cabinet, (c) the office of the prime minister was abolished, (d) the parliament’s right to interpellate (*i.e.*, the right to submit questions requesting explanation regarding an act or a policy) the cabinet members was annulled and (e) the president obtained increased powers over the selection of members of the Board of Judges and Prosecutors (previously, the Supreme Board of Judges and Prosecutors (*Hakimler ve Savcılar Yüksek Kurulu*)). It is unclear what impact such structure might have on Turkish government institutions and Turkey’s international relations.

On 25 April 2017, the Parliamentary Assembly of the Council of Europe voted to restart monitoring Turkey in connection with human rights, the rule of law and the state of democracy. This decision might result in (or contribute to) a deterioration of the relationship between Turkey and the EU, including the suspension of negotiations for Turkey's potential accession to the EU. Any event that might result in (or contribute to) a deterioration of the relationship between Turkey and the EU might have an adverse impact on the Turkish economy, which in turn might have a material adverse effect on the Group's business, financial condition and/or results of operations and/or on the market price of an investment in the Notes.

On 8 October 2017, the United States suspended all non-immigrant visa services for Turkish citizens in Turkey following the arrest of an employee of the United States consulate in İstanbul. On the same date, Turkey responded by issuing a statement that restricted the visa application process for United States citizens. While visa services have since resumed to normal, relations between the two countries remain strained on various topics, including the conviction of an executive of state-controlled bank Türkiye Halk Bankası A.Ş. ("*Halkbank*") who in early January 2018 was found guilty in a United States federal court of bank fraud and conspiracy to violate U.S. sanctions laws in relation to an alleged conspiracy to assist Iran to evade U.S. sanctions. As of the date of this Offering Circular, the final outcome in relation to the matters giving rise to the conviction, including any appeal and whether any sanction, fine or penalty will be imposed by the Office of Foreign Assets Control of the U.S. Department of Treasury ("*OFAC*") on Halkbank or any other Turkish bank or person in connection with those matters, as well as the possible reaction of the Turkish government to any such events or speculation regarding such events, is unknown.

In the presidential elections held on 24 June 2018, Recep Tayyip Erdoğan received approximately 53% of the votes and was re-elected as the President. In parliamentary elections held on the same day, the Justice and Development Party (*Adalet ve Kalkınma Partisi* ("*AKP*")), the President's party, and the Nationalist Movement Party (*Milliyetçi Hareket Partisi*) (*MHP*), which has formed the "People's Alliance" bloc with the AKP, together received sufficient votes to hold a majority of the seats in Parliament. On 9 July 2018, President Erdoğan announced the new ministers of his cabinet, which included the appointment of the former minister of Energy and Natural Resources and his son-in-law, Berat Albayrak, as the minister of Treasury and Finance. On 10 July 2018, President Erdoğan issued a decree empowering the President to appoint the chief of the Central Bank, whereas the council of ministers had the authority to appoint the chief of the Central Bank in the parliamentary system. Uncertainty as to the implementation of effective monetary and fiscal policies or failure to implement effective policies might adversely affect the Turkish economy in general. Although there have been limited or no disruptions to date, local elections in Turkey, scheduled to take place on 31 March 2019, might result in increased political risks.

On 1 August 2018, OFAC took action targeting Turkey's Minister of Justice and Minister of Interior, indicating that these ministers played leading roles in the organisations responsible for the arrest and detention of American pastor Andrew Brunson, and blocked any property, or interest in property, of these Ministers within the United States and generally prohibited U.S. persons from engaging in transactions with them. Following such action, Turkey imposed reciprocal sanctions against two American officials. On 10 August 2018, the President of the United States stated that he had authorised higher tariffs on steel and aluminium imports from Turkey. On 15 August 2018, Turkey retaliated by increased tariffs on certain imports from the United States, such as cars, alcohol and tobacco. These actions contributed to a decline in the value of the Turkish Lira, which fell to a record low (exceeding TL 7.2 per U.S. dollar in the week ended on 12 August 2018) before strengthening to TL 5.3 as of 31 December 2018, due to various reasons, including certain measures taken by the BRSA, the higher than expected interest rate hike (625 basis points) by the Central Bank on 13 September 2018, the "New Economic Programme" of the government that was in line with the market's expectations and improving relations between Turkey and the United States following the release of Mr. Brunson on 12 October 2018 and the 2 November 2018 removal of the sanctions imposed upon Turkish ministers and reciprocal sanctions imposed by Turkey. See "*-Turkish Economy.*" The events prior to the release of Mr. Brunson contributed to the deterioration of the relationship between Turkey and the United States and any future similar events might have an adverse effect on the Turkish economy and/or might impact investors' perception of the risks relating to investments in Turkish issuers, including the Issuer.

On 2 October 2018, Saudi journalist Jamal Khashoggi disappeared after entering the Saudi consulate in İstanbul and it was later announced that Mr. Khashoggi had been killed inside the consulate by Saudi operatives. The impact that this event will have on the relationship between Turkey and Saudi Arabia is unknown, including potentially leading to an increase in the price of oil imported by Turkey. Any such events might have a negative impact on the Turkish economy.

On 5 November 2018, in an effort to constrain Iran's nuclear programme, the United States reinstated all U.S. sanctions on Iran that had been removed in 2015, including certain sanctions imposed upon the Iranian financial and energy sectors and some other exports from Iran. Nevertheless, on the same date, the United States Secretary of State Michael Pompeo noted that a partial exemption was granted to eight countries, including Turkey, allowing these countries to import limited amounts of oil from Iran for six months; *however*, there is no certainty that such exemption will remain in force until the end of the six-month period or that it will be renewed.

These and other events contributed to an increase in the cost of funding for Turkish companies during 2018. For example, the cost of credit default swaps increased to 574 basis points during the year, before settling near 362 basis points at year end (which lower level still represented an 119% increase from 31 December 2017). Similar events might occur, which might have a material adverse effect on the cost of funding for Turkish companies (including the Issuer).

In addition, certain regulatory actions, investigations, allegations of past or current wrongdoing and similar actions might increase perceptions of political conflict or instability. Actual or perceived political instability in Turkey and/or other political circumstances (and related actions, rumours and/or uncertainties) might have a material adverse effect on the Group's business, financial condition and/or results of operations and/or on the market price of an investment in the Notes.

Turkish Economy – The Turkish economy is subject to significant macroeconomic risks

Since the early 1980s, the Turkish economy has undergone a transformation from a highly protected and regulated system to a more open market system. Although the Turkish economy has generally responded positively to this transformation, it has experienced severe macroeconomic imbalances, including significant current account deficits and high levels of unemployment. While the Turkish economy has been significantly stabilised due, in part, to support from the International Monetary Fund through 2008, Turkey might experience a further significant economic crisis in the future, which might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Since the implementation of fiscal and monetary measures in 2009, Turkey's gross domestic product ("GDP") has been growing, albeit having lost some momentum in 2016 and again in 2018 (source: Turkstat). On 20 September 2018, the Minister of Treasury and Finance announced a new economic programme, in which the economic growth for 2018 and 2019 was revised from 5.5% for each year to 3.8% and 2.3%, respectively. According to the new programme, Turkey targeted a 1.9% budget-deficit-to-GDP ratio for 2018, which ratio it aims to reduce to 1.7% by 2021. There can be no assurance that these targets will be reached, that the Turkish government will implement its current and proposed economic and fiscal policies successfully or that the economic growth achieved in recent years will continue considering external and internal circumstances, including the Central Bank's efforts to curtail inflation and simplify monetary policy, the current account deficit and macroeconomic and political factors (such as changes in oil prices), the 5 December 2017 amendment to tax laws increasing the corporate tax rate for all corporations (including the Issuer) to 22% from 20% for three years starting from 2018, uncertainty related to political developments in Turkey, including extension of the powers of the president, uncertainty related to the independence of the Central Bank, uncertainty related to Turkey's relationship with the United States (see "*Political Developments*") and uncertainty related with the conflicts in Iraq and Syria (see "*Terrorism and Conflicts*").

The economic and political circumstances, including the recent political tension between Turkey and the United States, and the measures adopted by the Central Bank to tighten the liquidity of the Turkish Lira, resulted in (or contributed to) a decline in the value of the Turkish Lira in 2017 and 2018. Further depreciation is possible due to various reasons, including any deterioration of the relationship between Turkey and the United States and/or the EU or failure by the Central Bank or the Turkish government to implement effective policies. See "*Political Developments*." The impact of these circumstances, including the dramatic decline in the value of the Turkish Lira in 2018, could have a material adverse effect on the Group and/or the Issuer, including through reduced earnings in the near-to medium-term, the revaluation of assets and liabilities (including increases in the Turkish Lira-equivalent value of the Group's obligations in Dollars and other currencies) or a decline in capital and rapid changes in the economic and legal environment.

Any of these or any other developments might cause Turkey's economy to experience macroeconomic imbalances, which might impair the Group's business strategies and/or have a material adverse effect on the Group's business, financial condition and/or results of operations. For more details on recent developments in Turkey's economy, see "*-Global Financial Crisis and Eurozone Uncertainty*" below and the discussion of certain of the Central Bank's policies in "*-High Current Account Deficit*" below.

Global Economy – The Group's operations are subject to significant macroeconomic risks outside of Turkey

With its increasing production capacity and customer base outside of Turkey, any deterioration in the condition of the global, Russian and European economies, tightening measures implemented or recommended by national or supranational monetary organisations or continued uncertainty around the potential for such deterioration, might have a material adverse effect on the Group's business and customers in a number of ways, including, among others, the income, wealth, employment, liquidity, business, prospects and/or financial condition of the Group's customers, which, in turn, might reduce demand for the Group's products and services and negatively impact the Group's growth plans. The Group's business, financial condition and/or results of operations might also be adversely affected by conditions in the global, Russian and European financial markets as long as they remain volatile and subject to disruption and uncertainty.

In particular, the Group's operations in and sales to countries other than Turkey, such as its operations in Russia, Bulgaria, Egypt, India and Italy, are exposed to similar macroeconomic risks as are described in "*-Turkish Economy*," "*-Operations outside Turkey*" and "*-Risks Relating to Russia*." In the event that there are macroeconomic difficulties, including financial crises, affecting such jurisdictions or any other financial shock (such as the recent sharp decline in oil prices, which negatively affects Russia), this might result in the Group's foreign operations not growing or performing at the same rate or levels as planned. Should the Group's non-Turkish operations fail to grow at past rates, perform at past levels or meet growth expectations, the Group's business, financial condition and/or results of operations might be materially adversely affected.

As of the date of this Offering Circular, there is uncertainty in relation to the possible impacts of the leave vote in the United Kingdom (and the United Kingdom's 29 March 2017 decision to trigger Article 50 of the Treaty on European Union and commence the process of leaving the EU), including any impact on the European and global economic and market conditions and its possible impact on Sterling, euro and other European exchange rates. As the EU remains Turkey's largest export market, a decline in demand for imports from the EU might adversely impact Turkish exports and Turkey's economic growth, and a decline in general macroeconomic in the EU might have a material adverse effect on the Group's business, financial condition and/or results of operations.

Terrorism and Conflicts – Turkey and its economy are subject to external and internal unrest and the threat of terrorism

Turkey is located in a region that has been subject to ongoing political and security concerns. Political uncertainty within Turkey and in certain neighbouring countries, such as Armenia, Georgia, Iran, Iraq and Syria, has historically been one of the potential risks associated with an investment in Turkish securities. Regional instability has also resulted in an influx of displaced persons into Turkey, which has created certain conflicts and humanitarian challenges. In recent years, political instability has at times increased markedly in a number of countries in the Middle East, North Africa and Eastern Europe, such as Ukraine, Libya, Tunisia, Egypt, Syria, Iraq, Jordan, Bahrain and Yemen. Unrest in those countries might have political implications in Turkey or otherwise have a negative impact on the Turkish economy, including through both financial markets and the real economy. Such impacts might occur (*inter alia*) through a lower flow of foreign direct investment into Turkey, capital outflows and/or increased volatility in the Turkish financial markets. In addition, certain sectors of the Turkish economy (such as construction, iron and steel) have operations in (or are otherwise active in) the Middle East, North Africa and Eastern Europe and might experience material negative effects. Any of such circumstances might adversely affect the Group's business, financial condition and/or results of operations.

The ongoing conflict in Syria has been the subject of significant international attention and is inherently volatile and its impact and resolution are difficult to predict. In early October 2012, Turkish territory was hit by shells launched from Syria, some of which killed Turkish civilians. On 4 October 2012, the Turkish Parliament authorised the government for one year to send and assign military forces in foreign countries should such action be considered

appropriate by the government, which authorisation has been periodically extended. Elevated levels of conflict have arisen in Iraq and Syria as militants of the Islamic State of Iraq and Syria (“ISIS”) seized control of areas in Iraq and Syria, which has caused a significant displacement of people. Turkey has been one of the countries that have taken a significant number of Syrian refugees, which has had, and might continue to have, a negative economic, political and social impact on Turkey. In March 2016, Turkey signed an agreement with the EU in an effort to control the irregular flow of refugees from Turkey to the EU; *however*, the implementation of such agreement might not continue and/or might not achieve its goals. In August and September 2014, a U.S.-led coalition began an anti-ISIS aerial campaign in northern Iraq and Syria. The volatile situation in Iraq also raises concerns as Iraq is one of Turkey’s largest export markets. At the end of July 2015, Turkey joined the U.S.-led coalition and initiated air strikes against ISIS in Syria and against the People’s Congress of Kurdistan (the “PKK”) (an organisation that is listed as a terrorist organisation by states and organisations including Turkey, the EU and the United States) in northern Iraq.

On 24 August 2016, Turkey began military operations in Syria in an effort to clear ISIS from the Turkish-Syrian border. On 7 October 2017, Turkey launched an operation against extremists groups in Syria’s northwestern Idlib province with Turkey-backed Syrian opposition forces. On 20 January 2018, Turkish officials announced that the Turkish military had started an operation in the Afrin area of Syria targeting organisations that Turkey believes to be terrorist organisations such as the YPG (the People’s Protection Units), which has been aligned with the United States in the fight against ISIS. The Turkish military currently maintains a position in northwestern Syria. These operations might lead to potential retaliation attacks by terrorist groups and additional security risks in Turkey. On 13 April 2018, the United States, the United Kingdom and France launched airstrikes against targets in Syria due to a suspected chemical attack on civilians by the Syrian forces in Damascus, Syria, which strikes escalated tensions between Russia and the United States. Turkish government officials announced that they consider the United States-led operation as an appropriate response to the suspected chemical attack. On 19 December 2018, the United States announced its intention to withdraw its 2,000 troops currently stationed in Syria, though no concrete timeline for the withdrawal has been issued. Any impact of the continuing troubles in Syria, including on Turkey’s relationship with the United States and Russia, is unknown.

In late 2015, Russian war planes started air strikes in Syria in support of the Syrian government. On 24 November 2015, Turkey shot down a Russian military aircraft near the Syrian border claiming a violation of Turkey’s airspace, which resulted in a deterioration in the relationship between Turkey and Russia and led to Russia implementing economic sanctions against Turkey; *however*, at the end of June 2016, the relationship between Turkey and Russia started to improve. On 19 December 2016, a Turkish policeman murdered the Russian ambassador to Turkey, which both Turkish and Russian leaders condemned as a provocation aimed to undermine relations between the two countries. Any deterioration of Turkey-Russia relations might have a material adverse effect on the Group’s business, financial condition and/or results of operations and/or on the market price of an investment in the Notes.

In early 2014, political unrest and demonstrations in Ukraine led to a change in the national government. While the United States and the EU recognised the new government, Russia claimed that the new government was illegitimate and was violating the rights of ethnic Russians living in the Crimean peninsula and elsewhere in Ukraine. Escalating military activities in Ukraine and Russia’s annexing of the Crimea combined with Ukraine’s very weak economic conditions to create significant uncertainty in Ukraine and the global markets. In addition, the United States and the EU have implemented increasingly impactful sanctions against certain Russian entities, persons and sectors, including Russian financial, oil and defense companies, as a result of the conflict. While not directly impacting Turkey’s territory, these disputes might materially negatively affect Turkey’s economy, including through its impact on the global economy and the impact it might have on Turkey’s access to Russian energy supplies. The conditions in Ukraine have directly affected the Group’s operations in Ukraine, including resulting in the Glass Packaging Group’s cessation of activities at its plant in Merefá, whereas the sanctions on Russia might contribute to a material decline in the Russian economy, which might impact the Group’s operations in Russia.

Turkey has also experienced problems with domestic terrorist and ethnic separatist groups as well as other political unrest within its territory. In particular, Turkey has been in conflict for many years with the PKK. Turkey has from time to time been the subject of terrorist attacks, including bombings in its tourist and commercial centres in İstanbul, Ankara and various coastal towns and (especially in the southeast of Turkey) attacks against its armed forces. In July 2015, following a suicide bomb attack in a Turkish town at the Syria border, Turkey started air strikes against the PKK in northern Iraq, which marked the beginning of a period with elevated tension. The PKK has since been suspected of further bombings in Turkey, and the clashes between Turkish security forces and the PKK have

intensified in the southeastern part of Turkey. The conflict with the PKK might negatively impact political and social stability in Turkey. Any operations of the Turkish armed forces in Syria targeting organisations such as the PKK, including in connection with the potential United States withdrawal of troops from Syria, might result in (or contribute to) a deterioration of the relationship between Turkey and the EU and/or the United States.

The above circumstances have had and might continue to have a material adverse effect on the Turkish economy and/or the Group's business, financial condition and/or results of operations.

Global Financial Crisis and Eurozone Uncertainty – Turkey and the Group have been, and might continue to be, subject to risks arising from the recent global financial crisis and continuing uncertainty in the eurozone

The global financial crisis starting in 2008 and related economic slowdown significantly impacted the Turkish economy and the principal external markets for Turkish goods and services. During this global financial crisis, Turkey suffered reduced domestic consumption and investment and a sharp decline in exports, which led to an increase in unemployment. Turkey's GDP contracted by 5.9% in the fourth quarter of 2008 and declined 4.7% in 2009 but, following the implementation of fiscal and monetary measures during 2009, began to recover in the fourth quarter of 2009 and has since continued to expand, albeit having lost some momentum in 2016 and again in 2018 (source: Turkstat). While unemployment levels have also improved since the depth of the financial crisis, they remain elevated. There can be no assurance that the unemployment rate will not increase in the future. Continuing high levels of unemployment might affect the Group's retail customers and business confidence, which might impair its business strategies and have a material adverse effect on its business, financial condition and/or results of operations.

Although there have been indications of economic recovery in the eurozone, the European Central Bank (the "ECB") has continued to implement an expansionary monetary policy. Since the implementation of negative interest rates by the ECB in June 2014, an increasing number of central banks in Europe have taken their policy rates below zero. In January 2016, the Bank of Japan also adopted negative interest rates. There is uncertainty in the markets as to the possible impact of these policies, including the direction of the ECB's actions.

Although the global economy has begun to recover from the economic deterioration caused by the global financial crisis, the recovery might be weak. A relapse in the global economy or continued uncertainty around the potential for such a relapse might have an adverse effect on the Turkish economy, which in turn might have a material adverse effect on the Group's business, financial condition and/or results of operations. In addition, any withdrawal by a member state from the EU and/or European Monetary Union, any uncertainty as to whether such a withdrawal or change might occur and/or any significant changes to the structure of the EU and/or the European Monetary Union might have an adverse effect on the Turkish economy, which might have a material adverse effect on the Group's business, financial condition and/or results of operations, including its ability to access the capital and financial markets and to refinance its debt in order to meet its funding requirements as a result of volatility in European economies and/or the euro and/or the potential deterioration of European institutions.

High Current Account Deficit - Turkey's high current account deficit might result in governmental efforts to decrease economic activity

A decline in the current account deficit experienced in 2012 came to an end in early 2013, with the current account deficit increasing to US\$63.6 billion in 2013 (the source for data in this risk factor is the Central Bank) due principally to a recovery in domestic demand; *however*, to combat this increase, a package of macro-prudential measures issued by the BRSA to limit domestic demand, the Central Bank's tight monetary policy and increases in taxes, combined with the depreciation of the Turkish Lira and reduced oil prices, contributed to a decrease in the current account deficit to US\$43.6 billion and US\$32.1 billion in 2014 and 2015, respectively. In 2016, Turkey's current account deficit remained almost flat at US\$33.1 billion due to a decline in the cost of energy imports, which offset the deterioration in tourism revenues. In 2017, Turkey's current account deficit increased to US\$47.2 billion due to the rise in both energy and gold imports and strong domestic demand. In 2018, Turkey's current account deficit decreased to US\$27.6 billion due to an increase in exports and a slowdown in domestic demand. Various events, including a possible adverse impact on Turkey's foreign trade and tourism revenues, geopolitical risks (see "*Terrorism and Conflicts*"), political risks (see "*Political Developments*") and an increase in the price of oil, might result in an increase in the current account deficit. See "*Emerging Market Risks*."

If the value of the Turkish Lira relative to the U.S. dollar and other relevant trading currencies changes, then the cost of importing oil and other goods and services and the value of exports might both change in a corresponding fashion, resulting in potential increases or decreases in the current account deficit. As an increase in the current account deficit might erode financial stability in Turkey, the Central Bank closely monitors the U.S. Federal Reserve's actions and takes (and has taken) certain actions to maintain price and financial stability. In December 2015, the U.S. Federal Reserve raised the U.S. federal funds rate by 0.25%. This initial step towards normalisation reduced some volatility, permitting the Turkish Lira and certain other emerging market currencies to appreciate. In this context, instead of responding to the U.S. Federal Reserve's actions by changing the interest rates, the Central Bank tightened further the liquidity of the Turkish Lira. The Turkish Lira depreciated against the U.S. dollar by 21.5% in 2016, reaching its then-lowest level against the U.S. dollar mainly due to the uncertainty resulting from the domestic political developments (see “-*Political Developments*”), the result of the presidential election in the United States and the then-existing expectation of a rate hike (and the actual rate hike on 14 December 2016) by the U.S. Federal Reserve. The depreciation continued in 2017, with the Turkish Lira depreciating against the U.S. dollar by 7.9%. During 2018, the Turkish Lira continued its depreciation, declining by 39.5% against the U.S. dollar, due in large part to the political events described in “-*Political Developments*.”

Although Turkey's economic growth dynamics depend to some extent upon domestic demand, Turkey is also dependent upon foreign trade, in particular with Europe. See “-*Turkish Economy*.” A decline in the economic growth of any of Turkey's major trading partners, such as the EU, might have an adverse impact on Turkey's balance of trade and adversely affect Turkey's economic growth. Turkey has diversified its export markets in recent years, but the EU remains Turkey's largest export market. There has been recent political tension between Turkey and certain members of the EU as described in “-*Political Developments*” above. Whether as a result of economic or political conditions, a decline in demand for imports from the EU might have a material adverse effect on Turkish exports and Turkey's economic growth and result in an increase in Turkey's current account deficit. To a lesser extent, Turkey also exports to markets in Russia and the Middle East, and the continuing political turmoil in certain of those markets might lead to a decline in demand for such imports, with a similar negative effect on Turkish economic growth and Turkey's current account deficit.

Turkey is an energy import-dependent country and recorded US\$43.0 billion of net energy imports in 2018, which increased from US\$32.9 billion in 2017, which itself had increased from US\$24.0 billion in 2016. Although the government has been heavily promoting new domestic energy projects, these have not yet significantly decreased the need for imported energy and thus any geopolitical development concerning energy security might have a material impact on Turkey's current account balance. Even though the relatively low levels of oil prices have supported the current account balance, agreements among the members of the Organisation of the Petroleum Exporting Countries (OPEC) to cut output or any geopolitical development concerning energy security and prices might have a material impact on Turkey's current account balance.

If the current account deficit widens more than anticipated, then financial stability in Turkey might deteriorate. Financing the high current account deficit might be difficult in the event of a global liquidity crisis and/or declining interest or confidence of foreign investors in Turkey, and a failure to reduce the current account deficit might have a negative impact on Turkey's sovereign credit ratings. Any such difficulties might lead the Turkish government to seek to raise additional revenue or restrain the Turkish financial system, and any such measures might adversely affect the Group's business, financial condition and/or results of operations.

Emerging Market Risks – International investors might view Turkey negatively based upon adverse events in other emerging markets

Emerging markets such as Turkey are subject to greater risk than are more-developed markets of being perceived negatively by investors based upon external events, and financial turmoil in any emerging market (or global markets generally) might disrupt the business environment in Turkey. Moreover, financial turmoil in one or more emerging market(s) tends to adversely affect prices for securities in other emerging market countries as investors move their money to countries that are perceived to be more stable and economically developed. An increase in the perceived risks associated with investing in emerging economies might dampen capital flows to Turkey and adversely affect the Turkish economy. As a result, investors' interest in the Notes (and thus their market price) might be subject to fluctuations that might not necessarily be related to economic conditions in Turkey or the financial performance of the Group.

Inflation Risk – Turkey’s economy has been subject to significant inflationary pressures in the past and might become subject to significant inflationary pressures in the future

The Turkish economy has experienced significant inflationary pressures in the past with year-over-year consumer price inflation rates as high as 73.2% in the early 2000s. Consumer price inflation was 7.4%, 8.2%, 8.8%, 8.5% and 11.9% in 2013, 2014, 2015, 2016 and 2017, respectively, with producer price inflation of 7.0%, 6.4%, 5.7%, 9.9% and 15.5%, respectively, in such years. In 2018, annual consumer price inflation was 20.3% due to energy price increase, depreciation of the Turkish Lira, while annual producer price inflation was 33.6% due to the increase in both intermediate and commodity prices in terms of Turkish Lira. On 30 January 2019, the Central Bank published its first inflation report of 2019 and lowered its inflation forecasts, predicting a rate of 14.6% for 2019 (previously expecting a rate of 15.2% in the fourth inflation report of 2018) and 8.2% for 2020 (source of the above data in this paragraph: Turkstat). Inflation-related measures that may be taken by the Turkish government and the Central Bank might have an adverse effect on the Turkish economy. If the level of inflation in Turkey were to continue to fluctuate or increase significantly, then this might have a material adverse effect on the Group’s business, financial condition and/or results of operations.

Exchange Rate Risk - The Turkish Lira exchange rate has historically been volatile, which might adversely affect Turkey’s general economy as well as the Group’s business, financial condition and/or results of operations

The Turkish Lira has been subject to significant volatility. In 2015, in nominal terms, the Turkish Lira depreciated against the U.S. dollar by 25.4% largely due to the increased risk perception in global markets regarding the market’s expectation of the U.S. Federal Reserve’s increase of the U.S. federal funds rate and the uncertainty resulting from the general elections in Turkey and other political events described in “-Political Developments.”

Against these developments, the Central Bank prepared a roadmap to react to a possible rate hike by the U.S. Federal Reserve. The roadmap, which has as its base case a normalisation process by the U.S. Federal Reserve, proposed the implementation of tight liquidity for the Turkish Lira, a balanced foreign exchange liquidity and financial sector policies that are supportive of a tighter monetary policy. In December 2015, the U.S. Federal Reserve raised the U.S. federal funds rate by 0.25%. This initial step towards normalisation reduced some volatility, permitting the Turkish Lira to appreciate (in the first quarter of 2016, the Turkish Lira appreciated against the U.S. dollar by 2.6%). The Central Bank’s average funding rate increased to 9.1% in February 2016, but then subsequently decreased to below 9.0% in March 2016 due to the U.S. Federal Reserve’s dovish stance in its March 2016 meeting. This continued until September 2017, when the U.S. Federal Reserve indicated that it would likely increase rates in 2018. The Central Bank’s average funding rate was 12.75% on 31 December 2017, increasing from 8.31% at the end of 2016. The Central Bank’s average funding rate was further increased to 13.50% on 26 April 2018, 3.0% on 23 May 2018 to 16.5%, 1.25% on 7 June 2018 to 17.75% and 6.25% on 13 September 2018 to 24.0%. These hikes were made by the Central Bank in an attempt to stabilise the Turkish Lira against the U.S. dollar in light of the decisions by the U.S. Federal Reserve to increase the U.S. federal funds rate in March, June and September of 2018.

The Turkish Lira depreciated against the U.S. dollar by 21.5% in 2016 and then depreciated further by 7.9% in 2017, which depreciation was in part a result of geopolitical risks (see “-Terrorism and Conflicts”), the uncertainty resulting from domestic political developments (see “-Political Developments”) and global pressures on emerging market currencies. As a response to the depreciation of the Turkish Lira, the Central Bank adopted certain monetary policies. For instance, the Central Bank reduced the borrowing limit for Turkish banks in the Interbank Money Market (*Bankalararası Para Piyasası*) initially to TL 22 billion, subsequently to TL 11 billion and then to zero on 10 January 2017, 13 January 2017 and 21 November 2017, respectively. The Central Bank launched the Foreign Exchange Deposits against Turkish Lira Deposits Market in order to increase the Central Bank’s flexibility and diversity in managing the Turkish Lira and foreign exchange liquidity. To improve the ability of Turkish companies to manage their currency exposures, the Central Bank introduced non-deliverable forwards, which provide hedging with forward payments settled in Turkish Lira.

In 2018, the Turkish Lira depreciated against the U.S. dollar by 39.5% mainly following the extension of the president’s powers, which has created uncertainties and rumours regarding the political and economic environment in Turkey, and the OFAC action related to the arrest and detention of American pastor Andrew Brunson that deteriorated the relationship between Turkey and the United States until the release of Mr. Brunson on 12 October 2018. In May and August 2018, the Central Bank reduced the upper limit of the foreign exchange maintenance facility within the

Reserve Options Mechanism from 55% to 45% and then to 40% (*i.e.*, Turkish banks have the option to hold 40% of the Turkish Lira reserve requirements in foreign exchange, resulting in the possibility that the foreign exchange that was used for reserve purposes previously might be applied by Turkish banks to the purchase of Turkish Lira). In August 2018, the Central Bank also reduced its reserve requirement ratios for non-core foreign exchange liabilities by 400 basis points for up to (and including) three year maturities and Turkish Lira reserve requirement ratios by 250 basis points for all maturity brackets. Further depreciation of the Turkish Lira against the U.S. dollar and other relevant trading currencies might lead to further increases in the current account deficit regardless of any actions taken by the Central Bank.

The Central Bank's monetary policy is subject to a number of uncertainties, including global macroeconomic conditions and political conditions in Turkey. As global conditions have been volatile in recent years, including as a result of, among other factors, expectations regarding growth rates in China and volatile commodity and oil prices, monetary policy remains subject to uncertainty. The fluctuations of foreign currency exchange rates and increased volatility of the Turkish Lira might adversely affect the Group's customers and/or the Turkish economy in general; thus these might have a negative effect on the value of the Group's assets and/or the Group's business, financial condition and/or results of operations.

A significant portion of the Group's assets and liabilities (including off-balance sheet commitments) is denominated in, or indexed to, foreign currencies, primarily U.S. dollars, euro and rubles. If the Turkish Lira is devalued or depreciates, then (when translated into Turkish Lira) the Group would incur currency translation losses on its liabilities denominated in (or indexed to) foreign currencies (such as the Group's U.S. dollar-denominated debt) and would experience currency translation gains on its assets denominated in (or indexed to) foreign currencies (such as the Group's significant assets outside of Turkey). Therefore, if the Group's liabilities denominated in (or indexed to) foreign currencies exceed its assets denominated in (or indexed to) foreign currencies, including any financial instruments entered into for hedging purposes, then a devaluation or depreciation of the Turkish Lira might adversely affect the Group's financial condition even if the value of these assets and liabilities has not changed in their original currency.

In addition, some the Group's products require a variety of raw materials, such as soda ash and natural gas, that are procured in hard currencies, and, therefore, a depreciation of the Turkish Lira may negatively impact the costs of goods sold by the Group, which might or might not be able to be transferred to customers, including the end consumer. Despite the recent depreciation of the Turkish Lira, the Group has been able to balance the composition of its revenue stream with the costs of goods sold, which has allowed the Group to transfer any hikes in costs of goods to its customers. Nonetheless, the Group might not be able to transfer such cost increases in the future, which may negatively affect the Group's business, financial condition and/or results of operations.

European Union Accession - Uncertainties relating to Turkey's proposed accession to the EU might adversely affect the Turkish financial markets and result in greater volatility

Turkey has been a candidate country for EU membership since the Helsinki European Council of December 1999. The EU resolved on 17 December 2004 to commence accession negotiations with Turkey and affirmed that Turkey's candidacy will be judged by 35 criteria (or "*Chapters*") applied to other candidates. These criteria require a range of political, legislative and economic reforms to be implemented.

Although Turkey has implemented various reforms and continued harmonisation efforts with the EU, the relationship between the EU and Turkey has at times been strained. During 2006, the EU issued several warnings in connection with Turkey's undertakings under the additional protocol dated July 2005 relating to the Customs Union and in connection with the recognition of the Republic of Cyprus. Following this, in December 2006 the EU decided that negotiations of eight Chapters should be suspended and that no Chapter would be closed until the EU has verified that Turkey has fulfilled its commitments relating to the additional protocol of July 2005. On 10 October 2012, the European Commission (the "*Commission*") released a progress report (the "*Progress Report*") assessing Turkey's progress towards accession to the EU over the prior 12 months. The Progress Report noted the launch of an agenda to support the accession negotiations through increased cooperation in a number of areas of joint interest: political reforms, alignment with EU law and dialogue on foreign policy, visas, mobility and migration, trade, energy and counter terrorism; *however*, it stated that there were growing concerns regarding Turkey's lack of substantial progress towards fully meeting the political criteria and, in particular, the lack of progress with respect to fundamental rights.

In November 2016, the European Parliament voted in favour of a non-binding resolution requesting the Commission to temporarily suspend membership negotiations with Turkey. In April 2017, the Parliamentary Assembly of the Council of Europe decided to reopen the monitoring procedure against Turkey.

There can be no assurance that the EU or Turkey will continue to maintain an open approach to Turkey's EU membership or that Turkey will be able to meet all the criteria applicable to becoming a member state. Potential delays or other adverse developments in Turkey's proposed accession to the EU might have a negative effect on Turkey's economy in general, and Turkey's economic performance and credit ratings in particular, and might, as a result, have a material adverse effect on the Group's business, financial condition and/or results of operations.

Risks Relating to the Notes Generally

Set out below is a description of material risks relating to the Notes generally.

Unsecured Obligations - The Notes and Guarantees will constitute unsecured obligations of the Issuer and the Guarantors

The obligations of the Issuer and the Guarantors under the Notes and the Guarantees, as the case may be, will (subject to Condition 5.3) constitute unsecured obligations of the Issuer and the Guarantors, as the case may be. The ability of the Issuer and the Guarantors to pay such obligations will depend upon, among other factors, their liquidity, overall financial strength and ability to generate cash flows, which might be affected by (*inter alia*) the circumstances described in these "Risk Factors."

Limited Guarantees - The Guarantees are limited and made on a several basis and are individually and in the aggregate for less than the amount of principal and interest payable on the Notes and the other amounts covered by the Guarantees

The Guarantees are given by each Guarantor on a several and not joint basis and will be limited to the proportional amounts of net proceeds that are on-lent (with consideration of any reduction of the exposure of the three Guarantors who provide guarantees for the Existing Notes) by the Issuer to each of the Guarantors. In the case of Trakya Cam, Anadolu Cam and Soda Sanayii, which are all public companies, this limitation is due to a restriction under the applicable Turkish corporate governance legislation, which (subject to certain exceptions) only allows a public company to provide a guarantee or security in favour of its parent company to the extent that such public company receives a corresponding amount of funding from such parent company. The Guarantee given by Paşabahçe will be limited in the same manner notwithstanding the exemption available to it as a private company.

Under the Trust Deed, the obligations of the Guarantors to guarantee payments in respect of the Notes are limited to US\$183,333,333 in the case of Trakya Cam, US\$110,000,000 in the case of Paşabahçe, US\$110,000,000 in the case of Anadolu Cam and US\$36,666,667 in the case of Soda Sanayii. Accordingly, the aggregate amount of the Guarantees (US\$440,000,000) is less than the principal amount of the Notes (US\$550,000,000) (and would cover less of such principal if any interest and/or other amounts payable by the Issuer in respect of the Notes and under the Trust Deed (including to persons other than the Noteholders) are paid under the Guarantees); *however*, the amount of: (a) all or some of the Guarantors' Guarantees will be increased if additional notes are issued in the manner described in Condition 17 and (b) each Guarantor's Guarantee will be reduced as noted herein on a proportionate basis to the extent that any Notes are redeemed by the Issuer pursuant to Condition 8.3 or 8.4 or are purchased and cancelled (including as a result of a Notes Offer) in the manner provided in Condition 8.7(b). In addition, the Guarantees are given by each Guarantor on a several basis, so that each individual Guarantor will only be liable in respect of the limited amount of its own Guarantee. Any amounts paid by a Guarantor under its Guarantee to persons other than the Noteholders (for example, any indemnities payable to the Trustee) will reduce the amount available to Noteholders under such Guarantor's Guarantee. If a Guarantor fails to make payment in full under its Guarantee, the other Guarantors will have no obligation to make up the resulting shortfall.

In the event that the Issuer fails to make due and complete payments in respect of the Notes, the Guarantees will not be adequate to fully cover the Issuer's obligations under the Notes and, accordingly, Noteholders will receive

less in aggregate from the Guarantors under their Guarantees than the amounts due under the Conditions, with no further recourse against the non-defaulting Guarantors.

Any moneys received by the Trustee under a Guarantee (including as a result of any enforcement action taken against any Guarantor) will, in accordance with the provisions of the Trust Deed, be applied in or towards payment *pari passu* and rateably of all principal and interest then due and unpaid in respect of the Notes (subject to the priority of payments prescribed by the Trust Deed, which stipulates certain costs (including amounts payable to the Trustee) due under the Trust Deed will have priority of amounts due under the Notes).

Effective Subordination – Claims of Noteholders under the Notes and the Guarantees will be effectively subordinated to those of certain other creditors

While the Notes and Guarantees will rank *pari passu* with all of the Issuer's or applicable Guarantor's other unsecured and unsubordinated indebtedness, the Notes and Guarantees will be effectively subordinated to the Issuer's and Guarantors', as the case may be, secured indebtedness and securitisations on an insolvency, if any, to the extent of the value of the assets securing such transactions and to all indebtedness and other liabilities and obligations (including trade payables and lease obligations) of the Issuer's non-Guarantor subsidiaries, and will be subject to certain preferential obligations under applicable law. Any such preferential claims might reduce the amount recoverable by the Noteholders on any dissolution, winding up or liquidation of the Issuer or a Guarantor and might result in an investor in the Notes losing all or some of its investment.

Generally, lenders and trade and other creditors of the Issuer's non-Guarantor subsidiaries are entitled to payment of their claims from the assets of such subsidiaries before these assets are made available for distribution to the Issuer, as direct or indirect shareholder. As of 31 December 2018, Trakya Cam had TRY 3,321.5 million of consolidated total financial liabilities, Paşabahçe had TRY 921.9 million of consolidated total financial liabilities, Anadolu Cam had TRY 2,058.6 million of consolidated total financial liabilities and Soda Sanayii had TRY 542.0 million of consolidated total financial liabilities; *however*, the amount of such liabilities might increase in the future.

Redemption for Taxation Reasons – The Issuer will have the right to redeem the Notes upon the occurrence of certain changes in law requiring it to pay withholding taxes in excess of levels, if any, applicable to interest or other payments on the Notes on the Issue Date

The withholding tax rate on interest payments in respect of bonds issued by Turkish legal entities outside of Turkey varies depending upon the original maturity of such bonds as specified under Decree No. 2009/14592 dated 12 January 2009, which was amended by Decree No. 2010/1182 dated 20 December 2010 and Decree No. 2011/1854 dated 26 April 2011 (together, the "*Tax Decrees*"). Pursuant to the Tax Decrees, bonds (such as the Notes) with a maturity of five years and more benefit from a 0% withholding tax rate on interest.

The Issuer will have the right to redeem the Notes, in whole but not in part, at any time prior to their maturity date if: (a) as a result of any change in, or amendment to, the laws of a Relevant Jurisdiction (as defined in Condition 9), or any change in the application or official interpretation of the laws of a Relevant Jurisdiction, which change or amendment becomes effective after the Issue Date, on the next Interest Payment Date: (i) the Issuer would be required to pay additional amounts as provided or referred to in Condition 9 or (ii) any of the Guarantors would, if required to make payment under its Guarantee, be required to pay such additional amounts, and (b) the requirement cannot be avoided by the Issuer, or, as the case may be, such Guarantor, taking reasonable measures available to it. Upon such a redemption, investors in the Notes might not be able to reinvest the amounts received at a rate that will provide an equivalent rate of return as their investment in the redeemed Notes.

This redemption feature is also likely to limit the market price of an investment in the Notes at any time when the Issuer has the right to redeem them as provided in the preceding paragraph, as the market price at such time will generally not rise substantially above the price at which they can be redeemed. This might similarly be true in the period before such time when any relevant change in law is yet to become effective.

Redemption at the Option of the Issuer – The Issuer will have the right to redeem the Notes at any time subject to the payment of a makewhole, where applicable

At any time after the Issue Date, the Issuer may redeem all or a part of the Notes subject to the payment of a makewhole, where applicable (see Condition 8.3 (*Redemption at the Option of the Issuer*)). Upon such a redemption, investors in the Notes might not be able to reinvest the amounts received at a rate that will provide an equivalent rate of return as their investment in the redeemed Notes. This redemption feature is also likely to limit the market price of an investment in the Notes as the market price will generally not rise substantially above the price at which they can be redeemed.

Consent for Modifications - The Conditions contain provisions that permit their modification without the consent of all of the investors in the Notes and confer certain discretions on the Trustee that may be exercised without the consent of the investors in the Notes and without regard to the individual interests of particular investors in the Notes

The Trust Deed contains provisions for convening meetings of the Noteholders to consider any matter affecting their interests, including the modification or abrogation by Extraordinary Resolution of any of these Conditions or any of the provisions of the Trust Deed or the Agency Agreement. The Trust Deed provides for Extraordinary Resolutions to be passed in writing or by way of electronic consents. These provisions permit investors in the Notes holding defined percentages of the Notes to bind all investors in the Notes, including investors that did not attend and vote at the relevant meeting (or did not sign such a written resolution or provide such electronic consent, as applicable) and investors that voted in a manner contrary to the decision of the deciding group. As a result, decisions might be taken by the holders of such defined percentages of the Notes that are contrary to the preferences of any particular investor in the Notes.

The quorum at any meeting for passing an Extraordinary Resolution will be one or more Persons present holding or representing more than 50% in principal amount of the Notes for the time being outstanding, or at any adjourned meeting one or more Persons present whatever the principal amount of the Notes held or represented by him or them, except that at any meeting the business of which includes the modification or abrogation of certain of the Conditions and certain of the provisions of the Trust Deed (collectively, the “**Basic Term Modifications**”) the necessary quorum for passing an Extraordinary Resolution will be one or more Persons present holding or representing not less than two-thirds, or at any adjourned meeting not less than one-third, of the principal amount of the Notes for the time being outstanding. The voting mechanics are set out in detail in Schedule 4 to the Trust Deed, which should be referred to for a full description thereof.

The Basic Terms Modifications include any proposal to: (a) reduce or cancel the amount payable or, where applicable, modify, except where such modification is in the opinion of the Trustee bound to result in an increase, the method of calculating the amount payable or modify the date of payment or, where applicable, the method of calculating the date of payment in respect of any principal or interest in respect of the Notes, (b) alter the currency in which payments under the Notes are to be made, (c) alter the majority required to pass an Extraordinary Resolution, (d) sanction any scheme or proposal for the exchange or sale of Notes for or the conversion of the Notes into or the cancellation of the Notes in consideration of shares, stock, notes, bonds, debentures, debenture stock and/or other obligations and/or securities of the Issuer or any other company formed or to be formed, or for or into or in consideration of cash, or partly for or into or in consideration of such shares, stock, notes, bonds, debentures, debenture stock and/or other obligations and/or securities as aforesaid and partly for or into or in consideration of cash and for the appointment of some person with power on behalf of the holders to execute an instrument of transfer of the Notes held by them in favour of the persons with or to whom the Notes are to be exchanged or sold respectively, (e) approve any substitution of any entity for the Issuer and/or the Guarantors (or any previous substitute) as principal debtor and/or guarantors, as the case may be, under the Trust Deed or (f) alter the quorum required at an initial or adjourned meeting the business of which includes any Basic Term Modification.

The Conditions also provide that the occurrence of certain events will result in an Event of Default only if the Trustee shall have certified in writing to the Issuer and the Guarantors that such event is, in its opinion, materially prejudicial to the interests of the Noteholders. See Condition 11 (*Events of Default*).

Transfer Restrictions – Transfers of interests in the Notes will be subject to certain restrictions and interests in the Global Certificates can only be held through a Clearing System

Although the CMB has issued the CMB Approval for the Notes to be offered outside of Turkey, and this Offering Circular has been approved by the Central Bank of Ireland as described herein, the Notes: (a) have not been and are not expected to be registered under the Securities Act or any state’s or other jurisdiction’s securities laws and (b) have not been approved or disapproved by any jurisdiction’s regulatory authorities (including the SEC). The offering of the Notes will be made pursuant to exemptions from the registration requirements of the Securities Act and in compliance with other securities laws. Accordingly, reoffers, resales, pledges and other transfers of interests in the Notes will be subject to certain transfer restrictions. Each investor is advised to consult its legal advisers in connection with any such reoffer, resale, pledge or other transfer. See “*Transfer Restrictions.*”

Because transfers of interests in the Global Certificates can be effected only through book entries at the applicable Clearing System(s) for the accounts of their respective direct participants, the liquidity of any secondary market for investments in the Global Certificates might be reduced to the extent that some investors are unwilling or unable to invest in notes held in book-entry form in the name of a participant in the applicable Clearing System. The ability to pledge interests in the Notes represented by Global Certificates might be limited due to the lack of a physical certificate for such investors’ beneficial interests in such Global Certificate. In the event of the insolvency of a Clearing System or any of their respective participants in whose name interests in the Notes are recorded, the ability of beneficial owners to obtain timely or ultimate payment of principal and interest on the Notes might be impaired.

Further Issues – The Issuer may issue further Notes, which would dilute the existing Noteholders’ share of the Notes

As permitted by Condition 17, the Issuer is at liberty from time to time without the consent of the Noteholders to create and issue further notes ranking *pari passu* in all respects (or in all respects save for the amount and/or date of the first payment of interest thereon, the issue date and/or the date from which interest starts to accrue) and so that the same shall be consolidated and form a single series with the outstanding Notes constituted by the Trust Deed or any supplemental deed; *provided* that such further notes will be fungible with the existing Notes for U.S. federal income tax purposes as a result of their issuance being a “qualified reopening” under U.S. Treasury Regulation § 1.1275-2(k) and will be guaranteed together with the outstanding Notes, to the satisfaction of the Trustee, such that the aggregate amount of the Guarantees upon the issue of such further notes and their consolidation to form a single series with the outstanding Notes is at least equal to the product of: (i) the amount (expressed as a percentage) resulting from the division of the aggregate amounts guaranteed by the Guarantees by the aggregate principal amount of the Notes outstanding, in each case immediately prior to any such issue of further notes, and (ii) the aggregate principal amount of the notes outstanding once consolidated and forming a single series with such further notes. Any further notes that are to form a single series with the outstanding Notes constituted by the Trust Deed shall be constituted by a deed supplemental to the Trust Deed. To the extent that the Issuer issues such further Notes, the existing Noteholders’ share of the Notes (*e.g.*, in respect of any meeting of holders of the Notes (see “*-Consent for Modifications*” above)) will be diluted.

Enforcement of Judgments – It might not be possible for investors to enforce foreign judgments against the Issuer or its management

Each of the Issuer and the Guarantors is organised under the laws of Turkey. Most of the directors and officers of the Issuer and each Guarantor reside inside Turkey and all or a substantial portion of the assets of such persons might be, and significant portions of the assets of the Issuer and the Guarantors are, located in Turkey. As a result, it might not be possible for investors in the Notes to effect service of process upon such persons outside Turkey or to enforce against them in the courts of jurisdictions other than Turkey any judgments obtained in such courts that are predicated upon the laws of such other jurisdictions.

In addition, under Turkey’s International Private and Procedure Law (Law No. 5718), a judgment of a court established in a country other than Turkey might not be enforced in Turkish courts in certain circumstances. There is no treaty between the United Kingdom and Turkey providing for reciprocal enforcement of judgments; *however*, Turkish courts have rendered at least one judgment confirming *de facto* reciprocity between the United Kingdom and Turkey with respect to the enforcement of judgments of their respective courts. Nevertheless, since *de facto* reciprocity

is decided by the relevant court on a case-by-case basis, there is uncertainty as to the enforceability of court judgments obtained in the United Kingdom by Turkish courts. The same might apply for judgments obtained in other jurisdictions. For further information, see “*Enforcement of Judgments and Service of Process.*”

Enforceability – Enforcement of the rights of investors under the Notes might be limited by bankruptcy, execution proceedings, insolvency, liquidation, composition of debt procedure (konkordato) or debt restructuring (yeniden yapılandırma) and other laws of general application relating to or affecting the rights of the holders of the Notes

Any insolvency proceedings relating to the Issuer or any Guarantor can only be brought before Turkish courts and in accordance with Turkish insolvency laws, the procedural and substantive provisions of which might differ from comparable provisions of United States federal bankruptcy law or any other jurisdiction that the investors might be familiar with. Accordingly, if the Issuer or any Guarantor becomes insolvent or subject to liquidation or enters into composition of debt procedure (*konkordato*) or debt restructuring (*yeniden yapılandırma*) with its creditors, then there is a risk that investors in the Notes might not be able to fully enforce their rights under the Notes and that any claims might be considerably delayed.

Specifically, according to the Turkish Enforcement and Bankruptcy Law No. 2004, any contractual arrangement stipulating that an event of default or termination event may arise as a result of a voluntary or involuntary initiation of an insolvency or liquidation procedure, composition of debt procedure (*konkordato*) or debt restructuring (*yeniden yapılandırma*) might be declared void. In view of these statutory restrictions, if the Issuer or any Guarantor initiates any of those procedures, or if any of those procedures are initiated against the Issuer or any Guarantor, then investors in the Notes might not be able to successfully invoke an Event of Default under Condition 11.1(g) or 11.1(h) of the Terms and Conditions and therefore, might not be able to fully enforce their rights under the Notes.

Change in Law - The value or market price of an investment in the Notes might be adversely affected by a change in the laws of England or Turkey or in administrative practice in these jurisdictions

The Conditions of the Notes and the Guarantees are based upon the applicable laws of England and Turkey and administrative practice in effect as of the date of this Offering Circular, and having regard to the expected tax treatment of all relevant entities under such applicable laws and practice. No assurance can be given as to the impact of any possible judicial decision or change to the applicable laws of England or Turkey (or the applicable laws of any other jurisdiction) (including any change in regulation that might occur without a change in the primary legislation) or administrative practice in England or Turkey after the date of this Offering Circular, nor can any assurance be given as to whether any such change might materially adversely affect the ability of the Issuer or any of the Guarantors to make payments under the Notes or Guarantees, as the case may be, or the value or market price of an investment in the Notes affected by such change.

Definitive Notes might need to be Issued - Investors who hold interests in Global Certificates in denominations that are not a minimum denomination for the Notes might be adversely affected if definitive Notes are subsequently required to be issued

It is possible that interests in the Notes might be traded in amounts in excess of the minimum required by Condition 1.1 that are not integral multiples of such minimum denomination. In such a case, an investor who, as a result of trading such amounts, holds an amount that is less than the minimum denomination in an account with the relevant clearing system: (a) would not be able to sell the remainder of such holding without first purchasing a principal amount of Notes at or in excess of the minimum denomination such that its holding amounts to a denomination and (b) may not receive a definitive Note in respect of such holding (should definitive Notes replace the applicable Global Certificate) and would need to purchase or sell a principal amount of Notes at or in excess of the minimum denomination such that its holding amounts to at least a minimum denomination.

If definitive Notes are issued, then the holders thereof should be aware that definitive Notes that have a denomination that is not an integral multiple of the minimum denomination might be illiquid and difficult to trade.

Reliance upon Clearing Systems - Investors in the Global Certificates will be subject to the rules of the applicable Clearing System and their ability to exercise rights relating to the Notes directly might be limited

The Regulation S Notes will be represented on issue by the Unrestricted Global Certificate, which will be delivered to a common depository for, and registered in the name of a common nominee of, Euroclear and Clearstream, Luxembourg. The Rule 144A Notes will be represented on issue by one or more Restricted Global Certificate(s) that will be deposited with a nominee for DTC. Except in the circumstances described in the applicable Global Certificate, investors will not be entitled to receive Notes in definitive form. Each of the Clearing Systems and their respective direct and indirect participants will maintain records of the beneficial interests in each Global Certificate held through it. Whilst Notes are represented by a Global Certificate, investors will be able to trade their beneficial interests therein only through the relevant Clearing Systems and their respective direct and indirect participants.

For so long as the Notes are represented by Global Certificates, the Issuer will discharge its payment obligations thereunder by making payments through the relevant Clearing Systems. A holder of a beneficial interest in a Global Certificate must rely upon the procedures of the relevant Clearing System and its direct and indirect participants to receive payments in respect of such holder's interests in such Global Certificate. The Issuer will have no responsibility or liability for the records relating to, or payments made in respect of, beneficial interests in any Global Certificate.

Holders of beneficial interests in a Global Certificate will not have a direct right to vote in respect of the Notes so represented. Instead, such holders will be permitted to act only to the extent that they are enabled by the relevant Clearing System(s) and its direct and indirect participants to appoint appropriate proxies or to act directly. In addition, holders of beneficial interests: (a) in a Global Certificate might have to prove their interests in order to take enforcement action against the Issuer in the event of a default under the Notes and (b) in a Global Certificate for which DTC is the Clearing System will be subject to the applicable procedures of DTC and might not have a direct right to take enforcement action against the Issuer in the event of a default under the Notes.

Sanction Targets – Investors in the Notes might have indirect contact with sanction targets as a result of the Group's investments in and business with countries or persons on sanctions lists

OFAC administers regulations that restrict the ability of U.S. persons to invest in, or otherwise engage in business with, certain countries, including Iran and Sudan, and specially designated nationals (“SDNs”), and other United States, United Kingdom, EU and United Nations rules impose similar restrictions (the SDNs and other targets of these restrictions being together the “Sanction Targets”). As neither the Issuer nor any of the Guarantors is a Sanction Target, these rules do not prohibit United States or European investors from investing in, or otherwise engaging in business with, the Issuer and the Guarantors; *however*, while the Group's current policy is not to engage in any impermissible business with Sanction Targets, to the extent that the Group invests in, or otherwise engages in business with, Sanction Targets directly or indirectly, investors in the Notes might incur the risk of indirect contact with Sanction Targets. It should be noted that the Issuer and, other than Group entities in the EU and one retail showroom in the U.S., its subsidiaries are not obligated to comply with the United States, United Kingdom or EU restrictions. In addition, there can be no assurance that current counterparties of the Group will not become Sanction Targets in the future. For additional information see “*Business – Compliance with Sanctions Laws.*”

Risks Relating to the Market Generally

Set out below is a description of material market risks, including liquidity risk, exchange rate risk, interest rate risk and credit risk.

No Secondary Market – An active secondary market in respect of the Notes might never be established or might be illiquid and this might adversely affect the price at which an investor could sell its investment in the Notes

The Notes generally will have no established trading market when issued and one might never develop or, if developed, it might not be sustained. If a market does develop, it might not be very liquid and investments in the Notes might trade at a discount to their initial offering price depending upon prevailing interest rates, the market for similar securities, general economic conditions, the ratings on the Notes and the Group's financial condition. Therefore,

investors might not be able to sell their investments in the Notes easily or at prices that will provide them with a yield comparable to similar investments that have a developed secondary market. If an active trading market for investments in the Notes is not developed or maintained, then the market and liquidity of investments in the Notes might be limited, which might adversely affect the trading price of an investment in the Notes.

Market Price Volatility – The market price of an investment in the Notes might be subject to a high degree of volatility

The market price of an investment in the Notes might be subject to significant fluctuations in response to actual or anticipated variations in the Group’s operating results, adverse business developments, changes to the regulatory environment in which the Group operates and the actual or expected sale by the Group of other debt securities, as well as other factors, including the trading market for debt issued by Turkey. In addition, in recent years the global financial markets have experienced significant price and volume fluctuations that, if repeated in the future, might adversely affect the market price of an investment in the Notes without regard to the Group’s financial condition or results of operations.

The market price of an investment in the Notes also will be influenced by economic and market conditions in Turkey and, to varying degrees, economic and market conditions in emerging markets generally. Although economic conditions differ in each country, the reaction of investors to developments in one country might cause capital markets in other countries to fluctuate. Developments or economic conditions in other emerging market countries have at times significantly affected the availability of credit to the Turkish economy and resulted in considerable outflows of funds and declines in the amount of foreign investment in Turkey. Crises in other emerging market countries might diminish investor interest in securities of Turkish issuers, including the Issuer’s, which might adversely affect the market price of an investment in the Notes.

Interest Rate Risk – The market price of an investment in the Notes might be adversely affected by movements in market interest rates

Investment in the Notes involves the risk that if market interest rates increase above the interest rate paid on the Notes, then this will adversely affect the market price of an investment in the Notes.

Credit Ratings – Credit ratings assigned to the Issuer or the Notes might not reflect all risks associated with an investment in those Notes and might be lowered, suspended or withdrawn

The expected initial credit ratings of the Notes are “BB+” by Fitch and “Ba2” by Moody’s. Either rating agency may lower, suspend or withdraw its rating if, in its sole judgment, the credit quality of the Notes has declined or is in question. The credit ratings of the Issuer, and hence of the Notes, are influenced significantly by the credit rating of Turkey and İşbank, with downgrades in the ratings of either likely to result in a corresponding downgrade in the rating of the Issuer and the Notes. If any credit rating assigned to the Notes or the Issuer is lowered, suspended or withdrawn, then the market price of an investment in the Notes might decline. The initial ratings of the Notes by Fitch and Moody’s will not address the likelihood that the principal on the Notes will be prepaid or paid on the scheduled maturity date.

In addition to the ratings of the Notes and the Issuer provided by Fitch and Moody’s, one or more other independent credit rating agency(ies) might assign credit ratings to the Notes and/or the Issuer. In addition, the ratings might not reflect the potential impact of all risks related to the structure, market, additional factors discussed above and other factors that might affect the value or market price of an investment in the Notes.

A credit rating is not a recommendation to buy, sell or hold securities and might be revised, suspended or withdrawn by the applicable rating agency at any time. Similar ratings on different types of securities do not necessarily mean the same thing. Ratings on the Notes also do not address the marketability of investments in the Notes or any market price. The significance of each rating should be analysed independently from any other rating.

In general, European regulated investors are restricted under the CRA Regulation from using credit ratings for regulatory purposes unless such ratings are issued by a credit rating agency established in the EU and registered

under the CRA Regulation (and such registration has not been withdrawn or suspended). Such general restriction also applies in the case of credit ratings issued by non-EU credit rating agencies unless the relevant credit ratings are endorsed by an EU-registered credit rating agency or the relevant non-EU rating agency is certified in accordance with the CRA Regulation (and such endorsement action or certification, as the case may be, has not been withdrawn or suspended). The list of registered and certified rating agencies published by ESMA on its website in accordance with the CRA Regulation is not conclusive evidence of the status of the relevant rating agency included in such list as there might be delays between certain supervisory measures being taken against a relevant rating agency and the publication of the updated ESMA list. Certain information with respect to the credit rating agencies and ratings is set out on the cover of this Offering Circular.

ENFORCEMENT OF JUDGMENTS AND SERVICE OF PROCESS

Each of the Issuer and the Guarantors (other than Paşabahçe, which is a non-public joint stock company) is a public joint stock company organised under the laws of Turkey. Certain of the directors and officers of the Issuer and the Guarantors named herein reside inside Turkey and all or a significant portion of the assets of such persons might be, and significant portions of the assets of the Issuer and the Guarantors are, located in Turkey. As a result, it might not be possible for investors to effect service of process upon such persons outside Turkey or to enforce against them in the courts of jurisdictions other than Turkey any judgments obtained in such courts that are predicated upon the laws of such other jurisdictions. In order to enforce such judgments in Turkey, investors should initiate enforcement proceedings before the competent Turkish courts. In accordance with Articles 50 to 59 of Turkey's International Private and Procedure Law (Law No. 5718), the courts of Turkey will not enforce any judgment obtained in a court established in a country other than Turkey unless:

- (a) there is in effect a treaty between such country and Turkey providing for reciprocal enforcement of court judgments,
- (b) there is *de facto* enforcement in such country of judgments rendered by Turkish courts, or
- (c) there is a provision in the laws of such country that provides for the enforcement of judgments of Turkish courts.

There is no treaty between Turkey and either the United States or the United Kingdom providing for reciprocal enforcement of judgments. While there is no *de facto* reciprocity between Turkey and the United States, Turkish courts have rendered at least one judgment confirming *de facto* reciprocity between Turkey and the United Kingdom; *however*, since *de facto* reciprocity is decided by the relevant court on a case-by-case basis, there is uncertainty as to the enforceability of court judgments obtained in the United States or the United Kingdom by Turkish courts. Moreover, there is uncertainty as to the ability of an investor to bring an original action in Turkey based upon the U.S. federal or any other non-Turkish securities laws.

In addition, the courts of Turkey will not enforce any judgment obtained in a court established in a country other than Turkey if:

- (a) the defendant was not duly summoned or represented or the defendant's fundamental procedural rights were not observed,
- (b) the judgment in question was rendered with respect to a matter within the exclusive jurisdiction of the courts of Turkey,
- (c) the judgment is incompatible with a judgment of a court in Turkey between the same parties and relating to the same issues or, as the case may be, with an earlier foreign judgment on the same issue and enforceable in Turkey,
- (d) the judgment is not of a civil nature,
- (e) the judgment is clearly against public policy rules of Turkey,
- (f) the judgment is not final and binding with no further recourse for appeal or similar revision process under the laws of the country where the judgment has been rendered, or
- (g) the judgment was rendered by a foreign court that has deemed itself competent even though it has no actual relationship with the parties or the subject matter at hand.

In connection with the Notes, service of process may be made upon each of the Issuer and the Guarantors at Türkiye İş Bankası A.Ş., London Branch, 8 Princess Street, London, EC2R 8HL, United Kingdom, as their agent upon whom process may be served with respect to any proceedings in England.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents, which have previously been published or are published simultaneously with this Offering Circular and have been filed with the Central Bank of Ireland and Euronext Dublin, shall be incorporated into, and form part of, this Offering Circular:

(a) the 2018 Consolidated Financial Statements,

(b) the 2017 Consolidated Financial Statements,

(c) the 2016 Consolidated Financial Statements,

(d)(i) the independent auditors' audit report and audited consolidated financial statements (prepared in accordance with TAS) of Trakya Cam as of and for the year ended 31 December 2018 (including comparative information for 2017), (ii) the audited consolidated financial statements (prepared in accordance with TAS) of Trakya Cam as of and for the year ended 31 December 2017 (including comparative information for 2016) and (iii) the audited consolidated financial statements (prepared in accordance with TAS) of Trakya Cam as of and for the year ended 31 December 2016 (but excluding: (A) any information with respect to 2015 and (B) any financial information therein that was reclassified as of and for the year ended 31 December 2016 as a result of a reclassification between the gross revenue and marketing, selling and distribution expenses line items (see "*Presentation of Financial and Other Information - Reclassification*")),

(e)(i) the independent auditors' audit report and audited consolidated financial statements (prepared in accordance with TAS) of Paşabahçe as of and for the year ended 31 December 2018 (including comparative information for 2017), (ii) the audited consolidated financial statements (prepared in accordance with TAS) of Paşabahçe as of and for the year ended 31 December 2017 (including comparative information for 2016) and (iii) the audited consolidated financial statements (prepared in accordance with TAS) of Paşabahçe as of and for the year ended 31 December 2016 (but excluding: (A) any information with respect to 2015 and (B) any financial information therein that was reclassified as of and for the year ended 31 December 2016 as a result of a reclassification between the gross revenue and marketing, selling and distribution expenses line items (see "*Presentation of Financial and Other Information - Reclassification*")),

(f)(i) the independent auditors' audit report and audited consolidated financial statements (prepared in accordance with TAS) of Anadolu Cam as of and for the year ended 31 December 2018 (including comparative information for 2017), (ii) the audited consolidated financial statements (prepared in accordance with TAS) of Anadolu Cam as of and for the year ended 31 December 2017 (including comparative information for 2016) and (iii) the audited consolidated financial statements (prepared in accordance with TAS) of Anadolu Cam as of and for the year ended 31 December 2016 (but excluding: (A) any information with respect to 2015 and (B) any financial information therein that was reclassified as of and for the year ended 31 December 2016 as a result of a reclassification between the gross revenue and marketing, selling and distribution expenses line items (see "*Presentation of Financial and Other Information - Reclassification*")), and

(g)(i) the independent auditors' audit report and audited consolidated financial statements (prepared in accordance with TAS) of Soda Sanayii as of and for the year ended 31 December 2018 (including comparative information for 2017), (ii) the audited consolidated financial statements (prepared in accordance with TAS) of Soda Sanayii as of and for the year ended 31 December 2017 (including comparative information for 2016) and (iii) the audited consolidated financial statements (prepared in accordance with TAS) of Soda Sanayii as of and for the year ended 31 December 2016 (but excluding: (A) any information with respect to 2015 and (B) any financial information therein that was reclassified as of and for the year ended 31 December 2016 as a result of a reclassification between the gross revenue and marketing, selling and distribution expenses line items (see "*Presentation of Financial and Other Information - Reclassification*")).

Following the publication of this Offering Circular, a supplement hereto may be prepared by the Issuer and Guarantors and approved by the Central Bank of Ireland in accordance with Article 16 of the Prospectus Directive. Statements contained in any such supplement (or contained in any document (or portions thereof) incorporated by reference therein) shall, to the extent applicable (whether expressly, by implication or otherwise), be deemed to modify or supersede statements contained in this Offering Circular or in a document (or portions thereof) that is incorporated by reference into this Offering Circular. Any statement so modified or superseded shall not, except as so modified or superseded, constitute a part of this Offering Circular.

The financial statements incorporated by reference into this Offering Circular, all of which are in English, were prepared as convenience translations of the corresponding Turkish language financial statements (which translations the Issuer and, with respect to their own financial statements, each Guarantor confirm were direct and accurate). The English language financial statements incorporated by reference herein were not prepared for the purpose of their incorporation by reference into this Offering Circular.

Copies of documents incorporated (or portions of which have been incorporated) by reference into this Offering Circular are available as follows:

(a) with respect to the Consolidated Financial Statements, on the Issuer's website at <http://www.sisecam.com.tr/en/investor-relations/presentations-and-bulletins/interim-audited-reports>,

(b) with respect to the financial statements of Trakya Cam, at <http://www.sisecamflatglass.com/en/investor-relations/presentations-and-reports/consolidated-financial-statements-for-interim-periods>,

(c) with respect to the financial statements of Paşabahçe, at <http://www.pasabahce.com/en/investor-relations/presentations-and-reports/consolidated-financial-statements-for-interim-periods>,

(d) with respect to the financial statements of Anadolu Cam, at <http://www.sisecamglasspackaging.com/en/investor-relations/presentations-and-reports/financial-statements-and-independent-audit-reports>,

(e) with respect to the financial statements of Soda Sonayii, at <http://www.sisecamkimyasallar.com/en/investor-relations-soda-sanayii-as/presentations-and-reports/financial-statements-and-independent-audit-reports>.

Any documents (or portions thereof) themselves incorporated by reference into the documents incorporated by reference into this Offering Circular do not (and shall not be deemed to) form part of (and are not incorporated into) this Offering Circular.

Any statement contained in a document (or a portion thereof) that is incorporated by reference herein shall be modified or superseded for the purpose of this Offering Circular to the extent that a statement contained herein or in any other document incorporated by reference herein, or in any supplement hereto, modifies or supersedes such earlier statement (whether expressly, by implication or otherwise). Any statement so modified or superseded shall not, except as so modified or superseded, constitute a part of this Offering Circular. Where there is any inconsistency between the information contained in this Offering Circular and the information contained in (or incorporated by reference into) the information incorporated by reference herein, the information set out in this Offering Circular shall prevail.

The contents of any website (except for the documents incorporated by reference into this Offering Circular to the extent set out on any such website) referenced in this Offering Circular do not (and shall not be deemed to) form part of (and are not incorporated into) this Offering Circular.

OVERVIEW OF THE NOTES

The following is an overview of certain information relating to the offering of the Notes, including the principal provisions of the terms and conditions thereof. This overview is indicative only, does not purport to be complete and is qualified in its entirety by the more detailed information appearing elsewhere in this Offering Circular. See, in particular, “Terms and Conditions of the Notes.”

Issuer:	Şişecam
Legal Entity Identifier (LEI):	789000KWOK751Q6R8875
Guarantors:	Trakya Cam, Paşabahçe, Anadolu Cam and Soda Sanayii
Issue:	US\$550,000,000 principal amount of 6.95% Guaranteed Notes due 2026
Interest and Interest Payment Dates:	The Notes will bear interest from and including the Issue Date at the rate of 6.95% <i>per annum</i> , payable semi-annually in arrear on the 14th day of each March and September in each year (each an “ <i>Interest Payment Date</i> ”); <i>provided</i> that, as described in Condition 7.4 (<i>Payment on Business Days</i>), if any such date is not a Business Day (as defined in Condition 7.4 (<i>Payment on Business Days</i>)), then such payment will be made on the first following Business Day. The first payment (for the period from and including the Issue Date to but excluding 14 September 2019 and amounting to US\$34.75 per US\$1,000 principal amount of Notes) will be made on the Interest Payment Date falling in September 2019.
Maturity Date:	14 March 2026
Use of Proceeds:	The proceeds of the Offering will be used by the Issuer for general corporate purposes, including capital expenditures within the Group and paying expenses relating to the issuance of the Notes, and potentially to purchase Existing Notes in the Tender Offer described in “Use of Proceeds” below. A portion of the proceeds from the issuance of the Notes will (with consideration of the reduction of the exposure of such three Guarantors under their guarantees for the Existing Notes) be on-lent by the Issuer to the four Guarantors in accordance with legal requirements, which the Guarantors will use for general corporate purposes, including capital expenditures.
Status:	The Notes will be direct, unconditional and (subject to the provisions of Condition 5.3 (<i>Liens</i>)) unsecured obligations of the Issuer and (subject as provided above) rank and will rank <i>pari passu</i> , without any preference among themselves, with all other outstanding unsecured and unsubordinated obligations of the Issuer, present and future, but, in the event of insolvency, only to the extent permitted by applicable laws relating to creditors’ rights.
Guarantees:	The Notes are being guaranteed by each Guarantor on a several basis. The Guarantees are: (a) limited for each Guarantor to an amount equal to the amount of the net proceeds from the issuance of the Notes that (with consideration of the reduction of the exposure of the three publicly listed Guarantors under their guarantees of the Existing Notes) the Issuer on-lends to such Guarantor and (b) subject to individual limitations of US\$183,333,333 in the case of Trakya Cam, US\$110,000,000 in the case

of Paşabahçe, US\$110,000,000 in the case of Anadolu Cam and US\$36,666,667 in the case of Soda Sanayii. Accordingly, the aggregate amount of the Guarantees (US\$440,000,000) is less than the principal amount of the Notes (US\$550,000,000); *however*, the amount of: (i) all or some of the Guarantors' Guarantees will be increased if additional notes are issued in the manner described in Condition 17 and (ii) each Guarantor's Guarantee will be reduced as noted herein on a proportionate basis to the extent that any Notes are redeemed by the Issuer pursuant to Condition 8.3 or 8.4 or are purchased and cancelled (including as a result of a Notes Offer) in the manner provided in Condition 8.7(b). Noteholders will not have any recourse to the Guarantors for payments in respect of the Notes in excess of these amounts under their respective Guarantees, notwithstanding that any failure to pay by the Issuer is greater than such amounts, nor will any Guarantor have any obligation to make up any shortfall if another Guarantor fails to make full and prompt payment under its Guarantee.

The Guarantees will be direct and (subject to the provisions of Condition 5.3 (*Liens*)) unsecured obligations of the relevant Guarantor and (subject as provided above) rank and will rank *pari passu*, without any preference among themselves, with all other outstanding unsecured and unsubordinated obligations of the relevant Guarantor, present and future, but, in the event of insolvency, only to the extent permitted by applicable laws relating to creditors' rights.

The Guarantors will, on the Issue Date, enter into their respective Guarantees set out in the Trust Deed under which the Guarantors agree to guarantee, on a partial and several basis, the payment of all amounts payable in respect of the Notes and all other moneys payable under or pursuant to the Trust Deed.

Certain Covenants: The terms of the Notes contain covenants limiting, among other things, the Issuer's ability and the ability of certain members of the Group (including the Guarantors) to create certain liens, incur additional debt, enter into transactions with affiliates, make certain asset sales, make certain restricted payments, merge or consolidate with other entities and lease all or substantially all of their properties and assets. See Condition 5 (*Covenants*).

Taxation; Payment of Additional Amounts: All payments in respect of the Notes by or on behalf of the Issuer or under and pursuant to a Guarantee by or on behalf of a Guarantor shall be made free and clear of, and without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or governmental charges (including related interest and penalties) of whatever nature ("*Taxes*") imposed, assessed or levied by or on behalf of any Relevant Jurisdiction (as defined in Condition 9 (*Taxation*)), unless such withholding or deduction of Taxes is required by law. In that event, the Issuer or, as the case may be, such Guarantor will (subject to certain exceptions) pay such additional amounts as may be necessary in order that the net amounts received by the Noteholders after the withholding or deduction shall equal the respective amounts that would have been receivable in respect of the Notes or under and pursuant to the applicable Guarantee, as the case may be, in the absence of the withholding or deduction. Under current Turkish law, withholding tax at the rate of 0% applies on interest on notes with an initial maturity of five

years and more. See “*Taxation—Certain Turkish Tax Considerations*” and Condition 9 (*Taxation*).

Redemption for Taxation Reasons:..... The Notes may be redeemed at the option of the Issuer in whole, but not in part, at any time (subject to certain conditions), at their principal amount (together with interest accrued to but excluding the date fixed for redemption) if:

- (a) as a result of any change in, or amendment to, the laws or regulations of a Relevant Jurisdiction, or any change in the application or official interpretation of the laws or regulations of a Relevant Jurisdiction, which change or amendment becomes effective after the Issue Date, on the next Interest Payment Date:
 - (i) the Issuer would be required to pay additional amounts as provided or referred to in Condition 9 (*Taxation*), or
 - (ii) any of the Guarantors would, if required to make payment under its Guarantee, be required to pay such additional amounts, and
- (b) the requirement cannot be avoided by the Issuer, or, as the case may be, such Guarantor, taking reasonable measures available to it.

See Condition 8.2 (*Redemption For Taxation Reasons*).

Redemption at the Option of the Issuer:

The Issuer may redeem all or part of the Notes at any time during the period commencing on (and including) the day that is 90 days prior to the Maturity Date to (but excluding) the Maturity Date at their principal amount, together with interest accrued to the date fixed for redemption. At any time prior to the day that is 90 days prior to the Maturity Date, the Issuer may redeem all or part of the Notes at the Make-Whole Redemption Price (as defined in the Terms and Conditions of the Notes). See Condition 8.3 (*Redemption at the Option of the Issuer*).

Redemption at the Option of the Holders upon a Change of Control:.....

If a Change of Control Put Event (as defined in Condition 8.4 (*Redemption at the Option of the Holders upon a Change of Control*)) occurs, each Noteholder will have a right, at such Noteholder’s option, to require the Issuer to redeem in whole (but not in part) such Noteholder’s Notes at 100% of their principal amount together with interest accrued to (but excluding) the date of redemption. See Condition 8.4 (*Redemption at the Option of the Holders upon a Change of Control*).

Events of Default:

The Notes will be subject to certain Events of Default including (among others) non-payment of principal for five business days, non-payment of interest for 10 business days, failure to perform or observe any of the other obligations in respect of the Notes, cross-payment default, cross-acceleration and certain events related to bankruptcy and insolvency of the Issuer or the Guarantors, all as further described in Condition 11. See “*Terms and Conditions of the Notes— Condition 11 (Events of Default)*.”

Modifications and Waiver: The Trustee may agree, without the consent of the Noteholders, to any modification of any of the provisions of the Trust Deed (including the Conditions) that is of a formal, minor or technical nature or is made to correct a manifest error, and any other modification (except as mentioned in the Trust Deed), and any waiver or authorisation of any breach or proposed breach, of any of the provisions of the Trust Deed (including the Conditions) that is in the opinion of the Trustee not materially prejudicial to the interests of the Noteholders. Any such modification, waiver or authorisation will be binding on the Noteholders and, if the Trustee so requires, will be notified to the Noteholders as soon as practicable thereafter. See Condition 15 (*Meetings of Noteholders, Modification, Waiver and Authorisation*).

Form, Transfer and

Denominations: Notes offered and sold in reliance upon Regulation S will be represented by beneficial interests in the Unrestricted Global Certificate in registered form, without interest coupons attached, which will be delivered to a common depository for, and registered in the name of a common nominee of, Euroclear and Clearstream, Luxembourg. Notes offered and sold in reliance upon Rule 144A will be represented by beneficial interests in the Restricted Global Certificate(s), in registered form, without interest coupons attached, which will be deposited with the Custodian and registered in the name of Cede & Co. as nominee for DTC. Except in limited circumstances, certificates for the Notes will not be issued in exchange for beneficial interests in the Global Certificates. See "*The Global Certificates – Registration of Title*."

Interests in the Notes will be subject to certain restrictions on transfer. See "*Transfer Restrictions*." Interests in the Global Certificates will be shown on, and transfers thereof will be effected only through, records maintained by Euroclear and Clearstream, Luxembourg and their respective direct and indirect participants, in the case of the Regulation S Notes, and by DTC and its direct and indirect participants, in the case of Rule 144A Notes. Notes will be issued in denominations of US\$200,000 and integral multiples of US\$1,000 in excess thereof.

Governing Law: The Notes, the Trust Deed, the Agency Agreement and any non-contractual obligations arising out of or in connection with the Notes, the Trust Deed or the Agency Agreement, as the case may be, will be governed by, and construed in accordance with, English law.

Listing: Application has been made to Euronext Dublin for the Notes to be admitted to listing on the Official List and to trading on the Regulated Market; *however*, no assurance can be given that such applications will be accepted.

Selling Restrictions: The Notes and the Guarantees have not been and will not be registered under the Securities Act or any state securities laws and Notes may not be offered or sold within the United States or to, or for the account or benefit of, any U.S. person (as defined in Regulation S under the Securities Act) except to QIBs in reliance upon the exemption from the registration requirements of the Securities Act provided by Rule 144A or otherwise pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. The offer and sale of Notes is also subject to restrictions in Turkey and the EEA (including the United Kingdom). See "*Selling Restrictions*."

Risk Factors: For a discussion of certain risk factors relating to the Group, Turkey, the Guarantors and the Notes that prospective investors should carefully consider prior to making an investment in the Notes, see “*Risk Factors.*”

Issue Price: 98.376% of the principal amount

Yield: 7.25%

Regulation S Notes Security Codes: ISIN: XS1961010987
Common Code: 196101098
CFI: DYFXXR
FISN: TURKIYE SISE VE/EUR NT 22001231 RES

Rule 144A Notes Security Codes: ISIN: US90016AAB61
CUSIP: 90016AAB6
Common Code: 196182322
CFI: DBFGGR
FISN: TURKIYE SISE VE/GTD NT 20240313 GTD

Expected Rating(s): “BB+” by Fitch and “Ba2” by Moody’s

Trustee: Citibank, N.A., London Branch. The Trustee will act for the benefit of the Noteholders, in accordance with the provisions of the Trust Deed.

**Principal Paying Agent,
and Transfer Agent:** Citibank, N.A., London Branch

Registrar: Citigroup Global Markets Europe AG

SUMMARY FINANCIAL INFORMATION

This section should be read together with the information contained in “Presentation of Information,” “Use of Proceeds,” “Capitalisation of the Group,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” the Consolidated Financial Statements and the respective notes thereto included elsewhere in (or incorporated by reference into) this Offering Circular.

The following selected consolidated historical financial information of the Group as of and for the fiscal years ended 31 December 2016, 2017 and 2018 has been extracted from the Consolidated Financial Statements.

	2016	2017	2018
Selected Consolidated Income Statement Data		<i>(TRY millions)</i>	
Sales	8,569.5	11,318.5	15,550.3
Cost of sales.....	(5,891.6)	(7,688.2)	(10,392.9)
Gross profit	2,677.9	3,630.3	5,157.4
Operating expenses ⁽¹⁾	(1,890.4)	(2,152.1)	(2,821.9)
Income from investments in associates and joint ventures	105.9	172.1	132.8
Net other operating income/expense	205.0	205.7	519.6
Operating profit	1,098.4	1,856.1	2,987.9
Net Income from investing activities.....	211.6	295.5	913.3
Operating profit before financial income and expenses	1,310.0	2,151.6	3,841.1
Financial income	1,108.3	1,024.7	2,057.7
Financial expenses.....	(1,243.9)	(1,234.5)	(2,431.5)
Profit/loss before tax from continued operations	1,174.4	1,941.8	3,467.4
Tax expense	(134.4)	(204.8)	(93.7)
Profit for the period	1,040.0	1,737.0	3,373.7

⁽¹⁾ Includes general and administrative expenses; marketing, selling and distribution expenses; and research and development expenses.

	As of 31 December		
	2016	2017	2018
Selected Consolidated Balance Sheet Data		<i>(TRY millions)</i>	
Cash and cash equivalents	3,205.4	3,438.6	3,164.0
Total assets	19,152.5	21,307.5	27,767.6
Total liabilities.....	7,822.9	8,245.1	11,040.8
Total shareholders’ equity	11,329.6	13,062.4	16,726.7
Selected Consolidated Cash Flow Data		<i>(TRY millions)</i>	
Net cash generated from operating activities.....	844.9	1,936.7	1,610.1
Net cash used in investing activities	(1,812.2)	(1,057.4)	(2,244.5)
Net cash used in financing activities	364.6	(1,041.4)	(793.9)
Foreign exchange gain/(loss) on cash and cash equivalents	625.9	428.8	1,132.4
Net (decrease)/increase in cash and cash equivalents.....	23.1	266.7	(295.9)
Cash and cash equivalents at the beginning of the year.....	3,140.6	3,163.7	3,460.0
Cash and cash equivalents at the end of the year	3,163.7	3,430.4	3,164.1
Certain Financial Items and Ratios			
	<i>(TRY millions, except percentages)</i>		
EBITDA	2,119.6	3,119.8	4,889.7
EBITDA margin	24.7%	27.6%	31.4%
Net financial debt as of end of period.....	2,574.8	2,458.2	4,845.0
Net financial debt to EBITDA ratio	121.5%	78.8%	99.1%

USE OF PROCEEDS

The proceeds of the Offering will be used by the Issuer for general corporate purposes, including capital expenditures within the Group and paying expenses relating to the issuance of the Notes, and potentially to purchase Existing Notes in the Tender Offer described in the following paragraph. A portion of the proceeds from the issuance of the Notes will (with consideration of the reduction of the exposure of such three Guarantors under their guarantees for the Existing Notes) be on-lent by the Issuer to the four Guarantors in accordance with legal requirements, which the Guarantors will use for general corporate purposes, including capital expenditures.

Concurrently with the offering of the Notes, the Issuer is launching a tender offer (the “*Tender Offer*”) to purchase some of the Existing Notes, which Existing Notes benefit from partial guarantees from the Guarantors other than Paşabahçe; *however*, there can be no certainty as to the amount of the Existing Notes that will be tendered by investors or the amount, if any, of any tendered Existing Notes that will be purchased by the Issuer. The Issuer might use some of the proceeds from the issuance of the Notes to purchase (in the Tender Offer) some of the Existing Notes. If any Existing Notes are to be purchased in the Tender Offer, the settlement of the Tender Offer is expected to occur after the Issue Date.

CAPITALISATION OF THE GROUP

The following table sets forth the capitalisation of the Group as of 31 December 2018, both on a historical basis and as such historical information is adjusted to give effect to the offering of the Notes (and the application of the gross proceeds of US\$550,000,000 therefrom) and assuming a redemption in the Tender Offer of a principal amount of Existing Notes equal to US\$50,000,000. The historical financial information as of 31 December 2018 has been extracted from the 2018 Consolidated Financial Statements. Prospective investors should read the following table in conjunction with “*Summary Financial Information*,” “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*” and the Consolidated Financial Statements.

	As of 31 December 2018	
	Historical	As adjusted
	<i>(TRY millions)</i>	
Cash and cash equivalents	3,164.0	5,794.5
Total gross financial debt	8,009.0	10,639.5
<i>Notes offered hereby</i>	-	2,893.5
Shareholders’ equity	12,737.3	12,737.3
Minority interests	3,989.5	3,989.5
Total equity	16,726.8	16,726.8
Total capitalisation	24,735.8	27,366.3

⁽¹⁾ Consists of current and non-current financial liabilities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following is a discussion and analysis of the financial condition and results of operations of the Group as of and for 2016, 2017 and 2018. The following discussion and analysis should be read in conjunction with the Consolidated Financial Statements, including the notes therein, the information relating to the Group's business set out in "The Group and its Business" and "Risk Factors" and other information about the Group included elsewhere in this Offering Circular. This discussion and analysis contains forward-looking statements, including about the Group's future sales revenues, operating results and expectations, that have not been audited and involve risks and uncertainties. The Group's actual results might differ materially from those anticipated in these forward-looking statements as a result of certain factors including, but not limited to, the risks discussed in "Risk Factors" and "Forward-Looking Statements."

Overview

The Group operates through the following primary operational segments: the Flat Glass Group, the Glassware Group, the Glass Packaging Group and the Chemicals Group. While the Group has a strong base of operations in Turkey, an increasing portion of its business activities and revenues is attributable to exports from Turkey and sales from production facilities outside of Turkey. The Group consists of the Issuer and 67 subsidiaries, one joint venture and two associates, and its products are sold in over 150 countries.

As of 31 December 2018, the Group had total assets of TRY 27,767.6 million, which was an increase of 30.3% from TRY 21,307.5 million as of 31 December 2017, itself an 11.3% increase from TRY 19,152.5 million as of 31 December 2016. These increases were principally due to the acquisition of (and investments in) assets, the depreciation of the Turkish Lira, the revaluation gain on tangible assets, the elimination of cross-ownerships among subsidiaries and the increase of foreign-denominated assets benefiting from foreign currency translation effects and strong operational results.

The Group's consolidated revenues were TRY 15,550.3 million for 2018, an increase of 37.4% as compared to TRY 11,318.5 million in 2017, which was a 32.1% increase from TRY 8,569.5 million in 2016. The increase in revenues during these periods was driven by both the Group's domestic and international sales, which increased as a result of improved economic conditions in the countries (including, until the middle of 2018, in Turkey) where the Group operates, better pricing conditions, an increasingly international production footprint, the depreciation of the Turkish Lira and the Group's strong performance in the Turkish market during 2016, 2017 and the first half of 2018, as described in greater detail below.

EBITDA for the Group increased by 56.7% to TRY 4,889.7 million in 2018 from TRY 3,119.8 million in 2017, which itself was a 47.2% increase from TRY 2,119.6 million in 2016. The Group's EBITDA generally grew during these periods similarly to (or slightly above) the increase in its revenues, reflecting that (in part due to cost optimisation efforts) the Group's cost of sales grew at a slower pace than revenues.

The following tables reflect the Group's total assets, revenue, EBITDA and EBITDA Margin as of the indicated dates or for the indicated periods, as applicable, by business segments:

	As of 31 December					
	2016		2017		2018	
Total Assets	<i>(TRY millions, except percentages)</i>					
Flat Glass.....	7,154.9	30.8%	8,329.3	33.3%	10,671.2	32.2%
Glassware	3,264.7	14.1%	3,312.4	13.3%	4,285.1	12.9%
Glass Packaging	4,425.2	19.1%	4,171.2	16.7%	4,985.8	15.0%
Chemicals	3,832.7	16.5%	4,492.3	18.0%	7,029.9	21.2%
Other.....	4,527.9	19.5%	4,678.4	18.7%	6,192.1	18.7%
Total⁽¹⁾	23,205.4	100.0%	24,983.5	100.0%	33,164.0	100.0%
Consolidation Adjustments ...	(4,052.9)		(3,676.0)		(5,396.4)	
Consolidated Total	19,152.5		21,307.5		27,767.6	

⁽¹⁾ Segmental breakdown of total assets is based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the 2018 Consolidated Financial Statements.

	As of 31 December					
	2016		2017		2018	
Revenue	<i>(TRY millions, except percentages)</i>					
Flat Glass.....	3,016.2	30.7%	4,331.2	34.4%	5,875.1	35.1%
Glassware	1,803.5	18.3%	1,955.8	15.5%	2,528.9	15.1%
Glass Packaging	1,830.0	18.6%	2,410.8	19.2%	3,239.2	19.4%
Chemicals	2,432.3	24.7%	2,916.8	23.2%	3,971.0	23.7%
Other.....	757.5	7.7%	973.9	7.7%	1,110.3	6.6%
Total⁽¹⁾	9,839.6	100.0%	12,588.4	100.0%	16,724.5	100.0%
Consolidation Adjustments	(1,270.1)		(1,269.9)		(1,174.1)	
Consolidated Total	8,569.5		11,318.5		15,550.3	

⁽¹⁾ Segmental breakdown of revenue is based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the 2018 Consolidated Financial Statements.

	As of 31 December					
	2016		2017		2018	
EBITDA	<i>(TRY millions, except percentages)</i>					
Flat Glass.....	993.5	35.5%	1,179.4	36.7%	1,860.1	37.9%
Glassware	260.3	9.3%	287.5	8.9%	460.6	9.4%
Glass Packaging	729.3	26.1%	615.6	19.1%	895.7	18.2%
Chemicals	691.3	24.7%	878.9	27.3%	1,479.3	30.1%
Other.....	124.6	4.5%	254.6	7.9%	213.6	4.4%
Total⁽¹⁾	2,799.0	100.0%	3,216.0	100.0%	4,909.3	100.0%
Consolidation Adjustments	(679.4)		(96.3)		(19.6)	
Consolidated Total	2,119.6		3,119.8		4,889.7	

⁽¹⁾ Segmental breakdown of EBITDA is based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the 2018 Consolidated Financial Statements.

	2016	2017	2018
EBITDA Margin⁽¹⁾			
Flat Glass.....	32.9%	27.2%	31.7%
Glassware	14.4%	14.7%	18.2%
Glass Packaging	39.9%	25.5%	27.7%
Chemicals.....	28.4%	30.1%	37.3%
Other.....	16.5%	26.1%	19.2%

⁽¹⁾ Segmental breakdown of EBITDA Margin is based upon amounts before consolidation adjustments (i.e., adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment.

Flat Glass Group. As of 31 December 2018, the Flat Glass Group's total assets (before consolidation adjustments) constituted 32.2% of the Group's total assets. With increases of 28.1% in 2018 and 16.4% in 2017, the segment's share of the Group's total assets has been on an increasing trend. This growth in both nominal and relative size of the segment was primarily a result of the acquisitions of HNG and the assets now known as Sisecam Flat Glass South Italy. Increases in trade receivables, the value of inventory and investments in U.S. dollar-denominated fixed income securities due in part to the depreciation of the Turkish Lira and the revaluation gain on tangible assets were also key growth drivers of asset levels. With a significant portion of its assets located outside of Turkey, the Turkish Lira value of such assets also increased as a result of the depreciation of the Turkish Lira.

The Flat Glass Group's share of the Group's total revenues grew by 35.6% in 2018 and 43.6% in 2017, benefiting from the strong contribution of operations in Europe, better performance in the encapsulation and auto-glass business lines and a positive pricing impact in the operations in Turkey. The Flat Glass Group's EBITDA, which increased by 57.7% in 2018 and 18.7% in 2017, was positively impacted by the price increases that were made during 2018 combined with cost control initiatives.

Glassware Group. As of 31 December 2018, the Glassware Group had total assets (before consolidation adjustments) of TRY 4,285.1 million, representing 12.9% of the Group's total assets. After 1.5% growth in 2017, the Glassware Group's assets grew by 29.4% in 2018 as a result of revaluation gains on tangible assets and an increase in accounts receivables. The acquisition of Pearl for Glass Manufacturing in October 2017 also resulted in increases in the size of the Glassware Group. Recently, the Glassware Group's share of the Group's total assets has slightly declined due to the faster growth of the Flat Glass Group as a result of its acquisitions and, to some extent, stronger market conditions for the Flat Glass Group, Glass Packaging Group and Chemicals Group.

Consistent with its recent growth in total assets, the Glassware Group's total revenues increased by 29.3% in 2018 after growing 8.4% in 2017. The segment's EBITDA increased by 60.2% in 2018 and 10.5% in 2017. These changes reflect a better pricing environment (particularly in Turkey) and a better product mix, further supported by an increase in non-Turkish Lira sales.

Glass Packaging Group. As of 31 December 2018, the Glass Packaging Group had total assets of TRY 4,985.8 million, constituting (before consolidation adjustments) 15.0% of the Group's total assets. An increase of 19.5% in 2018 followed a 5.7% decrease in 2017. The increase in 2018 was a result of the Eskişehir plant's new furnace investment, which was completed in July 2018, together with tax incentives granted in relation to this investment increasing the deferred tax assets. Increases in trade receivables, the value of inventory and investments in U.S. dollar-denominated fixed income securities due in part to the depreciation of the Turkish Lira and the revaluation gain on tangible assets were also the primary growth drivers of the asset levels. The decline in 2017 was driven by the high base impact of the receipt of proceeds generated from the sale of Soda Sanayii shares held by Anadolu Cam in 2016.

The Glass Packaging Group's total revenues increased by 34.4% in 2018 and 31.7% in 2017 as a result of an increase of international sales, a better product mix, strong demand in Turkey and growing sales volume in Russia, growing demand of high value-added products and stronger pricing conditions in all of the Glass Packaging Group's operating regions. An appreciation of the ruble against the Turkish Lira also had a positive impact on the consolidated figures. Consistent with the increase in revenues, the Glass Packaging Group's EBITDA increased by 45.5% in 2018

after having decreased by 15.6% in 2017 as a result of the impact of the sale (for TRY 341.7 million) by Anadolu Cam of shares in Soda Sanayii.

Chemicals Group. As of 31 December 2018, the Chemicals Group held 21.2% of the Group's total assets (before consolidation adjustments), growing 56.5% in 2018 and 17.2% in 2017. Growth in 2018 was driven by the completion of the Chemicals Group's new glass fibre production facility, which was categorised as "strategic" by the Ministry of Finance, and an increase in deferred tax assets in connection with this investment. In addition to its strong cash generation, the positive effect of the Group's financial investments in U.S. dollar-denominated fixed-income securities and an increase in time deposits made by the Group resulted in the asset growth.

The segment's revenues and EBITDA also grew, with revenues increasing by 36.1% in 2018 and 19.9% in 2017 and EBITDA growing by 68.3% in 2018 and 27.1% in 2017. This strong improvement resulted particularly from stronger demand for chromium chemicals products (which enabled the Chemicals Group to increase its prices), an increase in capacity utilisation rates in the chromium chemicals operations, cost optimisation efforts attained through the introduction of a coal-fired steam boiler that was installed at the Mersin plant (which allowed the Group to generate up to 50.0% of the total steam needed to produce soda ash) and through other operational efficiency investments (*e.g.*, machinery and other equipment modernisation, logistics and warehouse investments), an increase in the number of clients in the chromium chemicals segment and an increase in the share of non-group sales in the soda ash segment.

Other Businesses. In addition to its four primary operational segments described above, the Group also engages in the following businesses (among others): foreign trade, insurance and energy activities, which in the aggregate represented 6.6% of the Group's revenues and 4.4% of the Group's EBITDA in 2018.

The Group undertakes its foreign trade activities (*i.e.*, the trading of its produced products (excluding energy)) from Turkey through Şişecam Dış Ticaret, which allows the Group to benefit from tax incentives on registered export sales made by foreign trade companies such as Şişecam Dış Ticaret and obtain operational efficiencies by reducing the delivery time and costs of imported products. In 2018, Şişecam Dış Ticaret made exports from Turkey exceeding US\$750 million.

The Group undertakes its insurance activities through Şişecam Sigorta. Şişecam Sigorta is one of the main insurance agencies of Anadolu Sigorta A.Ş., a major insurance company in Turkey and a subsidiary of İşbank, the Group's controlling shareholder. Şişecam Sigorta mainly provides transportation, residential and automobile insurance to the Group and its employees domiciled in Turkey.

The Group undertakes its energy activities through Şişecam Enerji. Şişecam Enerji currently has an energy supply licence (dated 10 July 2014) and a natural gas wholesale licence (dated 3 September 2014) that allow it to trade electricity for 20 years and to trade wholesale natural gas for 30 years counted from the date of the relevant licence. These licences allow Şişecam Enerji to trade, purchase and sell electricity and natural gas and import and export electricity. These licences also allow Şişecam Enerji to store compressed natural gas in underground storage facilities and to invest in capacity and infrastructure to perform these activities. Şişecam Enerji actively seeks opportunities to import natural gas and liquified natural gas to create value and reduce the Group's energy costs and is also responsible for selling the electricity generated by the Group's cogeneration facility.

Şişecam Enerji's active involvement in both the Turkish electricity and natural gas markets enables the Group not only to procure energy needs at favourable prices but also to take advantage of buying and selling opportunities in those markets.

Critical Accounting Policies

The significant accounting policies followed in the preparation of the Issuer's consolidated financial statements are explained in detail in Note 2 to the 2018 Consolidated Financial Statements.

The preparation of consolidated financial statements requires estimates and assumptions to be made regarding the amounts of the assets and liabilities as of the balance sheet date, including explanations for the Group's contingent assets and liabilities, as well as the amounts of income and expenses realised in the reporting period. In these

estimations, the Group makes estimates and assumptions concerning the future. The accounting estimates and assumptions, by definition, might not be equal to the related actual results.

The Group recognises deferred tax assets and liabilities based upon temporary differences arising between its financial statements prepared in accordance with TAS (which is based upon the applicable standards of IFRS) and its statutory financial statements. These temporary differences usually result in the recognition of revenue and expenses in different reporting periods for TAS and tax purposes. Deferred income tax is not accounted for if it arises from the initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither an accounting nor taxable profit/(loss). The fully or partially recoverable amount of deferred tax assets is estimated under available circumstances. Projections of future income are, along with current period losses, unused losses and expiration dates of other tax assets and tax planning strategies that can be used when necessary, are considered during these estimations. As a result of the evaluations, a deferred income tax asset amounting to TRY 544.8 as of 31 December 2018 resulted from temporary differences arising from tax allowances and can be used as long as the tax allowances continue. The deferred income tax asset was TRY 202.5 million and TRY 232.7 million as of 31 December 2017 and 2016, respectively. See Note 35 to the 2018 Consolidated Financial Statements.

The Group receives corporate tax allowances (*i.e.*, corporate tax discount rates) in accordance with Corporate Tax Law No. 5520, Article 32/A. As of 31 December 2018, the amount of corporate tax allowances related to temporary differences and that can be utilised before their expiration was TRY 771.2 million, as compared to TRY 327.3 million as of 31 December 2017 and TRY 300.3 million as of 31 December 2016.

The Group has classified some properties as investment property due to the termination of the operational use and evaluates the status of this investment property each three years starting from 2015. The fair value of these properties was determined to be TRY 730 million as of 31 December 2018. Revaluation gains for these properties amounting to TRY 411.6 million were determined as a result of the valuation report of a CMB-licensed valuation firm and are accounted as “Revaluation funds” under equity by considering the deferred tax effect amounting to TRY (30.6) million. See Note 27 to the 2018 Consolidated Financial Statements.

New Accounting Standards

Certain new standards, amendments and interpretations that have been published were not yet effective as of 31 December 2018 and thus were not applied in preparing the Consolidated Financial Statements for 2016, 2017 and 2018. The Group is currently assessing these new standards to determine their impact on the financial position and performance of the Group. Thus far, the Group has concluded that some of these new standards are not applicable to the Group or have no significant impact on the financial performance of the Group. For information on these new accounting standards that might impact the Group’s financial condition and/or results of operations, see Note 2 to the 2018 Consolidated Financial Statements.

Group Consolidation and Other Financial Statement Matters

The Group consists of the Issuer and its subsidiaries and its investment in joint ventures. See Note 1 of the Consolidated Financial Statements for lists of subsidiaries that are consolidated and joint ventures that are included in the consolidated statements of income of the Issuer under “income from associates” in accordance with the Issuer’s interest in the joint venture.

As the Issuer and (other than Paşabahçe) each of the Guarantors is listed on the Borsa İstanbul, their respective consolidated financial statements are required to be prepared in conformity with TAS. See “*Appendix 1 — Overview of Significant Differences Between IFRS and TAS*” for a discussion of the differences between IFRS and TAS.

Primary Factors Affecting the Group’s Financial and Operating Performance

The Group’s performance and results of operations have been and continue to be affected by a number of factors, including macroeconomic conditions, natural gas and electricity costs and specific factors affecting the Group’s individual business segments. See also “*Risk Factors*.”

Macroeconomic Conditions

The Group’s results have been, and likely will continue to be, affected by wider economic conditions, including changes in GDP in Turkey and Russia, certain sub-sectoral developments such as those affecting the construction or automotive industries, its ability to operate in growth markets and the economic conditions of the markets in which its customers operate, inflation, Turkish Lira depreciation or appreciation and an increase or decrease in interest rates.

In 2017, largely due to government incentives, strong demand and public infrastructure investments, the construction industry in Turkey recorded an 8.9% growth on top of the 5.4% experienced in 2016. The third quarter of 2017, when the industry grew by 18.7% on a year-over-year basis, was the strongest period of 2017. Similarly, construction permits, which are used as an early measure of industry growth, increased by 31.8% year-over-year in 2017. The same positive effect was observed in the automotive industry, which grew by 14.1% on a year-over-year basis in terms of the number of cars produced in 2017. The information in this paragraph is from TurkStat.

Macroeconomic events were significantly more volatile in 2018, most importantly reflected in the fluctuation of the Turkish Lira, which contributed to an increase in the Turkish produce price index and consumer price index. As the Group’s operations are diversified across its operations in 13 countries and significant revenue deriving from outside of Turkey, exchange rate movements can have both positive and negative impacts on the Group’s financial condition and results, sometimes in contradictory manners. For example, significant depreciation in the Turkish Lira can make Turkish exports more competitive in international markets but might result in a decline in domestic Turkish demand. The appreciation and depreciation of the Turkish Lira may also impact the Group’s balance sheet and income statements and consequently, the financial condition and overall results of the Group. As of 31 December 2018, the Group’s assets denominated in foreign currency were US\$452 million compared to US\$327 million as of 31 December 2017. Similarly, foreign exchange gain on trade receivables and payables related to exports from Turkey as a percentage of the Group’s aggregate revenues increased to 7.5% in 2018 from 2.5% in 2017. While exchange rates have been less volatile in 2019, currency movements had and will likely continue to have a significant impact on the Group’s financial condition and results.

The following table presents certain macroeconomic data regarding Turkey (all as published by TurkStat):

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
GDP growth (real)	5.2%	6.1%	3.2%	7.4%	5.3% ⁽¹⁾
Producer price index	6.36%	5.71%	9.94%	15.47%	33.64%
Consumer price index	8.17%	8.81%	8.53%	11.92%	20.30%

(1) This reflects the twelve months ended 30 September 2018.

The Group benefited from the improving macroeconomic environment and demand growth in the Turkish market through the first half of 2018 and, at the same time, its growing international presence enabled it to have increasing access to the growth in surrounding regions. This has helped the Group to lower its vulnerability to local risk factors. Even though energy expenses have a large share in all segments’ production costs, the Flat Glass Group was the least affected by the rise in natural gas and electricity tariffs as it was able to successfully reflect the cost increases in its product prices without negatively affecting demand. Similarly, the price of commodities (including chromium chemicals and soda ash) has increased during 2018, resulting in positive impacts for the financial results of the Chemicals Group. The 2018 FIFA World Cup also had a one-time positive impact on the Group’s glass packaging operation in Russia due to the high consumption of bottled beverages during the competition.

Internationally, one of the expansion areas of the Flat Glass Group, India, has experienced a high rate of growth, which the Group’s management believes is likely to continue to occur over the following years. Similarly, the

growth rate of business in Egypt (in which the Glassware Group recently acquired Pearl for Glass Manufacturing) is expected by the Group's management to contribute to growth in the amount of the Group's international sales.

On the other hand, the Russian economy faces several structural and political challenges. After contraction in 2015 and 2016, the Russian economy stabilised in 2017 and 2018, primarily as a result of fiscal and monetary expansion designed to stimulate private consumption, the slow recovery of its manufacturing industry, the efforts of the Central Bank to maintain the consumer price index below 3% and the increase in oil prices. The slow recovery of the Russian economy has been offset by a depreciation of the ruble as a result of the sanctions imposed by the U.S. and the EU, Russian elections and the Russian involvement in the Syrian crisis, all of which will likely continue to play a major factor in Russia's macroeconomic environment.

The following table presents certain macroeconomic data regarding Russia (all as published by the International Monetary Fund):

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
GDP growth (%)	0.7%	(2.5)%	(0.2)%	1.5%	1.5% ⁽¹⁾
Producer prices (%).....	5.9%	10.7%	7.4%	8.4%	16.8%
Consumer prices (%).....	11.4%	12.9%	5.4%	2.5%	2.9%

(1) This reflects the increase as of the third quarter of 2018 as compared to the third quarter of 2017 as published by Rosstat instead of the International Monetary Fund.

Energy Costs

The Group's production processes consume large amounts of natural gas and electricity to operate its facilities. The following table sets out the breakdown of energy costs as a percentage of each segment's cost of sales for the periods indicated:

Business Segment	<u>2016</u>	<u>2017</u>	<u>2018</u>
Flat Glass Group	22.3%	18.0%	19.3%
Glassware Group	15.6%	13.7%	16.5%
Glass Packaging Group.....	23.1%	20.2%	22.7%
Chemicals Group	33.9%	20.4%	20.8%

Energy prices have been subject to significant price volatility and likely will continue to be volatile. High energy prices over an extended period of time, as well as changes in energy taxation and regulation in certain locations, might have an adverse effect on the Group's operating income and the Group's profitability in certain markets. In recent years, in most of the key markets in which the Group operates, price increases for energy have been broadly in line with inflation.

In 2018, the Group's own production of electricity, which is generated by natural gas, reached 1.2 billion kWh, of which 1.0 billion kWh was generated by Soda Sanayii's cogenerator and 0.2 billion kWh was generated by Camiř Elektrik. The Group's own electricity generation represented 63.1% of its total electricity needs in 2018 (including all of the Group's operations in Turkey and outside of Turkey). In 2018, the Group purchased 58.3% of its electricity needs from third parties. Although the Group's own electricity generation capacity is well-matched with the Group's total electricity needs in Turkey, the Group purchased 25.4% of its electricity needs in Turkey from third parties due to advantageous pricing. By leveraging its own energy generation capacity, the Group was able to purchase electricity from third parties when market prices were low (when available) and sell, through Őiřecam Enerji, internally-produced electricity in the open market when market prices are higher, thus reducing the energy costs for the production of its products.

In 2018, the Group's energy sources used in the operation of its facilities came from natural gas (70.9%) and electricity (29.1%). The following table sets out the breakdown of energy used in each of the Group's business segments during the year:

Business Segment	Natural Gas	Electricity
Flat Glass Group	72.5%	27.5%
Glassware Group	65.4%	34.6%
Glass Packaging Group.....	58.6%	41.4%
Chemicals Group	81.3%	18.7%

Business Segments

In addition to macroeconomic conditions and energy costs, the revenues and profitability generated from the business operations of the Group are principally affected by the factors described below.

Flat Glass Group. The following are the primary factors that affect the revenues and profitability of the Flat Glass Group:

General Economic Conditions. The Flat Glass Group depends upon the operating performance, growth, production figures and economic prospects of its key customers in the construction, automotive and white goods manufacturing sectors, including Electrolux SA, BSH Hausgerate GmbH, Whirlpool Corporation and Arçelik A.Ş., and more generally on the performance of those industry sectors. Positive or negative growth in the construction industry, which constitutes an important operating market segment for the Group, has a particularly strong impact on the performance of the Flat Glass Group as the segment's products are important parts of the materials used in many types of construction.

Pricing. The Group's flat glass pricing strategy is based upon flexible pricing to maximise profits. Prices are determined on a variety of factors, including production costs, domestic inflation rates, currency conditions, the pricing levels offered by competitors, the balance of supply and demand in Turkey and other regions of activity, transport costs, manufacturing complexity and (with particular regard to the automotive, home appliance and solar glass segments) the projected lifetime of the relevant project, customer segmentation, product variety, service provided and market trends. Parallel to recovery in demand conditions and pricing in Europe, significant increase in sales prices in Europe was experienced in the last two years. Turkey experienced a substantial depreciation of the Turkish Lira and a sharp increase in energy prices and inflation rates in 2018 (particularly during the second half of 2018), causing the levels of Turkish demand to decrease significantly; *however*, the Flat Glass Group managed to cover cost increases while sustaining its market share in the Turkish market due to several price increases. Increase in the usage of value-added glass bolstered the production of processed glass and provided better pricing for the group's product portfolio. In addition, the expansion of the Group's footprint in the international market enabled the Flat Glass Group to benefit from the recovery in global demand conditions and better pricing.

Glassware Group. The following are the primary factors that affect the revenues and profitability of the Glassware Group:

Pricing. The Group's glassware pricing strategy is flexible and aims to offer value to its customers while maintaining profit margins. Prices are determined on the basis of cost base, optimisation in inventory units, the pricing levels offered by competitors, market dynamics and targeted business volumes. In order for its prices to remain competitive, the Group depends upon a low manufacturing cost base, workforce efficiency, brand strength and sales volumes that provide economies of scale.

Customers. The Glassware Group depends upon the operating performance, growth, production figures and economic prospects of its key customers, including those operating in the retail, HoReCa and B2B channels. Customer concentration levels in this segment are high. In 2018, the Glassware Group's top ten and top 30 customers accounted for 55% and 84%, respectively, of its sales in the Turkish market and, in sales outside of Turkey, its top ten and top 30 customers accounted for 26% and 47%, respectively.

Production costs. As the glassware production process is more labour intensive than other business segments of the Group, and as labour costs are fixed in the short term, capacity utilisation and plant efficiency are crucial for competitive unit product costs in the Glassware Group.

Glass Packaging Group. The following are the primary factors that affect the revenues and profitability of the Glass Packaging Group:

General Economic Conditions. The Glass Packaging Group depends upon the operating performance, growth, production figures and economic prospects of its key customers, including in the food and beverage sectors, in order to drive demand for glass packaging products. Demand for the Group's customer's products is based upon consumer preference, consumer disposable income, seasonal cycles and general economic conditions.

Product Range. The Group supplies glass packaging products principally to producers of food, beverage and pharmaceutical products and maintains a wide value-added product range. The Group's business depends upon its ability to provide customers with different products, tailored to individual requirements, using the Group's research and development, design and coating technologies.

Pricing: The Group's glass packaging pricing strategy is based upon profit maximisation through smart pricing strategies. Prices are determined based upon a variety of factors, including production costs, inflation, foreign exchange conditions, prices offered by the Glass Packaging Group's competitors, the balance of supply and demand in Turkey and other regions in which the Group operates, logistic costs, a customer's product portfolio and market trends. In addition, in some instances, prices may also be based upon long-term contractual arrangements requiring delivery of agreed volumes, which arrangements allow the Group to secure long-term sales and implement effective discounting strategies.

Chemicals Group. The following are the primary factors that affect the revenues and profitability of the Chemicals Group:

Raw materials. The Chemicals Group depends upon its continued ability to access imported chromium ore, which is used to produce the segment's higher margin chromium products, as well as anthracite and steam coal, which are used for soda ash production. The Group owns its own resources of brine and limestone, the two main components for the manufacture of soda ash, which provides it with both a cost and reliability advantage over many of its competitors as well as better predictability of its costs and the costs of certain other members of the Group.

Demand for Glass Products. The Group's chemical products constitute the key raw material used in the production of glass and thus customers in the glass market, including other members of the Group, are their primary purchasers. The Group's Chemicals Group depends upon the operating performance, growth, production figures and economic prospects of its customers and on the demand for glass products more generally. The Group's chemicals business depends upon the high volume production of its chemicals products in order to maintain high market shares and competitive pricing.

Energy. Energy costs have a high impact on the profitability of this segment as the production of the Group's chemicals products, in particular soda ash, is highly energy-intensive.

Pricing: The pricing dynamics of the Chemicals Group depend upon a variety of factors, including the location and logistics required by clients for the delivery of products and, most importantly, the type of products offered. For example, the pricing strategy for soda ash is mainly based upon changes in production costs, market dynamics and the balance of global supply and demand. Prices are determined by evaluating these factors in order to maximise profitability. Similarly, although sodium bicarbonate products are generally considered a commodity, the pricing strategy for such products varies depending upon the product complexity and the share value added operations (*i.e.*, inclusion of additional raw materials to preserve the homogeneity of the product) of the different grades of sodium bicarbonate found in the applicable end product. The pricing strategy used for chromium products is flexible and is mainly based upon changes in

production costs, fluctuations in the exchange rates, prices offered by the Chemicals Group's competitors and the supply and demand balance in the region in which the products are offered.

Recent Conditions

The following provides a brief description of certain market and other conditions affecting the four primary segments of the Group's business.

The Flat Glass Group. While the Flat Glass Group managed to sustain its sales volume, both in Turkey and globally, during 2018, the Group's management expects that the Flat Glass Group's international sales volume will increase significantly in 2019 as a result of its increased capacity in India and the completion of the cold repair process in Bulgaria and at Sisecam Flat Glass South Italy. The Flat Glass Group recorded stronger profitability levels in each of 2017 and 2018 as compared to the previous year and expanded its contribution to the Group's consolidated EBITDA due to price increases introduced in the Turkish flat glass market, the increasing use of value-added glass and a strong pricing and demand environment seen in the European market, in which the Flat Glass Group has been increasing its presence. Owing to an increase in capacity utilisation rates and favourable currency conditions for euro-denominated auto glass sales, as well as a larger market penetration in Russia (in which the appreciation of the ruble also translated into higher Turkish Lira-equivalent sales), financial performance in Russia positively contributed to the Flat Glass Group's profitability.

The Glassware Group. Although global demand of glassware products has been contracting, the Glassware Group international sales revenue increased by 32.9% in 2018 when compared to 2017 as a result of the depreciation of the Turkish Lira in 2018, which made exports from Turkey more competitive in the international markets. Initiatives taken to optimise capacity and a better product mix (in terms of products and pricing) improved the production costs per unit and enabled the Glassware Group to increase its profit margins in 2018 compared to those recorded in 2017.

The Glass Packaging Group. Since 2016, the Glass Packaging Group has improved its profitability with product price increases, operational efficiency investments, an increasing share of sales being represented by exports and an increasing share of value-added products in the group's sales mix. In 2018, the Glass Packaging Group had a 3% increase in sales volume due to strong demand for its products in Turkey, higher volume sales in the Russian market (in which demand had contracted in the previous five years), and an increasing share of sales being represented by exports.

The Chemicals Group. The Chemicals Group has been boosted by strong demand from China and India, which demand increased soda ash prices despite lower demand from developed markets. In 2018, the Chemicals Group continued to increase its profit margin despite expectations of intensifying competition and decreasing soda ash prices. The Chemicals Group benefited from 100% capacity utilisation and recorded higher sales volumes of soda ash, with a slightly higher average price per unit in U.S. dollar terms. The Chemicals Group also experienced a decline in intra-group sales of soda ash, which increased the portion of the volume of sales to non-related parties in the overall revenue of the Chemicals Group. In addition, the sales volume of chromium chemicals recorded a 1% growth in 2018 with strong increases in the average unit price due to the decline in supply in the market, the Chemicals Group's revenue recorded a 35% growth in terms of Turkish Lira. Furthermore, the Chemicals Group's revenues were positively impacted by favourable foreign exchange conditions since a large portion of its revenue is denominated in U.S. dollars and euros. A sizable increase in natural gas prices was offset by a decrease in production costs as a result of a new coal-fired boiler that was installed at the Mersin plant, which allowed the Chemicals Group to generate up to 50.0% of the steam it needed to produce soda ash and improve its margins.

Results of operations for 2016, 2017 and 2018

The following table sets forth the Group's results for each of the periods presented:

	2016	Change	2017	Change	2018
	<i>(TRY millions, except percentages)</i>				
Sales	8,569.5	32.1%	11,318.5	37.4%	15,550.3
Cost of sales	(5,891.6)	30.5	(7,688.2)	35.2%	(10,392.9)
Gross profit from trading activity	2,677.9	35.6%	3,630.3	42.1%	5,157.4
General and administration expenses	(756.4)	(4.2)%	(724.6)	21.9%	(883.6)
Marketing, selling and distribution expenses.....	(1,060.1)	29.3%	(1,370.3)	36.0%	(1,863.0)
Research and development expenses.....	(74.0)	(22.8)%	(57.1)	31.8%	(75.3)
Other operating income	488.7	13.0%	552.1	103.9%	1,125.9
Other operating expenses	(283.7)	22.1%	(346.4)	75.1%	(606.4)
Income from investments in associates and joint ventures	105.9	62.5%	172.1	(22.9)%	132.8
Operating profit	1,098.4	69.0%	1,856.1	61.0%	2,987.9
Income from investing activities	223.3	54.1%	344.0	271.9%	1,279.6
Expenses from investing activities	(11.7)	316.3%	(48.5)	654.8%	(366.4)
Other income/(expense).....	-	NA	-	NA	(60.0)
Operating profit before financial income and expenses	1,310.0	64.2%	2,151.6	78.5%	3,841.1
Financial income	1,108.3	(7.5)%	1,024.7	100.8%	2,057.7
Financial expenses.....	(1,243.9)	(0.8)%	(1,234.5)	97.0%	(2,431.5)
Profit/loss before tax from continued operations	1,174.4	65.3%	1,941.8	78.6%	3,467.4
Taxes on income.....	(206.4)	9.1%	(225.3)	126.5%	(510.3)
Deferred tax income/(expense).....	72.1	(71.6)%	20.5	1,936.2%	416.6
Profit for the period	1,040.0	67.0%	1,737.0	94.2%	3,373.7
<i>Non-controlling interest</i>	296.7	72.4%	511.5	104.8%	1,047.8
<i>Equity holders of the parent</i>	743.4	64.8%	1,225.4	89.8%	2,325.8
Other comprehensive income					
Gains/(loss) on revaluation of tangible fixed assets.....	109.2	(66.6)%	36.5	1,821.2%	701.4
Funds for actuarial gain/loss on employee termination benefits.....	4.6	(1,005.8)%	(41.2)	(149.6)%	20.4
Share of other comprehensive income of associates accounted for using equity method that will not be reclassified to profit or loss	0.2	1.4%	0.2	2,047.9%	4.5
Deferred tax losses on items not be reclassified to profit or loss	(14.2)	427.8%	(74.9)	56.5%	(117.2)
Items not to be reclassified to profit or loss	99.7	(179.6)%	(79.4)	(867.1)%	609.2
Foreign currency translation reserve	351.8	22.1%	429.7	66.0%	713.2
Revaluation and/or classification gain/loss on financial assets available for sale.....	0.2	19.6%	0.2	659.3%	1.7
Hedge reserves	11.5	(90.1)%	1.1	(108.6)%	(0.1)
Deferred tax gain/(loss) on items to be reclassified to profit or loss	(2.3)	(87.2)%	(0.3)	(94.9)%	0.0
Items to be reclassified to profit or loss	361.2	19.3%	430.8	65.9%	714.8
Other comprehensive income	461.0	(23.8)%	351.4	276.8%	1,324.0
Total comprehensive income	1,501.0	(39.1)%	2,088.3	124.9%	4,697.7

Sales

Sales, which are largely from dealers, distributors and key accounts, represent the invoiced value of trading goods and services net of discounts and returns. The Group's sales were TRY 15,550.3 million for 2018, a 37.4% increase from TRY 11,318.5 million in 2017. This increase was driven by a strong pricing environment, higher sales volume and favourable product mix across all of the Group's segments, an increase in the Group's international revenues and the translations gains resulting from the depreciation of the Turkish Lira.

The Group's sales during 2017 represented a 32.1% increase from TRY 8,569.5 million in 2016. The increase in 2017 was principally a result of the strong performance of the Flat Glass Group, the Glass Packaging Group and the Chemicals Group, aided by the increasing percentage of sales volumes outside of Turkey (increasing in value when converted into Turkish Lira due to the depreciation of the Turkish Lira).

In 2018, sales into international markets (including exports from Turkey and sales from foreign production) accounted for 61.0% of total sales, as compared to 60.0% and 54.0%, respectively, in 2017 and 2016.

The following table sets forth the breakdown of the Group's sales by business segment for the indicated periods:

	<u>2016</u>	<u>Change</u>	<u>2017</u>	<u>Change</u>	<u>2018</u>
<i>Business</i>					
		<i>(TRY millions, except percentages)</i>			
Flat Glass Group.....	3,016.2	43.6%	4,331.2	35.6%	5,875.1
Glassware Group.....	1,803.5	8.4%	1,955.8	29.3%	2,528.9
Glass Packaging Group.....	1,830.0	31.7%	2,410.8	34.4%	3,239.2
Chemicals Group.....	2,432.3	19.9%	2,916.8	36.1%	3,971.0
Other.....	757.5	28.6%	973.9	14.0%	1,110.3
Total⁽¹⁾.....	<u>9,839.6</u>	<u>27.9%</u>	<u>12,588.4</u>	<u>32.9%</u>	<u>16,724.5</u>
Consolidation adjustments.....	(1,270.1)	0.0%	(1,269.9)	(7.5%)	(1,174.1)
Consolidated Total.....	<u><u>8,569.5</u></u>	<u><u>43.6%</u></u>	<u><u>11,318.5</u></u>	<u><u>37.4%</u></u>	<u><u>15,550.3</u></u>

⁽¹⁾ Segmental breakdown of revenue is based upon amounts before consolidation adjustments (i.e., adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the 2018 Consolidated Financial Statements.

Flat Glass Group. The Flat Glass Group's sales were TRY 5,875.1 million in 2018, reflecting a 35.6% increase as compared to TRY 4,331.2 million in 2017. This increase was driven by (a) price increases in flat glass products applied in January (8% in value added glass), in April (11% in all product types), in August (16% in all product types) and October (16% in all product types) in the Turkish market due to the depreciation of the Turkish Lira, strong demand in the market and a decrease in imports from other countries, which strengthened the Flat Glass Group's pricing leverage and provided added flexibility to any increase in its costs and (b) an increase in overall sales volume, a favourable product mix in Europe, higher contribution from the Flat Glass Group's auto and encapsulation businesses and positive foreign currency effects due to a 38.0% appreciation of the euro against the Turkish Lira.

The Flat Glass Group's sales in 2017 reflected a 43.6% increase from TRY 3,016.2 million in 2016. The increase in 2017 was principally the result of price increases (6.0% in November 2016 and 12.0% in February 2017) in the Turkish market due to the growth in demand from the construction industry, which also caused an increase in sales volumes, a decline in imported product volumes (with the improving demand conditions in Europe and Russia), increased sales of value-added glass, positive foreign currency translation effect from the increased share of international operations and a full year consolidation of the Group's Italian operations following the acquisition of Sangalli Vetro in the fourth quarter of 2016.

Glassware Group. The Glassware Group's sales were TRY 2,528.9 million for 2018, reflecting a 29.3% increase as compared to TRY 1,955.8 million in 2017. This increase was driven by significant pricing increases in the Turkish market and increased sales outside Turkey, which was supported by the depreciation of the Turkish Lira amid a competitive pricing environment (particularly in Europe). Sales outside Turkey represented 65.0% of the Glassware Group's total revenues in 2018, which was enhanced by positive foreign currency effects due to a 38.0% appreciation of the euro and a 32.5% appreciation of the U.S. dollar, in each case against the Turkish Lira.

The Glassware Group's sales in 2017 increased by 8.4% increase from TRY 1,803.5 million in 2016. The increase in 2017 was principally a result of an increase in hard currency-denominated sales together with: (a) an increased percentage of sales outside Turkey and (b) a positive pricing environment in Europe.

Glass Packaging Group. The Glass Packaging Group's sales were TRY 3,239.2 million in 2018, reflecting a 34.4% increase as compared to TRY 2,410.8 million in 2017. This increase was driven by price increases applied in January, July and October in the Turkish market (amount to an annual average unit price increase of 20.0%) due to favourable demand dynamics that enabled the company to exercise its price-setting power, a 5% annual average unit price increase in ruble terms in Russia, higher sales volumes from the Glass Packaging Group's international operations and favourable translation effects due to the depreciation of the Turkish Lira against the euro (38.0%) and ruble (22.5%).

The Glass Packaging Group's sales in 2017 reflected a 31.7% increase from TRY 1,830.0 million in 2016. The increase in 2017 was principally a result of an increase in sales volumes both in and outside of Turkey, price increases experienced in Turkey and Russia (8.0% in Turkish Lira and 9.0% in rubles on average, respectively), and the appreciation of the ruble against the Turkish Lira.

Chemicals Group. The Chemicals Group's sales were TRY 3,971.0 million for 2018, reflecting a 36.1% increase as compared to TRY 2,916.8 million in 2017. This increase was driven by single digit sales volume growth in both the soda ash and chromium chemicals businesses accompanied by a 2% price increase in soda ash and a 12% price increase in chromium chemical products, in each case in U.S. dollar terms, and (as more than 85% of the Chemicals Group's revenues were denominated in hard currencies in 2018) positive foreign currency effects due to a 38.0% appreciation of the euro and a 32.5% appreciation of the U.S. dollar, in each case against the Turkish Lira.

The Chemicals Group's sales during 2017 were 19.9% higher than the TRY 2,432.3 million in 2016. The increase in 2017 was mainly due to an increase in international sales, the depreciation of the Turkish Lira and an increase in soda and chromium chemicals sales volumes. The pricing environment in the soda ash market during 2017 was weak (down by 3% in terms of U.S. dollars on a year-over-year basis) due to increases in capacity by a local competitor.

Similarly, chromium price levels were flat in U.S. dollar terms as a competitor shut down its basic chromium sulfate and sodium dichromate production facility located in Zárate, Argentina, which reversed the declining price trend experienced in previous years.

Cost of Sales

Cost of sales principally consist of the costs of raw materials, labour and production overheads (including energy costs), as well as the net change in inventory and the depreciation and amortisation expense on plant, property and equipment ("PP&E") and intangible assets. In each of the periods presented, a significant proportion of the total cost of sales was comprised by raw materials costs. Within the cost of sales, the "cost of goods sold" section includes the cost to produce merchandise sold and the cost to the Group of providing services, such as logistics, to its customers.

The following table sets forth the breakdown of the Group's cost of sales for the indicated periods:

	2016	Change	2017	Change	2018
<i>Cost of Sales</i>					
		<i>(TRY millions, except percentages)</i>			
Direct materials	(2,481.8)	31.2%	(3,256.6)	46.8%	(4,781.2)
Direct labour.....	(474.3)	27.0%	(602.4)	38.0%	(831.2)
Production overheads	(1,514.8)	14.4%	(1,733.3)	51.1%	(2,619.1)
Depreciation and amortisation	(712.7)	18.4%	(843.5)	7.1%	(903.2)
Change in work-in-progress inventories....	0.7	1,710.9%	12.0	61.7%	19.4
Change in finished goods inventories.....	153.2	(83.8)%	24.8	1,195.0%	321.7
Cost of goods sold.....	(5,029.8)	27.2%	(6,399.0)	37.4%	(8,793.6)
Cost of merchandise sold	(788.7)	35.6%	(1,069.4)	25.6%	(1,342.9)
Cost of services given	(27.6)	487.4%	(162.0)	17.7%	(190.7)
Other costs	(45.5)	27.1%	(57.9)	13.5%	(65.7)
Total	(5,891.6)	30.5%	(7,688.2)	35.2%	(10,392.9)

Direct Materials. Direct materials expenses include the cost of operating expenses and obtaining raw materials. The Group's direct material expenses were TRY 4,781.2 million for 2018, a 46.8% increase from TRY 3,256.6 million in 2017. This increase was principally the result of the higher volume of sales and the addition of new operating assets accompanied by rising raw material prices and the depreciation of the Turkish Lira against the U.S. dollar and the euro (32.5% and 38.0%, respectively, based upon average rates).

The Group's direct materials expenses in 2017 were a 31.2% increase from TRY 2,481.8 million in 2016. The increase in 2017 was principally due to higher sales volumes in almost all segments and the depreciation of the Turkish Lira against the U.S. dollar and the euro (20.8% and 23.3% based upon average rates, respectively).

Direct Labour. Direct labour expenses include wages and salaries, social security costs, pension payments and payments for other post-employment benefits. The Group's direct labour expenses were TRY 831.2 million in 2018, a 38.0% increase from TRY 602.4 million in 2017. This increase was principally the result of an increase in the number of employees as a result of the Group's international expansion (including the acquisition of Pearl for Glass Manufacturing and the acquisition of the remaining 50% interest in Sisecam India), an increase in wages in the second and fourth quarters of 2018 and the depreciation of the Turkish Lira, which had an inflationary impact on the labour costs of the Group's foreign operations.

The Group's direct labour expenses in 2017 increased by 27.0% from TRY 474.3 million in 2016. The increase in 2017 was principally due to an increase in the number of employees, which was also a result of the acquisition of Sangalli Vetro's Italian flat glass plant, an annual rise in wage levels and severance payments made after the closure of the Glassware Group's Mersin plant at the end of 2016 and a furnace closure in the Glassware Group's Kırklareli plant.

Production Overheads. Production overheads include indirect labour expenses, rent expenses, utility expenses including energy (e.g., natural gas, electricity and fuel) and other utilities (e.g., water) and packaging and insurance services provided by third parties. The Group's production overheads were TRY 2,619.1 million during 2018, a 51.1% increase from TRY 1,733.3 million in 2017. This increase was principally the result of a series of increases in natural gas tariffs (13.6% in January, 9.7% in April, 14.0% in August, 14.0% in September and 18.5% in October) and a series of electricity price increases (7.1% in January, 4.6% in April, 15.2% in August, 17.3% in September and 22.9% in October), each due to the depreciation of the Turkish Lira, as well as the impact of international tariffs, the Group's international expansion (including the acquisition of Pearl for Glass Manufacturing and the acquisition of the remaining 50% interest in Sisecam India) and the depreciation of the Turkish Lira, which had an inflationary impact on the production of the Group's foreign operations. In addition, packaging material expenses, which are denominated in hard currencies, increased the Group's production overheads as a result of both the depreciation of the Turkish Lira and the rise in commodity prices.

The Group's production overheads in 2017 increased by 14.4% from TRY 1,514.8 million in 2016, which increase was principally due to the inclusion of Sangalli Vetro's Italian flat glass plant in the Group's operating facilities portfolio and an increase in packaging material expenses due to growing sales volumes, each of which was increased by the impact of the devaluation of the Turkish Lira.

Depreciation and Amortisation. The Group's depreciation and amortisation result from the depreciation of PP&E and the amortisation of intangible assets. The Group's depreciation and amortisation expenses were TRY 903.2 million in 2018, a 7.1% increase from TRY 843.5 million in 2017. This increase was principally the result of the gradual capitalisation of scheduled maintenance and repair investments that were performed in furnaces and float lines across various business segments (mainly in the Flat Glass Group and the Glass Packaging Group). A depreciation expense of TRY 16 million from Sisecam India's operations was recorded in the second half of 2018 after its acquisition.

The Group's depreciation and amortisation in 2017 increased by 18.4% from TRY 712.7 million in 2016, which increase was principally due to the introduction of a new boiler configuration in the Mersin Soda Plant, an increase in capacity and the completion of cold repairs to a furnace at the Glass Packaging Group's Mersin plant, cold repair processes at two furnaces in the Glass Packaging Group's Russian operations and the Flat Glass Group's acquisition of Sangalli Vetro's assets.

Change in Work-in-Progress Inventories. The Group's change in work-in-progress inventories was TRY 19.4 million for 2018, a 61.7% increase from TRY 12.0 million in 2017. This increase was principally the result of higher raw material expenses, the increase in the variety of the Group's products (including more higher-value products than in 2017), an increase in production overhead and other production-related expenses in connection with existing work-in-progress inventories that were still in a production phase and could not be sold or be classified as finished products.

The Group's change in work-in-progress inventories in 2017 reflected a 1,710.9% increase from TRY 0.7 million in 2016. This increase was principally due to a change in the Group's product mix as a result of an increase in value-added products in the portfolio.

Change in Finished Goods Inventories. The Group's change in finished goods inventories was TRY 321.7 million in 2018, a 1,195.0% increase from TRY 24.8 million in 2017. This increase was principally the result of higher raw material and production overhead expenses in connection with the increase in energy expenses and the increasing impact of the depreciation of the Turkish Lira on raw material expenses related to finished but unsold products. Accordingly, the rise in direct material, production overhead and other production-related costs had an increasing impact on the finished product inventories.

The Group's change in finished goods inventories during 2017 was 83.8% less than the TRY 153.2 million in 2016, which decrease was principally due to inventory optimisation through stock-keeping unit optimisation management in all segments and a request by certain clients of the Glass Packaging Group's Turkish operations for the early delivery of certain orders in order to avoid a price increase of the Group's products in the beginning of 2018, the timing of which increase was a departure from the Group's procedures in recent years of increasing product prices in the second quarter of each year.

Cost of Merchandise Sold. Cost of merchandise sold includes the costs of obtaining merchandise from third parties and Group companies on an arms' length basis (which are not consolidated in the costs of merchandise sold line item in the Consolidated Financial Statements), such as glass and chemicals products, other than those included within "direct materials" described above (as these are costs of finished products that are ready to be sold). The Group's cost of merchandise sold was TRY 1,342.9 million in 2018, a 25.6% increase from TRY 1,069.4 million in 2017. This increase was principally the result of an increase in the volume of finished glass purchased by the Flat Glass Group and the increase in the volume and (due to the depreciation of the Turkish Lira) cost of chemical products purchased by the Chemicals Group.

The Group's cost of merchandise sold in 2017 increased by 35.6% from TRY 788.7 million in 2016, which increase was principally due to an increase in the volume of purchased finished glass and chemicals products by the Flat Glass Group and Chemicals Group.

Cost of Services Given. Cost of services given includes services provided by the Group to third parties (e.g., logistic expenses). The Group's cost of services given was TRY 190.7 million for 2018, a 17.7% increase from TRY 162.0 million in 2017. This increase was principally the result of an increase in third-party logistic expenses resulting from the increase in the volume of finished products purchased by the Group and the depreciation of the Turkish Lira.

The Group's cost of services given in 2017 reflected a 487.4% increase from TRY 27.6 million in 2016, which increase was principally due to an increase in the costs of services provided by the Paşabahçe-branded retail stores and the Group's other non-manufacturing operations.

Other costs. Other costs include any cost of sales of materials, such as pallets used for storage and transportation of the Group's products. The Group's other costs were TRY 65.7 million in 2018, a 13.5% increase from TRY 57.9 million in 2017. This increase was principally due to the growth in the Group's sales volumes and the expansion of both its Turkish operations and its operations outside of Turkey.

The Group's other costs in 2017 increased by 27.1% from TRY 45.5 million in 2016. This increase was principally due to an increase in purchases of pallets and other materials.

Gross Profit from Trading Activities

The Group's gross profit from trading activities, which is its sales *minus* its cost of sales, was TRY 5,157.4 million for 2018, a 42.1% increase from TRY 3,630.3 million during 2017, which was itself a 35.6% increase from TRY 2,677.9 million in 2016.

General Administrative Expenses

General administrative expenses include personnel expenses (including wages and salaries), services provided by third parties, taxation (other than on income) expenses, depreciation and amortisation expenses on PP&E and intangible assets, utilities and communication expenses, meeting and travel expenses, insurance expenses and other expenses that relate to the Issuer's headquarters and the administrative and headquarter expenses of other Group members. The Group's general administrative expenses were TRY 883.6 million for 2018, a 21.9% increase from TRY 724.6 million in 2017. This increase was principally the result of an increase in personnel expenses across all segments, particularly in the Glassware Group and Flat Glass Group, due to the annual increase in wages and the increased levels of employment resulting from the Group's expanded operations.

The Group's general administrative expenses in 2017 decreased by 4.2% from TRY 756.4 million in 2016, which decrease was principally due to the closure of the Glassware Group's Mersin plant in the fourth quarter of 2016 and a furnace closure in the Glassware Group's Kırklareli plant in the third quarter of 2017 and the subsequent decline in the administrative work force and related expenses.

Marketing, Selling and Distribution Expenses

Marketing, selling and distribution expenses comprise advertising, selling and marketing expenses, personnel expenses, transportation and distribution expenses, utilities and communication expenses, rent expenses, repair and maintenance expenses and other expenses that relate to the Group's selling, distribution and marketing facilities and those personnel that are associated with the Group's sales and distribution activities. The Group's marketing, selling and distribution expenses were TRY 1,863.0 million for 2018, a 36.0% increase from TRY 1,370.3 million for 2017. This increase was principally the result of increased sales efforts across all segments due to the Group's expanded operations (particularly in the Flat Glass Group and Glassware Group due to their expansion outside Turkey) and an increase in third-party logistics expenses.

The Group's marketing, selling and distribution expenses in 2017 increased by 29.3% from TRY 1,060.1 million in 2016, which increase was principally due to the Group's decision to increase marketing expenses, which contributed to an increase in both its sales volume related to operations in and outside of Turkey across all of the Group's business segments. Increased selling activities also resulted in higher logistics and distribution expenses.

Research and Development Expenses

The Group's R&TD expenses include salaries, wages and other related costs of personnel engaged in R&TD activities, taxes and duties imposed on such activities and cost of materials and costs of services incurred by the R&TD department. The Group's R&TD expenses were TRY 75.3 million in 2018, a 31.8% increase from TRY 57.1 million in 2017. This increase was principally the result of an increase in research and development activities and product and mould developments across the Group and the growth in personnel costs due to salary and wage increases.

The Group's R&TD expenses in 2017 decreased 22.8% from TRY 74.0 million in 2016. The decrease in 2017 reflects a normalisation of R&TD expenses after a significant increase in 2016 that was principally due to new processes and product developments relating to increasing operational efficiency and expanding the Group's product portfolio as a result of product modification requests from new and existing clients.

Other Operating Income

Other operating income is comprised principally of foreign currency exchange gains and interest income in relation to trade receivables and payables. The Group's other operating income was TRY 1,125.9 million in 2018, a

103.9% increase from TRY 552.1 million in 2017. This increase was principally the result of an increase in the sale of scrap and equipment and in foreign currency exchange gains and interest income on trade receivables and other payables.

The Group's other operating income in 2017 increased by 13.0% from TRY 488.7 million in 2016. This increase was principally a result of increases in foreign exchange gains, interest income in relation to trade receivables and payables and gains on the sale of mould and equipment.

Other Operating Expenses

The Group's other operating expenses include foreign currency exchange losses derived from trade receivables and payables, interest expenses in relation to trade receivables and payables and provision expenses. The Group's other operating expenses were TRY 606.4 million for 2018, a 75.1% increase from TRY 346.4 million for 2017. This increase was principally the result of an increase in foreign exchange losses on trade receivables and payables.

The Group's other operating expenses in 2017 increased by 22.1% from TRY 283.7 million in 2016, which increase was principally due to an increase in foreign exchange losses relating to trade receivables and payables.

Income from Investments in Associates and Joint Ventures

Income from investments in associates and joint ventures reflects the income on the Group's investment in certain of its associates, principally Solvay Şişecam Holding AG and Saint-Gobain Glass Egypt S.A.E. The Group's income from associates and joint ventures was TRY 132.8 million for 2018, a 22.9% decrease from TRY 172.1 million for 2017. This decrease was principally the result of a different accounting treatment for the Group's interests in one associated company due to a modification of its ownership structure. Since the end of June 2018, HNG is no longer an associate from which the Group generates income from associates as Trakya Cam became the sole owner of the company (now known as Sisecam India), which started to be fully consolidated with the Group.

The Group's income from associates and joint ventures in 2017 increased by 62.5% from TRY 105.9 million in 2016, which increase was principally due to the financial performance of joint ventures and associates and the revenue generated from the sale of OMCO. In particular, in May 2017, Anadolu Cam sold all of its shares (50.0%) in mould production company OMCO İstanbul Kalıp Sanayii ve Tic. A.Ş. ("OMCO") and, as a result, such entity ceased to be included in the Consolidated Financial Statements. In addition, commencing in the second half of 2017, Soda Sanayii started to fully consolidate Oxyvit Kimya Sanayii ve Tic. A.Ş. ("Oxyvit"), as Soda Sanayii became its sole shareholder through the acquisition of Cheminvest Deri Kimyasalları Sanayii ve Tic A.Ş. (which held 45.0% of the shares in Oxyvit) and the purchase by Soda Sanayii of 5.0% of the shares of Oxyvit held by the Issuer.

Income from Investing Activities

Income from investing activities consist primarily of revaluation gains on investments in fixed income securities held to maturity, gains resulting from sales of subsidiaries, changes in the fair value of investment properties and gains arising from sales of property, plant and equipment. The Group's income from investing activities was TRY 1,279.6 million in 2018, a 271.9% increase from TRY 344.0 million in 2017. This increase was principally the result of a TRY 1,063.0 million revaluation gain on fixed income securities booked in 2018 compared to TRY 224.4 million in 2017.

The Group's income from investing activities in 2017 increased by 54.1% from TRY 223.3 million in 2016, which increase was principally the result of revaluation gains on fixed income securities, revaluation gains on investment properties and a TRY 66 million increase experienced as a result of the sale by the Glassware Group of its Eskişehir Corrugated Packaging Plant (the "Eskişehir Corrugated Plant").

Expenses from Investing Activities

Expenses from investing activities consist primarily of the valuation loss on investments in fixed income securities held to maturity, losses on sale of PP&E and the impairment of fixed assets. The Group's expenses from investing activities were TRY 366.4 million for 2018, a 654.8% increase from TRY 48.5 million for 2017. This increase was principally the result of an impairment loss on the acquisition of the remaining shares of Sisecam India and losses arising from the sale of property and equipment with no economic life and that were no longer in use.

The Group's expenses from investing activities in 2017 reflected a 316.3% increase from TRY 11.7 million in 2016. This increase was principally due to the impairment of fixed assets and investment properties and a revaluation loss on fixed income securities.

Other Income/Expense from Investing Activities

In 2018, a TRY 60 million impairment loss on financial investments and cash and cash equivalents was recorded as a result of the application of IFRS-9, which was implemented for the first time in 2018.

Financial Income

Financial income is principally the interest income earned by the Group on time deposits and foreign exchange gains on transactions in foreign currency (*i.e.*, any currency other than the functional currency of the Group and its subsidiaries). Financial income also includes gains from rediscount, dividend income and the sale of financial assets. The Group's financial income was TRY 2,057.7 million in 2018, a 100.8% increase from TRY 1,024.7 million in 2017. This increase was principally the result of higher foreign currency exchange gains on cash, cash equivalents and borrowings in connection with the higher level of depreciation of the Turkish Lira against the U.S. dollar and the euro compared to the levels recorded in 2017.

The Group's financial income in 2017 was 7.5% less than the TRY 1,108.3 million in 2016. This decrease was principally due to lower foreign exchange gains on cash and cash equivalents (resulting from an increasing shift from cash to fixed income securities) and derivative instruments due to the appreciation of the ruble against the euro.

Financial Expense

Financial expenses principally include the interest expense paid by the Group and any foreign exchange losses on transactions in foreign currency (*i.e.*, any currency other than the functional currency of the Group and its subsidiaries). Financial expenses also include any losses from the sale of financial assets and rediscount expenses. The Group's financial expense was TRY 2,431.5 million for 2018, a 97.0% increase as compared to TRY 1,234.5 million for 2017. This decrease was principally driven by higher foreign currency exchange losses on cash and cash equivalents and on liabilities in connection with the Existing Notes.

The Group's financial expense in 2017 decreased only 0.8% from TRY 1,243.9 million for 2016. Financial expenses remained largely flat in 2017.

Tax on Income

Taxes on income include the tax charge for the relevant period measured at the amount expected to be paid to the tax authorities. The tax expense is calculated in accordance with the tax laws enacted (or substantively enacted) at the balance sheet date in the countries in which the relevant Group member operates. The corporate tax rate in Turkey for 2018 was 22% whereas it was 20% in 2017 and 2016.

The Group's tax expense was TRY 510.3 million for 2018, a 126.5% increase from TRY 225.3 million for 2017. This increase was principally the result of a higher taxable base due to the Group's strong operational performance and its non-operational gains resulting from the depreciation of the Turkish Lira.

The Group's tax expense in 2017 increased by 9.1% from TRY 206.4 million in 2016, which increase was mainly due to an increase in the Group's taxable base as a result of its strong financial performance.

Deferred Tax Income

Deferred tax is provided on all temporary differences at the balance sheet date between the tax bases of assets and liabilities and their carrying amounts. The Group's deferred tax income was TRY 416.6 million for 2018, a 1,936.2% increase from TRY 20.5 million in 2017. This increase was principally the result of reduced tax payables on regional and large-scale investments made with the benefit of a Turkish government subsidy in the Flat Glass Group, Glass Packaging Group and Chemicals Group.

The Group's deferred tax income in 2017 decreased by 71.6% from TRY 72.1 million in 2016, which decrease was principally due to deferred tax expenses in relation with the deduction of carry-forward losses for Anadolu Cam's Eskişehir plant following the acquisition of the plant by Anadolu Cam.

Profit for the Period

As a result of the foregoing factors, the Group's profit for the period for 2018 was TRY 3,373.7 million, a 94.2% increase from TRY 1,737.0 million during 2017, which was itself a 67.0% increase from TRY 1,040.0 million in 2016.

Gains/(Loss) On Revaluation of Tangible Fixed Assets

Gains/(loss) on revaluation of tangible fixed assets relates to differences arising from the revaluation of tangible assets, including both real property in operational use by the Group and investment property. The Group's gains on revaluation of tangible fixed assets was TRY 701.4 million for 2018, a 1,821.2% increase from a gain of TRY 36.5 million for 2017. This increase was principally the result of an increase in the appraised value of real property in operational use by the Group.

The Group's gains on revaluation of tangible fixed assets in 2017 decreased by 66.6% to a gain of TRY 36.5 from a gain of TRY 109.2 million in 2016. This decrease was principally due to the decline in the appraised value of investment properties.

Funds for Actuarial Gain/Loss on Employee Termination Benefits

Funds for actuarial gain/loss on employee termination benefits relate to the differences between the present value of the employee termination benefit obligations (and the actuarial assumptions related therewith) and the changes arising from such actuarial assumptions. These obligations arise from changes in the parameters used to determine the discount rate used to calculate the present value of employment termination benefits.

The Group's funds for actuarial gain/loss on employee termination benefits was a gain of TRY 20.4 million for 2018 compared to a loss of TRY 41.2 million for 2017 and a gain of TRY 4.6 million in 2016. The gain in 2018 was due to actuarial calculations after a change in the discount rate resulting from a periodic review of market interest rates and the termination of employees resulting from the cessation of operations of the Chemicals Group's Cam Elyaf plant in September 2018 after the termination of the furnace's useful life and a furnace closure in the Glassware Group's Kırklareli plant in the third quarter of 2017. The decrease in 2017 was principally due to an increase in market interest rates, which in turn had an increasing impact on the discount rate used to calculate the present value of the employee termination benefit obligations and, therefore, an increasing effect on the total liabilities in relation to employee termination benefits.

Share of other Comprehensive Income of Associates, Accounted by Equity Method, that will not be Reclassified to Profit or Loss

Share of other comprehensive income of associates, accounted by equity method, that will not be reclassified to profit or loss relates to “funds for actuarial gain/loss on employee termination benefits” and the gain/loss on the revaluation of tangible fixed assets of associates accounted for by the equity method.

The Group’s share of other comprehensive income of associates, accounted by equity method, that will not be reclassified to profit or loss was TRY 4.5 million in 2018, a 2,047.9% increase from TRY 0.2 million in 2017. This increase was principally the result of a gain arising from the change in the appraised value of real property in operational use by the Group’s associates. The Group’s share of other comprehensive income of associates, accounted by equity method, that will not be reclassified to profit or loss was TRY 0.2 million during 2017 and TRY 0.2 million during 2016.

Deferred Tax Gain/(Loss) On Items not to Be Reclassified to Profit or Loss

Deferred tax gain/(loss) on items not to be reclassified to profit or loss relate to deferred tax gain/(loss) on the revaluation gain of tangible fixed assets, changes in funds for actuarial gain/(loss) on employee termination benefits and changes in the share of other comprehensive income of associates accounted for using the equity method that, according to Turkish law, will not be reclassified in the profit and loss statement but will instead be recorded in the balance sheet. The Group’s deferred tax loss on items not to be reclassified to profit or loss was TRY (117.2) million for 2018, a 56.5% increase from TRY (74.9) million in 2017. This increase was principally the result of gains recorded in each of the items that comprise this line item as explained above.

The Group’s deferred tax gain/(loss) on items not to be reclassified to profit or loss in 2017 was 427.8% greater than the TRY (14.2) million in 2016. This increase was principally due to a change in the corporate tax rate from 20% to 22%.

Foreign currency translation reserve

Foreign currency translation reserve relates to the impact of converting the financial results of the various subsidiaries of the Group into Turkish Lira for the preparation of the Consolidated Financial Statements. The Group’s foreign currency translation reserve was TRY 713.2 million for 2018, a 66.0% increase from TRY 429.7 million for 2017. This increase was principally the result of the foreign currency exchange rate differential between period average and period-end rates when applied in the translation of the Group’s foreign currency-denominated financial results into Turkish Lira.

The Group’s foreign currency translation reserve in 2017 was 22.1% higher than TRY 351.8 million in 2016, which increase was principally due to the foreign currency exchange rate differential between period average rates and period-end rates used to convert foreign currency-denominated financial results of the Group’s companies into Turkish Lira.

Revaluation and/or Classification Gain/Loss on Financial Assets Available For Sale

Revaluation and/or classification gain/loss on financial assets available for sale relates to changes in the value of financial assets compared to their cost. The Group’s revaluation and/or classification gain on financial assets available for sale was TRY 1.7 million in 2018, a 659.3% increase from TRY 0.2 million in 2017. This increase was principally the result of the difference between the cost value and market value of financial assets held in the Group’s portfolio. The Group’s revaluation and/or classification gain/loss on financial assets available for sale was TRY 0.2 million in 2017 and TRY 0.2 million in 2016 due, in each case, to the minor differences between the cost value and the market value of financial assets held in the Group’s portfolio.

Hedge Reserves

Hedge reserves relate to the changes in fair value of hedging instruments. The Group's hedge reserves were TRY (0.1) million for 2018, a 108.6% decrease from TRY 1.1 million for 2017. This decrease was principally the result of the expiration of cross-currency interest rate swap transactions undertaken by the Glass Packaging Segment's Russian operations with respect to its euro-denominated and variable interest rate liabilities, the expiry of forward contracts as well as of a hedging instrument against commodity and foreign currency risks signed with commercial banks.

The Group's hedge reserves in 2017 were 90.1% less than the TRY 11.5 million in 2016. This decrease was principally due to the maturity of a cross-currency interest rate swap with a commercial bank.

Deferred Tax Gain/(Loss) On Items to be Reclassified to Profit or Loss

Deferred tax gain/(loss) on items to be reclassified to profit or loss relates to changes in foreign currency translation reserve, revaluation and/or classification gain/(loss) on financial assets available for sale and hedge reserves, which will be recorded in the profit and loss statement. The Group's deferred tax gain/(loss) on items to be reclassified to profit or loss was TRY (0.0) million for 2018, a 94.9% decrease from TRY (0.3) million for 2017. This decrease was principally the result of the change in deferred tax gains/losses as a result of the additional changes recorded in each of the items that comprise this line item as explained above.

The Group's deferred tax gain/(loss) on items to be reclassified to profit or loss in 2017 compared to TRY (2.3) million in 2016. The increase in 2017 was principally due to a reclassification of related items to profit or loss.

Total Comprehensive Income

As a result of the foregoing factors, the Group's total comprehensive income was TRY 4,697.7 million in 2018, a 124.9% increase from TRY 2,088.3 million in 2017, which was itself a 39.1% increase from TRY 1,501.0 million in 2016.

Analysis of Financial Condition as of 31 December 2016, 2017 and 2018

The following summary balance sheet data as of 31 December 2016, 2017 and 2018 have been extracted without material adjustments from the Consolidated Financial Statements. The information below should be read in conjunction with the Consolidated Financial Statements (including the notes thereto).

	As of 31 December				
	2016	Change	2017	Change	2018
	<i>(TRY millions, except percentages)</i>				
Cash and cash equivalents	3,205.4	7.3%	3,438.6	(8.0)%	3,164.0
Financial assets	56.8	67.5%	95.2	133.1%	221.9
Trade receivables	2,043.9	14.4%	2,338.3	38.3%	3,234.6
Inventories	1,959.9	9.3%	2,141.2	40.5%	3,007.4
Other current assets	424.2	(16.8%)	352.8	94.9%	687.7
Total current assets	7,690.2	8.8%	8,366.1	23.3%	10,315.7
Financial assets	1,081.1	65.1%	1,784.4	33.6%	2,383.8
Property plant and equipment	8,633.3	6.6%	9,199.5	31.0%	12,049.7
Other non-current assets	1,747.8	12.0%	1,957.4	54.2%	3,018.4
Total non-current assets	11,462.3	12.9%	12,941.4	34.9%	17,451.9
Total assets	19,152.5	11.3%	21,307.5	30.3%	27,767.6
Short-term borrowings including short portion of long-term borrowings	1,987.3	(1.6%)	1,955.4	58.7%	3,102.8
Other financial liabilities	-	-	-	NA	572.7
Trade payables	969.1	18.9%	1,151.9	43.9%	1,657.2
Other payables	138.2	8.9%	150.5	(64.5)%	53.4
Other current liabilities	489.5	5.2%	514.8	20.1%	618.4
Total current liabilities	3,584.1	5.3%	3,772.6	59.2%	6,004.4
Long-term borrowings	3,792.9	3.9%	3,941.3	10.0%	4,333.6
Provisions for employment benefits	278.4	24.2%	345.8	15.7%	400.0
Other non-current liabilities	167.4	10.7%	185.4	63.3%	302.7
Total non-current liabilities	4,238.8	5.5%	4,472.5	12.6%	5,036.4
Total liabilities	7,822.9	5.4%	8,245.1	33.9%	11,040.8
Total shareholders' equity	11,329.6	15.3%	13,062.4	28.1%	16,726.8

Cash and Cash Equivalents

The Group's cash and cash equivalents were TRY 3,164.0 million as of 31 December 2018, reflecting a 8.0% decrease as compared to TRY 3,438.6 million as of 31 December 2017. This decrease was driven by an increase in net working capital requirements, capital expenditures and cash outflows relating to the acquisition of the remaining 50% interest in Sisecam India (US\$85 million) and the assets now known as Sisecam Flat Glass South Italy (€15.7 million). The Group has more than 90% of its cash and cash equivalents in time deposits, 85% of which were denominated in U.S. dollars or euro. The Group's cash and cash equivalents as of 31 December 2017 reflected a 7.3% increase as compared to TRY 3,205.4 million as of 31 December 2016. This increase was driven by strong revenue generation, proceeds from sales of plants and capital stock and favourable foreign exchange conditions. The positive foreign exchange conditions were a key driver of the increase in the cash and cash equivalents given that, as of 31 December 2017, more than 90% of the Group's cash and cash equivalents were composed of time deposits, of which 73% were denominated in U.S. dollars or euro.

The following table sets for the Group's total cash and cash equivalents as of each of the indicated dates.

	As of 31 December		
	2016	2017	2018
	<i>(TRY millions)</i>		
Business			
Flat Glass Group	1,191.6	1,394.1	1,339.7
Glassware Group	29.4	40.0	88.2
Glass Packaging Group	807.5	569.0	153.5
Chemicals Group	1,019.3	890.7	1,302.0
Other	157.6	544.7	280.7
Total	3,205.4	3,438.6	3,164.0

Flat Glass Group. The Flat Glass Group's cash and cash equivalents were TRY 1,339.7 million as of 31 December 2018, reflecting a 3.9% decrease as compared to TRY 1,394.1 million as of 31 December 2017. This decrease was principally driven by an increase in inventories due to the increase in the cost of production as a result of the increase in general production and raw materials expenses, the depreciation of the Turkish Lira and cash outflows resulting from the acquisition of the remaining 50% interest in SiseCam India (US\$85 million) and the assets now known as SiseCam Flat Glass South Italy (€15.7 million). The Flat Glass Group's cash and cash equivalents as of 31 December 2017 represented a 17.0% increase as compared to TRY 1,191.6 million as of 31 December 2016, which increase was principally due to strong operational results and the acquisition of Sangalli Vetro's assets.

Glassware Group. The Glassware Group's cash and cash equivalents were TRY 88.2 million as of 31 December 2018, reflecting a 120.2% increase as compared to TRY 40.0 million as of 31 December 2017. This increase was primarily driven by strong income generation and positive cash flow from financing activities due to a capital increase provided by the Issuer. The Glassware Group's cash and cash equivalents as of 31 December 2017 were 36.0% more than TRY 29.4 million as of 31 December 2016, which increase was principally due to a decrease in capital expenditures made by the Glassware Group compared to 2016.

Glass Packaging Group. The Glass Packaging Group's cash and cash equivalents were TRY 153.5 million as of 31 December 2018, reflecting a 73.0% decrease as compared to TRY 569.0 million as of 31 December 2017. This decrease was driven by an increase in capital expenditures in connection with a new furnace investment in the Glass Packaging Group's plant in Eskişehir and an increase in inventories due to the increase in the cost of production as a result of the increase in general production and raw materials expenses and the depreciation of the Turkish Lira. The Glass Packaging Group's cash and cash equivalents as of 31 December 2017 represented a 29.5% decrease as compared to TRY 807.5 million as of 31 December 2016, which decrease was principally due to cash outflows arising from the purchase by the Glass Packaging Group of a minority shareholder's equity interest in Anadolu Cam held by the Issuer.

Chemicals Group. The Chemicals Group's cash and cash equivalents were TRY 1,302.0 million as of 31 December 2018, reflecting a 46.2% increase as compared to TRY 890.7 million as of 31 December 2017. This increase was driven by strong net income generation in 2018. The Chemicals Group's cash and cash equivalents as of 31 December 2017 reflected a 12.6% decrease as compared to TRY 1,019.3 million as of 31 December 2016, which decrease was principally due to cash outflows related to U.S. dollar-denominated fixed income security investments.

Current and Non-current Financial Assets

The Group's current and non-current financial assets were TRY 2,605.7 million as of 31 December 2018, reflecting a 38.6% increase as compared to TRY 1,879.6 million as of 31 December 2017. This increase was driven by revaluation gains on the fixed income securities investment portfolio, which was composed of U.S. dollar-denominated eurobonds issued by Turkish financial institutions and other corporations. The Group's total financial assets as of 31 December 2017 reflected a 65.2% increase as compared to TRY 1,137.9 million as of 31 December 2016, which increase was driven by the Group's decision to invest in eurobonds issued by Turkish financial institutions and other corporations commencing in the fourth quarter of 2016 as a hedging mechanism against the Issuer's liabilities under the Existing Notes. Based upon this strategy, the Group invested in eurobonds with credit ratings equal to or higher than the credit rating of the Existing Notes and has been recording positive carry.

Trade Receivables

The Group's trade receivables were TRY 3,234.6 million as of 31 December 2018, reflecting a 38.3% increase as compared to TRY 2,338.3 million as of 31 December 2017, which itself was a 14.4% increase as compared to TRY 2,043.9 million as of 31 December 2016. These increases were in line with, and resulted from, strong pricing, an increase in sales volumes reflecting strong demand and the impact of acquisitions, which in turn translated into revenue growth and cash generation. The increase in trade receivables was also a result of the Turkish Lira depreciation against hard currencies as the Group generates more than 60% of its revenues from sales outside Turkey.

Inventories

The Group's inventories were TRY 3,007.4 million as of 31 December 2018, reflecting a 40.5% increase as compared to TRY 2,141.2 million as of 31 December 2017, itself a 9.3% increase as compared to TRY 1,959.9 million as of 31 December 2016. These increases were in line with the increase in the cost of production and the depreciation of the Turkish Lira against hard currencies.

Other Current Assets

The Group's other current assets were TRY 687.7 million as of 31 December 2018, reflecting a 94.6% increase as compared to TRY 352.8 million as of 31 December 2017. This increase was principally the result of advance payments made by the Group for raw materials and product inventories (which were booked under the "advances given account") following the growth in sales volume and also as a result of the increase in value added tax resulting from an increase in investments. The Group's other current assets as of 31 December 2017 reflected a 16.8% decrease as compared to TRY 424.2 million as of 31 December 2016, which decline reflected the collection of insurance payments in connection with a fire at the Glassware Group's Eskişehir plant that took place in 2015.

Property, Plant & Equipment (PP&E)

The Group's PP&E was TRY 12,049.7 million as of 31 December 2018, reflecting a 31.0% increase as compared to TRY 9,199.5 million as of 31 December 2017, itself a 6.6% increase as compared to TRY 8,633.3 million as of 31 December 2016. The increase in 2018 was the result of acquisitions made throughout the year (Pearl for Glass Manufacturing, the assets now known as Sisecam Flat Glass South Italy and a 50% interest in Sisecam India) and revaluation gains on PP&E, whereas the small increase in 2017 was due to the declining rate of adding PP&E when compared to the investment cycle of recent years. The percentage of the Group's PP&E to its total assets has generally been declining due to the depreciation of fixed assets.

Other Non-Current Assets

The Group's other non-current assets were TRY 3,108.4 million as of 31 December 2018, reflecting a 54.2% increase as compared to TRY 1,957.4 million as of 31 December 2017, which itself was a 12.0% increase as compared to TRY 1,747.8 million as of 31 December 2016. The increase in 2018 was the result of an increase in intangible assets principally due to the acquisition of a 50% interest in Sisecam India and an increase in deferred tax assets related to higher reduced tax payables for large scale investments made throughout the year. The increase in 2017 was principally the result of an increase in investments accounted for using the equity method, the strong financial results recorded by associates and joint ventures and an increase in the value of investment properties as a result of their revaluation to reflect the market value of such properties.

Total Assets

The Group's total assets were TRY 27,767.6 million as of 31 December 2018, reflecting a 30.3% increase as compared to TRY 21,307.5 million as of 31 December 2017. This increase was in line with the growth in sales and the rise in costs, which resulted in an increase in trade receivables and inventory. Assets also increased due to the Group's acquisitions made throughout the year, revaluation gain on PP&E, tax incentives granted regarding large scale investments, the positive impact of the depreciation of the Turkish Lira on the company's expanded portfolio of international operations and a revaluation gain on the Group's fixed income securities portfolio.

The Group's total assets as of 31 December 2017 reflected an 11.3% increase as compared to TRY 19,152.5 million as of 31 December 2016. This increase was mainly driven by an increase in the total assets of the Flat Glass Group and Chemicals Group.

The following table sets for the Group's total assets as of each of the indicated dates.

	As of 31 December		
	2016	2017	2018
Business		<i>(TRY millions)</i>	
Flat Glass Group.....	7,154.9	8,329.3	10,671.2
Glassware Group	3,264.7	3,312.4	4,285.1
Glass Packaging Group	4,425.2	4,171.2	4,985.8
Chemicals Group	3,832.7	4,492.3	7,029.9
Other.....	4,527.9	4,678.4	6,192.1
Total⁽¹⁾.....	23,205.4	24,983.5	33,164.0
Consolidation Adjustments	(4,052.9)	(3,676.0)	(5,396.4)
Consolidated Total	19,152.5	21,307.5	27,767.6

⁽¹⁾ Segmental breakdown of total assets are based upon amounts before consolidation adjustments (i.e., adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the Consolidated Financial Statements.

Flat Glass Group. The Flat Glass Group's total assets were TRY 10,671.2 million as of 31 December 2018, reflecting a 28.1% increase as compared to TRY 8,329.3 million as of 31 December 2017. This increase was driven by the acquisition of a 50% interest in Sisecam India, revaluation gain on tangible assets, increases in receivables and inventory, the depreciation of the Turkish Lira and an increase in investments in U.S. dollar-denominated fixed income securities due in part to the depreciation of the Turkish Lira. The Flat Glass Group's total assets as of 31 December 2017 reflected a 16.4% increase as compared to TRY 7,154.9 million as of 31 December 2016, which increase was principally due to an increase in cash generation resulting from a strong performance, an increase in receivables, inventory and tangible assets following the acquisition by Trakya Cam of the assets of Italy-based Sangalli Vetro in November 2016, the positive foreign exchange conditions on U.S. dollar-denominated and eurobond investments, and the revaluation gain on tangible assets.

Glassware Group. The Glassware Group's total assets were TRY 4,285.1 million as of 31 December 2018, reflecting a 29.4% increase as compared to TRY 3,312.4 million as of 31 December 2017. This increase was mainly driven by a revaluation gain on intangible assets and an increase in inventory and trade receivables. The Glassware Group's total assets as of 31 December 2017 were a 1.5% increase as compared to TRY 3,264.7 million as of 31 December 2016, which increase was principally due to an increase in cash generation resulting from a strong performance, an increase in inventory, completion of mould investments and better market conditions compared to 2016.

Glass Packaging Group. The Glass Packaging Group's total assets were TRY 4,985.8 million as of 31 December 2018, reflecting a 19.5% increase as compared to TRY 4,171.2 million as of 31 December 2017. This increase was mainly driven by increases in capital expenditure, an increase in trade receivables and inventory and an increase in investments in U.S. dollar-denominated fixed income securities due in part to the depreciation of the Turkish Lira. The Glass Packaging Group's total assets as of 31 December 2017 reflected a 5.7% decrease as compared to TRY 4,425.2 million as of 31 December 2016, which decrease was principally due to the unusual growth experienced in 2016 as a result of the sale of the shares of Soda Sanayii held by Anadolu Cam in 2016.

Chemicals Group. The Chemicals Group's total assets were TRY 7,029.9 million as of 31 December 2018, reflecting a 56.5% increase as compared to TRY 4,492.3 million as of 31 December 2017. This increase was driven by increases in capital expenditures and deferred tax assets in connection with glass fibre investments, an increase in cash generation resulting from the Chemicals Group's strong performance and an increase in investments in U.S. dollar-denominated fixed income securities due in part to the depreciation of the Turkish Lira. The Chemicals Group's total assets as of 31 December 2017 reflected a 17.2% increase as compared to TRY 3,832.7 million as of 31 December 2016, which increase was principally due to a revaluation gain on properties and machineries and favourable results of U.S. dollar-denominated fixed income security investments and time deposits.

Short-Term and Long-Term Borrowings and Other Financial Liabilities

The Group's short-term and long-term borrowings and other financial liabilities were TRY 8,009.0 million as of 31 December 2018, reflecting a 35.8% increase as compared to TRY 5,896.7 million as of 31 December 2017, itself a 2.0% increase as compared to TRY 5,780.2 million as of 31 December 2016. These increases were principally driven by the depreciation of the Turkish Lira (including with respect to the conversion into Turkish Liras of the Existing Notes). There were also other financial liabilities related with a put option granted to the European Bank for Reconstruction and Development (the "EBRD"). In accordance with a derivatives contract entered into between the EBRD and the Issuer, the EBRD has the right to exercise a put option on its shares in Paşabahçe and, similarly, the Issuer has the right to exercise a call option of Paşabahçe shares held by the EBRD. If an IPO of Paşabahçe has not occurred by 24 October 2019, the EBRD will have the right to exercise this option.

Trade Payables

The Group's trade payables were TRY 1,657.2 million as of 31 December 2018, reflecting a 43.9% increase as compared to TRY 1,151.9 million as of 31 December 2017, which itself reflected an 18.9% increase as compared to TRY 969.1 million as of 31 December 2016. These increases were principally the result of the increasing level of operations and production, which necessitated the purchase of greater amounts of materials and other production inputs. The increase in the cost of materials and other production inputs due to the depreciation of the Turkish Lira, the increase in energy costs and the extension of days outstanding in the Chemicals Group and Glass Packaging Group were the other principal drivers of the growth in trade payables.

Other Payables

The Group's other payables were TRY 53.4 million as of 31 December 2018, reflecting a 64.5% decrease as compared to TRY 150.5 million as of 31 December 2017. The Glassware Group's acquisition of Pearl for Glass Manufacturing and the Glass Packaging Group's purchase of shares in Sudel Invest S.a.r.l from Balsand B.V. and Anadolu Cam Investment B.V. in order to restructure the Glass Packaging Group's Russian operations were the primary reasons for the high amount in 2017. The Group's other payables as of 31 December 2017 reflected a 8.9% increase as compared to TRY 138.2 million as of 31 December 2016, which increase was principally the result of the acquisition of Pearl for Glass Manufacturing.

Other Current Liabilities

The Group's other current liabilities were TRY 618.4 million as of 31 December 2018, reflecting a 20.1% increase as compared to TRY 514.8 million as of 31 December 2017. This increase was principally the result of an increase in expense accruals in relation to provisions for project-based costs and provisions for sales and incentive premiums to be collected by the Group's distribution channels. Those provision accounts are mostly netted off by the time the actual expenses are invoiced, typically close to the year-end. The Group's other current liabilities as of 31 December 2017 reflected a 5.2% increase as compared to TRY 489.5 million as of 31 December 2016. In 2017, the increase in litigation provisions and provisions for sales and incentive premiums accrued in connection with project-based costs had an increasing impact on other current liabilities.

Provisions for Employee Benefits

The Group's provisions for employee benefits were TRY 400.0 million as of 31 December 2018, reflecting a 15.7% increase as compared to TRY 345.8 million as of 31 December 2017, which itself was a 24.2% increase as compared to TRY 278.4 million as of 31 December 2016. These increases were principally the result of additional employee benefits arising from an increase in the severance payment threshold, which is a parameter taken into consideration in the calculation of employee termination benefits, a lower level of severance payments made in 2018 compared to 2017 and the increase in the number of employees and related benefits resulting from the acquisition of new production assets and plants.

Other Non-Current Liabilities

The Group's other non-current liabilities were TRY 302.7 million as of 31 December 2018, reflecting a 63.3% increase as compared to TRY 185.4 million as of 31 December 2017. This increase was primarily due to the increase in deferred tax liabilities, mostly in relation with the revaluation gain on tangible assets. The Group's other non-current liabilities as of 31 December 2017 reflected a 10.7% increase as compared to TRY 167.4 million as of 31 December 2016, which increase resulted from the deduction of the Glass Packaging Group's Eskişehir plant's carry forward losses after a merger of Group companies following Anadolu Cam's acquisition of a minority stake held by the Issuer in such plant. Deduction of carry forward losses had a decreasing impact on the deferred tax income, which in turn increased the deferred tax liabilities.

Total Liabilities

The Group's total liabilities were TRY 11,040.8 million as of 31 December 2018, reflecting a 33.9% increase as compared to TRY 8,245.1 million as of 31 December 2017. This increase was driven by the increase in the Turkish Lira-equivalent value of borrowings in other currencies (which value increased due to the depreciation of the Turkish Lira) and an increase in other financial liabilities in relation to the EBRD put option for its shares in Paşabahçe as described above and an increase in trade payables resulting from the growth in the Group's operations. The Group's total liabilities as of 31 December 2017 reflected a 5.4% increase as compared to TRY 7,822.9 million as of 31 December 2016, which increase was driven by an increase in the total liabilities of the Flat Glass Group and Glassware Group.

The following table sets for the Group's total liabilities as of each of the indicated dates.

	As of 31 December		
	2016	2017	2018
Business		(TRY millions)	
Flat Glass Group.....	3,317.5	3,729.6	4,625.0
Glassware Group.....	1,501.6	1,604.9	1,949.5
Glass Packaging Group.....	2,526.4	2,290.9	2,689.4
Chemicals Group.....	816.6	804.7	1,589.4
Other.....	1,656.7	1,583.2	2,882.4
Total⁽¹⁾	9,818.8	10,013.4	13,735.7
Consolidation adjustments.....	(1,995.9)	(1,768.3)	(2,694.8)
Consolidated Total	7,822.9	8,245.1	11,040.8

⁽¹⁾ Segmental breakdown of total liabilities are based upon amounts before consolidation adjustments (i.e., adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment. For additional information, see Note 5 of the Consolidated Financial Statements.

Flat Glass Group. The Flat Glass Group's total liabilities were TRY 4,625.0 million as of 31 December 2018, reflecting a 24.0% increase as compared to TRY 3,729.6 million as of 31 December 2017. This increase was driven by increased financial obligations resulting from the impact on the Flat Glass Group's hard currency-denominated borrowings, mostly related to the Existing Notes, resulting from the depreciation of the Turkish Lira. The Flat Glass Group's total liabilities as of 31 December 2017 reflected a 12.4% increase as compared to TRY 3,317.5 million as of 31 December 2016, which increase was principally due to an increase in financial obligations arising from foreign currency effects on hard currency-denominated liabilities related to the Existing Notes.

Glassware Group. The Glassware Group's total liabilities were TRY 1,949.5 million as of 31 December 2018, reflecting a 21.5% increase as compared to TRY 1,604.9 million as of 31 December 2017. This increase was driven by an increase in account payables to related parties as the Glassware Group covered part of its financing needs with resources provided by the Issuer as well as an increase in financial liabilities related to mould investments and provisions made for employee termination benefits. The Glassware Group's total liabilities as of 31 December 2017

were 6.9% greater than the TRY 1,501.6 million as of 31 December 2016, which increase was principally due to an increase in financial liabilities related to mould investments and provisions made for employee termination benefits.

Glass Packaging Group. The Glass Packaging Group's total liabilities were TRY 2,689.4 million as of 31 December 2018, reflecting a 17.4% increase as compared to TRY 2,290.9 million as of 31 December 2017. This increase was driven by an increase in trade payables as a result of the Glass Packaging Group's strong operational results and an increase in borrowings for the financing of its new furnace in its Eskişehir plant. The Glass Packaging Group's total liabilities as of 31 December 2017 reflected a 9.3% decrease as compared to TRY 2,526.4 million as of 31 December 2016, which decrease was principally due to cross currency swaps converting euro-denominated capital and interest liabilities into liabilities denominated in ruble.

Chemicals Group. The Chemicals Group's total liabilities were TRY 1,589.4 million as of 31 December 2018, reflecting a 97.5% increase as compared to TRY 804.7 million as of 31 December 2017. This increase was driven by an increase in other related party payables in connection with investments in glass fibre operations and an increase in financial obligations arising from the impact on the Chemicals Group's hard currency-denominated borrowings resulting from the depreciation of the Turkish Lira. The Chemicals Group's total liabilities as of 31 December 2017 reflected a 1.5% decrease as compared to TRY 816.6 million as of 31 December 2016, which decline was principally due to a decrease in tax liabilities resulting from tax incentives related to certain investments.

Total Shareholders' Equity

The Group's total shareholders' equity was TRY 16,726.7 million as of 31 December 2018, reflecting a 28.1% increase as compared to TRY 13,062.4 million as of 31 December 2017, which was itself a 15.3% increase as compared to TRY 11,329.6 million as of 31 December 2016. The increase in 2018 was driven by strong net income in the reporting period, increase in retained earnings as a result of better prior year operational results and positive foreign exchange differences arising from the conversion of the financial statements of foreign subsidiaries, joint ventures and associates. The increase in 2017 was mainly driven the Group's positive operational results as well as the impact of translating the financial statements of the Issuer's foreign subsidiaries, joint ventures and associates.

The following table sets for the Group's total shareholders' equity as of each of the indicated dates.

	As of 31 December		
	2016	2017	2018
Business	<i>(TRY millions)</i>		
Flat Glass Group	3,837.4	4,599.6	6,046.2
Glassware Group	1,763.1	1,707.5	2,335.6
Glass Packaging Group	1,898.8	1,880.3	2,296.3
Chemicals Group	3,016.1	3,687.6	5,440.6
Other	2,871.2	3,095.2	3,309.7
Total⁽¹⁾	13,386.6	14,970.1	19,428.3
Consolidation Adjustments	(2,057.0)	(1,907.7)	(2,701.6)
Consolidated Total	11,329.6	13,062.4	16,726.7

⁽¹⁾ Segmental breakdown of total shareholders' equity are based upon amounts before consolidation adjustments (*i.e.*, adjustments made to eliminate the impact resulting from intra-group receivables and payables, profit sharing from intra-group trades, and cross-ownership of subsidiaries and associates). As a result, the segmental information included in this table might not reflect the relative performance of each segment since the consolidation adjustments are not applied on a *pro rata* basis among each segment.

Flat Glass Group. The Flat Glass Group's total shareholders' equity was TRY 6,046.2 million as of 31 December 2018, reflecting a 31.4% increase as compared to TRY 4,599.6 million as of 31 December 2017. This increase was driven by strong net income in the reporting period, foreign exchange differences arising from the conversion of the financial statements of foreign subsidiaries, joint ventures and associates, an increase in retained earnings and revaluation gain recorded on tangible assets. The Flat Glass Group's total shareholders' equity as of 31 December 2017 was a 19.9% increase as compared to TRY 3,837.4 million as of 31 December 2016. This increase was principally due to strong net income, an increase in retained earnings as a result of strong prior year operational

results and positive foreign exchange differences arising from the conversion of the financial statements of foreign subsidiaries, joint ventures and associates.

Glassware Group. The Glassware Group's total shareholders' equity was TRY 2,335.6 as of 31 December 2018, reflecting a 36.8% increase as compared to TRY 1,707.5 million as of 31 December 2017. This increase was driven by an increase in retained earnings as well as the impact of translating the financial statements of foreign subsidiaries, joint ventures and associates. The Glassware Group's total shareholders' equity as of 31 December 2017 was 3.2% less than the TRY 1,763.1 million as of 31 December 2016. The decrease as of 31 December 2017 was principally due to the sale of the Eskişehir Corrugated Plant despite better net income generation compared to 2016.

Glass Packaging Group. The Glass Packaging Group's total shareholders' equity was TRY 2,296.3 million as of 31 December 2018, reflecting a 22.1% increase as compared to TRY 1,880.3 million as of 31 December 2017. This increase was driven by strong net income in the reporting period, a revaluation gain on assets and an increase in retained earnings as a result of strong prior year operational results. The Glass Packaging Group's total shareholders' equity was TRY 1,880.3 million as of 31 December 2017, a 1.0% decrease as compared to TRY 1,898.8 million as of 31 December 2016. The decrease as of 31 December 2017 was principally due to significant growth experienced in 2016 as a result of strong net income generation, which was mainly driven by the sale of the shares of Soda Sanayii held by Anadolu Cam and better operational results.

Chemicals Group. The Chemicals Group's total shareholders' equity was TRY 5,440.6 million as of 31 December 2018, reflecting a 47.5% increase as compared to TRY 3,687.6 million as of 31 December 2017. This increase was driven by strong income generated in the reporting period, an increase in retained earnings as a result of the Chemicals Group's positive operational results as well as the impact of translating the financial statements of foreign subsidiaries, joint ventures and associates. The Chemicals Group's total shareholders' equity as of 31 December 2017 was 22.3% greater than the TRY 3,016.1 million as of 31 December 2016. The increase as of 31 December 2017 was principally due to a capital increase, strong net income, increase in retained earnings as a result of better prior year operational results and positive foreign exchange differences arising from the conversion of the financial statements of foreign subsidiaries, joint ventures and associates.

Liquidity and Capital Resources

The Group's liquidity needs arise principally from funding its cost of sales, cost of raw materials, energy costs, interest expense costs, R&TD, growth strategies and related investments and capital expenditures. In 2016, 2017 and 2018, most of the Group's liquidity and capital resources were derived from its operating cash flows and from borrowings from financial institutions.

As of 31 December 2018, the Group had cash and cash equivalents of TRY 3,164.0 million and total gross financial debt of TRY 8,009.0 million, including TRY 2,104.4 million of guaranteed debt. The Issuer's management is of the opinion that, taking into account the Group's current banking facilities and operating cash flows, the working capital available to the Group is sufficient to meet its present requirements for at least the next 12 months following the date of this Offering Circular.

The Issuer's distributable net profits, which were calculated according to rules of the CMB on dividend distributions, were TRY 2,300.9 million, TRY 1,051.9 million (of which TRY 456.9 million in cash was distributed as dividends) and TRY 727.1 million (of which TRY 374.0 million was distributed as dividends) for 2018, 2017 and 2016, respectively. A decision with respect to any dividends for 2018's net profits is expected to be finalised in the annual shareholders' meeting to be held on 8 March 2019.

Cash Flows

The following table sets out a summary of the Group's cash flows for the periods indicated:

	<u>2016</u>	<u>2017</u>	<u>2018</u>
Selected Consolidated Cash Flow Data		<i>(TRY millions)</i>	
Net cash generated from operating activities	844.9	1,936.7	1,610.1
Net cash used in investing activities	(1,812.2)	(1,057.4)	(2,244.5)
Net cash used in financing activities	364.6	(1,041.4)	(793.9)
Foreign exchange gain/(loss) on cash and cash equivalents	625.9	428.8	1,132.4
Net (decrease)/increase in cash and cash equivalents	23.1	266.7	(295.9)
Cash and cash equivalents at the beginning of the period	3,140.6	3,163.7	3,460.0
Cash and cash equivalents at the end of the period	<u>3,163.7</u>	<u>3,430.4</u>	<u>3,164.1</u>

Net Cash Generated from Operating Activities

The Group's net cash generated from operating activities was TRY 1,610.1 million in 2018, as compared to TRY 1,936.7 million in 2017, representing a decrease of 16.9%. This decrease in operating cash flow was primarily due to an increase in working capital requirements resulting from an increase in inventories with higher production costs due to an increase in costs of sales as a result of increases in natural gas and electricity tariffs, increases in prices for raw materials (particularly of those that are priced in hard currencies), increases in the costs of packaging materials following the rise in crude oil prices and increases of exports' share in total sales.

The Group's net cash generated from operating activities in 2017 was 129.2% higher than the TRY 844.9 million for 2016. This increase in operating cash flow reflects the strong operational performance of the Group, which ended up in a 67.0% increase in net profit, and improvement in net working capital requirements as a result of operational efficiency targets undertaken by the Group.

Net Cash Used in Investing Activities

The Group's net cash used in investing activities was TRY (2,244.5) million in 2018, as compared to TRY (1,057.4) million in 2017, representing an increase of 112.3%. This increase in cash flows used in investing activities was primarily due to capital expenditures as part of the Group's overall strategy to invest across all of its business segments and the acquisitions of Sisecam India and the assets now known as Sisecam Flat Glass South Italy.

The Group's net cash used in investing activities in 2017 reflected a 41.7% reduction from the TRY (1,812.2) million for 2016. This reduction was primarily due to an inflow of revenues resulting from the sale of investments in associates and subsidiaries, particularly the Eskişehir Corrugated Plant and OMCO, interest income generated from cash and cash equivalents (e.g., time deposit accounts and fixed income security investments), the revaluation of fixed income securities, an increase in the proceeds from advances given and the sale of securities with maturity dates expiring throughout the year.

Net Cash Used in Financing Activities

The Group's net cash used in financing activities were TRY (793.9) million in 2018, as compared to TRY (1,041.4) million for 2017, representing a decrease of 23.8%. Cash flows from financing activities for 2018 principally reflect proceeds from borrowings from financial institutions for expansion projects, offset by working capital requirements and repayments of existing debt, dividends paid and capital increases attributable to non-controlling interests.

The Group's net cash used in financing activities in 2017 were 385.6% lower than the TRY 364.6 million for 2016, which decline principally reflects proceeds from borrowings from financial institutions for expansion projects, working capital requirements and repayments of existing debt, dividends paid, acquisition of equity interests in subsidiaries and capital increases attributable to non-controlling interests.

Borrowings

As of 31 December 2018, the Group's total gross financial debt was TRY 8,009.0 million, consisting of the Issuer's total gross financial debt of TRY 1,165.0 million, the Flat Glass Group's total gross financial debt of TRY 3,321.5 million, the Glassware Group's total gross financial debt of TRY 921.9 million, the Glass Packaging Group's total gross financial debt of TRY 2,058.6 million and the Chemicals Group's total gross financial debt of TRY 542.0 million.

The following table sets forth information about the Group's long-term loans and borrowings as of 31 December 2018, which (along with the Existing Notes) represent all of its material borrowings as of such date:

	<u>Date</u>	<u>Term (months)</u>	<u>Principal amount</u>	<u>Outstanding principal as of 31 December 2018</u>
European Investment Bank.....	May 2012	84	€80.0 million	€13.3 million
International Finance Corporation.....	July 2015	84	US\$30.0 million + €41.0 million	US\$20.8 million + €26.9 million
European Bank for Reconstruction and Development	June 2016	84	€21.0 million + TRY 62.7 million	€19.3 million + TRY 57.0 million
Commercial bank	December 2016	36	RUB 4.7 billion	RUB 3.2 billion
Commercial bank	August 2017	36	€30.0 million	€30 million
Commercial bank	June 2017	36	€30.0 million	€30 million
Commercial bank	March 2017	24	TRY 150.0 million	TRY 150.0 million
Commercial bank	June 2017	36	€30.0 million	€30.0 million
Commercial bank	July 2018	36	RUB 6.0 billion	RUB 6.0 billion

As of 31 December 2018, the Group's weighted average interest rate for its euro-denominated, U.S. dollar-denominated, ruble-denominated and Turkish Lira-denominated debt was EURIBOR+1.96%, LIBOR+2.29%, 8.75% and 16.98%, respectively.

The following table sets forth the Group's gross indebtedness as of the dates indicated:

	<u>As of 31 December</u>		
	<u>2016</u>	<u>2017</u>	<u>2018</u>
		<i>(TRY millions)</i>	
Bank overdrafts and short term loans	1,166.0	956.9	1,899.4
Current portion of long term borrowings and interests.....	821.2	998.6	1,203.3
Other financial liabilities	-	-	572.7
Current financial debts	1,987.3	1,955.5	3,675.4
Long-term bank loans.....	3,792.9	3,941.3	4,333.6
Non-current financial debts	3,792.9	3,941.3	4,333.6
Total gross financial debt	5,780.2	5,896.7	8,009.0

The Group's current financial debt (which consists of short-term borrowings falling due within one year) amounted to TRY 3,675.4 million as of 31 December 2018. These are typically credit lines that the Issuer and its subsidiaries and joint ventures enter into on a bilateral and club loan basis with commercial banks, but also include the recognised liability in relation with signed purchase/sale option contracts between the EBRD and the Issuer. As of 31 December 2018, the Group had over 20 short-term borrowing agreements. For additional information, see Note 9 to the 2018 Consolidated Financial Statements.

Capital Expenditures

The Group's consolidated capital expenditures (which for these purposes means, for a particular period, purchases of tangible and intangible assets unrelated to inventories, raw materials or similar during such period) for 2018 amounted to TRY 2,220.7 million, as compared to TRY 896.8 million in 2017, representing an increase of 147.6%, principally due to increased investments across all of the Group's business segments. The acquisition of

Sisecam India and the assets now known as Sisecam Flat Glass South Italy also resulted in cash out flows noted as “cash out flows due to the acquisition of a subsidiary” rather than being classified under capital expenditures. The Group’s principal capital expenditure investments in 2018 consisted of a new coated line for the Flat Glass Group’s Yenişehir plant, cold repair in the Bulgarian plant, a new furnace for the Glass Packaging Group’s Eskişehir plant, a new glass fibre plant for the Chemicals Group and scheduled cold repairs and mould and efficiency investments. For additional information, see Note 5 of the 2018 Consolidated Financial Statements and “-Liquidity and Capital Resources - Cash Flow from Investing Activities.”

The Group’s consolidated capital expenditures in 2017 were 22.6% less than the TRY 1,158.4 million for 2016. This decrease was principally due to higher capital expenditures made in 2016, which were predominantly related with cold repair and new line investments in the Flat Glass Group, maintenance, cold repair and mould investments in the Glass Packaging Group and Glassware Group, investments in modernisation technology, a new boiler and new warehouses in the Chemicals Group and cash out flows related to the acquisition of Pearl for Glass Manufacturing. The Group’s principal capital expenditures for 2017 consisted of investments in a new coated line, a new laminated line, energy efficiency, increased capacity and cold repairs in the Flat Glass Group, mould and equipment investments in the Glassware Group, cold repairs and mould investments in the Glass Packaging Group and new glass fibre plant and warehouse investments in the Chemicals Group. The Group continued to make operational efficiency investments in all segments.

Flat Glass Group. The Flat Glass Group’s capital expenditures were TRY 361.7 million in 2018, as compared to TRY 232.7 million in 2017, representing an increase of 55.4%. This increase was principally the result of investments in the Flat Glass Group’s coated glass line investment in Turkey, cold repairs in Bulgaria and energy investments in Turkey, Bulgaria and the automotive business line.

The Flat Glass Group’s capital expenditures in 2017 were 7.0% less than the TRY 250.3 million for 2016, which decline was a result of capacity and modernisation investments made in the automotive business lines of the Bulgarian and Romanian plants and modernisation investments made in the Richard Fritz plants in 2016. Approximately TRY 40.0 to 50.0 million of the Flat Glass Group’s annual capital expenditures relate to maintenance capital expenditures.

Glassware Group. The Glassware Group’s capital expenditures were TRY 169.1 million in 2018, as compared to TRY 144.3 million in 2017, representing an increase of 17.1%. This increase was primarily a result of investments in moulds, machinery and equipment in relation with cold repairs.

The Glassware Group’s capital expenditures in 2017 were 56.3% less than the TRY 330.6 million for 2016, which decrease was a result of the significant investment level in 2016 (in 2016, investments were principally in mould and colouring equipment and maintenance). Approximately TRY 50.0 to 55.0 million of the Glassware Group’s annual capital expenditures relate to maintenance capital expenditure.

Glass Packaging Group. The Glass Packaging Group’s capital expenditures were TRY 693.9 million in 2018, as compared to TRY 305.6 million in 2017, representing an increase of 127.1%. This increase resulted from investments in a new furnace in the Glass Packaging Group’s Eskişehir plant and cold repairs in one of the four furnaces located in the plant in Yenişehir.

The Glass Packaging Group’s capital expenditures in 2017 were 7.8% less than the TRY 331.6 million for 2016, with investments in 2017 being principally investments in cold repairs for the operations in Turkey and Russia, the initial payment in connection with a new furnace for the Eskişehir plant, mould investments and maintenance expenditures. Approximately TRY 80.0 to 85.0 million of the Glass Packaging Group’s annual capital expenditures relate to maintenance capital expenditures.

Chemicals Group. The Chemicals Group’s capital expenditures were TRY 858.0 million in 2018, which was a 492.4% increase as compared to TRY 144.9 million for 2017. This increase was principally the result of investments in glass fibre plants in Turkey in 2018 and development and maintenance investments.

The Chemicals Group's capital expenditures in 2017 were 20.2% less than the TRY 181.5 million for 2016, which decline reflected the completion of major investments in 2016. Approximately TRY 60.0 to 65.0 million of the Chemicals Group's annual capital expenditures relate to maintenance capital expenditures.

Contractual Obligations and Commitments

The table below sets forth the amount of the Group's contractual obligations and commitments as of 31 December 2018 based upon contractual undiscounted payments:

Non derivative financial liabilities	Carrying Value	In accordance with contracts (I+II+III+IV)	Less than 3 months (I)	3-12 months (II)	1-5 years (III)	More than 5 years (IV)
<i>(TRY millions)</i>						
Bank loans	4,794.0	5,397.3	1,174.2	2,302.0	1,868.7	52.4
Bonds issued	2,641.9	2,798.1	42.0	111.8	2,686.3	-
Other financial liabilities	572.7	572.7	-	572.7	-	-
Financial leases	0.4	0.5	0.3	0.3	-	-
Trade payables	1,585.0	1,600.4	1,582.6	17.9	-	-
Due to related parties	74.8	74.8	74.8	-	-	-
Other liabilities	52.0	52.1	50.8	-	1.3	-
Total liabilities	9,720.9	10,496.0	2,882.5	3,004.7	4,556.4	52.4

Other than the Existing Notes, none of the contractual obligations and commitments set forth above contain covenants limiting the ability of the Issuer's subsidiaries to pay dividends to their shareholders.

Quantitative and Qualitative Disclosures about Market Risk

The Group has exposure to various financial risks, including interest rate risk, liquidity risk, credit risk and foreign currency risk. The Group's risk management policies are established to identify and analyse the risks faced by the Group, to set appropriate risk limits and controls and to monitor risks and adherence to limits. The Group's policy is to ensure that it maintains its status as a going concern while maximising return to stakeholders through the optimisation of debt and equity. The Group's management aims to balance the Group's overall capital structure through the payment of dividends, redemption of existing debt and the issue of new debt and equity. The Group periodically measures its net financial debt to total equity ratio to manage its capital. The Group's related risk policies can be summarised as follows:

Interest Rate Risk. The Group's exposure to interest rate risk relates to the Group's financial liabilities, primarily its floating rate interest rate borrowings. The Group is exposed to interest fluctuations both in Turkey and the international markets. The Group manages interest rate risk by obtaining borrowings in different rates, both variable and fixed. This enables a natural hedging opportunity. See Note 38 to the Consolidated Financial Statements for further information about the Group's sensitivity to interest rates.

Liquidity Risk. Liquidity risk is the risk that an entity will be unable to meet its net funding requirements. The Group's approach to managing liquidity is to match the maturity dates of its financial assets and liabilities through cash flow monitoring in order to maintain sufficient funds and reserves. For information about the contractual maturities of the Group's financial liabilities and other contractual obligations and commitments for 2018, see Note 38 to the Consolidated Financial Statements.

Credit Risk. Credit risk is the risk that one party to a financial instrument will default on its contractual obligations with the Group. The Group mitigates credit risk through imposing limits on its contractual obligations and, in certain cases, obtaining counterparty collateral. The Group's credit risk principally relates to its trade receivables. For more detail about the Group's maximum exposure to credit risk, see Note 38 to the Consolidated Financial Statements.

The table below sets out the ageing of the Group's trade receivables as of the dates indicated:

	As of 31 December		
	2016	2017	2018
	<i>(TRY millions)</i>		
Past due less than 30 days	158.6	126.8	250.0
Past due 1-3 months	59.9	45.1	54.6
Past due 3-12 months	27.8	63.9	67.1
Past due more than 1 year	7.4	18.4	30.4
Total	253.7	254.2	402.1

Foreign Currency Risk. As a result of changes in currency exchange rates, the Group is exposed to the risk of volatility in its foreign currency-denominated monetary assets, monetary liabilities and off-balance sheet liabilities. The Group is mainly exposed to fluctuations in euro and U.S. dollars. The Group aims to limit its foreign currency open position to 25% of its shareholders' equity. The Group uses limited amounts of forward contracts in order to manage its foreign currency risk.

The Group's exposure to foreign currency risk as of 31 December 2018 is set forth in the table below.

	USD –	EUR –	Others
	denominated	Denominated	
	<i>(TRY millions)</i>		
Current assets	2,103.4	2,067.7	178.0
Non-current assets	2,460.1	108.2	11.7
Total assets	4,563.5	2,175.9	189.6
Current liabilities	278.4	1,201.9	13.4
Non-current liabilities	2,762.9	295.8	0.0
Total liabilities	3,041.3	1,497.7	13.4
Net exposure	1,522.2	678.2	176.2

Alternative Performance Measures (APMs)

The Group uses certain APMs that might facilitate the comparability of its financial information with the financial information of similar companies. For information on the limitation of APMs as comparative performance measures, see "*Presentation of Financial and Other Information-Alternative Performance Measures.*"

The APMs used by the Group include the following:

EBITDA

The Group considers EBITDA to be a measure of operating profitability and an indicator that is widely used by investors when valuing companies, and by rating agencies and creditors to compare companies with different capital investment, debt and tax profiles. The following table sets out the Group's EBITDA for each of the periods set forth below:

	2016	2017	2018
	<i>(TRY millions)</i>		
Operating profit before financial income and expenses	1,310.0	2,151.6	3,841.1
Depreciation and amortisation.....	809.6	968.2	1,048.6
EBITDA	2,119.6	3,119.8	4,889.7

EBITDA Margin

EBITDA margin is widely used by investors as an indicator when valuing companies, and by rating agencies and creditors as an additional tool to assess the company's performance. The following table sets out the Group's EBITDA Margin for each of the periods set forth below:

	<u>2016</u>	<u>2017</u>	<u>2018</u>
	<i>(TRY millions, except percentages)</i>		
EBITDA.....	2,119.6	3,119.8	4,889.7
Sales.....	8,569.5	11,318.5	15,550.3
EBITDA margin	24.7%	27.6%	31.4%

Net financial debt to EBITDA ratio

The Group considers net financial debt to EBITDA ratio to be a liquidity measure because it is a financial indicator that measures, as of a particular period, the Group's net debt position with respect to EBITDA. It is also an indicator that is widely used by investors when valuing the net financial leverage of companies, and by rating agencies and creditors to assess the creditworthiness of such companies. The following table sets out the Group's net financial debt to EBITDA ratio for each of the periods set forth below:

	<u>As of 31 December</u>		
	<u>2016</u>	<u>2017</u>	<u>2018</u>
	<i>(TRY millions, except percentages)</i>		
Short-term financial debt	1,978.3	1,955.5	3,675.4
Long-term financial debt	3,792.9	3,941.3	4,333.6
Total gross financial debt	5,780.2	5,896.7	8,009.0
Cash and cash equivalents	3,205.4	3,438.6	3,164.0
Net financial debt	2,574.8	2,458.2	4,845.0
EBITDA.....	2,119.6	3,119.8	4,889.7
Net financial debt to EBITDA ratio	121.5%	78.8%	99.1%

THE GROUP AND ITS BUSINESS

Headquartered in İstanbul, Turkey, the Group is one of the world's leading manufacturers of glass products, operating from facilities located in 13 countries and employing over 21,000 employees. While the Group's core business is mainly centred on the manufacture of glass products, including being active in elements of the chemicals industry that supports glass production, the Group is also engaged in complementary industrial and commercial operations related to glass production (e.g., research and development activities, marketing, sales through retail stores and distribution), energy trading and insurance.

The shares of the Issuer, which is the holding company of the Group, have been publicly traded on the Borsa İstanbul since 1986. In addition, the Issuer's subsidiaries Trakya Cam, Anadolu Cam, Soda Sanayii and Denizli Cam are also listed on the Borsa İstanbul. İşbank, one of the largest Turkish private commercial banks, owned a direct controlling stake of 67.11% (and indirectly, including through its subsidiaries, 67.14%) of the Issuer's shares.

As of 31 December 2018, the Group had total assets of TRY 27,767.6 million, as compared to TRY 21,307.5 million and TRY 19,152.5 million as of 31 December 2017 and 2016, respectively. The Group's consolidated total revenues were TRY 15,550.3 million in 2018, increasing by 37.4% from TRY 11,318.5 million for 2017 (TRY 8,569.5 million for 2016). The Group's EBITDA increased by 56.7% to TRY 4,889.7 million in 2018 as compared to TRY 3,119.8 million in 2017, which itself was an increase of 47.2% from TRY 2,119.6 million in 2016.

Business Segments

As noted in "Overview" above, the Group divides its businesses into four main operational segments referred to as the Flat Glass Group, the Glassware Group, the Glass Packaging Group and the Chemicals Group. Each of these operational segments is summarised immediately below, with further information being provided in "Business Segments" further below (the financial information with respect to which is provided in the same consolidating basis described in the footnotes to the tables in "Overview").

Flat Glass Group. The Flat Glass Group, employs state-of-the-art technologies to produce architectural glass (e.g., flat glass, patterned glass, coated glass, mirror and laminated glass), automotive glass, solar control glass (including solar panels and energy conserving glass), encapsulated glass and glass for home appliances, furniture manufacturing and agriculture, is the Group's largest business, constituting 35.1% of the Group's revenues and 37.9% of the Group's EBITDA in 2018.

Trakya Cam, the flagship company of the Flat Glass Group, was (with annual production capacity of almost 1.8 million tonnes) the largest producer by capacity of flat glass in Turkey in 2018 according to management estimates. During 2018, the Flat Glass Group had a 70.2% market share in the Turkish market in terms of tonnes sold and, with an annual production capacity of 3.2 million tonnes, a 3.7% market share globally in terms of production capacity according to management estimates. As of 31 December 2018, the Flat Glass Group ranked fifth globally and (when including its capacity in Turkey) first in Europe in terms of production capacity according to management estimates.

The Flat Glass Group operates, solely and through joint ventures, 13 float glass production lines, including fully owning seven in Turkey, two in Bulgaria, two in Italy and one in India. In association with Saint-Gobain, Trakya Cam operates jointly one float line in each of Russia (70% owned by the Flat Glass Group) and Egypt (30% owned by the Flat Glass Group).

Trakya Cam made its first expansion into flat glass production outside of Turkey in 2006, opening a flat glass manufacturing facility in Bulgaria, which was followed by the commissioning of a mirror plant and processed glass plant in late 2006 and an automotive glass plant in July 2010. In 2013, Trakya Cam further expanded in Bulgaria by opening a laminated and coated glass facility. Also in 2013, Trakya Cam continued its expansion in Europe by acquiring Richard Fritz, a German company that is one of the leading suppliers of encapsulated automotive glass and currently operates production facilities in Germany, Hungary and Slovakia. In 2015, Trakya Cam invested in new automotive glass factories in Russia and Romania. Trakya Cam acquired all of the assets of Italy-based flat glass producers Sangalli Vetro Porto and Sangalli

Vetro Manfredonia in 2016 and 2018, respectively, and, as a result, became (when including its capacity in Turkey) the largest flat glass producer in Europe in terms of production capacity according to management estimates. The Siseecam Flat Glass South Italy flat glass production facility, which is currently undergoing cold repair work, has a production capacity of 190 thousand tonnes per year, a laminating line with four million square metres per year capacity, a coating line with four million square metres per year capacity and a satin coating line with 1.5 million square metres per year capacity.

As part of its expansion between 2007 and 2016, Trakya Cam made several investments in new production lines, including two float lines and a coated glass line in 2007 and a laminated glass line in 2008, all in Bursa-Yenişehir, an energy glass line, a frosted glass line and a mirror glass line for the Mersin plant in 2010, 2011 and 2012, respectively, and a float line and laminated glass line for the Polatlı plant in 2014 and 2016, respectively. In January 2018, Trakya Cam commenced the construction of a new glass line for the Polatlı plant, which is expected to become operational during the second half of 2020

In 2013, Trakya Cam entered into a 50/50 joint venture with Indian producer HNGIL for a float glass line company in India (*i.e.*, HNG). In 2018, Trakya Cam purchased HNGIL's interest in HNG for US\$85.7 million and renamed the company Siseecam Flat Glass India Limited.

Glassware Group. Through its "Paşabahçe" brand name, the Glassware Group is the Group's most widely known business. The Glassware Group constituted 15.1% of the Group's revenues and 9.4% of the Group's EBITDA in 2018. In 2018, the Glassware Group had a 67.2% market share in the Turkish market and a 8.0% market share globally, in each case in terms of revenue, according to management estimates, and, as of 31 December 2018, was ranked third globally in terms of revenue and (when including its sales throughout Turkey) second in Europe according to management estimates. Paşabahçe is the flagship company of the Glassware Group, and its glassware (including Paşabahçe-branded products) is sold throughout Turkey and internationally, with Europe and the countries of the CIS being the largest markets.

The Glassware Group is primarily engaged in the design, production and marketing of glassware for household use, but also owns a chain of Paşabahçe-branded retail stores and operates a cardboard packaging production business that principally produces cardboard for the safe transportation of glassware. The Glassware Group, which includes Paşabahçe and 14 principal operating subsidiaries thereof, operates seven factories in Turkey, Russia, Bulgaria and Egypt and 53 Paşabahçe-branded retail stores (50 in Turkey, one in Milan, Italy, one in Qatar and one e-store).

In addition to its Turkish production facilities, the Glassware Group has significant international operations, which represent 50.0% of the Glassware Group's production capacity. In 2003, Paşabahçe acquired Posuda, a glass houseware product company that operates a factory in Russia. This acquisition was followed in 2005 by the establishment of Paşabahçe Bulgaria, a company operating a factory producing glass household articles in Bulgaria. In 2017, Paşabahçe acquired the assets of Pearl for Glass Manufacturing, an Egyptian manufacturer of glassware, in line with its strategy of increasing international sales, which (in addition to meeting the demands of the Egyptian market) will be sought by increasing sales to the United States pursuant to the favourable conditions under the Qualified Industrial Zone Agreement among Egypt, Israel and the United States.

Glass Packaging Group. The Glass Packaging Group, which produces glass packaging in various shapes and colours for (*inter alia*) water, mineral water, beverages, carbonated beverages, fruit juices, milk, beer, wines and spirits, as well as food containers and containers for use by the pharmaceutical and cosmetic sectors, constituted 19.4% of the Group's revenues and 18.2% of the Group's EBITDA in 2018. In 2018, the Glass Packaging Group had a 58.4% market share in the Turkish market in terms of sales volume and a 2.7% market share globally in terms of production capacity according to management estimates and, as of 31 December 2018, was ranked fifth globally and (when including its capacity throughout Turkey) fifth in Europe in terms of production capacity according to management estimates. The Glass Packaging Group is led by Anadolu Cam, which, with an annual production capacity in Turkey of about 1.2 million tonnes, was the leading producer of glass packaging in Turkey in 2018. With operations in four countries, the Glass Packaging Group operates 10 production facilities, of which three are in Turkey (Mersin, Eskişehir and Bursa-Yenişehir), five are in Russia, one is in Georgia and one is in Ukraine.

Chemicals Group. The Chemicals Group, the Group's second largest business and operated mainly through Soda Sanayii, represented 23.7% of the Group's revenues and 30.1% of the Group's EBITDA in 2018. In 2018, the soda ash business had a 48.0% market share in the Turkish market in terms of tonnes sold and a 3.4% market share globally in terms of production capacity according to IHS and, as of 31 December 2018, was: (a) the ninth largest soda ash producer globally (according to IHS) and (when including its capacity throughout Turkey) fifth largest in Europe in terms of production capacity (according to management estimates), (b) the leading sodium dichromate, basic chromium sulfate and chromic acid producer globally (each according to management estimates) and (c) the largest producer of soda and chromium chemicals in Turkey (each according to management estimates). In 2018, according to management estimates, the market share of basic chromium sulfate (BCS) in the Turkish, European and global markets was 72.0%, 45.0% and 28.0%, respectively, and the market share of chromic acid in the same markets was 62.0%, 17.0% and 15.0%, respectively. Soda Sanayii operates the Mersin Soda Plant, which was established in 1969, and the SSL Soda Plant, and also has an indirect 25% stake in Solvay through Solvay Şişecam Holding AG, an Austrian subsidiary. The Mersin Soda Plant obtains its basic raw materials, limestone and brine, from its own quarries and produces light and dense soda ash and refined sodium bicarbonate.

Soda Sanayii is also active in the production of chromium-based chemicals, operating through its Kromsan Plant in Mersin, Turkey, which was acquired by the Group in 1982, and Cromital Italy, which operates the Cromital Plant, which was partially acquired in 2005 and became wholly owned in 2011. The Kromsan Plant produces sodium bichromate, basic chromium sulfate, chromic acid, chromium nitrate, chromium chloride and sodium sulphate. The Cromital Plant produces liquid basic chromium sulfate.

These facilities produce the primary inputs for various categories of products, including glass and detergent, with their customers (which include other members of the Group) principally operating in the glass, consumer goods, chemicals, leather surface treatment and pharmaceutical industries. The Chemicals Group also operates a co-generation plant in Mersin, the energy from which supplies a portion of the significant electricity needs of the Chemicals Group.

Other Businesses. In addition to its four primary operational segments described above, the Group also engages in the following businesses (among others): foreign trade, insurance and energy activities, which in the aggregate represented 6.6% of the Group's revenues and 4.4% of the Group's EBITDA in 2018.

The Group undertakes its foreign trade activities (*i.e.*, the trading of its produced products (excluding energy)) from Turkey through Şişecam Dış Ticaret, which allows the Group to benefit from tax incentives on registered export sales made by foreign trade companies such as Şişecam Dış Ticaret, provides operational efficiencies by reducing the delivery time and establishes standards for the Group's export operations. In 2018, Şişecam Dış Ticaret made exports from Turkey exceeding US\$750 million.

The Group undertakes its insurance activities through Şişecam Sigorta. Şişecam Sigorta is one of the main insurance agencies of Anadolu Sigorta A.Ş., a major insurance company in Turkey and a subsidiary of İşbank, the Group's controlling shareholder. Şişecam Sigorta mainly provides transportation, residential and automobile insurance to the Group and its employees domiciled in Turkey.

The Group undertakes its energy activities through Şişecam Enerji. Şişecam Enerji currently has an energy supply licence (dated 10 July 2014) and a natural gas wholesale licence (dated 3 September 2014) that allow it to trade electricity for 20 years and to trade wholesale natural gas for 30 years counted from the date of the relevant licence. These licences allow Şişecam Enerji to trade, purchase and sell electricity and natural gas and import and export electricity. These licences also allow Şişecam Enerji to store compressed natural gas in underground storage facilities and to invest in capacity and infrastructure to perform these activities. Şişecam Enerji actively seeks opportunities to import natural gas and liquified natural gas to create value and reduce the Group's energy costs and is also responsible for selling the electricity generated by the Group's cogeneration facility.

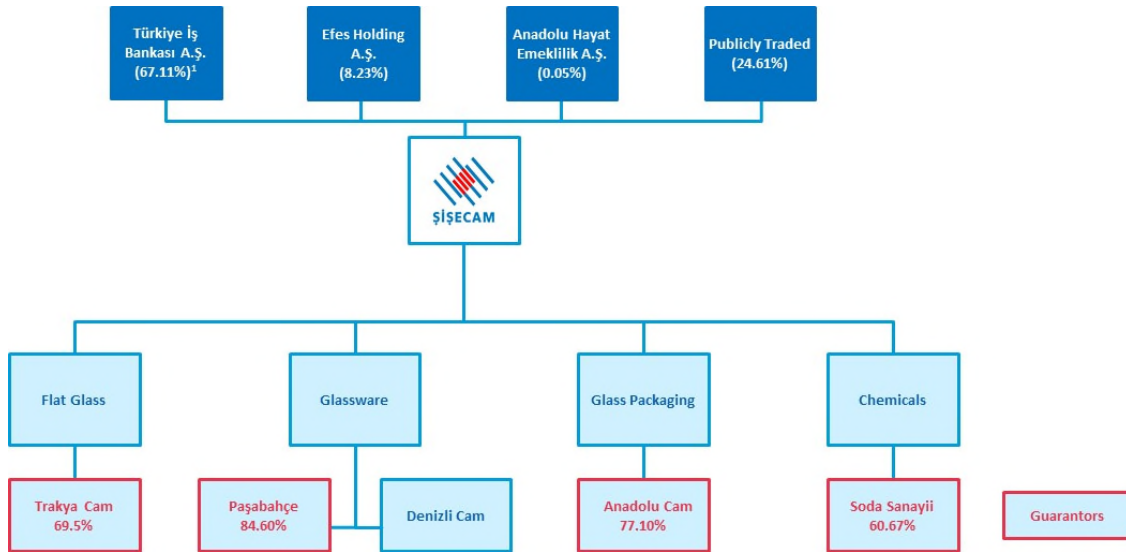
Şişecam Enerji's active involvement in both the Turkish electricity and natural gas markets enables the Group not only to procure energy needs at favourable pricing conditions but also to take advantage of buying and selling opportunities in those markets.

Corporate Structure

The Group consists of the Issuer, which is a holding company, 67 subsidiaries, one joint venture and two associates. The Group is organised into four operational segments for management accounting purposes. These segments are flat glass, glassware, glass packaging and chemicals. The Group's core business is glass production and the manufacture of chemicals that support glass production. Three of the Group's principal operating subsidiaries, Trakya Cam (a member of the Flat Glass Group and a Guarantor of the Notes), Anadolu Cam (a member of the Glass Packaging Group and a Guarantor of the Notes) and Soda Sanayii (a member of the Chemicals Group and a Guarantor of the Notes) and one relatively minor subsidiary of the Glassware Group, Denizli Cam, have shares listed on the Borsa İstanbul.

Although each business segments operates through separate legal entities, in practice each group is managed by the Issuer and all strategic decisions of the Group are taken by the Issuer's senior management. Functions such as finance, risk management, R&TD and IT are centralised, and the Issuer's senior management liaises with the management of each business segment in relation to these functions. The Issuer retains control over certain finance activities of the Group, such as short- and long-term borrowing, foreign exchange and cash and liquidity management.

The following chart represents the structure of the Group as of 31 December 2018:



Strengths

The Issuer's management believes that the Group's key strengths include: (a) its development of a geographically diverse and strategic footprint with low cost production facilities, (b) being positioned in strategic locations with proximity to customers that allow the Group to minimise transportation costs, (c) a strong brand recognition, (d) operating a balanced and diversified business portfolio, (e) deploying a widespread sales and distribution network, (f) the economies of scale provided by maintaining a leading market position across business segments, (g) supporting strong research and technological development activities and (h) maintaining a strong financial performance and financial profile. For further details on these strengths, see "Overview – Strengths."

Strategy

The Group's strategic objective is sustainable value-creating growth with operational excellence. The Group pursues this objective principally by the following strategies: (a) continually focusing on operational excellence in all of its business lines, (b) investing in sophisticated technology and digital transformation to increase operational efficiency and reduce operational costs, (c) increasing revenues by deploying technology-driven product development, (d) making selective acquisitions in the fields in which the Group currently operates to create additional synergies while identifying, and preparing the Group to enter into, potential new business lines and geographies and (e)

enhancing existing brands by leveraging new technologies. For further details on the Group’s strategies, see “*Overview – Strategies.*”

Business Segments

Flat Glass Group

Trakya Cam, which is 69.5% owned by the Issuer and has the remainder of its shares traded on the Borsa İstanbul, is the flagship company of the Flat Glass Group. Trakya Cam is the leading company in the Turkish flat glass market and a pioneer in the region. The Flat Glass Group’s international sales (*i.e.*, exports from Turkey and sales made by subsidiaries of the Flat Glass Group located outside of Turkey) represented 59% of the Flat Glass Group’s total sales revenue in 2018 and 55% in 2017.

While automotive glass and architectural glass are the central product lines of the Flat Glass Group, it produces a wide range of basic glass (*e.g.*, flat glass, patterned glass, mirror, laminated glass, coated glass and architectural glass), automotive glass, solar control glass (including solar panels and energy conserving glass), glass for home appliances, furniture manufacturing and agriculture, and encapsulated glass (which is glass around which a frame is injection-molded and is frequently used for products such as side and rear windows of vehicles).

According to management estimates and based upon sector-related reports, Trakya Cam ranks (by production capacity) among the top five flat glass companies in the world and the top flat glass company in Europe. Trakya Cam’s facilities have a total installed capacity of approximately 3.2 million tonnes of float glass per annum, operating 13 float lines (seven in Turkey, two in Bulgaria, two in Italy and one in India plus a float line in each of Russia and Egypt operated in association with Saint-Gobain). According to management estimates, as of 31 December 2018, Trakya Cam had the following market shares: in the architectural glass industry, 70% in Turkey and 5% in Europe (excluding Turkey), 44% in the Balkans (including Bulgaria, Romania, Albania, Serbia, Macedonia, Kosovo, Macedonia and Bosnia), 8% in Southern Europe (including Italy, Spain, Portugal and Greece), and in the automotive glass industry, 70% in Turkey and 5% in Europe (excluding Turkey).

The Flat Glass Group generated total sales of TRY 5,875.1 million and EBITDA of TRY 1,860.1 million in 2018, compared to TRY 4,331.2 million and TRY 1,179.4 million, respectively, in 2017.

In addition to Trakya Cam, the Flat Glass Group consists of the following entities, including both subsidiaries as well as entities in which the Group has a joint venture or association:

Subsidiaries	Nature of business	Country of Registration
Trakya Yenişehir Cam Sanayii A.Ş.....	Production and sale of flat, coated and laminated glass	Turkey
Trakya Polatlı Cam Sanayii A.Ş.....	Production and sale of flat glass and laminated glass	Turkey
Şişecam Otomotiv A.Ş.	Production and sale of automotive glass	Turkey
Trakya Investment B.V.	Finance and investment company	Netherlands
TRSG Glass Holding B.V.	Finance and investment company	Netherlands
Sisecam Flat Glass Holding B.V.	Finance and investment company	Netherlands
Trakya Glass Bulgaria EAD.....	Production and sale of flat, coated and laminated glass	Bulgaria
Sisecam Automotive Bulgaria EAD.....	Production and sale of automotive glass and home appliances glass	Bulgaria
Glasscorp S.A.....	Production and sale of automotive glass and home appliances glass	Romania
Trakya Glass Rus AO.....	Production and sale of flat glass and mirror	Russia
Automotive Glass Alliance Rus AO.....	Production and sale of automotive glass	Russia
Trakya Glass Rus Trading OOO	Import and sale services	Russia
Automotive Glass Alliance Rus Trading OOO.....	Import and sale services	Russia
Sisecam Flat Glass Italy S.R.L.	Production and sale of flat and laminated glass	Italy
Richard Fritz Holding GmbH.....	Commercial activity	Germany
Richard Fritz Prototype + Spare Parts GmbH.....	Production and sale of glass encapsulation	Germany
Richard Fritz Spol, S.R.O.....	Production and sale of glass encapsulation, plastic process	Slovakia
Richard Fritz Kft.	Production and sale of glass encapsulation	Hungary
Sisecam Flat Glass India Limited.....	Production and sale of flat glass and mirror	India
Sisecam Flat Glass South Italy S.R.L.	Production and sale of flat, coated and laminated glass	Italy

Associates	Nature of business	Country of registration
Çayırova Cam Sanayii A.Ş.....	Commercial activity	Turkey
Camiş Elektrik Üretim A.Ş.....	Production and sale of electricity	Turkey
Saint Gobain Glass Egypt S.A.E	Production and sale of flat glass	Egypt
Saint Gobain Egypt Trade LLC.....	Import and sale services	Egypt
Saint Gobain Mirrors Egypt S.A.E.....	Production and sale of mirror	Egypt

History. The Group commenced flat glass production in 1961 using sheet glass technology through its subsidiary Çayırova Cam Sanayii A.Ş. in Çayırova-Gebze, and thereafter commissioned a second flat glass furnace in 1967. Within the subsequent decade, the Flat Glass Group diversified its product line by commencing activities in the fields of tempered glass, automotive glass, mirror, patterned glass and double-glazing glass.

With its first float glass plant inaugurated in 1981 in Lüleburgaz (near Turkey’s western border with Greece), Trakya Cam became the first company across a broad region spanning from Eastern Europe and the Balkans to the Middle East and North Africa to use the modern float technology in production. During the 1980s, further improvements in both quality and production capacity augmented the Flat Glass Group’s float glass production. During that decade, the Flat Glass Group also commenced production of tinted flat glass and the export of its products. During the 1990s, the Flat Glass Group continued to expand its flat glass capacity, leading the development of the flat glass industry both in Turkey and the surrounding region through its technological innovation and wide product range.

In 2006, the Flat Glass Group further expanded its activities with the establishment of a float glass plant in the Balkans through its Bulgarian subsidiary Paşabahçe Bulgaria. This was the first float glass line in the region, as well as being one of the largest float glass factories in Europe. The Flat Glass Group’s activities in Bulgaria then expanded with the commissioning of a mirror plant and processed glass plant in late 2006 and an automotive glass plant in July 2010. Trakya Cam continued to invest in Bulgaria through a coated glass line and a second float glass production line in 2013 and 2015, respectively. In 2013, Trakya Cam acquired a 90% stake in the Romanian glass manufacturer Glasscorp, the remaining share of which was purchased in 2016.

In 2007, the Flat Glass Group (through Trakya Yenişehir Cam Sanayii A.Ş.) established two float lines and a coated glass line in Bursa-Yenişehir in Turkey followed by a laminated glass line in the same location in 2008.

As the Flat Glass Group has increasingly focused on value-added glass products through the introduction of new treatments and technologies, the group has invested in high added value processed glass production to complement its basic production of flat glass, adding such facilities in both Bulgaria and in Bursa-Yenişehir. Also enhancing the group's production capabilities, a patterned glass furnace with two production lines was commissioned in Mersin in 2011 in order to meet the demands of the construction and solar control glass industries. Also as a result of increasing demand, a second mirror line was commissioned in Mersin in July 2012. Investments in Turkey continued with a float line and a laminated glass line in Polatlı in 2014 and 2016, respectively, which was followed by the announcement in January 2018 that the Flat Glass Group would be making an additional investment in the same location, which is expected to be operational by 2020.

With the idea of globalising its brand and increasing its geographic presence, in 2010, Trakya Cam partnered with Saint-Gobain, one of world's largest participants in the flat glass industry, to conduct operations in Egypt and Russia. This strategic step was followed in 2013 by Trakya Cam's joint venture with HNGIL in India and its acquisition of Richard Fritz, which allowed it to expand its presence in Europe. In 2015, Trakya Cam invested in two new plants in Russia and Romania to produce automotive glass. Finally, in 2016, Trakya Cam acquired the assets of Sangalli Vetro, domiciled in Italy, and started production with both a float line, which has an annual capacity of 220 thousand tonnes, and a laminated line. In 2018, Trakya Cam completed its acquisition of the assets now known as Sisecam Flat Glass South Italy and bought the remaining 50% stake in Sisecam India.

The Flat Glass Group continues to focus on efficiency and product improvement in light of customer needs and expectations. For example, the Flat Glass Group has accelerated its development of automotive and encapsulated glass, which accounted for 34% of the total consolidated revenues of the Flat Glass Group in 2018. Similarly, the Flat Glass Group improved its operational and organisational synergies by consolidating its Turkish automotive glass operations under the newly established Şişecam Otomotiv A.Ş. ("*Şişecam Otomotiv*") and its foreign automotive glass operations under Trakya Investment B.V. ("*Trakya Investment*").

Industry dynamics. According to figures published by the Freedonia Group, an international business research company, in March 2018, more than 66% of the world's flat glass is produced in the Asia-Pacific region, mainly in China and India. The four principal global manufacturers of flat glass (Saint-Gobain, NSG Pilkington, Asahi and Guardian) accounted for nearly 30% of the total world float glass production capacity as of 31 December 2017. Other manufacturers include Taiwan Glass, Vitro S.A., Euroglass, Hankuk, Zeledyne and Cardinal Glass Industries, each of which is competitive within their respective regions. In Eastern Europe, Russia has the largest annual flat glass consumption with approximately 2 million tonnes, followed by Turkey with approximately 1.9 million tonnes (both as of 31 December 2018 according to management estimates).

Due to the significant application of flat glass in construction and the manufacture of vehicles, GDP growth is the main driver of flat glass consumption, making developing countries and the EU countries in Eastern Europe potential growth markets as they are expected to experience higher levels of growth than the more established economies. On the other hand, developed markets continue to be an important market for value-added products, such as coated glass products. Value-added products have become one of the main sources of market growth not only in developed countries but also in developing countries. In the construction and automotive sectors, as well as other segments such as appliances, new product development with new functions such as energy efficiency, safety and noise control is one of the main dynamics driving the flat glass sector. In addition, with the increasing importance of renewable energies, glass used in the solar energy sector is also an expected growth area.

Since 2009, the flat glass industry has been adversely affected by a variety of factors in the countries in which Trakya Cam operates, including Russia, the Middle East and North Africa, each of which has been affected by a slowdown of global economic growth (which strongly impacted the construction sector), domestic and global political turmoil (in much of which Russia has been involved) and declining oil prices. Starting in 2016, the supply and demand of flat glass products stabilised, which has led to an increase in price levels. For the Flat Glass Group, the negative impact of these factors has been offset in recent years as a result of Turkey's strong domestic growth, which has encouraged growth in the construction sector in particular.

Core Products. Flat glass is manufactured in large industrial facilities known as float glass lines, which produce everything from basic grades of glass (in clear and tinted varieties) to more sophisticated types of product with metallic oxide or other special coatings. Flat glass products are used in a wide range of applications, from basic windows to thermal insulation and solar control, and in a wide range of products, such as automobiles and consumer appliances.

The term “float glass” is used as float glass consists of a sheet of glass made by floating molten glass on a bed of molten metal, typically tin. This method allows the sheet to have uniform thickness and very flat surfaces. Modern windows are generally made from float glass, which enjoys significant benefits over sheet glass in terms of quality and strength.

The Flat Glass Group employs the latest technologies, including modern melting technologies, glass coatings and glass melting computer modelling software, to produce the following core products:

- architectural glass (float glass, patterned glass, mirror, laminated glass and coated glass), accounting for 64% of the Flat Glass Group’s sales revenue in 2018,
- automotive glass, accounting for 34% of the Flat Glass Group’s sales revenue in 2018,
- solar panel glass, accounting for 1% of the Flat Glass Group’s sales revenue in 2018, and
- glass for home appliances, accounting for 1% of the Flat Glass Group’s sales revenue in 2018.

These four principal categories of flat glass are described in detail below. In addition, basic clear glass is produced on float lines in Turkey, Bulgaria, Italy, Russia, Egypt and India.

The Flat Glass Group is a key supplier for various industries, including construction, automotive, energy, home appliances, furniture and agriculture. In the automotive industry, its major customers include Ford, Renault, BMW, Toyota, Hyundai, Daimler, Volkswagen, Honda and Avtovaz. Through its key contracts, the Flat Glass Group supplies products used in the manufacture of a range of car models including models carrying the brand of Honda, Renault, Volkswagen, Porsche, Hyundai, Toyota, Mercedes-Benz, Opel, BMW, Ford, Dacia, General Motors, Seat, Nissan, Skoda, Audi and Land Rover.

Architectural Glass. Architectural glass is one of the principal applications of flat glass production. Modern techniques and treatments have created a versatile building material that can be used to manage heat, light, and sound transmission, enabling architects to design buildings that have a greatly reduced impact on the environment and dwellings that are quiet, comfortable and safe. Glass is also increasingly used in interior decoration and furniture manufacture. The bulk of the Flat Glass Group’s architectural glass products are manufactured mainly for the construction sector, both in Turkey and in key markets abroad including central and Eastern Europe, the Middle East, north Africa, Russia and the other CIS countries. In 2018, approximately 59% of the Flat Glass Group’s sales were in markets other than Turkey. In Turkey, the Flat Glass Group supplies architectural glass to its customers through its own distribution network, whereas international sales are sold via a combination of the group’s own local and regional sales teams.

Float glass is the basic material for architectural glass and can be cut to size and adapted through secondary processes to improve its basic properties. When glazed, laminated, toughened, coated or made into mirror, float glass can provide thermal insulation, noise reduction and solar control and provide enhanced safety and security features. It is also well suited to decorative use. The main products within the architectural glass range are clear and tinted float glass, solar and heat control glass, safety and security glass, acoustic insulation glass and decorative glass.

Growth in demand for building products is fuelled generally by growth in the construction sector, but this correlation has been magnified in the case of glass by an architectural and engineering trend towards wide glazing areas both as a result of changes in design trends but also the growing demand for environmental efficiency – exploiting the ability of glass to capture natural heat and light, and thus reducing the carbon output associated with heating and electrical power. Concerns about climate change, escalating fuel prices and energy security (reflected in

some markets, such as much of Europe, by legislative requirements for the use of energy-saving glass technologies in buildings, such as through the mandatory use of insulated glazing units and requiring the use of energy-efficient coated-glass products) underpin the trend towards energy efficiency. One manifestation of this trend is the steadily increasing demand for low-emissivity glass (“*Low-E glass*”), solar control glass and photovoltaic and solar thermal energy collectors.

In addition, growing safety-awareness has led to building codes that require laminated and toughened glass and fire-protection glass, as well as increasing demands for sound insulation performance, both of which have driven sales of higher added-value products. These trends reinforce the importance of continued research and development in glass production.

The principal types of architectural glass are as follows:

Solar Control Glass. The use of solar control glass allows maintenance of a comfortable environment by limiting solar heat gains to the interior and by controlling the sun’s excessive glare. In addition, solar control glass provides reductions in cooling energy consumption and the costs associated with air-conditioned environments. The Flat Glass Group’s solar control glass range offers users various alternatives in terms of solar control performance, colour and reflection.

Heat and Solar Control Glass. In regions that experience both strong summer and winter conditions, it is important for glass to provide heat insulation as well as solar control. Heat and solar control glass can be used for decreasing heat loss during cold days and limiting solar heat gains during hot days. Heat and solar control properties can be provided by applying a coating on the surface of the glass. A transparent metallic coating reflects heat back into the room to prevent heat loss.

Safety and Security Glass. By its nature, glass is a fragile material and has low resistance to impact. While its resistance can be improved by increasing the thickness of the glass, risks associated with its inherent fragility cannot practically be prevented by thickness alone. By applying secondary processes to glass, the risks associated with broken glass can be reduced and people and goods can be protected against accidental impacts, and glass can also be made to protect against attacks from outside. Safety glass is the term applied to glass that reduces the risk of injury associated with glass broken by accidental impact (for example, glass used in interior applications is generally toughened or laminated in order to reduce the risk of broken glass). Security glass refers to glass that is able to protect people and goods from external attacks, which glass is laminated in order to give it additional strength.

Noise Control Glass. Noise control glass provides insulation against external noise, which can in extreme cases be a health hazard. Transforming an environment with high levels of outside noise into a low noise environment is possible with noise control glass when combined with wall, roof and frame treatments having sound insulation properties. In areas in which there are excessively high levels of noise, the Flat Glass Group’s acoustic laminated glass offers better sound insulation and can be used as single glazing or as part of an insulating glass unit to improve the sound insulation performance of a window. Acoustic laminated glass consists of two panes of glass that, though heat and pressure, are joined together around a sound absorbing interlayer.

Decorative Glass. Decorative glass includes patterned glass, wired patterned glass, varnished glass, tinted glass, ultra clear glass and mirror glass, and the Flat Glass Group offers a wide range of choices to designers and users for creating aesthetically pleasing and elegant effects. In addition, the low-iron float glass product, which is marketed under the “Şişecam Ultra Clear” brand, was recently improved to meet the demand for more transparent low-iron glass having no greenish tint at the edge. This new ultra clear glass is also suitable for use in the solar sector. As part of its decorative range of products, the Flat Glass Group is producing coated glass through its new second off-line coated glass production line at the Bursa-Yenişehir plant, which began operations in October 2018.

Automotive Glass. The main product types of automotive glass are laminated glass, tempered glass and custom glass. Automotive glass production consists largely of laminated glass, which is the standard component of windshields and is also used in the production of side and rear windows and sun roofs. Automotive glass, which

represented 34% of the Flat Glass Group's sales in 2018, has been an expanding area for the Flat Glass Group, bolstered by favourable developments in both the Turkish market and the markets outside of Turkey and the 2013 acquisition of Richard Fritz. In 2017, the Flat Glass Group had the highest market share (by sales) in automotive glass used in automotive production in Turkey according to a report on the "Global Flat Glass Market" by Azoth Analytics dated February 2018 (the most recent report to date).

Demand from the automotive sector was expected to account for 11% of the float glass market's global production in 2018 according to the "Global Flat Glass Market" report prepared by Azoth Analytics dated February 2018. The market for automotive glass consists of original equipment supplied to car manufacturers for new cars and other vehicles, and automotive glass replacement products supplied to the aftermarket for retrofit purposes (usually following damage).

Windshields are the most significant portion of this demand. Laminated windshields are a type of safety glass and are manufactured to help reduce injury to drivers and passengers in the event of an impact with, or damage to, the windshield. Laminated windshields are subject to, and must comply with, certain stringent quality standards, including regulatory requirements.

The Flat Glass Group has its encapsulation production lines based in Germany, Slovakia and Hungary and produces other automotive glass products in Turkey, Bulgaria, Russia and Romania. In addition to the car brands noted above for which the Flat Glass Group produces windows, the Flat Glass Group is continuously coordinating with automotive manufacturers in the design process for windshields, side and rear windows and sun roofs for new or redesigned models being developed by those manufacturers.

Solar Panel Glass. Within a global framework of increasing importance of renewable energy sources (including solar energy), the Flat Glass Group invested in a solar glass processing plant that was inaugurated in July 2010 and a patterned glass plant with two lines that began operation in June 2011. Solar glass used in solar thermal collectors and photovoltaic module glass accounted for approximately 1% of the Flat Glass Group's sales revenue in 2018.

The Flat Glass Group is the only producer of solar glass in Turkey and in 2018 had an approximately 60.0% market share of the solar glass sold in Turkey according to management estimates based upon import and production data (not including the production of solar glass by two Chinese companies, CSUN Eurasia Energy Systems and Trade Inc. and HT Solar Enerji A.Ş., in a Turkish free trade zone). In the coming years, projects in Turkey's "Renewable Energy Resource Zone" (referred to as YEKA) and rooftop installations are expected to be the primary growth area for the solar energy industry in Turkey.

Glass forms the outer layer in solar energy systems and toughened clear float, patterned glass or low-iron patterned glass is used in solar thermal collectors and photovoltaics in order to increase the resistance of glass to thermal expansion and other environmental impacts. The preferred glass type used varies according to the geographical area where the solar energy system is located. Use of high performance low-iron glass is strongly preferred as a result of its ability to improve the efficiency of these systems. Solar energy transmission and the heat transmission properties of glass directly affect the efficiency of solar energy systems and, accordingly, sophisticated glass treatments are required in order to maintain optimal performance.

Home Appliance Glass. Glass for home appliance accounted for approximately 1% of the Flat Glass Group's production of flat glass in 2018, representing 1% of the Flat Glass Group's sales revenue during the year. The Flat Glass Group produces home appliance glass at its plants in Turkey and Bulgaria.

Toughened glass, which is used by refrigerator, oven and commercial refrigerator manufacturers for its mechanical and thermal resistance properties, is produced and tested in accordance with the standard BS 3193 ("*Specification for thermally toughened glass panels for use in domestic appliances*") and must meet the criteria for fragmentation, heat resistance, thermal shock resistance and impact resistance requirements set out in the BS 3193 standards.

The Flat Glass Group's processed glass plant supplies glass to well-known home appliance manufacturers both globally and in the Turkish market, including Electrolux, BSH, Whirlpool and Arçelik. The group also cooperates with these companies on their research and development activities, allowing them to draw on the Group's experience and technical knowledge. The glass used in home appliances is toughened after grinding, and then printing and drilling processes are applied according to the specifications requested by the customer.

Production Facilities. The following table sets out the Flat Glass Group's production facilities as of the date of this Offering Circular (including the line operated jointly with Saint Gobain in Egypt), all of which plants hold ISO 9000, 14000 and 18000 certificates:

Facility Location	Country	Number of float lines	Principal Products Produced
Mersin.....	Turkey	2	Flat glass, solar glass, figured glass
Bursa-Yenişehir.....	Turkey	2	Flat glass, coated glass, laminated glass
Lüleburgaz ⁽¹⁾	Turkey	2	Flat glass, auto glass, mirror
Targovishte.....	Bulgaria	2	Flat glass, auto glass, coated glass, mirror
Polatlı.....	Turkey	1	Flat glass, laminated glass
Republic of Tatarstan ⁽²⁾	Russia	1	Flat glass, auto glass, mirror
Gujarat.....	India	1	Flat glass, mirror glass
Maadi Cairo ⁽³⁾	Egypt	1	Flat glass
San Giorgio di Nogaro UD...	Italy	1	Flat glass, laminated glass
Monte Sant' Angelo, FG.....	Italy	1	Flat glass, laminated glass, coated glass

(1) The Lüleburgaz plant produces components for automotive glass production, requiring coloured and thinner glass. This requires production of glass with varying thickness and colour, resulting in lower production compared to capacity.

(2) Operated through a joint venture in which Trakya Cam holds 70% of the issued shares.

(3) Operated through a joint venture in which Trakya Cam holds 30% of the issued shares.

As of 31 December 2018, the Flat Glass Group's annual installed capacity of float glass was approximately 3.2 million tonnes, reflecting the increases derived from the Flat Glass Group's investments during 2018.

Joint Ventures and Associates. In 2009, Trakya Cam began a strategic relationship with Saint-Gobain in order to develop its flat glass activities in Egypt and Russia. Under this agreement, Trakya Cam acquired a 14.87% stake in Saint-Gobain's investment project to build its first float glass production line in Egypt. Trakya Cam increased its ownership in 2013 to 30%. The plant in Egypt was inaugurated in July 2010 and the plant currently operates with a capacity of 750 tonnes per day.

In 2014, Trakya Cam and Saint-Gobain expanded their cooperation, opening a new float glass plant in the Republic of Tatarstan (Russia), 70% of which plant is owned by Trakya Cam. Alongside this investment, the partners inaugurated a neighboring new automotive glass plant with the capacity to produce full glass car-sets (including windshields, side-lights and backlights) to equip 800,000 vehicles per year. As a result of these two investments, the Flat Glass Group's market share (by volume) in Russia increased to 12.1% in 2018 according to management estimates based upon production capacity in Russia and import and export data published by the International Trade Centre.

Trakya Cam acquired a 50% equity interest in India's HNG in 2013. This investment expanded the Flat Glass Group's footprint to include production in an additional emerging market, which was in accordance with the overall strategy of the Group. In 2018, Trakya Cam became the sole owner of Sisecam India.

Research and Development. New technologies mean that the capabilities of flat glass can be greatly enhanced by the application of various processes and treatments. When laminated, toughened, coated or mirrored, float glass can provide heat and sound insulation, solar control, safety and security, as well as decoration.

As noted above, float glass has become increasingly important for the global economy because of the benefits that it offers in terms of energy and environmental impact. Through its research and development, the Flat Glass Group focuses on developing its existing framework of energy-efficient glass products. In 2018, the Flat Glass Group's total spending on its research and development programme was TRY 21 million.

In addition to the development of new treatments, the Flat Glass Group's main objective in its development and improvement efforts has been the securing of energy savings in its production processes, such as reducing levels of energy consumption of flat glass furnaces. Through its R&TD activities, the Flat Glass Group focuses on developing and improving its production facilities in order to improve energy production efficiency and reduce its overall energy consumption. In 2012, the Flat Glass Group launched a "waste heat production facility" at its plant in Bursa-Yenişehir with the objective of recycling heat energy emitted in the float glass production process for use in electricity generation, and has since initiated a number of similar projects at its other production facilities. In an important advance, the Flat Glass Group has developed low-iron glass production techniques that allow the manufacture of glass that has enhanced clarity and is virtually tint free. In 2017, the Flat Glass Group introduced measures that reduced the overall energy consumption of furnaces used in the production of flat glass. A 6.2 MW solar energy plant installed on an area of 79,300 square metres on the roof of the Flat Glass Group's Mersin plant ranked second in Europe (including Turkey) and tenth in the world in terms of installed capacity as an integral roof system in 2017 (according to a market research dated 17 October 2017 conducted by a procurement company in connection with the project Else Enerji) and generates 28,800 GJ (eight million kWh) of power and prevents the emission of nearly 4,000 tonnes of carbon dioxide.

Marketing, Sales and Distribution. For architectural glass, the main customer groups are wholesalers, processors and double glazers. Wholesalers accounted for 62% of the Flat Glass Group's sales revenue in Turkey and 61% outside of Turkey in 2018 (55% and 65%, respectively, in 2017). Processors and double glazers collectively accounted for 38% and 39% of the Flat Glass Group's sales revenue in and outside of Turkey, respectively, in 2018 (45% and 35%, respectively, in 2017). Wholesalers resell flat glass to retailers, smaller wholesalers and processor/double glazers. Processors supply end-products to retailers, construction firms and producers of furniture, home appliances, solar collector and photovoltaic modules. Double glazers sell insulating glass units to PVC- and aluminium-framed window producers and construction companies.

In order to strengthen connections with sector professionals, the Flat Glass Group regularly features its products at industry trade fairs both in Turkey and internationally. Through training programmes and seminars, flat glass products are also introduced directly to industry participants, including architects, engineers and PVC and aluminium joinery companies. In addition, the Flat Glass Group invests in advertising campaigns in order to increase brand awareness, including in magazines and catalogues and through television, press, radio, internet and other digital channels, with a focus on promoting energy-efficient double glazing products in Turkey.

Automotive glass is distributed through distribution centres located both in Turkey and internationally, with the capacity to provide "just in time" and "just in sequence" logistics services for customers. In addition, direct shipments are also made to customers using land and sea transport. Processed glass for use in home appliance manufacture is mainly transported directly from the production facilities to the customer's plant on a "just in time" basis. Additionally, the Flat Glass Group is able to work on a consignment basis with individual manufacturers.

The Flat Glass Group's pricing strategy is to provide customised pricing based upon annual volume, project life time, product complexity, the required components and any value-added operations, as well as the location of the customer, the requisite logistics structure and any licensing aspects.

Recent Developments. In addition to organic expansion, the Flat Glass Group continues to expand its business through acquisitions and joint venture agreements. In 2016, Trakya Cam acquired the assets of Sangalli Vetro, domiciled in Italy, and started production with both a float line, which has a 220 thousand tonne per year capacity, and a laminated line. In 2018, Trakya Cam completed an acquisition of the assets now known as Sisecam Flat Glass South Italy and the remaining 50% stake in Sisecam India.

In line with the growth expectations for the Turkish flat glass market and with the aim of meeting customer demand, the Flat Glass Group has begun construction of a second float line in the Ankara-Polatlı Industrial Zone with a capacity of 750 tonnes per day, which line is expected to be placed into operation in 2020. Once this float line begins operations, the Flat Glass Group will be operating eight float lines in four different locations in Turkey.

In addition to the investments in the Republic of Tatarstan in Russia, Trakya Cam is planning a new coated line in the region in order to extend its product range with energy-efficient, value-added products.

Glassware Group

Paşabahçe is the flagship company of the Glassware Group, continuing the heritage of the name of the “Paşabahçe Glass Plant” that was established upon Atatürk’s guidance in 1934. The Glassware Group operates seven production facilities in Turkey, Russia, Bulgaria and Egypt and produces glassware for sale in and outside of Turkey. According to management estimates, in 2018 the Glassware Group had a share of approximately 67.2% of the glassware market in Turkey, 17.0% of the glassware market in Europe (including Turkey), 23.0% of the glassware market in Russia and 8.0% of the glassware market globally.

The Glassware Group forms a vertically integrated business and maintains operations across its glassware supply chain. In addition to its comprehensive line of glassware, the Glassware Group produces paper and cardboard packaging for glassware products. The Glassware Group operates under three core business segments: (a) glassware production, design, sales and marketing, (b) a chain of retail stores in Turkey and (c) paper-cardboard packaging.

Through its wide range of customers in various industries ranging from Turkish and non-Turkish retail stores to super/hypermarkets, worldwide restaurant and hotel chains and promotion projects of global food and drink brands, the Glassware Group’s products are sold in over 140 countries.

The Glassware Group generated total sales of TRY 2,528.9 million and EBITDA of TRY 460.6 million in 2018, compared to TRY 1,955.8 million and TRY 287.5 million, respectively, in 2017.

In addition to Paşabahçe, the Glassware Group consists of the following entities:

Subsidiaries	Nature of business	Country of registration
Paşabahçe Investment B.V.....	Finance and investment company	Netherlands
OOO Posuda.....	Automatic production and sales of glassware	Russia
Paşabahçe Mağazaları A.Ş.	Retail sales of glassware	Turkey
Paşabahçe SRL.....	Marketing and sales	Italy
Paşabahçe (Shanghai) Trading Co. Ltd.	Marketing and sales	China
Denizli Cam Sanayii ve Tic. A.Ş.....	Production and sales of soda and hand-made crystalware	Turkey
Paşabahçe Bulgaria EAD	Automatic production and sales of glassware	Bulgaria
Istanbul Investment B.V.....	Finance and investment company	Netherlands
Nude Design Investment B.V.....	Finance and investment company	Netherlands
Nude Glass Investment B.V.	Finance and investment company	Netherlands
Paşabahçe Egypt Glass Manufacturing S.A.E. ..	Automatic production and sales of glassware	Egypt
Paşabahçe Spain SL ⁽¹⁾	Marketing and sale of glassware	Spain
Paşabahçe Glass GmbH ⁽¹⁾	Marketing and sale of glassware	Germany
Paşabahçe USA Inc ⁽¹⁾	Marketing and sale of glassware	USA

(1) Consolidated in the Group’s financial statements since 31 December 2018.

History. The Group entered into the glass tableware market in 1935 under the “Paşabahçe” brand through the launch of handmade glassware products and expanded its business to include machine-produced glassware in 1955 and heat-resistant glass in 1974. In 1957, the Glassware Group opened its first retail store in İstanbul through its subsidiary Paşabahçe Mağazaları A.Ş. in order to provide a sales channel for its goods, and this has subsequently expanded into a chain of 53 stores.

The Glassware Group began exporting glassware products in 1961. During the 1980s and 1990s, in line with its strategy of growing exports as well as meeting demand in the Turkish market, the Glassware Group introduced new products to the market and established new plants to extend its capacity in Turkey. In the 2000s, the Glassware Group expanded outside of Turkey, with the acquisition of a glassware plant in Russia in 2003 and the inauguration of a greenfield investment in Bulgaria in 2005, and then followed this in 2017 with the acquisition of a glassware plant in Egypt.

Industry dynamics. The glassware industry can be divided into three primary sectors: retail, HoReCa and business-to-business (“B2B”). According to management estimates, glassware accounts for 4.0% of total global glass

consumption, with total global sales in 2018 of US\$6.3 billion, and the U.S. and EU are the world’s largest markets. The three largest companies in the glassware industry, Arc International, Libbey Glass and Paşabahçe, held approximately 36.0% of the global glassware market (by sales) in 2018 according to management estimates.

The Glassware Group operates in all three of the industry’s main sectors. In 2018, the retail sector accounted for 68.5% of the Glassware Group’s sales, HoReCa represented 12.9% and B2B represented the remaining 18.6%. Global demand for glassware contracted in 2018 due to increasing competition, market consolidation and economic developments. In Turkey, the glassware market also contracted in 2018 as a result of political uncertainty, which impacted the country’s economy (see “*Risk Factors — Risks Relating to Turkey - Political Developments*”).

Core Products. The Glassware Group produces over 10,000 different hand-made and automatically manufactured glassware products under several brands, including “Paşabahçe,” the mainstream and premium brand for both households and the hotel sector, “Nude,” the premium design brand introducing one of a kind design objects in collaboration with world-known designers, “Borcam,” a brand of generic heat-resistant ovenware glass, and “Zest,” a new stylish brand that focuses on upcycling classical Paşabahçe products by combining high quality and colourful accessories to achieve new functions.

Camiş Ambalaj Sanayii A.Ş. (“*Camiş Ambalaj*”) manufactures and supplies the Glassware Group with high quality paper and cardboard packaging for its products. Camiş Ambalaj’s production facilities have an average annual production capacity of 50 million square metres, principally producing offset-printed cardboard, laminated consumer packaging and exhibition displays. In addition to products for use by the Glassware Group itself, Camiş Ambalaj supplies paper and cardboard to several other leading Turkish manufacturers, primarily in the food and beverage industry sectors. In 2018, the paper and cardboard packaging business segment increased its sales revenue by 47.6% compared to 2017, which was itself 75.6% below those of 2016. The decrease in 2017 was due to the sale of the Eskişehir Corrugated Plant in March 2017.

Glassware Production. The Glassware Group operates production facilities in Kırklareli, and Eskişehir in Turkey, in Targovishte, Bulgaria, in Nizhniy Novgorod, Russia and in 6th of October City, Egypt, all of which facilities focus on the automated production of soda, crystal and heat-resistant glass products. A plant in Denizli, Turkey produces only hand-made products of crystal glass. The total melting capacity of the Glassware Group’s glassware production facilities is approximately 530,000 tonnes per year, of which Turkey accounts for 270,000 tonnes, Russia accounts for 75,000 tonnes and Bulgaria accounts for 151,000 tonnes of total melting capacity per year as of 2018. The production of the plant located in Egypt started in the fourth quarter of 2017 and accounts for 34,000 tonnes of total melting capacity per year. Utilisation levels at the Glassware Group’s production facilities are typically between 90% and 100%.

The following table sets out the Glassware Group’s production facilities:

Production Plant	Facility Location	Principal products produced
Automatic Glass	Eskişehir	Glassware
Automatic Glass	Kırklareli	Crystalline and heat-resistant glassware
Automatic Glass	Russia	Glassware
Automatic Glass	Bulgaria	Glassware
Automatic Glass	Egypt	Glassware
Handmade Glass	Denizli	Handmade glassware made of crystal

Research and Development: With the Group’s integrated R&TD efforts, the Glassware Group is one of the few operations in the industry throughout the world that is capable of developing its own proprietary technology for the production process and product line for glassware. R&TD efforts are carried out both at the Group’s central R&TD laboratories as well as at various production facilities, which makes it possible to improve collective knowledge, skill, competence, infrastructure, equipment, productivity, efficiency and the level of value added.

As part of the Glassware Group’s efforts to have fault-free products, a high standard control system is used for products such as Borcam, dishwasher-safe glass, tea saucers, stemmed glass, cups and long blocks. Development

research is carried out for radiant-heated and chemical tempering lines for tempered products, which only a few producers in the world can offer.

Dyeing and coating technologies developed by the R&TD team create innovative products with a high added value such as afterglow products (*i.e.*, products charged with light to become visible in the dark), thermochromic products (*i.e.*, products that change colour with heat), the world’s toughest, yet finest, lead-free crystal glass products with Ion Shielding technology and non-stick coating products of Borcam that are induction-compatible. Using insert glass technology, which makes the interaction between digital technology and glass possible, new products are being created to add colour to the products offered to customers.

Marketing, Sales and Distribution. Glassware products for retail use are distributed to wholesalers and directly to consumers, including through supermarkets, hypermarkets, retail chains, department stores and the Glassware Group’s own Paşabahçe retail stores. In 2018, retail market direct sales and wholesale sales accounted for 75.9% of the sales in Turkey and 64.3% of the sales outside of Turkey. Sales in the HoReCa market, including to hotels, restaurants, cafes, and airline, ship and rail operators, represented 9.9% of the sales in Turkey and 14.1% of the sales outside of Turkey in 2018. Customers in the B2B segment, including beverage and food companies, decorating businesses and appliance and food industry producers, are supplied through direct sales.

The following tables show the percentage of the Glassware Group’s sales (excluding sales made in Paşabahçe retail stores and sales made by the packaging business) by region for each of the periods indicated:

	<u>2016</u>	<u>2017</u>	<u>2018</u>
Turkey.....	36.1%	34.3%	33.3%
Europe (other than Turkey and the CIS).....	34.5%	36.0%	36.2%
Americas.....	5.3%	5.0%	5.8%
The CIS.....	10.6%	11.0%	12.2%
Asia, Africa, Middle East and Oceania.....	13.5%	13.7%	12.5%

As the market leader in Turkey and one of the main participants in the global glassware market, the Glassware Group focuses on strengthening its position through new investments in different continents.

The Glassware Group operates six sales and marketing offices in major export markets, including the U.S., Germany, Spain, Italy, China and Russia, and three warehouses in Italy, the U.S. and China. In addition to its existing retail sales network and overseas sales and marketing offices, the Glassware Group has agents to represent its interests and develop key business relationships in target markets in which it does not have its own sales office. Furthermore, the Glassware Group aims to provide profitability and sales effectiveness through successful customer relationship and category management, effective supply chain management and production efficiency in order to continue to be the market leader in the main markets in which it operates and increase its global footprint. In order to accomplish this, the Glassware Group restructured and strengthened the standard product range by considering key market requirements, sectoral targets, capacity arrangements and the segmented brands.

The Glassware Group continues to focus on developing new products for sale, successfully launching a wide range of products for both the retail and hospitality sectors in 2018. Following the launch of the crystal-cut look Timeless collection, which was successful with both the HoReCa and retail sectors, the Elysia collection, a new collection with a retro look and diamond-cut base, was launched and has already won a German Design Award 2019. The drinkware category grew with the new stemware and tumbler collections, each of which was designed specially to enhance the tastes and aromes of specific drinks. In addition to new plates, bowls, jugs and carafes, Borcam’s innovative non-stick versions and new sizes to fit smaller families’ needs were among the highlights of the tableware and kitchenware categories. The Glassware Group launched 160 new products, excluding private label and B2B products, in 2018. In the B2B market, products are applied directly to customers through bespoke agreements involving the production of branded or own-label glassware.

In order to strengthen connections with industry professionals and end-users, the Glassware Group regularly participates in industry trade fairs, including nine international trade fairs in 2018, all of which were held outside Turkey. Christmas campaigns in Italy and Russia were among the largest advertisement campaigns done in 2018 with

a 360 degree perspective, including outdoor, digital and printed advertisements to increase both brand awareness and increase the sales of the Paşabahçe brand.

In September 2018, the “Nude” series was marketed through a collaboration with American businesswoman, interior designer and fashion icon Iris Apfel, entering into a yearlong campaign that combined Nude’s ethos of “simple is beautiful” with the bold nonagenarian’s instantly recognisable style. The “Nude x Iris Apfel” campaign seen in key magazines and on digital platforms, billboards and trams across the globe capitals, including New York, Milan, London and İstanbul. The partnership will see the unveiling of striking collections that are inspired by Ms. Apfel’s style, whilst an entirely brand new collection will be showcased during Ambiente 2019.

Glass Packaging Group

The Group’s Glass Packaging Group is organised under Anadolu Cam, which is owned 77.1% by the Group and has the remainder of its shares traded on the Borsa İstanbul. In 2018, the Glass Packaging Group was the leading glass packaging manufacturer in Turkey by both volume (1,019,749 tonnes) and revenue (TRY 1,797 million) according to management estimates. The following table shows the Glass Packaging Group’s market share (by volume of tonnes) in its key markets for the years indicated, according to management estimates:

	2016	2017	2018
Turkey	62.5%	61.7%	58.4%
Beer	97.4%	98.9%	99.4%
Mineral water	54.5%	47.8%	46.3%
Soft drinks	60.9%	68.8%	64.0%
High alcohol drinks	89.3%	89.5%	79.1%
Russia	28.8%	29.6%	31.1%
Beer	42.9%	46.7%	49.3%
Non-alcoholic drinks	21.8%	22.5%	27.8%
High alcohol drinks	16.9%	14.4%	16.3%
Wine	37.1%	42.2%	37.1%
Foods	8.0%	7.0%	6.1%

The Glass Packaging Group currently operates in four countries with 10 production facilities, of which three are located in Turkey (Mersin, Bursa-Yenişehir and Eskişehir), five are in Russia, one is in Georgia and one is in Ukraine. In 2018, the Glass Packaging Group’s annual production capacity was 2.5 million tonnes.

The Glass Packaging Group generated sales of TRY 3,239.2 million and EBITDA of TRY 896.0 million in 2018, compared to TRY 2,410.8 million and TRY 615.6 million, respectively, in 2017.

In addition to Anadolu Cam, the Glass Packaging Group consists of the following entities, including both subsidiaries as well as one entity in which the Group has an association:

Subsidiaries	Nature of business	Country of registration
Anadolu Cam Investment B.V.....	Finance and investment company	Netherlands
AC Glass Holding B.V.	Finance and investment company	Netherlands
Balsand B.V.	Finance and investment company	Netherlands
JSC Mina.....	Production and sales of glass packaging	Georgia
OOO Ruscam Glass Packaging Holding	Production and sales of glass packaging	Russia
OOO Energo systems	Production and sales of glass packaging	Russia
OOO Ruscam Management Company CJSC	Finance and investment company	Russia
CJSC Brewery Pivdenna	Production and sales of glass packaging	Ukraine
Merefa Glass Company Ltd.	Production and sales of glass packaging	Ukraine
Associate	Nature of business	Country of registration
Camiş Elektrik Üretim A.Ş.....	Electricity production and sales	Russia

History. In 1935, the Group’s glass packaging production operations (and indeed the Group’s own operations) started with the establishment of a glass packaging production plant in Paşabahçe, Turkey; *however*, by the end of the 1960s, developments in the beverage and beer industries, and the increasing glass packaging demands of the pharmaceuticals industry, led the Group to establish the modern “Topkapı Plant” in İstanbul, Turkey in 1967 and to transfer all of the Group’s glass packaging production activities there by 1969.

In 1976, the Group further expanded its glass packaging activities when it acquired an existing plant in Mersin. In 1996, a new plant attached to the Topkapı Bottle Plant was commissioned in Çayirova in line with the increasing demand from the mineral water and beer sectors.

The Glass Packaging Group has pioneered new technology in the Turkish market and, in 1988, “NNPB” (narrow neck press blow, also known as “light bottle”) production technology was introduced at the Mersin plant, marking an important milestone in glass packaging production technology in Turkey.

In 1997, the Glass Packaging Group expanded its activities abroad with the acquisition of the formerly state-owned plant in Mina, Georgia, which remains the sole glass packaging factory in the country.

With the expansion of the Group’s glass packaging activities, the Glass Packaging Group’s entities were reorganised in 2000 and brought under the holding company, Anadolu Cam.

During the last decade, in order to meet the increasing demand for high quality beer bottles in the Russian market, the Glass Packaging Group further expanded into Russia with a greenfield investment in a plant in Gorokhovetz in 2002 and the purchase of a plant in Pokvrosky in 2004. The Glass Packaging Group continued to expand its production facilities in Russia with the construction of the Ufa plant in Bashkortostan, which was completed in 2005, and investments in Kuban and Kirishi (both in Russia), which were completed in 2008 and 2012 respectively.

In Turkey, expansion has continued with the commissioning of a plant in Yenişehir in 2006 and in Eskişehir in 2013, which latter plant was further expanded in 2015 with the launch of a third furnace with a capacity of 90,000 tonnes per year. In 2018, the Glass Packaging Group completed the construction of a new furnace with an investment of US\$66 million at Anadolu Cam’s plant in Eskişehir. This new furnace is equipped with state-of-the-art technology according to the Group’s “Digital/Industry 4.0” initiatives and has an annual production capacity of 150,000 tonnes. With this and other advancements, the latest advanced technologies are employed in the Glass Packaging Group’s glass production facilities, including production by high speed and highly automated machines. The investment in a fourth furnace, with a capacity of 80,000 tonnes/year at Anadolu Cam’s Mersin plant is expected to commence operations in the second half of 2019.

Projects aimed at increasing competitiveness in glass packaging are an important priority for the Glass Packaging Group, which has various initiatives to reduce the weight and increase the strength of glass packaging, reduce waste in the production process and make use of renewable energy and recycled glass, with particular emphasis on saving energy.

Industry dynamics. According to management estimates, glass packaging comprises approximately 10% of the global packaging market and, as of 31 December 2018, there were over 80 million tonnes of annual glass packaging manufacturing capacity. According to management estimates, the largest five companies, which include the Group, constituted 40.6% of the total market (by production capacity) in 2018. In 2018, the Group accounted for approximately 2.7% of the global market for glass packaging products in terms of total market capacity. The Group was ranked as the fifth largest manufacturer of glass packaging products both globally and in Europe in 2018.

Glass packaging manufacture in developed markets is a mature business, with annual growth in total industry sales revenue and production generally following population growth. As such, growth opportunities tend to be concentrated in emerging markets. Glass packaging manufacture is also a geographically focused business as the product is heavy and numerous in volume and, assuming that the major raw materials of sand, soda ash and limestone are readily available, production facilities tend to be located close to the markets they serve.

While glass enjoys a high level of consumer acceptance as a packaging product and is generally perceived to be a “premium” quality packaging format over alternatives such as plastics, the glass packaging sector is undergoing a period of considerable change as consumers’ environmental consciousness has fostered a recycling culture, leading to new methods of production and product specifications. As part of this development, there is a new emphasis on lighter weight and more technologically advanced containers, which require significant research and development efforts. On the other hand, the production of lighter weight products has helped make the transportation of glass packaging more efficient, which also enables existing plants to have a broader geographic reach for the cost-effective sale of their products.

The glass packaging sector shrunk considerably in 2008 as a direct result of the global crisis and a resultant impetus for customers to use cheaper packaging materials, but the market began to grow again in 2010. In Turkey in particular, the significant growth in Turkey’s economy over the past decade has buoyed the glass packaging sector as Turkish consumers have become more affluent and have both increased consumption of bottled beverages and moved up to more premium products; *however*, this has been offset by competing factors, such as the impact of actions taken by the Turkish government to reduce alcohol consumption, and the Turkish glass packaging market has in recent years grown less than has been the case for the average global growth. In Russia, the slowdown of Russia’s economy (including as a result of sanctions and other economic and political pressures applied by the EU and the U.S.) has negatively affected the glass packaging market.

Core Products. The Glass Packaging Group’s product portfolio is composed of glass packaging in various volumes and colour for the food, beverage, pharmaceuticals and cosmetics industries. The primary products include bottles for water, beer and carbonated beverages, with jars and other glass packaging being produced for foods, wine, spirits, dairy goods, pharmaceuticals and cosmetics.

To expand beyond the three basic colours of flint, green and amber, the Glass Packaging Group utilises forehearth colouring to produce glass products with a wide range of other colours. The Glass Packaging Group’s facilities also can produce products of varying sizes, with packaging volumes ranging from 6cc to 15,000cc, and can apply various prints and surface coatings according to product specifications.

The Glass Packaging Group aims to meet consumer and brand demand for a variety of glass packaging with versatile and innovative designs. New design creation is supported by the industrial design and engineering knowledge of the Glass Packaging Group’s Product Design Centre, which worked on 339 product projects in 2018.

Glass packaging production in Turkey is broadly split between the different product areas, with the largest proportion being sparkling mineral water bottles (which represented 23.9% of the Glass Packaging Group’s gross sales revenue in 2018), whereas production in Russia and Georgia is focused more on the production of beer bottles, which constituted 50.8% of the Glass Packaging Group’s gross sales revenue in Russia in 2018.

Production Facilities. With a total production capacity of 2.5 million tonnes per year, the Glass Packaging Group has 24 furnaces and 89 production lines distributed across four countries. The average life expectancy of a furnace is 10 years and the cost of cold repair for one of the Glass Packaging Group’s furnaces is approximately US\$20 million.

Country	Number of Furnaces	Number of Lines	Annual Production (tonnes)
Turkey	11	44	1,205,000
Russia	11	37	1,165,000
Ukraine	1	4	85,000
Georgia	2	4	60,000
Total.....	24	89	2,515,000

The following table sets out the capacity of the Glass Packaging Group's individual production facilities:

Facility Location	Country	Average production capacity (thousand tonnes/year)	Principal products produced
Eskişehir	Turkey	420	Beer, food, beverages, jar, spirits, pharmaceuticals and cosmetics
Mersin	Turkey	275	Beer, food, beverages, jar, spirits
Bursa-Yenişehir .	Turkey	510	Beverages, mineral water, wine, beer
Gorokhovetz	Russia	300	Spirits, wine, beer
Ufa.....	Russia	360	Spirits, wine, beer, beverages, mineral water
Kuban	Russia	120	Spirits, wine, beer, mineral water
Kirishi	Russia	185	Food, beer, beverages, spirits
Pokrovsky	Russia	200	Beer, wine
Mina	Georgia	60	Mineral water, beer, wine, beverages
Merefa	Ukraine	85	Beer, spirits, beverages, wine

The Glass Packaging Group's production operations are considered in more detail below.

Turkey. The Glass Packaging Group carries out its Turkish operations in 10 furnaces located at three facilities at Eskişehir, Mersin and Bursa-Yenişehir. The Glass Packaging Group has completed a significant investment in production at Bursa-Yenişehir aimed at meeting growing glass packaging demand in the region. The capacity of the Bursa-Yenişehir plant is produced by four furnaces with an aggregate annual capacity of 520,000 tonnes.

Twenty key customers accounted for 74% of the Glass Packaging Group's sales revenue in Turkey in 2018, including Anadolu Efes, Sırma Grup, Türk Kızılayı, Coca Cola İçecek and Mey Alkollü İçkiler.

Russia. The Glass Packaging Group's first investment in Russia was the Gorokhovets plant in the Vladimir region in 2002. This facility was followed by several others in Pokrovsky, Bashkortosan-Ufa, Kuban and Kirishi. Today, the Glass Packaging Group's Russian operations are one of the largest glass packaging suppliers in Russia in terms of sales revenue according to the Federal State Statistics Service of Russia, primarily in the beer and high alcohol packaging segments.

Consistent with its growth strategy, the Glass Packaging Group has continued to expand its activities in Russia, including through the cold repair of two furnaces in Ufa and the modernisation of production lines in Kirishi and Kuban. The Glass Packaging Group aims to compete in every segment of the Russian glass packaging market with the goal of attaining a position as the leading supplier of glass packaging in Russia. In order to meet this target, the Glass Packaging Group aims to increase its production capacity through a combination of both direct investment and acquisitions in Russia.

The Glass Packaging Group has a number of key customers in Russia, including Sun InBev Russia, Efes, AB Inbev Heineken, Mospivo, Coca-Cola Russia, Russian Standart and Baltika.

Georgia. The Glass Packaging Group's first investment abroad, a facility in Mina, Georgia, was acquired in 1997 as part of the Georgian privatisation programme. A second furnace with 30,000 tonnes of annual capacity was inaugurated in 2014, doubling the plant's capacity to 60,000 tonnes per year. The Mina plant remains the only glass packaging manufacturing plant in Georgia and thus has a dominant position in the local market.

Ukraine. As part of its regional growth strategy, the Glass Packaging Group acquired an existing glass packaging facility in Ukraine in the first quarter of 2011. The Merefa glass packaging plant is located in the north-eastern part of Ukraine and has an annual capacity of 85,000 tonnes. In December 2014, the Glass Packaging Group suspended its operations in Ukraine as a result of the economic and political uncertainty in the country and, as the furnace was coming to the end of its useful life, new investment in the country is not considered to be a priority.

Research and Development. The Glass Packaging Group established an R&TD centre in 1979. The centre focuses on in-house research and development in the areas of glass compositions, melting technologies, raw materials, computer modelling of glass melting (batch, melt and air) and fast troubleshooting (air inclusions, melting, flow,

combustion and surfaces, which are the key elements of high quality production). In addition, the Glass Packaging Group has its own mould design department.

As part of its development process, the Glass Packaging Group is committed to reducing its consumption of raw materials and energy while at the same time significantly reducing carbon emissions in the production process. To that end, the Glass Packaging Group has pioneered the creation of lighter glass packaging, which also has the benefit of reducing glass packaging transportation costs. Lighter glass packaging is also more attractive to consumers and improvements in coating technologies have helped to make glass packaging more durable and versatile for consumer use. In addition, as part of its commitment to the environment, in 2018 the Glass Packaging Group's saved 220,255 tonnes of raw material through its usage of 183,546 tonnes of recycled glass (referred to as cullet).

In 2006, the Glass Packaging Group opened a design centre to develop its industrial design and advanced engineering knowledge in order to introduce new designs for glass packaging. Expert designers in the design centre provide creative and innovative designs, taking into consideration detailed internal pressure analysis and wall thickness distribution simulation. The team consists of engineers, industrial designers and expert technical personnel who work together in all stages of packaging design.

Every stage of the product design process can be monitored in 3D. The final design of the product once filled, labeled and capped is shown virtually on market shelves to compare it with competitive products. Plastic and glass samples of approved designs are also prepared with rapid modelling systems. All stages of product design are frequently updated with technological innovations.

Marketing, Sales and Distribution. The main market for the Glass Packaging Group's Turkish operations is Turkey, which represented 81.5% of sales revenue in 2018, with the remainder being divided between exports from Turkey to Europe (excluding Russia), the Middle East and the United States. The Russian operations of the Glass Packaging Group focus mainly on Russia, which accounted for 83.1% of sales revenue in 2018, with the remainder being split between Kazakhstan and countries outside the CIS. The production in Georgia is sold almost entirely within Georgia (84.5% of the sales revenue in Georgia is generated from the market in Georgia, with the remainder being exported).

Products are distributed to customers through both direct sales to producers and sales to wholesalers, with sales to producers accounting for 92.4% of total sales in 2018. Sales to wholesalers are mostly in the jar, wine bottle, dairy bottle and pharmaceutical product segments. Contracts tend to be negotiated on a case by case basis depending upon the characteristics of the customer and the size of the contract.

Although demand for glass packaging is subject to some seasonal cyclicity, pricing is generally free from these pressures and rather reflects economic and marketing conditions, the price of substitute packaging products, the continuity and volume of orders and the level of production costs.

Recent Developments. In line with the Group's focus on emerging markets, the Glass Packaging Group is currently seeking opportunities in new markets where there is potential for significant growth.

Chemicals Group

Soda Sanayii, which is 61% owned by the Group and has the remainder of its shares traded on the Borsa İstanbul, is the flagship of the Chemicals Group. The Chemicals Group is one of the top soda ash producers in the world, ranking fifth in Europe and ninth globally in 2018 based upon production capacity according to management estimates. In terms of basic chromium sulfate production that is crucial for the leather industry, Soda Sanayii is the largest producer in the world according to management estimates. The Chemicals Group also produces glass fibre, vitamin-K derivatives and various chromium-related products.

The Chemical Group has a fully utilised aggregate annual production capacity of 2.4 million tonnes of soda ash at its plants located in three countries (Turkey, Bosnia-Herzegovina and Bulgaria). While soda ash is used in Turkey by other entities within the Group, sales outside of Turkey accounted for 76.3% of the total soda ash sales of the Chemicals Group in 2018. Soda ash sales represented 60.3% of the total sales of the Chemicals Group in 2018.

The Chemicals Group generated total sales of TRY 3,971.0 million and EBITDA of TRY 1,479.3 million in 2018.

The Chemicals Group is continuously seeking to maintain and improve its product portfolio and its market position through research and development, focusing on developing production technology, improving product quality, diversifying product uses and further expanding its portfolio of value-added chemical products. In addition, the Chemicals Group seeks to maximise cost and production efficiencies through its research and development activities.

In addition to Soda Sanayii, the Chemicals Group consists of the following entities, including both subsidiaries as well as entities in which the Group has a joint venture or association:

Subsidiaries	Nature of business	Country of registration
Cam Elyaf Sanayii A.Ş.	Production and sales of glass fibre	Turkey
Şişecam Elyaf Sanayii A.Ş.	Production and sales of glass fibre	Turkey
Camış Madencilik A.Ş.	Production and sales of raw materials for glass	Turkey
Madencilik Sanayii ve Tic. A.Ş.	Production and sales of raw materials for glass	Turkey
Oxyvit Kimya Sanayii ve Tic. A.Ş.	Production of vitamin-K derivatives	Turkey
Şişecam Chem Investment B.V.	Finance and investment company	The Netherlands
Şişecam Bulgaria EOOD	Soda ash sales	Bulgaria
Şişecam Soda Lukavac D.O.O.	Production and sales of soda ash	Bosnia-Herzegovina
Cromital S.p.A.	Chromium and chromium sub-products	Italy
Camış Egypt Mining Ltd. Co.	Sand supplier	Egypt
Şişecam (Shangai) Trading Co.	Trading company	China
Joint Ventures	Nature of business	Country of registration
Rudnik Krencnjaka Vijenac D.O.O	Production and sales of limestone	Bosnia-Herzegovina
Associate	Nature of business	Country of registration
Solvay Şişecam Holding AG	Finance and investment company	Austria

Industry dynamics. Almost half of soda ash produced globally is applied in the glass production process according to IHS. In addition, soda ash is used in the manufacture of powder detergents. Sodium bicarbonate is extensively used in the food, animal feed additives, pharmaceutical and environmental industries. The soda ash markets have continued to perform well despite the political uncertainties in the region. Demand tends to be driven by areas of economic growth and, accordingly, it is the emerging markets that continue to be the main stimulus for growth in this segment.

The Chemical Group's main global competitors in the soda ash sector are Solvay International Chemical Group, Tata, Ciech Chemical Group and Turkey's own Ciner Group.

With respect to chromium, China is the largest basic chromium sulfate and chromic acid producer in the world with annual production capacities of 190,000 and 142,000 tonnes, respectively, according to management estimates. Despite these substantial capacities, Chinese producers primarily target local markets and thus the Chemicals Group views them as regional players rather than global ones. Lanxess (Germany), with an annual capacity of 45,000 tonnes of basic chromium sulfate, Vishnu (India), with an annual capacity of 60,000 tonnes of basic chromium sulfate, and Elementis (USA), with an annual capacity of 42,000 tonnes of chromic acid production capacity, are the principal market participants that are able to set trends in the global chromium chemicals market.

As the Chemical Group's raw materials, such as soda ash and chromium products, are largely commodities, global market prices guide the prices at which the Chemical Group can sell these products.

Core Products. The Chemicals Group's core products are soda ash and chromium chemicals, both of which are described below.

Soda Ash. The major uses of soda ash are in the manufacture of flat and container glass and powder detergents, and it is also used in the textile industry. A related product, sodium bicarbonate, is extensively used in the

food, feed, pharmaceuticals and environmental sectors. With its plants in Mersin (Turkey) and Lukavac (Bosnia Herzegovina), and through the 25.0% production joint venture in Solvay Sodi located in Devnya (Bulgaria), the Chemicals Group's soda ash production volume reached 2.4 million tonnes in 2018, ranking it amongst the top fifth producers in Europe and top ten in the world according to the Chemical Group's estimates based upon publicly available information.

In 2018, dense soda ash, light soda ash and sodium bicarbonate accounted for 66%, 16% and 16% of the Chemicals Group's soda ash sales revenue.

Chromium Chemicals. According to the Chemicals Group estimates based upon publicly available information, the Kromsan Plant is the leading basic chromium sulfate producer in the world, with an established reputation for product quality, production technology and high environmental standards. The Chemicals Group also produces a range of other chromium chemicals for use as raw materials in the leather, pigment and surface treatment industries. In 2018, basic chromium sulfate and chromic acid accounted for 48% and 30% of the Chemicals Group's chromium chemicals sales, respectively, with sodium bichromate accounting for a further 19%.

Production Facilities. Each of the soda ash and chromium chemicals businesses operate in their own plants, as described further below.

Soda Ash. The soda ash production business is operated through the Mersin Soda Plant, the SSL Soda Plant and a joint venture with Solvay Sodi in Devnya (Bulgaria). The Mersin Soda Plant obtains the basic raw materials – limestone and brine – from its own mines and resources, whereas the SSL Soda Plant obtains limestones from other Group companies.

Chromium Chemicals. In the field of chromium chemicals, the Chemicals Group operates through the Kromsan Plant in Mersin, which has a total annual production capacity of 348,000 tonnes. Chromium ore, the main raw material for the production of soda ash, is sourced through existing relationships with suppliers in South Africa.

The following table sets out the Chemicals Group's production facilities:

Facility Location	Country	Average production capacity in 2018 (thousand tonnes/year)	Principal products produced
Mersin.....	Turkey	1400	Soda ash and sodium bicarbonate
Lukavac	Bosnia and Herzegovina	585	Soda ash and sodium bicarbonate
Devnya	Bulgaria	375 ⁽¹⁾	Soda ash and sodium bicarbonate
Kromsan	Turkey	348	Sodium bichromate, basic chromium sulfate, chromic acid and sodium sulphate
Oxyvit.....	Turkey	21	Menadione sodium bisulphite (MSB), sodium metabisulphite
Cromital Plant.....	Italy	8.8	Basic chromium sulfate

⁽¹⁾ This reflects the Chemicals Group's 25% share of total production.

Both the Mersin Soda Plant and the Kromsan Plant possess ISO 9001 2000 quality management systems certificates and also satisfy the product specifications of the Turkish Standards Institute.

Research and Technology Development. The Chemicals Group's total R&TD expenditure in 2018 was approximately TRY 6 million. The Chemicals Group focuses its R&TD activities on the following areas:

- improvements to the sustainability of the processes and technologies employed in the soda ash and chromium chemicals product group,
- maintaining cost efficiencies through improved productivity,
- expanding the product range by creating value-added product offerings, and
- increasing competitiveness by harnessing new environmentally-friendly applications.

The Chemicals Group has been looking for ways in which solid and liquid waste from the Mersin Soda Plant can be converted into new products for various industries. The Chemicals Group has also undertaken projects to identify new usage areas for soda ash and refined sodium bicarbonate products, and to formulate new products with high added value, such as producing bicarbonate of pharmaceutical quality. In order to maximise production efficiencies, simulation models have been developed for the entire soda ash production process.

Diversifying the Chromium III product portfolio has taken up an important part of the Chemicals Group's research and development activities, resulting in the development of new production methods for chromium citrate and chromium hydroxynitrate for the metal plating industry. Laboratory tests to develop a different production process for sodium dichromate are currently under way. Another project that was carried out in 2011 was based upon the formulation and implementation of a new product developed for the leather tanning industry for chemically accelerating the chromium penetration in chrome tanning and re-tanning.

The research and development laboratory is accredited with the ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories. Most of the R&TD projects run by the Chemicals Group are supported by TUBITAK-TEYDEB (Scientific and Technological Research Council of Turkey) through its industrial research and development funding programme.

Marketing, Sales and Distribution. The Chemicals Group supplies a large portion of its production to the glass industry. In 2018, sales in the soda ash sector to wholesale distributors accounted for 40% of the Chemical Group's total sales of the product and direct sales accounted for the balance (in each case, excluding consumption by other members of the Group, which accounted for 15% of the Chemical Group's total sales). With respect to chromium chemicals, sales to wholesale distributors accounted for 30% of the Chemical Group's total sales revenue for the product and direct sales accounted for the remaining amount. Soda ash is principally sold to glass and detergent producers. Chromium chemicals are principally sold for use as raw materials in a number of end-products in the leather, chemical, pigment and surface treatment industries.

Besides sales to other members of the Group, 29% of the Chemical Group's sales revenue in 2018 was generated in Turkey and the remaining 71% was generated internationally through the Chemical Group's distribution channels and B2B operations. The Chemicals Group maintains a trading company, Şişecam Shanghai Limited, in order to supervise sales and distribution of its products in China and Asia.

The Chemicals Group's strategy in the short- to mid-term is to focus on establishing a presence in new markets, as well as on increasing market shares in regions in which demand is increasing most rapidly.

Recent Developments. In January 2019, the Chemicals Group completed the construction of a glass fibre plant in Balıkesir. This new plant is equipped with modern technology, low-cost production processes and a value-added product portfolio.

As a result of a steam generation facility that was launched in the Mersin Soda Plant at the end of 2016, the Chemicals Group achieved a significant reduction in its energy costs. The previously existing co-generation facility continues to operate, providing the Mersin Soda Plant with the option of utilising different types of energy sources (such as natural gas and solid fuel) depending upon their relative cost advantages at the time. In addition, the Chemicals Group continued investing in salt fields throughout 2018 in order to maintain a continuous raw material supply to its Mersin Soda Plant, and has also worked to improve its logistics infrastructure.

Oxyvit, a vitamin K3 and sodium metabisulphite production plant established in 1996 in partnership with Cheminvest BV of Italy, was fully acquired by the Chemicals Group in 2017.

Other Chemicals Group businesses

In addition to the soda ash and chromium-related production described above, the Chemicals Group also produces glass fibre and has mining operations, both as described further below.

Cam Elyaf (Glass Fibre). Cam Elyaf is the sole producer of glass fibre in Turkey and also has developed good brand recognition in the relevant markets in Europe. Cam Elyaf operated a plant in Çayırova, Turkey for over 40 years. This plant produced 42,000 tonnes of glass fibre annually; *however*, the existing furnace completed its operating life in the last quarter of 2018. As a result, in 2017 the Group began constructing a new €120 million glass fibre production plant located in Balıkesir, Turkey (Şişecam Elyaf Sanayii A.Ş.), which plant began its operation at the beginning of 2019. The new plant's furnace has a production capacity of 70,000 tonnes per year and is expected to provide Cam Elyaf with a competitive advantage in the growing composite market by employing modernised production technology, an ergonomic layout, economies of scale and effective and low cost processes, permitting the company to develop a more competitive value-added product portfolio.

The manufacturing process for producing glass fibres suitable for reinforcement purposes requires a large furnace to gradually melt the silica sand, limestone, kaolin clay, fluorspar, colemanite, dolomite and other minerals to liquid form. The liquid is then extruded through bushings, which are bundles of very small apertures. These filaments are then coated with a chemical solution. The individual filaments are then bundled together in large numbers to provide a roving.

Cam Elyaf sold 28,985 tonnes of glass fibre in 2018 compared to 43,368 tonnes in the previous year. Sales volumes in and outside of Turkey totalled 21,033 tonnes and 7,952 tonnes, respectively, in 2018 as compared to 31,320 tonnes and 12,048 tonnes, respectively, in 2017. The recent increase in sales in Turkey resulted from a strong demand in the Turkish market, whereas the decline in sales outside of Turkey was due to a shift in sales to the Turkish market. In 2018, Cam Elyaf generated sales of TRY 190 million and EBITDA of TRY 39 million.

Glass fibre constitutes the main input for the composites industry. Composite materials, which offer considerable advantages over traditional materials for certain purposes, are utilised in various sectors, such as infrastructure, automotive, wind turbines, construction, aerospace, marine transportation, industrial products and furniture manufacture.

The glass fibre market in the Asia-Pacific region is expected to grow at the highest rate in the world, with China being projected to lead the region, according to Markets & Markets' Global Glass Fibre 2017-22 Forecast Report. The largest glass fibre manufacturer by capacity is Jushi, based in China, and the Group's management believes that (due to Jushi's relatively high capacity) Jushi benefits from a lower per unit production cost when compared to the production costs of Cam Elyaf. Jushi has been expanding its glass fibre production through investments in its Egypt facility, with a total capacity increase of 120,000 tonnes during 2016 and 2017. As a result of these investments, Jushi's worldwide annual capacity reached 1.5 million tonnes in 2018, as compared to Şişecam Elyaf's current capacity of 70,000 tonnes.

The four main glass fibre product groups that Cam Elyaf manufactures are mat, multi-end roving, single-end roving and chopped strand. Fibreglass mat is a reinforcing material made from glass fibres about 2cm to 4cm in length, or continuous strands arranged in a random swirl pattern formed into a felt-like product. Chopped strand mat is another form of reinforcement used in fibreglass. It consists of glass fibres laid randomly across each other and held together by a binder. With its existing product portfolio, Cam Elyaf mainly supplies the automotive, building, infrastructure and marine industries and can potentially supply the requisite quality fibreglass for use in wind turbines.

Cam Elyaf continually seeks to improve its technology, products and services to meet the increasing demands of the global composite industry. Şişecam Elyaf will continue these improvements with the implementation of advanced R&TD studies, aiming to develop a value-added product portfolio at the new plant. For example, studies have already commenced on the design of an efficient technology furnace and bushings.

Glass fibre is supplied to manufacturers and wholesale retailers, primarily for use in closed moulding technologies. Cam Elyaf also supplies a number of enterprises in the construction, automotive, energy and home appliances sectors through local agents. Internationally, Cam Elyaf sells its products either directly to customers or through local agents and wholesale distributors, using several logistics warehouses located in European countries to meet the short lead time requirements of certain customers, particularly in the automotive industry.

Camış Madencilik. Camış Madencilik A.Ş. ("*Camış Madencilik*"), a mining subsidiary of the Issuer, produces industrial minerals for the Group's own needs as well as for other participants in the glass, ceramics and

cement industries, supplying both Turkish and foreign markets. In 2018, 68% of Camiř Madencilik’s sales were to Group companies, with external revenues totalling TRY 104.5 million in 2018. In 2018, minerals produced by Camiř Madencilik met more than 90% of the Group’s needs for the relevant raw materials.

Since its establishment in 1988, Camiř Madencilik has quadrupled its production capacity to 3.0 million tonnes. The company holds 62 mining licenses in various locations in Turkey, prepares and processes raw materials in 16 plants (nine of which produce end products) located in Thrace, Marmara, the Mediterranean and Black Sea regions of Turkey and organises supply logistics in order to meet its customer demands. Outside of Turkey, Camiř Madencilik has operated in Egypt since 1998 mainly in silica sand production and provides consultancy and project development services in countries in which members of the Group operate. Camiř Madencilik plans to increase its silica sand and feldspar production capacity in order to meet the demands of the Group and through further investment in its existing Ćine feldspar production plant.

In 2010, Camiř Madencilik acquired a 50% share in the Vijenac limestone mine in Bosnia-Herzegovina in order to meet the limestone demand of the SSL Soda Plant operating in Bosnia-Herzegovina, with the aim of ensuring supplies of this important raw material.

Camiř Madencilik plans to increase its industrial raw material production capacity in-line with increasing demand of the Group’s glass companies and with new value-added products.

Employees

The following table sets forth the distribution of the Group’s full-time employees by business segment as well as those employees located at the Group’s headquarters as of the dates indicated:

	As of 31 December		
	2016	2017	2018
Flat Glass Group.....	5,980	6,398	6,800
Glassware Group	7,261	7,348	7,647
Glass Packaging Group	4,158	4,173	4,174
Chemicals Group	2,580	2,565	2,472
Headquarters.....	609	714	760
Total	20,588	21,198	21,853

A large number of the Group’s employees are members of labour unions (43% the Group’s employees as of 31 December 2018). The Group has 14 trade unions in its four operational segments, and its relationships with these unions are coordinated by the Group’s Industrial Relations Directorate. In 2018, six collective bargaining agreements (two in Turkey and one each in Hungary, Bosnia-Herzegovina, Russia and Romania) were concluded. The Group considers its relationships with its employees to be generally satisfactory and has not experienced any significant labour disputes or work stoppages.

Occupational Health and Safety Practices

The Group prioritises workplace health and safety practices in all of its industrial facilities, and seeks to constantly monitor, measure and analyse performance in this area. Detailed reports summarising the findings of these studies are submitted to each workplace in order to seek to eliminate any shortcomings identified, thereby contributing to the maintenance of healthy and safe workplaces for the employees and workers, whom the Group views as the key elements of the production process.

The Group aims to improve the working environment in line with technological changes and developments, and to comply with all legal requirements, standards and contemporary management systems. The Group seeks to educate its employees and stakeholders so as to develop a “health and safety culture” in all segments of the Group’s community.

Environmental Matters

Sustainability

Operating in 13 countries with approximately 22,000 employees, the Group launched its “Care for Next” sustainability strategy that is built on three pillars of “preserve,” “empower” and “progress,” which aims to manage economic, social and environmental sustainability by delivering long-term value for future generations. As a significant participant in the global market, the Group has mainstreamed sustainability principles in its business model and operations. The Group’s vision and values are to pioneer in its areas of business, respect people and the environment, develop innovative solutions with a focus on technology and improve and develop together with an understanding of sustainability. Since 2014, sustainability reports (which describe the sustainability approach of the Group and its affiliates in terms of economic, environmental and social indicators and assess the performance of domestic production activities within this context) are prepared annually and made publicly available on the Issuer’s website.

Environmental Management System

The Issuer’s environmental policy highlights the need for an environment-oriented perspective in every phase of its work processes. As a keystone, the Group aims to minimise its environmental impact in the production process while managing this impact systematically. Towards this end, ISO 14001 Environment Management System standards are implemented throughout the Group’s production plants. Additionally, an online environmental data information system was launched in 2018 to ensure timely monitoring of key environmental parameters of the Group’s production plants. To ensure senior management monthly monitoring and reporting capacities, a sustainability dashboard was also launched and institutionalised within the framework of the Issuer’s internal corporate system. Environmental management principles are mainstreamed in the corporate investment plans procedures. In addition, environmental investments are closely monitored in terms of performance and the coordination within the Group to ensure standardisation and effectiveness by the Issuer’s Environmental Management Department (the “EMD”).

Since 2015, an environmental cross-check tool was institutionalised to assess current and best practices and identify potential areas of improvement. The outcomes of the cross-checks are reflected in regular reports and shared with senior management for action if needed. This corporate practice also allows environmental engineers working in different facilities to exchange information and benefit from lessons learned by others.

Carbon Disclosure Project

Since 2011, the Group has participated in the Carbon Disclosure Project (“CDP”) Climate Change and Supply Chain Programmes covering its operations in Turkey and Bulgaria. The CDP is recognised as the most comprehensive global environmental initiative with the aim of disclosing companies’ energy and climate change strategies with special focus on carbon dioxide emissions. The Group’s risk/opportunity analyses and greenhouse gas emissions are published annually on the Issuer’s website in line with the principles of transparency and the voluntary spirit of the CDP.

Environmental Legislation

Turkish environmental legislation was amended in 2009 and additional environmental regulations were introduced in 2014. These amendments and regulations aimed to align Turkey’s environmental legislation with the respective EU directives. The EMD followed the legislation and related changes to ensure coordination and timely adaptation at the Group and factory level. Additionally, the EMD actively participated in the review process of the national regulations and provided technical inputs and recommendations. Furthermore, the Group participated actively in the national and international non-governmental organisations’ environmental committees. The Group seeks always to fully comply with the respective national environmental legislation and all facilities obtain the necessary authorisations of the relevant environmental laws and regulations.

Anti-Pollution Activities

The Group's anti-pollution policies are based upon the principles of "prevent pollution at source." The Group further improves its manufacturing techniques by a "producing more with less" environmental impact goal, focusing on energy efficiency, evaluation of fuel and raw material alternatives and the minimisation of natural resources utilisation. Additionally, to minimise natural gas consumption and improve environmental performance, improvements are implemented by developing alternative furnace designs, processes, raw materials or secondary materials consumption and NOx emissions. Where measures for abating pollution at source are insufficient, secondary treatment-based methods in compliance with international standards with respect to technology and environmental performance are employed. The environmental management-related expenditures, such as the operational costs of waste management, maintenance and repair, waste water treatment, plant operations and environmental analysis, are reported, monitored and evaluated through the Issuer's Environmental Data Information System.

Waste Management

A significant percentage of waste generated through the Group's operations is recyclable. Recyclable waste is transferred to licensed waste recycling plants while non-recyclable waste is disposed of by licensed companies as well. In addition, the Group ensured that 54% of the packaging materials launched to the market in 2017 were recovered, resulting in about 16,500 tonnes of paper, cardboard, plastic and wood being recycled in 2018. In addition to the recycling activities, the Group also engages in waste management activities, such as a waste management awareness-raising programme for students that was implemented in the Group's operational regions.

The Group complies with all national regulations related to storage, transport and disposal of hazardous and non-hazardous wastes. The Group does not use a permanent disposal site for hazardous waste. In all of the Group's plants, hazardous waste is stored temporarily (where required, under a permit from the relevant authorities) until it is transferred to a licensed hazardous waste facility.

Intellectual Property

The Group holds 19 registered patents, all of which are valid both in Turkey and internationally, and has 49 patent applications. In order to protect its intellectual property rights, particularly when developing new technologies, the Group has established a standard evaluation process for patent protection under the coordination of a dedicated group, the Innovation Management Unit, which is responsible for interaction with the Turkish and international patent attorney offices and that manages the patent follow-up, payment and annual fee processes. The majority of the Group's patents are held by the Issuer, which might buy or licence intellectual property rights as part of the Group's business strategy. Patents are sub-licensed to individual business units by the Issuer.

While the Group owns its own intellectual property and leases and has other rights to use intellectual property rights owned by others, disputes arise from time to time relating to the nature and/or use of such intellectual property. Such disputes might relate to whether any intellectual property conflicts with the intellectual property rights of another person (*e.g.*, similar brand names), whether any intellectual property is derivative of another persons' intellectual property or otherwise, none of these disputes (individually or in the aggregate) is expected by the Issuer's management to have any material adverse effect on the Group.

Insurance

The Group maintains a comprehensive range of global insurance policies to cover risks associated with its business operations both in Turkey and abroad, including insurance for property damage and business interruption, general public liability (third party liability), product liability, product recall, employers' liability, pollution, political violence and directors and officers liability. The Group also takes advantages of having global and comprehensive insurance limits that would be used for all Group companies. Risk assessment studies of the Group's factories and facilities are periodically done by the Group's risk management department and the Group's insurance broker. Based upon these assessments, action plans are put in place to mitigate the risks identified in these assessment studies. The Group's management constantly monitors the risk exposure of the Group's operating facilities and undertakes capital

expenditures to mitigate risks that are identified. The Group regularly reviews the amount of cover of each insurance policy and considers whether new risks should be covered.

The Group also has trade-credit insurance coverage for both local and global customers to protect its cash flow and balance sheet against non-payments.

Research and Technological Development

Although the Group has separate research and development strategies for certain individual business segments as described above, the Group also maintains overall R&TD activities in order to create competitive advantages and by utilising the latest technologies. In 1976, the Group established a glass research centre, the Şişecam Science and Technology Centre (the “*R&TD Centre*”), in order to develop strategic technology and value-added products. As of 31 December 2018, the R&TD Centre had 147 full-time researchers (62% of whom held graduate degrees) and 18 designers, and operated through four regional analysis and support laboratories. The R&TD Centre provides independent analysis support to the laboratories located at the production facilities of the Flat Glass Group, the Glassware Group and the Glass Packaging Group in Turkey and to the laboratories of the Flat Glass Group in Bulgaria, Italy and Tartarstan, the Glassware Group in Russia and Egypt and the Glass Packaging Group in Georgia. The R&TD Centre also supports the facility laboratories in the Chemicals Group located in mining areas.

In 2014, the R&TD Centre moved to a new location in Kocaeli, Turkey and initiated cooperating efforts with regional laboratories under the umbrella of a Turkish law that allows R&TD laboratories and research centres to receive subsidies from the government. The R&TD Centre is Turkey’s largest and most comprehensive glass science and technology laboratory and one of the few of such laboratories in Europe. The R&TD Centre has 28 specialised laboratories and offices and its equipments and instruments are continuously renewed and improved. The Group has a policy of allocating approximately 1% of its consolidated sales revenues to R&TD activities every year.

In 2017, the Group moved the design operations of the Glassware Group and Glass Packaging Group to the R&TD Centre. The Group believes that this will allow for the creation of new and innovative ideas for its products as the Group’s goal is to become one of the leading technological, development and design companies in the global glass industry.

Projects. The Group currently focuses on projects developing energy-saving flat glass systems for automotive and architectural applications, lighter and stronger glass packaging, UV-filtering glass bottles, coloured and decorated tableware products with smart paint systems and ultra-light lead free crystal stemware products that are mechanically strong and have a bendable stem.

As the Group’s operations are highly energy-intensive, another key R&TD area is to improve energy efficiencies in all production-related operations, including through the use of sustainable energy. The Group has the engineering capability to design and build its own furnaces, achieving improvements up to 17% on an overall basis in the last two decades in terms of minimising total specific energy consumption.

In addition, the Group is currently working on a number of government-sponsored projects in the areas of energy saving and generation with the support of the Technological Research Council of Turkey (“*TUBITAK*”). TUBITAK has provided grants to the Group in relation to other glass-related projects over the past 20 years in order to promote industrial R&TD. The Group has also been conducting research various projects in collaboration with various universities and glass institutions both in and outside of Turkey. In addition, the Group is a contributor to the EC Life+ Programme with projects in several innovative energy efficiency technologies and has project applications in HORIZON 2020.

Litigation

The Group is and might from time to time become a party to claims and lawsuits (including intellectual property disputes) incidental to the ordinary course of its business. The Group is not currently involved in any litigation, arbitration or other legal proceedings that individually or in the aggregate might have, or have had during

the 12 months prior to the date of this Offering Circular, a material adverse effect on the business, financial condition or results of operations of the Issuer, the Guarantors or the Group as a whole.

Information Technology

The Group's Information Technology Department offers digital solutions using high-value, sustainable, analytical data solutions in 13 countries at 44 plants. The department consists of six management divisions: Demand and Project Management, Enterprise Application Solutions, Technology Development, Operational Management, Business Intelligence and Data Management, and also operates Strategy and Governance divisions.

The Group's Information Technology Department identifies opportunities and strategies with value-added information technology studies, including "Smart, Digital, Lean" and "IT 2.0" technology. The department works on creating value while playing a critical role in increasing the Group's competitiveness and achieving its goals. The Group uses advanced information technology infrastructure and applications that include enterprise application solutions, data and business intelligence solutions, each based upon worldwide location network and SAP enterprise resource planning systems.

The Group launched a comprehensive programme in 2018 aimed to increase the technological transformation, digitalisation, enterprise resource planning and master data governance of the business processes and information technology systems of the Group's during the next two years. The division also coordinates the system and application integration that is needed for acquisitions by the Group.

The Group's Information Technology Department focuses on legal and authority compliance and certification sustainability by improving cyber security solutions. The Group and its affiliates have 15 ISO 27001 Information Security Management System certifications. The department provides compliance for the risk, governance and protection on information and operational technologies.

Compliance with Sanctions Laws

OFAC

administers regulations that restrict the ability of U.S. persons to invest in, or otherwise engage in business with, SDNs, and other United States, United Kingdom, EU and United Nations rules impose similar restrictions with respect to Sanction Targets. The Group's current policy is not to engage in any impermissible business with Sanction Targets; *however*, it should be noted that the Issuer and, other than Group entities in the EU and one retail showroom in the United States, its subsidiaries are not legally obligated to comply with the United States, United Kingdom or EU restrictions, though certain transactions (such as those through the U.S. banking system) would require such compliance. In addition, there can be no assurance that current counterparties of the Group will not become Sanction Targets in the future.

As the Group has significant operations in Russia, these might be the most susceptible to being impacted by the current or any future sanctions imposed with respect to Russia, which might materially adversely affect the Group's operations in Russia both indirectly through their impact on the Russian economy and directly through any impact on the Group's transactions with Russian counterparts (*e.g.*, if a customer or supplier is or is owned by a person added to the SDN list). As noted above, the conditions in Ukraine (and particularly in Crimea) have directly affected the Group's operations in Ukraine, including resulting in the Glass Packaging Group's cessation of activities at its plant in Merefa. In addition, Soda Sanayii is currently a defendant in a legal proceeding initiated in a Turkish court in which the plaintiff, which is located in the self-proclaimed Donetsk People's Republic (DNR) and the Luhansk People's Republic (LNR), alleges that coal that Soda Sanayii purchased from a third party came from a coal mine belonging to the plaintiff. The Issuer has obtained a legal opinion from external counsel that there would not be any liability under the sanctions regime mentioned in the lawsuit (see "*Risk Factors - Sanction Targets*").

The Group also has historically had modest sales to customers in Iran (approximately US\$3.1 million in 2018 and US\$8.1 million in 2017), particularly for tea cups and other glassware, and very limited sales to customers in

Cuba, Sudan and Syria (aggregating approximately US\$550,000 in 2018 and US\$740,000 in 2017), but no longer engages in any sales to customers in these countries.

With the exception of its Paşabahçe retail stores, which are open to all customers, the Group: (a) checks whether a potential new customer is (or is at least 50% owned by) an SDN or otherwise listed as a Sanction Target, (b) with the assistance of third party software, monitors each transaction to identify whether any related party (*e.g.*, customers, suppliers or banks) is an SDN or otherwise listed as a Sanction Target, and (c) out of an abundance of caution, seeks to avoid engaging in transactions: (i) with customers, suppliers and other counterparties in jurisdictions subject to comprehensive U.S. sanctions (*e.g.*, Cuba, Iran, North Korea or Syria), (ii) with any SDN or (iii) that would (if the Issuer were a U.S. entity) be prohibited by the sector-specific sanctions of the United States. Where a counterparty or transaction is identified as having a potential sanctions concern, it is reviewed (including, where applicable, with external advisors) to determine the appropriate response. As part of the Group's sanctions policy, the Group seeks to include sanctions exclusion clauses and covenants in its contracts that give the Group the right to accelerate and/or terminate the applicable contract and be indemnified for damages and costs incurred as a result of such acceleration and/or termination.

The Group has instituted sanctions-related policies (including “know your customer” requirements) and training procedures for its relevant personnel, which policies and procedures it updates from time to time to maintain appropriate levels of attention to sanctions-related matters. While companies that might be acquired by the Group might not have similar (or any) policies and training procedures relating to transactions with Sanction Targets, it is the Group's policy to transition the operations of these companies (including training their relevant personnel) to the Group's policies as quickly as reasonably possible after the acquisition.

Credit Ratings

Each of the Issuer's credit ratings from Fitch and Moody's as of the date of this Offering Circular are set out below. Each of these rating agencies is established in the EU and is registered under Regulation (EU) No. 1060/2009, as amended. A credit rating is not a recommendation to buy, sell or hold securities and may be subject to revision, suspension or withdrawal at any time by the assigning rating agency.

Fitch (20 July 2018)

Long-Term Rating

BB+ / Negative

Moody's (28 August 2018)

Long-Term Rating

Ba2 / Negative

MANAGEMENT

The Issuer

Board of Directors

Pursuant to the provisions of the Turkish Commercial Code numbered 6102, published in the official gazette dated 14 February 2011, numbered 27846 (as amended) (“TCC”) and the Issuer’s articles of association, the Board of Directors of the Issuer (the “*Şişecam Board*”) is responsible for the management of the Issuer. The *Şişecam Board* makes all major decisions for the Issuer except decisions that, pursuant to the TCC, are exclusively reserved for shareholders. The *Şişecam Board* meets regularly and is instrumental, with the guidance of the Issuer’s senior management, in planning the Issuer’s medium- and long-term strategy. The *Şişecam Board* acts as the supervisory body of the Issuer’s activities. The Issuer’s articles of association provide for a board having a minimum of five members, elected by the shareholders for a maximum three-year term. The business address of the Issuer’s board of directors is İcmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

The following table sets out the members of the *Şişecam Board* as of the date of this Offering Circular:

Name	Position	Term Ends
Adnan Bali.....	Chairman	2019
Prof. Dr. Ahmet Kırman.....	Vice-Chairman	2019
Mahmut Magemizoğlu.....	Member	2019
Zeynep Hansu Uçar.....	Member	2019
İzlem Erdem.....	Member	2019
Sabahattin Günceler.....	Member	2019
Dr. Cem M. Kozlu.....	Independent Member	2019
Aysun Mercan.....	Independent Member	2019
Diñ Kızıldemir.....	Independent Member	2019

Details of the members of the *Şişecam Board* are set out below:

Adnan Bali, born in 1962, began his career in 1986 at İşbank, where he joined the Board of Inspectors as Assistant Inspector after graduating from Middle East Technical University in Ankara with a B.S. degree in Economics. After working at various managerial positions at İşbank, Mr. Bali was promoted to the post of Deputy Chief Executive in 2006 and then, on 1 April 2011, he was appointed as the 16th Chief Executive Officer of İşbank. Mr. Bali has also been serving as the Chairman of the Credit Committee and member of the Risk Committee of İşbank. He is a member of the Board of Directors of Vehbi Koç Foundation, Global Relations Forum, The Banks Association of Turkey, the Turkish Industry and Business Association, the Institute of International Finance and Institut International d’Etudes Bancaires. Mr. Bali is also a member of the High Advisory Board of the Darussafaka Society. He was elected as the Chairman of the *Şişecam Board* on 7 April 2017.

Prof. Dr. Ahmet Kırman, born in 1958, is a graduate of the Ankara University Faculty of Law and also holds a master’s degree in EU Competition Law and a Ph.D. in Commercial Law from the same institution, where he became an Associate Professor and then Professor of Financial Law. Dr. Kırman served as a Faculty Member, Division Head, Head of the Finance Department and Institute Director at Ankara University, Faculty of Political Science. He was also a faculty member at the Galatasaray University Faculty of Law. Dr. Kırman started his professional career in 1981 as a judge for the Council of State. Subsequently, he joined İşbank, where he held various positions in banking and insurance. He served as Chairman of Türkiye İş Bankası A.Ş., Milli Reasürans T.A.Ş., Destek Reasürans A.Ş. and Petrol Ofisi A.Ş., and Board Member at several other major companies including Anadolu Sigorta A.Ş. Dr. Kırman was the Chairman and Managing Director of the *Şişecam Board* between 2006 and 2011 and Vice Chairman and CEO of the Group since 2011. Dr. Kırman is also the Chairman of Soda Sanayii, Trakya Cam, Anadolu Cam, Paşabahçe and several other Group companies. He has served on the Board of Directors at the International Chamber of Commerce Turkish National Committee, The Research Institute of Banking and Commercial Law, the Global Relations Forum and the Economic Research Foundation. In addition, Dr. Kırman was a member of the Board of Trustees of The Economic Policy Research Foundation of Turkey and the Boards of Directors of the Turkish Shooting

and Hunting Federation and the Council of Legal Affairs. Dr. Kırman is the author of 12 books along with numerous scholarly articles and is a regular speaker at numerous scientific and business events.

Mahmut Magemizoğlu, born in 1958, graduated from the Business Administration Department of the Middle East Technical University, Faculty of Administrative Sciences, and completed a master degree in the field of Investment Analysis at the University of Stirling in the United Kingdom. Mr. Magemizoğlu started his career in 1982 at the Board of Inspectors of İşbank and held various managerial positions at the bank between 1992 and 1999. He served as the Subsidiaries Division Head between 1999 and 2005 and thereafter served as the Deputy Chief Executive of İşbank until 2016. From 2016, Mr. Magemizoğlu acted as the First Deputy Chief Executive, retiring in September 2018. He currently serves as the Chief Advisor to the CEO of İşbank. To date, Mr. Magemizoğlu has served on the board of directors of about 20 companies. He has been the Chairman of the Board of Directors of Anadolu Hayat Emeklilik A.Ş. since 2009 and at Milli Reasürans T.A.Ş. since 2011. Mr. Magemizoğlu has been a member of the Şişecam Board since 30 December 2017.

Zeynep Hansu Uçar, born in 1971, is a graduate of the Middle East Technical University, Faculty of Economic and Administrative Sciences, Department of Business Administration. She started her career as an Assistant Investment Specialist in the Subsidiaries Division of İşbank in 1994, where she held several managerial positions responsible for various group companies and has been serving as the Unit Manager since 2007. Having served as a Board member and auditor at various members of the Group since 2010, she also holds seats on the Boards of Directors of İşbank subsidiaries Türkiye Sınai Kalkınma Bankası A.Ş. and CamiŞ Yatırım Holding A.Ş. Ms. Uçar was appointed to the Şişecam Board on 15 April 2011.

İzlem Erdem, born in 1968, graduated from the Department of Economics (English), Faculty of Economics and Administrative Sciences at Marmara University, in 1990. The same year, she started as a Junior Economist in the Economic Research Division of İşbank; in 1998, she was appointed Deputy Manager of the same division. Appointed to the Capital Markets Division in 2000, Ms. Erdem became Group Manager of the division in 2004. She has been working as the Head of the Economic Research of İşbank since April 2008. As of April 2018, Ms. Erdem also became the Chief Economist of İşbank. She attended the Advanced Management Programme of the Harvard Business School in 2016. In addition to her duties at İşbank, she has served as a member of the Audit Committee and Board of Directors of Anadolu Hayat Emeklilik A.Ş. and İş Yatırım Menkul Değerler A.Ş., both affiliates of İşbank. She is also the Vice Chairwoman of the board of directors of İş Portföy Yönetimi A.Ş. Ms. Erdem was appointed to the Şişecam Board on 25 March 2015.

Sabahattin Günceler, born in 1951, is a graduate of the Middle East Technical University, Department of Chemical Engineering. He started his career in Azot Sanayii T.A.Ş after joining the Group in 1982, where he has served at a variety of managerial positions both in research and production. In 1997, he was appointed General Manager of CamiŞ Elektrik and, in February 2011, he was appointed President of the Chemicals Group, where he served until 2014. Mr. Günceler was appointed to the Şişecam Board on 25 March 2015.

Dr. Cem M. Kozlu, born in 1945, is a graduate of Denison University and also holds an M.B.A. from Stanford University and a Ph.D. from Boğaziçi University. Currently retired, he has worked as a manager at NCR in the United States and Procter & Gamble in Switzerland, as well as having been the Managing Director of Komili for 12 years. Serving as the Managing Director and the Chairman of the Board of Directors at Turkish Airlines between 1988 and 1991, he was elected as the Chairman of the Association of European Airlines in 1990. Thereafter, he was a Member of the Turkish Parliament between 1991 and 1995 and Chairman of the Board of Directors of Turkish Airlines between 1997 and 2003. Dr. Kozlu also held different positions with the Coca-Cola Company since 1996, where (headquartered in Vienna) he held responsibility for 51 countries as the President of Central Europe, Eurasia and the Middle East until his retirement in 2006. Dr. Kozlu acted as an Adviser for the Eurasia and Africa Group of the Coca-Cola Company between 2007 and 2015. He has also served as a Board Member at Hürriyet, TAV and The Marmara Hotels & Residences and as the Chairman of the Board of Directors at Evyap Asia in Singapore. Dr. Kozlu currently serves on the boards of Coca-Cola Beverages, Anadolu Group Holding, Anadolu Efes, Kamil Yazıcı Yönetim ve Danışmanlık A.Ş., Pegasus Airlines and DO8CO (Vienna), is a member of the Board of Trustees of the Anadolu-Johns Hopkins Health Center, Anadolu Foundation and İstanbul Modern Arts Foundation and is the Chairman of the Board of Directors of the Global Relations Forum. Dr. Kozlu lectured at Boğaziçi and Denison Universities, has authored 10 books and many articles and produced a television series on management. On 21 March 2018, Dr. Kozlu

was appointed as an Independent Member of the Şişecam Board in line with the Corporate Governance Principles of the CMB.

Aysun Mercan, born in 1968, holds a graduate degree from Middle East Technical University, Faculty of Administrative Sciences, Department of Management in Ankara and a joint Executive M.B.A. from Manchester Business School and University of Wales in the United Kingdom. She started her banking career in 1982, holding several senior and executive positions in the corporate banking, credits, foreign transactions, project finance, investment banking and corporate governance departments at various national and international banks. Following the takeover of shareholder rights of various failed banks by the BRSA and the Savings Deposit Insurance Fund as a result of the banking crisis in 2001, she managed many projects related to the rehabilitation and restructuring of the related financial groups, including the conclusion of repayment contracts, management, sale of assets and liquidation of the relevant banks (including to allow for the collection of debts by those banks' controlling shareholders to the SDIF). In this capacity, Ms. Mercan acted as a member at the Boards of Directors and the Boards of Liquidators of various companies. She was appointed as the Secretary General of a private bank in 2008 and retired in 2014. She has delivered lectures within the masters programmes of universities regarding investment appraisal, corporate finance and foreign trade finance. She was appointed as a Board Member for MUFG Bank Turkey A.Ş. in January 2016. On 20 and 21 March 2018, Ms. Mercan was appointed as an Independent Member of the Soda Board (as defined below) and the Şişecam Board, respectively, in line with the Corporate Governance Principles of the CMB.

Diñç Kızıldemir, born in 1951, graduated from the Department of Administrative Sciences at Boğaziçi University in 1975. Mr. Kızıldemir started his career as the Sales and Marketing Manager at Elka Elyafı Plaka Sanayii A.Ş., which was previously an affiliate of Türkiye Garanti Bankası A.Ş. and then joined the Koç Group. Mr. Kızıldemir then acted as the Sales and Marketing Manager and Vice Managing Director at Kelebek Kontrplak ve Mobilya A.Ş., an affiliate of the Enka Group. In 1991, he assumed the responsibility for establishing and managing McDonald's Corporation Turkey in 1991, where he acted as the Managing Director and Vice Chairman of the Board of Directors and supervised the establishment of the company's retail, logistics and supply infrastructure in Turkey. Joining the OYAK Group in 2001, he acted as the Managing Director for the Retail Group and became a Board Member for AXA-OYAK Holding and its insurance companies and, as a representative of minority shareholders, at other companies including Goodyear and Eti Marketing. From 2006, he worked at the Erdemir Group of Companies for 10 years as the Chairman of the Board of Directors and Executive Director. Between 2009 and 2016, he was the Head of Business Development (new company acquisitions) Group, Energy Group, International Chemistry Group and the Department of Legislation Compliance and the Department of Sustainability within the OYAK Group. He has acted as the Chairman of the Board of Directors, Executive Director and Board Member at more than 40 national and international companies within the OYAK Group, where he assumed responsibility for the acquisition and, subsequently, management of more than 20 companies, factories and refineries in the United States, Germany, the Netherlands, Austria, Australia, the United Kingdom, China, Japan, Brazil, India and other countries. As a part of these assignments, he was involved in the establishment of a joint medical startup company with Massachusetts General Hospital of Harvard Medical School. On 21 March 2018, Mr. Kızıldemir was appointed as an Independent Member of the Şişecam Board in line with the Corporate Governance Principles of the CMB. Mr. Kızıldemir retired from OYAK Group in 2016 and is currently pursuing personal ventures.

Board Committees

Audit Committee

The Audit Committee was established to assist the Şişecam Board to carry out tasks and fulfil its responsibilities. The Audit Committee is composed of three members. In 2018, the following board members were elected as the members of the Audit Committee: Dr. Cem M. Kozlu (who serves as Chairman of the committee), Aysun Mercan and Diñç Kızıldemir. Among other matters, the Audit Committee ensures that adequate and suitable internal controls are in place.

Early Risk Detection Committee

The Early Risk Detection Committee is composed of five members: Dr. Cem M. Kozlu (who serves as Chairman of the committee), Mahmut Magemizoğlu, Zeynep Hansu Uçar, Aysun Mercan and Diñç Kızıldemir. The responsibility of the Early Risk Detection Committee is to detect risks that might endanger the existence and

development of the Issuer and to design studies and measurements to detect such risks, as well as to create strategies for risk management and oversee the application of such strategies.

Corporate Governance Committee

The Corporate Governance Committee is composed of five members: Dr. Cem M. Kozlu (who serves as Chairman of the committee), Zeynep Hansu Uçar, İzlem Erdem, Sabahattin Günceler and Hande Özbörçek. The responsibility of the Corporate Governance Committee is to develop and implement continuous improvement processes to facilitate the application of best practices pursuant to Turkish capital market legislation and the CMB's Corporate Governance Principles and, more broadly, international standards. In addition, the committee determines if the Corporate Governance Principles are properly applied by the Issuer and gives related suggestions and advice to the Board of Directors in relation to the governance of the Issuer. The Corporate Governance Committee also carries out the functions of the "nominations committee" and "remuneration committee" as defined in the Corporate Governance Principles.

Senior Management

The table below sets out the members of the senior management of the Issuer, as of the date of this Offering Circular. All of the members of the senior management team listed below, with the exception of Mr. Aydın Süha Önder, the Glass Packaging Group President for Russia, are employees of the Issuer. The business address of the Issuer's senior management is İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

Name	Position
Prof. Dr. Ahmet Kırman	Vice Chairman – Chief Executive Officer
Dr. Reha Akçakaya.....	Flat Glass Group President
Cemil Tokel.....	Glassware Group President
Abdullah Kılınç	Glass Packaging Group President - Turkey
Aydın Süha Önder.....	Glass Packaging Group President – Russia
Tahsin Burhan Ergene	Chemicals Group President
Görkem Elverici	Chief Financial Officer
Şengül Demircan	Chief Human Resources & Corporate Communications Officer
Prof. Dr. Şener Oktik.....	Chief Research & Technological Advancement Officer
Özlem Vergon	Chief Strategy Officer
Dr. Selma Öner.....	Chief Procurement Officer
Elmas Yaman	Chief Information Officer (Acting)

Other than as already set forth above, details of the members of the senior management of the Issuer are set out below:

Dr. Reha Akçakaya, born in 1962, is a graduate of Boğaziçi University, Faculty of Mechanical Engineering, where he received a B.Sc. and M.Sci. Dr. Akçakaya completed a second M.Sci. at Alfred University, Department of Glass Science and Technology in the United States and then obtained a Ph.D. in Marmara University, Department of Engineering Management. He also completed the Advanced Management Programme of Harvard Business School in 2013. Having worked as a research assistant at Boğaziçi University between 1985 and 1988, Dr. Akçakaya joined the Group's Glass Research Centre in 1988. He served as a member of the International Commission on Glass and as a Chairman of Glass for Europe. After holding various managerial positions, he has been serving as the Flat Glass Group President since 2 January 2014.

Cemil Tokel, born in 1971, graduated from HumberSide University, Department of Management in 1991, and completed the Advanced Management Programme of Harvard Business School in 2012. In 1992, he joined the Group as an International Sales Representative of the Glassware Group, where he later worked as Supervisor of International Sales, Sales Development Director and International Sales Manager. He was appointed as Vice President of Marketing and Sales in 2012, and has been serving as the Glassware Group President since 2 January 2014.

Abdullah Kılınç, born in 1966, graduated with a bachelor's degree in mechanical engineering from the Middle East Technical University in 1990 and completed the Advance Management Program of Harvard Business School in

2013. He joined Anadolu Cam as a production engineer at the plant in Mersin in 1992, where in 1995 he became a production supervisor. Mr. Kılınç was appointed as an Assistant General Manager of the Group's Mina Ksani Glass Container Company in Georgia in 1999. Brought back to Anadolu Cam in 2003 as the Business Development Manager, Mr. Kılınç then served as the General Manager of the Ruscam Ufa plant, Operations Director of Russia Operations and Operations Director of the Glass Packaging Group. Mr. Kılınç has been serving as the Glass Packaging Group President - Turkey since 2 January 2014.

Aydın Süha Önder, born in 1962, graduated with a bachelor's degree in political science and public administration from the Faculty of Economic and Administrative Sciences at the Middle East Technical University in 1985. He joined İşbank in 1986 in the Economic Research Department, and began working as an assistant inspector at the bank's Board of Inspectors in the same year. He became Avcılar Branch Manager in 1998, Karaköy Branch Manager in 2001, Corporate Marketing Manager in 2003, Levent Branch Manager in 2006 and Gebze Corporate Branch Manager in 2007. Having served as Deputy CEO of İşbank since 2011, Mr. Önder joined the Group on 7 January 2014, and was appointed as the Glass Packaging Group President - Russia as of 12 February 2014.

Tahsin Burhan Ergene, born in 1965, graduated with a bachelor's degree in mechanical engineering from İstanbul Technical University in 1989. He completed the International Management Certificate Programme at İstanbul University in 1990 and the Advanced Management Programme at the Harvard Business School in 2012. He joined the Group in 1990 and he has held various managerial positions in the sales and marketing departments. In 2011, he was appointed as the Marketing and Sales Vice President of the Chemicals Group. He has been serving as the Chemicals Group President since 2 January 2014.

Görkem Elverici, born in 1976, graduated from the Middle East Technical University, the Faculty of Engineering-Department of Civil Engineering, and completed an M.B.A. at Bilkent University. In 2015, Mr. Elverici completed the Advanced Management Programme at Harvard Business School. He is currently working on his Ph.D. dissertation in Banking-Finance at Kadir Has University. Mr. Elverici began his professional career at İşbank in 1998, and has since served in various middle and senior management positions at İşbank, HSBC Turkey, Deloitte Consulting and Accenture Consulting. Mr. Elverici joined the Group on 1 March 2013 as the Finance Director of the Flat Glass Group. He has been serving as the CFO of the Group since 12 May 2014.

Şengül Demircan, born in 1975, graduated from the Department of Industrial Engineering of İstanbul Technical University in 1997 and also earned a master's degree from Boğaziçi University's Executive MBA programme. Mrs. Demircan started her career as a Management Consultant in Arthur Andersen and then worked as Human Resources Management Consulting Manager at Ernst and Young between 2002 and 2004, as Human Resources and Organisational Development Manager at Danone Tikveşli between 2004 and 2007, Assistant General Manager of Avea Human Resources between 2007 and 2011 and Assistant General Manager Responsible for Human Resources at HSBC Bank between 2011 and 2017, where she led HSBC's human resources global transformation change efforts. Ms. Demircan has been serving as Chief Human Resources and Corporate Communication Officer of the Issuer since March 2017.

Prof. Dr. Şener Oktik, born in 1955, obtained a degree in physics in 1976 and received a M.Eng. in "Applied Physics" in 1977 from the University of Ankara. He was awarded a Ph.D. by the Durham University in the United Kingdom in 1982. He received an associate professorship at Durham University in 1986, where he also received a full professorship in 1995, and thereafter worked as lecturer/research scientist/top executive at Lecce University in Italy, Stuttgart University in Germany and Selçuk and Muğla Universities in Turkey. He has served as senior research scientist/senior technologist expert and top executive at Imperial Chemical Industries PLC, BP Solar (UK), Industrial Research Labs of Durham University (UK), Anel Group and Arıkanlı Holding and as a Vice Rector (1998-2002) and the Rector (2002-2010) for Muğla University. In 2012, he joined the Issuer as the President of Research and Technological Development. He was a member of the Advisory Board of TUBITAK and the Marmara Research Centre (2003-2005) and a member of the Turkish delegation for the accession process of Turkey to the EU to negotiate the chapters on research and technology, education and culture. The author/co-author of over 100 scientific and technical publications, Prof. Oktik has been the Chief Research & Technological Development Officer at the Issuer since 1 January 2012.

Özlem Vergon, born in 1973, graduated from İstanbul University, Department of Economics (English) in 1995, received an M.B.A. from San Diego State University and also completed the Advanced Management

Programme at Harvard University in 2013. Ms. Vergon joined the Şişecam Flat Glass Group in 1996 as Planning Specialist Assistant and worked in various positions leading to Flat Glass Group–Planning Director. Since January 2015, Ms. Vergon has served as the Chief Strategy Officer of the Issuer.

Dr. Selma Öner, born in 1973, graduated from Istanbul Technical University, Department of Industrial Engineering in 1995 and then received a master’s degree and Ph.D. from Boğaziçi University, Department of Industrial Engineering. She completed the General Management Programme at Harvard Business School in 2014. Dr. Öner started her professional career as a Research Assistant at Boğaziçi University and then joined the Group in 1997. She worked as a Logistics Engineer at Paşabahçe and later served in various managerial positions there before becoming Supply Chain Director at Trakya Cam. In 2017, Dr. Öner was appointed Group Procurement Coordinator for the Issuer, and became the Issuer’s Chief Procurement Officer in January 2018.

Elmas Yaman, born in 1966, received her bachelor’s and master’s degrees from the İstanbul Technical University Department of Chemical Engineering. Having started her career in 1988 as a Programmer at the Issuer, Ms. Yaman worked as a System Analyst-Database Administrator from 1996 to 2001, as an IT Support Engineer from 2001 to 2007, as an IT Technology Development Specialist from 2007 to 2011, as an IT Technology Development Manager from 2011 to 2013 and as an IT Security Manager from 2013 to 2014. In addition to her current role as the IT Technology Development Director, to which position she was appointed in August 2014, she has been working as the acting IT Operations Director since April 2016 and the acting Chief Information Officer of the Issuer since October 2018.

Trakya Cam (the Flat Glass Group)

Board of Directors

Pursuant to the provisions of the TCC and the articles of association of Trakya Cam, the Board of Directors of Trakya Cam (the “*Trakya Cam Board*”) is responsible for the management of Trakya Cam. The Trakya Cam Board makes all major decisions for Trakya Cam, except decisions that, pursuant to the TCC, are exclusively reserved for shareholders. The Trakya Cam Board meets regularly and is instrumental, with the guidance of Trakya Cam’s senior management, in planning the medium- and long-term strategy of Trakya Cam. The Trakya Cam Board acts as the supervisory body of Trakya Cam’s activities. The articles of association of Trakya Cam provide that members of the Trakya Cam Board are elected for a term of not more than three years. The business address of the board of directors of Trakya Cam is İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

The following table sets out the members of the Trakya Cam Board as of the date of this Offering Circular:

Name	Position	Term Ends
Prof. Dr. Ahmet Kırman	Chairman	2019
Dr. Reha Akçakaya	Vice Chairman	2019
Gökhan Güralp	Member	2019
Zeynep Hansu Uçar	Member	2019
Diñ Kızıldemir	Independent Member	2019
İlhan İl	Independent Member	2019

Other than as already set forth above, details of the members of the Trakya Cam Board are set out below:

Gökhan Güralp, born in 1976, graduated from the Marmara University Department of Business Administration in 1999. He started his career in Ernst and Young and then served in various managerial positions at Enka Bechtel, Ernst and Young, Eti Gıda Sanayi Ticaret A.Ş., Eti Romanya SRL and Zorlu Holding A.Ş. Mr. Güralp has been serving as Financial Control and Reporting Director of the Issuer since January 2016.

İlhan İl, born in 1962, graduated from the Department of Finance of the Faculty of Political Sciences affiliated to Ankara University in 1983. Mr. İl completed an M.B.A. in International Business Economics at the University of the West of England in 1993. Starting his career as a Tax Inspector at the Ministry of Finance in 1984, Mr. İl was appointed as the Adviser for the Minister of State in Charge of Economy in 1994 and as the Deputy Director General

of Economic Research and Evaluation at the Undersecretariat of Foreign Trade affiliated to the Prime Ministry in 1995. Between 1997 and 2015, he acted as a Member of the Board of Coordination for Bilkent Holding, the Chairman of the Board of Directors for Tepe Home, Tepe Betopan, Tepe Prefabrik and Tepe Real Estate Investment, CEO at Tepe Security, Deputy Chairman of the Board of Directors for Bilkent Cyberpark and a Board Member at TAV Airports Holding, ATÜ Duty Free, BTA Food & Beverage and İDO İstanbul Deniz Otobüsleri A.Ş. Mr. İl currently acts as an Independent Board Member at the Süttaş Group of Companies and the Chairman of the Board of Directors at Travelex Turkey. In March 2018, Mr. İl was appointed as an Independent Member of the Trakya Cam Board and the Anadolu Cam Board in line with the Corporate Governance Principles of the CMB.

Board Committees

Audit Committee

The Audit Committee was formed to assist the Trakya Cam Board carry out tasks and fulfil its responsibilities. The Audit Committee is composed of two directors. In 2018, the following board members were elected as the members of the Audit Committee: Dinç Kızıldemir (who serves as Chairman of the committee) and İlhan İl. Among other matters, the Audit Committee ensures that adequate and suitable internal controls are in place.

Early Risk Detection Committee

The Early Risk Detection Committee is composed of three members: Dinç Kızıldemir (who serves as Chairman of the committee), Zeynep Hansu Uçar and İlhan İl. The responsibility of the Early Risk Detection Committee is to detect risks that might endanger the existence and development of Trakya Cam and to design studies and measurements to detect such risks, as well as to create strategies for risk management and oversee the application of such strategies.

Corporate Governance Committee

The Corporate Governance Committee is composed of five members: Dinç Kızıldemir (who serves as Chairman of the committee), Zeynep Hansu Uçar, İlhan İl, Gökhan Güralp and Kemal Tansu Akalın (who, though not a director, serves as the Budgeting and Financial Control Specialist of Trakya Cam). The responsibility of the Corporate Governance Committee is to develop and implement continuous improvement processes to facilitate the application of best practices pursuant to the Capital Market Legislation and Corporate Governance Principles and, more broadly, international standards. Further, the committee determines if the Corporate Governance Principles are properly applied by Trakya Cam and gives suggestions and advice to the Trakya Cam Board in relation to the governance of Trakya Cam. The Corporate Governance Committee also carries out the functions of the “nominations committee” and “remuneration committee” as defined in the Corporate Governance Principles.

Senior Management of the Flat Glass Group

The table below sets out the members of the senior management of the Flat Glass Group as of the date of this Offering Circular. The business address of the senior management of the Flat Glass Group is İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

Name	Position
Dr. Reha Akçakaya.....	Head of Flat Glass Group
Gökhan Atıkkın	Vice President, Architectural Glass Production
Ebru Şapoğlu	Vice President, Marketing and Sales
Hüseyin Burak Dağlı	Finance Director
Anıl Karaca.....	Şişecam Otomotiv General Manager
Serkan Şahin.....	Development Director
Dr. Bülent Aydın	Strategic Planning Director
Arda Eroğlu	Supply Chain Director
Hakan Özdamar	Quality and Environment Director
Dikmen Ünlü	Human Resources Director

Other than as already set forth above, details of the members of the senior management of the Flat Glass Group are set out below:

Gökhan Atkkan, born in 1963, graduated from Anadolu University, Faculty of Mechanical Engineering in 1986 and completed the Advanced Management Programme of Harvard Business School in 2012. He started his career in 1986 at Bayer AG Germany and in 1988 started working for the Group as a production engineer in the Flat Glass Group. He worked at various managerial positions at the Flat Glass Group's plants and was, in 2013, promoted to Vice President of Architectural Glass Production.

Ebru Şapoğlu, born in 1975, is a graduate of İstanbul University, Faculty of Economics in English. Ms. Şapoğlu joined the Group in the Flat Glass Group in 1999, working as a Product Chief between 1999 and 2005. After holding various managerial positions from 2006 to 2016, she has been serving as the Vice President of Marketing and Sales in the Flat Glass Group since July 2016.

Hüseyin Burak Dağlı, born in 1974, graduated from the Faculty of Business Administration of İstanbul University in 1998. After graduation, Mr. Dağlı started his professional career as an Audit Expert at Yönet Moore Stephens. He then worked as an auditor at KPMG from 1999 to 2004, after which he served in various finance executive positions in multinationals Lecce Pen, Parker Hannifin and Johnson Controls through 2013. Mr. Dağlı then served as the Regional Finance Director at Johnson Controls' Middle East and Africa headquarters in Dubai until 2018, having responsibility for the GCC region. Mr. Dağlı joined the Group in April 2018 as the Finance Director of the Flat Glass Group.

Anıl Karaca, born in 1978, graduated from Marmara University, German Informatics Department in 2001 and completed the Advanced Management Programme at the Harvard Business School in 2015. Mr. Karaca started his professional career in 2001 as an Audit Expert at PricewaterhouseCoopers and then served in various executive finance positions at the Anadolu Group from 2004 to 2011 and then as the Finance Director of Anadolu Efes's Kazakhstan operations until 2014. He then served as Finance Director and Group Director at Çelik Motor until 2016. As of October 2016, Mr. Karaca joined the Group as Finance Director of the Flat Glass Group. Since October 2017, he has served as the General Manager of Şişecam Automotive.

Serkan Şahin, born in 1972, is a graduate of İstanbul Technical University, Faculty of Mechanical Engineering. Mr. Şahin joined the Flat Glass Group in 1995. After holding various technical and production managerial positions, he has been serving as the Development Director of the Flat Glass Group since April 2017.

Dr. Bülent Aydın, born in 1972, is a graduate of Marmara University, Faculty of Industrial Engineering, where he also earned an M.B.A. in the Human Resources Management and Development area. He then obtained a Ph.D. in Gebze Technical University's Department of Business and Strategy. Dr. Aydın worked in the areas of supply chain and strategy at Assan A.Ş. between 1996 and 2011 and then joined the Glass Packaging Group in 2011 as Strategic Planning Director. In 2018, he was appointed as the Strategic Planning Director of the Flat Glass Group.

Arda Eroğlu, born in 1983, graduated from Sabancı University Computer Engineering Department in 2006, where he also earned a B.A. in Business Administration in 2008. Mr. Eroğlu started his professional career as a consultant in IBM Türk in 2007, then worked as a consultant in Deloitte Consulting between 2008 and 2009 and as a consultant in Accenture Consultancy's İstanbul's and Australia's branches between 2010 and 2014. In May 2014, he started to work at the Flat Glass Group as a Demand Planning Manager. Since February 2017, he has been the Supply Chain Director of the Flat Glass Group.

Hakan Özdamar, born in 1964, graduated from İstanbul Technical University, Mechanical Engineering Department in 1987, and then obtained an M.B.A. at İstanbul University, Business Administration Department in 1988 followed by another M.B.A. at Yeditepe University, Business Administration Department in 2002. Starting in 1989, he held various positions in Uzel Makine San. A.Ş. and Toyota Otomotiv A.Ş. He joined the Group in February 2018 and currently serves as the Quality and Environment Director of the Flat Glass Group.

Dikmen Ünlü, born in 1968, graduated from the İstanbul University Department of Business Administration in 1990. He started his career as an Area Representative, Customer Accounts & Credits, at Eczacıbaşı Girişim and

then worked as an Human Resources Specialist at Novartis starting in 1997. Mr. Ünlü then held managerial positions in the human resources departments of various companies: Bayer’s Turkey operations, PepsiCo Turkey’s operations, Doruk Una Değer Katma Holding A.Ş., Yıldız Holding and Tay Group. Mr. Ünlü joined the Flat Glass Group in 2019 as Human Resources Director.

Paşabahçe (the Glassware Group)

The Board of Directors of Paşabahçe

Pursuant to the provisions of the TCC and the articles of association of Paşabahçe, the Board of Directors of Paşabahçe (the “*Paşabahçe Board*”) is responsible for the management of Paşabahçe. The Paşabahçe Board makes all major decisions for Paşabahçe, except decisions that, pursuant to the TCC, are exclusively reserved for shareholders. The Paşabahçe Board meets regularly and is instrumental, with the guidance of Paşabahçe’s senior management, in planning the medium- and long-term strategy of Paşabahçe. The Paşabahçe Board acts as the supervisory body of Paşabahçe’s activities. The articles of association of Paşabahçe provide for a board having a minimum of five members, elected by the shareholders for a maximum three-year term. The business address of the Board of Directors of Paşabahçe is İcmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

The following table sets out the members of the Paşabahçe Board as of the date of this Offering Circular:

Name	Position	Term Ends
Prof. Dr. Ahmet Kırman	Chairman	2019
Cemil Tokel	Vice Chairman	2019
Zeynep Nazlı Onursal	Member	2019
Gökhan Güralp	Member	2019
Zeynep Hansu Uçar	Member	2019
Dr. Gül Okutan Nilsson	Independent Member	2019

Other than as already set forth above, details of the members of the Paşabahçe Board are set out below:

Zeynep Nazlı Onursal, born in 1977, graduated from Bilkent University, Faculty of Business Administration in 2000 and started her career at Global Securities Inc. In 2002, Ms. Onursal joined Coca-Cola Bottlers of Turkey and worked in the fields of sales accounting, internal audit and budget and reporting, eventually serving as a Finance Supervisor between 2008 and 2010. She then joined PricewaterhouseCoopers Advisory in the area of finance and accounting management consultancy, where she rose to be a Senior Manager in 2014. In 2015, Ms. Onursal joined Paşabahçe as a Finance Manager, where, as of 2016, she assumed her current role of Finance Director for the Glassware Group. She has served as a member of the Paşabahçe Board since March 2016.

Dr. Gül Okutan Nilsson, born in 1969, is a graduate of Robert College of İstanbul and İstanbul University’s Faculty of Law. Dr. Nilsson also obtained an LL.M. degree as a Jean Monnet Scholar at the Amsterdam School of International Relations in the field of European and international trade law, and then earned a Ph.D. in the field of private law at İstanbul University. During her Ph.D. studies, she conducted research at the Hamburg Max-Planck Institute of Foreign and International Private Law as a Max Planck Scholar and at the Institute of Comparative Law in Lausanne, Switzerland as a scholar of the Swiss Confederation. Her Ph.D. thesis on shareholders’ agreements in joint stock companies won the 2001 Caga Law Award. In 2002, she was appointed as an assistant professor at the Commercial Law Department of İstanbul Bilgi University Faculty of Law, where she was promoted to Associate Professor in 2010 and Professor in 2017. She has been a Visiting Fellow at the London School of Economics and Social Sciences, Visiting Scholar of the London Institute of Advanced Legal Studies and guest lecturer at the Vanderbilt University Law School. She has publications in company law, capital markets law and intellectual property law. At İstanbul Bilgi University, she is a member of the board of the Law Faculty and Director of the Intellectual Property Law Research Center. On 19 March 2018, Dr. Nilsson was appointed as an Independent Member of the Paşabahçe Board in line with the Corporate Governance Principles of the CMB.

Senior Management of the Glassware Group

The table below sets out the members of the senior management of the Glassware Group as of the date of this Offering Circular. The business address of the senior management of the Glassware Group is İmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

Name	Position
Cemil Tokel.....	Glassware Group President
Osman Öztürk.....	Vice President, Production
Ertan Kurt.....	Vice President, Sales and Marketing
Zeynep Nazlı Onursal.....	Finance Director
Dr. Vedat Sedirođlu.....	Development Director
Başar Tırpancı.....	Strategic Planning and Business Development Director
Mustafa Başkonyalı.....	Supply Chain Director
Zeynep Ergül Cebecioglu.....	Quality Director
Hüseyin Ufuk Mahir.....	Human Resources Director

Other than as already set forth above, details of the senior management of the Glassware Group are set out below:

Osman Öztürk, born in 1958, graduated from the Marmara University Faculty of Machinery in 1980. Mr. Öztürk started his career as a Molding Technician at Paşabahe’s Kırklareli plant in 1983. He later held various positions as Molding Chief and Production Group Chief in Paşabahe’s Eskişehir plant and then Production Manager and Plant Manager in Paşabahe’s Bulgaria plant and finally Plant Manager in Paşabahe’s Eskişehir plant and Kırklareli plant. Since August 2018, he has been serving as Vice President of Production for the Glassware Group.

Ertan Kurt, born in 1972, graduated from the İstanbul University Faculty of Economics, where he also completed a master’s degree in international business management. He started his career in 1994 at Procter and Gamble, where he held several sales and marketing roles in its İstanbul headquarters, Mersin and Bursa. Mr. Kurt joined Reckitt Benckiser Turkey in 2000, where he established its trade marketing department and served as sales manager. He was then appointed as Country Manager in Slovenia and Global Trade Marketing Director at Reckitt Benckiser UK headquarters. Mr. Kurt held the Sales Director role for Nestle Waters Turkey between 2012 and 2016 and the International Markets Director of Brisa between 2016 and 2018. Since June 2018, he has been serving as Vice President of Sales and Marketing for the Glassware Group.

Dr. Vedat Sedirođlu, born in 1964, graduated from Middle East Technical University, Department of Chemical Engineering in 1989, where he later earned graduate and doctoral degrees. Dr. Sedirođlu joined the Group in 1999 and has since taken various roles: Development specialist at Soda Sanayii and Cam Elyaf Sanayii A.Ş., at the latter of which he was also Research and Development Manager, and Atmospheric Coating Technologies Manager at the Şişecam Research and Technological Development Centre. Since 2018, he has been serving as Development Director of Paşabahe.

Başar Tırpancı, born in 1980, graduated from Bilkent University, Faculty of Economics in 2004 and started his career as an auditor at Moore Stephens Turkey. In 2008, Mr. Tırpancı joined İş Investment and worked in the field of corporate finance. After working for Dođan Holding as a Business Development Manager between 2014 and 2015, Mr. Tırpancı joined the Group as a Mergers & Acquisitions Manager in 2015. Since January 2018, he has been serving as the Strategic Planning and Business Development Director of Paşabahe.

Mustafa Başkonyalı, born in 1976, graduated from İstanbul University, Faculty of Business Administration and earned an M.B.A. from Yeditepe University. Mr. Başkonyalı started his career at Siemens Fibre Optic Cables as a Logistics Specialist in 1999. In 2001, he became a Purchasing Specialist at Corning Cable Systems, where he was promoted to be a Purchasing Chief in 2004 and Supply Chain Manager in 2006. In 2011, Mr. Başkonyalı joined Johnson Controls Turkey as the Caspian Regional Supply Chain Manager. In 2014, he joined Paşabahe to serve as Supply Chain Director.

Zeynep Ergül Cebecioğlu, born in 1960, graduated from Boğaziçi University, Chemical Engineering Department in 1984, after which she joined Paşabahçe as a project engineer. In 1993, she was assigned as the Quality Control Chief of Paşabahçe's Beykoz plant. After serving in various executive positions relating to quality management, Ms. Cebecioğlu was promoted to the Quality, Environment and Technical Standards Manager position in 2013. Since 2015, she has been serving as the Quality Director of Paşabahçe.

Hüseyin Ufuk Mahir, born in 1975, graduated from İstanbul University, International Relations Department, where he also earned a master's degree in business management. Mr. Mahir started working as a human resources specialist at Bayındır Holding in 2000, and thereafter continued his career as a Human Resources Manager for the ABB Group between 2004 and 2008 and as a Compensation and Benefits and Human Resources Manager for the South-East Region at PepsiCo until 2010. He then worked at Arzum Company as a Human Resources Director responsible for Turkey, Hong Kong and Macedonia. In March 2013, he started working as a Human Resources Director at Sandoz Pharmaceuticals. Since November 2017, he has been serving as the Human Resources Director for Paşabahçe.

Anadolu Cam (the Glass Packaging Group)

Board of Directors

Pursuant to the provisions of the TCC and the articles of association of Anadolu Cam, the Board of Directors of Anadolu Cam (the "Anadolu Cam Board") is responsible for the management of Anadolu Cam. The Anadolu Cam Board makes all major decisions for Anadolu Cam, except decisions that, pursuant to the TCC, are exclusively reserved for shareholders. The Anadolu Cam Board meets regularly and is instrumental, with the guidance of Anadolu Cam's senior management, in planning the medium- and long-term strategy of Anadolu Cam. The Anadolu Cam Board acts as the supervisory body of Anadolu Cam's activities. The articles of association of Anadolu Cam provide for a board having a minimum of five members, elected by the shareholders for a maximum three-year term. The business address of the Board of Directors of Anadolu Cam is İcmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

The following table sets out the members of the Anadolu Cam Board as of the date of this Offering Circular:

Name	Position	Term Ends
Prof. Dr. Ahmet Kırman	Chairman	2019
Abdullah Kılıncı	Vice Chairman	2019
Sibel Koç Karacaoğlu.....	Member	2019
Zeynep Hansu Uçar	Member	2019
İlhan İl	Independent Member	2019
Mehmet Celal Betil.....	Independent Member	2019

Other than as already set forth above, details of the members of the Anadolu Cam Board are set out below:

Sibel Koç Karacaoğlu, born in 1976, graduated from İstanbul University, Faculty of Business Administration, Business Administration Department. In 1998, she started her career as Assistant Financial Resources Specialist at Anadolu Cam in the company's Management and Sales Centre. After working as a Financial Resources Specialist for the Glass Packaging Group companies, and then as a Budget Specialist and Financial Control Specialist, she was appointed as the Budget and Financial Control Manager at Anadolu Cam in 2014. Since October 2016, Ms. Karacaoğlu has been serving as the Finance Director of the Glass Packaging Group's Turkey operations. She holds the Independent Accountant and Financial Advisor, Capital Markets Activities Level 3 and Corporate Governance Rating licenses.

Mehmet Celal Betil, born in 1952, is a graduate of İstanbul Technical University, where he earned M.Sc. degrees in automation and power electronics. Mr. Betil worked as a Maintenance Engineer, Design Engineer and Plant Manager, before ending as the Managing Director of Birlik Galvaniz (Galvanised Steel) and Borçelik, during his 41-year career at Borusan Holding. From 2006, he acted as a Member of Borusan Holding's Executive Board and the Chairman of the Board of Directors and a member of the board at various Borusan Holding companies. Mr. Betil

retired in January 2018, but he continued to be a member of the board of some companies of the Borusan Group until January 2019. He became a member of the Board of Directors of the Turkish Employers Association of Metal Industries in 2007, where he was the Chairman of the Board of Directors between 2014 and 2016, and also was a member of the Board of Directors of the Turkish Confederation of Employer Associations between 2010 and 2016 and an Assembly Member at the İstanbul Chamber of Industry between 1999 and 2013. Mr. Betil has been a member of the Board of Directors of the Turkish Wind Energy Association since 2016. A trustee at İstanbul Boys' High School Education Foundation, where he was also a member of the Board of Directors between 2003 and 2010. On 21 March 2018, Mr. Betil was appointed as an Independent Member of the Anadolu Cam Board in line with the Corporate Governance Principles of the CMB.

Board Committees

Audit Committee

The Audit Committee was established to help the Anadolu Cam Board to carry out tasks and fulfil its responsibilities. The Audit Committee is composed of two directors. In 2018, the following board members were elected as the members of the Audit Committee: Mehmet Celal Betil (who serves as Chairman of the committee) and İlhan İl. Among other matters, the Audit Committee ensures that adequate and suitable internal controls are in place.

Early Risk Detection Committee

The Early Risk Detection Committee is composed of three members: Mehmet Celal Betil (who serves as Chairman of the committee), Zeynep Hansu Uçar and İlhan İl. The responsibility of the Early Risk Detection Committee is to detect risks that might endanger the existence and development of Anadolu Cam and to design studies and measurements to detect such risks, as well as to create strategies for risk management and oversee the application of such strategies.

Corporate Governance Committee

The Corporate Governance Committee is composed of three members: Mehmet Celal Betil (who serves as Chairman of the committee), Zeynep Hansu Uçar and Sibel Koç Karacaoğlu. The responsibility of the Corporate Governance Committee is to develop and implement continuous improvement processes to facilitate the application of best practices pursuant to the Turkish capital market legislation and the CMB's Corporate Governance Principles and, more broadly, international standards. Further, the committee determines if the Corporate Governance Principles are properly applied by Anadolu Cam and gives suggestions and advice to the Anadolu Cam Board in relation to the governance of Anadolu Cam. The Corporate Governance Committee also carries out the functions of the "nominations committee" and "remuneration committee" as defined in the Corporate Governance Principles.

Senior Management of the Glass Packaging Group

The table below sets out the members of the senior management of the Glass Packaging Group as of the date of this Offering Circular. The business address of the senior management of the Glass Packaging Group is İcmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

Name	Position
Abdullah Kılınç	Glass Packaging Group President - Turkey
Burak Atalay.....	Vice President, Marketing and Sales, Turkey
Kadir Ballı	Vice President, Production, Turkey
Sibel Koç Karacaoğlu.....	Finance Director, Turkey
Selim Kalkan	Strategic Planning Director, Turkey
Uğurşan Keskin	Supply Chain Director, Turkey
Oya Saçar	Quality Director, Turkey
Ekrem Şensoy.....	Human Resources Director, Turkey
Aydın Süha Önder.....	Glass Packaging Group President - Russia
Vladimir Dolgov.....	Vice President, Marketing and Sales, Russian Operations
Semih Büyükkapu	Vice President, Production, Russian Operations
Diana Kudzieva	Finance Director, Russian Operations
Hakan İbrahim Çopur.....	Supply Chain Director, Russian Operations
Alla Perets	Human Resources Director, Russian Operations

Other than as already set forth above, details of the members of the senior management of the Glass Packaging Group are set out below:

Burak Atalay, born in 1972, graduated with a bachelor's degree in business administration from İstanbul University in 1996. He started his professional carrier as a Purchasing Officer at Mercedes Benz Türk A.Ş. Between 1998 and 2000, he served as a Sales Manager at Rehau Polimer A.Ş. After having worked as a Country Manager at Guardian Glass S.A. for more than 10 years, Mr. Atalay joined the Flat Glass Group as Domestic Sales Group Manager in 2013. Mr. Atalay was appointed as Vice President of Marketing and Sales of the Glass Packaging Group, Turkey in March 2018.

Kadir Ballı, born in 1975, graduated with a bachelor's degree from İstanbul Technical University in 1997. He joined Anadolu Cam as a Furnace Engineer at the Çayırova plant in 2000. In 2004, Mr. Ballı was appointed Furnace and Batch House Chief, after which he was appointed as a Production Manager for the Pokrovsky plant in 2009 and then, in 2013, he was transferred to the Bursa-Yenişehir plant in the same role. Mr. Ballı was appointed as Plant Manager of the Yenişehir plant in 2014 and is serving as Production Vice President of the Glass Packaging Group, Turkey since January 2019.

Selim Kalkan, born in 1982, graduated with a Bachelor of Arts degree in Management from Boğaziçi University in 2006 and earned an M.B.A. from HEC Paris with a concentration on strategy in 2014. He started his career at Procter & Gamble as a member of the Customer Business Development team. From 2007 to 2012, he held several roles in distributor operations and national accounts teams at Procter & Gamble. In 2015, he joined the Glassware Group as Business Development Manager. In 2018, he was appointed as the Strategic Planning Director for the Glass Packaging Group, Turkey.

Uğurşan Keskin, born in 1968, graduated with a bachelor's degree in Industrial Engineering from Yıldız Technical University in 1992 and earned a master's degree in Industrial Engineering from İstanbul University in 1994. He started his professional career at Anadolu Efes Company in 1997, after which he served in managerial positions in the planning, logistics and procurement departments of various companies. In 2014, Mr. Keskin joined Anadolu Cam as Procurement Manager in the Supply Chain Directorate. Since 2017, Mr. Keskin has been serving as Supply Chain Director of the Glass Packaging Group, Turkey.

Oya Saçar, born in 1971, graduated with a bachelor's degree in chemical engineering from İstanbul Technical University. She joined Anadolu Cam as a Laboratory Engineer at the Mersin plant in 2000, where she later worked as a Process Control Engineer, Quality Control Engineer and Cold End Engineer. She was appointed as Quality and Process Control Chief in 2008 and as Quality Manager in 2014. Since 2017, she has been serving as Quality Director of the Glass Packaging Group, Turkey.

Ekrem Şensoy, born in 1958, graduated from Uludağ University, Faculty of Business Administration, Business Administration Department. In 1987, he started his carrier as a Personnel Officer at Çayırova Cam

Sanayii A.Ş., where he was assigned as Personnel Chief in 1998. After working for 11 years in the Çayırova plant, he was appointed as Human Resources Chief of Trakya Cam. In 2004, he was promoted to the Human Resources Manager position. In 2011, he was assigned as Human Resources Manager of Trakya Cam’s Yenişehir plant. Since May 2014, Mr. Şensoy has been serving as Human Resources Director of the Glass Packaging Group, Turkey.

Vladimir Dolgov, born in 1978, graduated with a bachelor’s degree from the Faculty of Production Processes Automatisation at the Azerbaijan State Oil Academy and earned a master degree in programming in 2000. He also earned an M.B.A. degree in Strategic Management at Moscow International Higher Business School in 2013. Mr. Dolgov started to work in the Russian operations of the Glass Packaging Group in December 2001, where he has held various roles. Since July 2013, he has been serving as the Marketing and Sales Vice President for the Glass Packaging Group’s Russian operations.

Semih Büyükkapu, born in 1963, graduated with a bachelor’s degree in electrical engineering from the Faculty of Electrical and Electronic at İstanbul Technical University in 1985 and earned a master’s degree in management from İstanbul University in 1997. He started to work in the Group in February 1986, where he has since held various roles. Since January 2013, he has been serving as the Vice President of Production for the Glass Packaging Group’s Russian operations.

Diana Kudzieva, born in 1977, graduated with a bachelor’s degree with honors in world economy at North Osetian State University in 1999. Between 2002 and 2012, Ms. Kudzieva worked for Baltika and Sun InBev. She joined the Glass Packaging Group in July 2012 as the Finance Executive of Russian operations. Since June 2016, she has been serving as the Finance Director for the Glass Packaging Group’s Russian operations.

Hakan İbrahim Çopur, born in 1978, earned a master’s degree in mechanical engineering at Bogazici University in 2004. He started to work at the Glass Packaging Group’s Russian operations as its Supply Chain Director in March 2015.

Alla Perets, born in 1969, graduated with a bachelor’s degree with honors at Pyatigorsk State Institute of Foreign Languages in 1992 and a master’s degree in human resources management from the Psychology Faculty at Moscow State University in 2004. Ms. Perets started to work at the Glass Packaging Group in August 2008 as the Human Resources Director for its Russian operations.

Soda Sanayii (the Chemicals Group)

Board of Directors

Pursuant to the provisions of the TCC and the articles of association of Soda Sanayii, the Board of Directors of Soda Sanayii (the “*Soda Board*”) is responsible for the management of Soda Sanayii. The Soda Board makes all major decisions for Soda Sanayii, except decisions that, pursuant to the TCC, are exclusively reserved for shareholders. The Soda Board meets regularly and is instrumental, with the guidance of Soda Sanayii’s senior management, in planning the medium- and long-term strategy of Soda Sanayii. The Soda Board acts as the supervisory body of Soda Sanayii’s activities. The articles of association of Soda Sanayii provide for a board having a minimum of five members, elected by the shareholders for a maximum three-year term. The business address of the Board of Directors of Soda Sanayii is İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

The following table sets out the members of the Soda Board as of the date of this Offering Circular:

Name	Position	Term Ends
Prof. Dr. Ahmet Kırman	Chairman	2019
Tahsin Burhan Ergene	Vice Chairman	2019
Umut Barış Dönmez	Member	2019
Canan Mutlu	Member	2019
Aysun Mercan	Independent Member	2019
Mehmet Sefa Pamuksuz	Independent Member	2019

Other than as already set forth above, details of the members of the Soda Board are set out below:

Umut Barış Dönmez, born in 1976, graduated from Boğaziçi University, Department of Business Administration. Mr. Dönmez joined the Group in 2006 in the position of Finance Manager at the SSL Şişecam Soda Lukavac d.o.o, which runs the SSL Soda Plant, and was promoted as the General Manager thereof in 2010. In 2015, he was assigned to be the Finance Manager of the Chemicals Group, where he was promoted to be the Finance Director in January 2016.

Canan Mutlu, born in 1974, graduated with a bachelor's degree in mechanical engineering from İstanbul Technical University in 1999, where she also earned a master's degree in management from its Social Sciences Institute in 2000. Ms. Mutlu has been working in the Subsidiaries Division of İşbank since 2001, currently serving as the Subsidiaries Division Unit Manager. Since 2015, she has held seats on the Board of Directors of Sofitech Yazılım Teknolojileri Araştırma Geliştirme ve Pazarlama Ticaret A.Ş., İş Net Elektronik Bilgi Üretim Dağıtım Ticaret ve İletişim Hizmetleri A.Ş., Kültür Yayınları İş Türk A.Ş. and Trakya Yatırım Holding A.Ş., each of which is a subsidiary of İşbank.

Mehmet Sefa Pamuksuz, born in 1963, graduated from the Department of Business Administration at Middle East Technical University and holds a M.S.F. degree from Boston College. As a managing partner of Policy Analytics Lab ("PAL"), a consultancy and think tank based in Ankara, Mr. Pamuksuz has practical knowledge on state-owned enterprises ("SOEs"), corporate governance and public financial management and is experienced in the regulation, financing, budgeting, monitoring and reporting of SOEs. Mr. Pamuksuz worked for 25 years in various capacities at the Turkish Treasury, including as the Director General of State-Owned Enterprises. While with the Turkish Treasury, he acted as the Coordinator of the G20's Infrastructure and Investment Working Group as well as the Chair of the G20/OECD Task Force on Institutional Investors and Long-Term Investments. Mr. Pamuksuz also served as the Alternate Executive Director of Turkey in the World Bank Group. In his role with the Turkish Treasury, Mr. Pamuksuz executed Turkey's SOE budget, including current and investment transfers to SOEs, agricultural support institutions, social security institutions and public banks. During his career at the Turkish Treasury, he participated in sectoral reform efforts in Turkey such as for public financial institutions, energy, agriculture, health, social security sectors and labour markets. He also worked in various public finance management projects and is an Adviser for the IMF's Fiscal Affairs Department, where he provided technical assistance to the governments of Cyprus, Mozambique, Lao PDR, Jamaica and Jordan. Mr. Pamuksuz is a CPA and volunteers as a career mentor to the students of Middle East Technical University. Currently working as a consultant on public financial management, long-term investments, corporate governance and SOEs at PAL, he was on 20 March 2018 appointed as an Independent Member of the Soda Board in line with the Corporate Governance Principles of the CMB.

Board Committees

Audit Committee

The Audit Committee was established to help the Soda Board to carry out tasks and fulfil its responsibilities. The Audit Committee is composed of two directors. In 2018, the following board members were elected as the members of the Audit Committee: Mehmet Sefa Pamuksuz (who serves as Chairman of the committee) and Aysun Mercan. Among other matters, the Audit Committee ensures that adequate and suitable internal controls are in place.

Early Risk Detection Committee

The Early Risk Detection Committee is composed of three members: Mehmet Sefa Pamuksuz (who serves as Chairman of the committee), Aysun Mercan and Canan Mutlu. The responsibility of the Early Risk Detection Committee is to detect risks that might endanger the existence and development of Soda Sanayii and to design studies and measurements to detect such risks, as well as to create strategies for risk management and oversee the application of such strategies.

Corporate Governance Committee

The Corporate Governance Committee is composed of four members: Mehmet Sefa Pamuksuz (who serves as Chairman of the committee), Aysun Mercan, Umut Barış Dönmez and Asuman Durak. The responsibility of the Corporate Governance Committee is to develop and implement continuous improvement processes to facilitate the application of best practices pursuant to Turkish capital market legislation and the CMB's Corporate Governance Principles and, more broadly, international standards. In addition, the committee determines if the Corporate Governance Principles are properly applied by Soda Sanayii and gives suggestions and advice to the Soda Board in relation to the governance of Soda Sanayii. The Corporate Governance Committee also carries out the functions of the "nominations committee" and "remuneration committee" as defined in the Corporate Governance Principles.

Senior Management of the Chemicals Group

The table below sets out the members of the senior management of Soda Sanayii as of the date of this Offering Circular. The business address of the senior management of the Chemicals Group is İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey.

Name	Position
Tahsin Burgan Ergene	Chemicals Group President
Hidayet Özdemir	Vice President, Production
Fehmi Alanlı.....	Vice President, Marketing and Sales
Umut Barış Dönmez.....	Finance Director
Selma Akyol.....	Supply Chain Director
İmran Eroğlu.....	Human Resources Director
Altuğ Özeren	Strategic Planning Director
Sefa Özincegedik.....	Şişecam Soda Lukavac d.o.o. General Manager
Serdar Özer.....	Cromital S.p.A. General Manager
Hamza Özaktaş.....	Camiş Madencilik A.Ş. General Manager
Altuğ Şener.....	Şişecam Elyaf Sanayii A.Ş. Plant Manager

Other than as already set forth above, details of the members of the senior management of the Chemicals Group are set out below:

Hidayet Özdemir, born in 1957, is a graduate of Hacettepe University School of Chemical Engineering. He joined the Chemicals Group in 1986 through Soda Sanayii and, in 2003, he was transferred to Soda Sanayii management before being promoted to Soda Sanayii Assistant General Manager in 2006. Since 2009, he has held his position as General Manager of Soda Sanayii and in 2011 was promoted to Chemicals Group Production Vice President.

Fehmi Alanlı, born in 1968, graduated from İstanbul Technical University as a chemical engineer in 1990. Between 1991 and 1996, Mr. Alanlı worked in the departments of production and sales at various companies in different chemical industries, including detergents, textile auxiliaries and industrial chemicals. He joined the Chemicals Group as a Sales Engineer in the Chromium Chemicals division in 1996. He then served as a Sales Manager for Sisecam (Shanghai) Trading Ltd. which is the Issuer's establishment in China, between 2006 and 2009. Mr. Alanlı then served in several roles within the sales department of the Chromium Chemicals division from the end of 2009, including Export Manager and Marketing and Sales Group Manager. Mr. Alanlı has been in the position of Marketing and Sales Vice President of the Chemicals Group since July 2018.

Selma Akyol, born in 1968, graduated from Ankara Gazi University, Industrial Engineering in 1992. She joined the Group in 1996, where she has held various managerial positions in production planning departments. In 2014, she was appointed to be the Supply Chain Director of the Chemicals Group.

İmran Eroğlu, born in 1959, graduated from Eskişehir Academy of Economics and Trading Sciences, Faculty of Administrative Sciences, Department of Business Administration, in 1982. Mr. Eroğlu joined the Group in 1985 as

a Personnel Officer in Ferro Döküm Sanayi ve Ticaret A.Ş and held various managerial positions in the Group's human resources departments. In 2011, he was assigned to be the Human Resources Director of the Chemicals Group.

Altuğ Özeren, born in 1979, holds a bachelor's degree in Mechanical Engineering from Boğaziçi University and a master's in business administration from the University of Miami. He has worked at Miami Consulting Group, Perry Ellis International and Deloitte Consulting in the United States and at Roland Berger Strategy Consulting in Turkey. He joined the Flat Glass Group in 2013, working as a Business Development Manager and later as the Director of Strategic Planning. Mr. Özeren has been working as the Director of Strategic Planning of the Chemicals Group since 1 January 2018.

Sefa Özincegedik, born in 1967, graduated with a bachelor's degree in Electrical and Electronics Engineering Department at Hacettepe University in 1992. He started his career in the Turkish Undersecretariat for Defense Industries and continued his career as a Communication Systems Expert in the government until 1999. Mr. Özincegedik joined the Group as an Electronics Engineer in Soda Sanayii in 1999 and has since held various managerial positions within the Chemicals Group. Since 2017, he has been serving as the General Manager of Şişecam Soda Lukavac d.o.o.

Serdar Özer, born in 1959, graduated from İstanbul Technical University's Management Engineering Faculty in 1984 and earned a master's degree in industrial engineering from Boğaziçi University in 1986. Mr. Özer joined the Group as an Industrial Engineering Specialist in 1988, and has since held various managerial positions within the Chemicals Group. Since 2015, he has been serving as the General Manager of Cromital Italy.

Hamza Özaktaş, born in 1965, graduated from the Middle East Technical University Department of Mining Engineering in 1990. Before he joined the Chemicals Group in 1995, he worked for construction companies in Turkey and Russia for five years. Mr. Özaktaş joined the Group as a Plant Engineer in Camiș Madencilik and was promoted to be a Marketing and Business Development Manager in 2007. Since 2016, he has been working as the General Manager of the Mining Products Division in the Chemicals Group.

Altuğ Şener, born in 1971, graduated from Hacettepe University with a bachelor of science degree in chemical engineering and also completed the General Management Programme of the Harvard Business School in 2012. He joined the Group as a process engineer in 1999 after four years of experience in different chemical industries. Prior to his most recent assignment as the Plant Manager of Şişecam Elyaf, he served as General Manager in Cam Elyaf Sanayi A.Ş and Deputy General Manager in Soda Sanayii.

Conflicts of Interest

There are no actual or potential conflicts of interest between the duties of any of the members of the board or the senior management of the Issuer and their respective private interests or other duties.

There are no actual or potential conflicts of interest between the duties of any of the members of the board or the senior management of any of the Guarantors and their respective private interests or other duties.

REGULATION

The Group's businesses are subject to certain legal requirements, including laws relating to the production of glass and chemicals, the environment, workplace health and safety, product liability and competition law, both in Turkey as well as other jurisdictions in which the Group operates. The applicability of these laws to the Group occurs both directly on the Group's operations and indirectly as a result of rules that apply to the Group's customers, which then require the Group to adhere to certain standards imposed upon such customers for their own products. Further, the Issuer and listed Guarantors are subject to capital markets legislation and the provisions of the TCC.

Set forth below is a summary of material provisions relating to the Group's operations.

Turkey

Environmental Regulation

The main Turkish environmental legislation is set forth under the Environmental Law No 2872 published in the Official Gazette dated 11 August 1983 numbered 18132 (the "*Environmental Law*"), the Environmental Impact Assessment Regulation published in the Official Gazette dated 25 November 2014 and numbered 29186 (the "*EIA Regulation*") and the Environmental Permit and License Regulation under the Environmental Law published in the Official Gazette dated 10 September 2014 and numbered 29115 (the "*Environmental Permit and Licence Regulation*").

Environmental Law

The Environmental Law sets out the general framework of environmental protection requirements and the consequences of non-compliance with these requirements. Under the Environment Law and other environmental laws, environmental audits must be conducted by the relevant authorities and fines might be imposed for violations. Any activity in breach of the Environmental Law might be subject to suspension.

EIA Regulation

The EIA Regulation aims to regulate the application and substance of environmental impact assessments on certain projects. Entities whose activities fall within the scope of the EIA Regulation are required to obtain the approval of Turkey's Ministry of Environment and Urbanisation prior to commencement of operations of any new plant or any modification or capacity increases to existing plants. Without environmental impact assessment approval or a decision that an environmental impact assessment is not necessary, entities may have their activities suspended and may be subject to fines.

Environmental Permit and Licence Regulation

The Environmental Permit and License Regulation unifies and regulates the separate licences, permits, approvals and authorisations that are required to be obtained under the Environmental Law, thereby streamlining the process for obtaining environmental licences, permits, approvals and authorisations. Pursuant to this regulation, all environmental permits that are required for the activities of a specific facility (for example, emission permits, wastewater discharge permits, noise control permits, hazardous waste permits and temporary storage permits) are granted under one environmental permit or environmental permit and licence. The holders of such permits must comply with all the requirements of the relevant environmental laws and regulations governing such permit.

This regulation classifies entities into two categories: (a) entities causing "maximum levels of pollution" and (b) entities otherwise polluting the environment. Producers of glass with a melting capacity of at least 300 tonnes per day are classified as entities causing maximum levels of pollution. Pursuant to the regulation, entities falling under category (a) must apply to Turkey's Ministry of Environment and Urbanisation to obtain either an "environmental permit" (which addresses environmental matters such as air emission, noise control, discharge of water) or an "environmental permit and licence" (which includes the environmental permit together with license certifying the technical sufficiency for certain operations such as recycling, disposal or storing of the waste materials), whereas

entities falling under category (b) must make such applications to the Provincial Directorate of Environment. With respect to the Group, its 12 plants in Turkey are considered to fall under category (a) and one plant is considered to fall under category (b).

Both an environmental permit and an environmental permit and licence are valid for a period of five years. A new permit (or permit and licence) must be obtained if there is a change in the nature or the location of the relevant activities.

Failure to obtain an applicable permit (or permit and licence) or to comply with its requirements or with the other requirements set forth under the Environmental Permit and License Regulation may result in administrative sanctions under the Environmental Law, subject to the cure period that may be granted to the relevant entity in certain circumstances (a maximum of one year) for rectification of its non-compliance. If the non-compliance continues, the entity's permit (or permit and licence) can be revoked and the activities of the relevant entity can be partially or wholly, temporarily or permanently, suspended.

Members of the Group are also subject to certain regulations issued under the Environmental Law that establish emission limits and conditions for carrying out certain activities, including wastewater discharge, noise control and waste management.

Chemicals Regulations

As part of the harmonisation process with the EU Directives, a new regulatory framework for the registration and risk management of chemicals manufacture and importation was introduced under the Registration, Evaluation, Authorisation and Restriction of Chemical Regulation (“*REACH*”) published in the Official Gazette dated 23 June 2017 and numbered 30105, the provisions of which enter into force at varying times commencing from December 2017. The provisions of REACH correspond on a large scale to the Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals. As it replaced the former legal framework for chemicals, namely Regulation on Inventory and Control of Chemicals, Regulation on Safety Data Sheets regarding the Hazardous Substances and Mixtures, and Regulation on Restriction and Prohibition of Hazardous Substances and Mixtures; different times for entry into force have been adopted allowing for interim periods and gradual compliance for the actors of the industry. Accordingly, Regulation on Inventory and Control of Chemicals will be replaced by REACH on 31 December 2023, granting the submission of data sheets prepared pursuant to both, until that date.

The scope of REACH concerns substances, mixtures and articles of chemicals. Any manufacturer or importer of a chemical over one ton per year needs to comply with REACH. Tonnage parameters apply in the gradual increase of certain obligations, and certain chemicals are exempt from such requirements. REACH does not allow operations in the market without the submission of the required data to the website of the Turkish Ministry of Environment and Urbanisation. Failure to comply with the obligations under REACH may result in administrative and criminal liability.

The obligations required under REACH are mainly the submission of a technical work summary detailing in respect of the tonnage limits, and a chemical safety assessment for operations exceeding 10 tonnes per year. Chemicals considered as hazardous are subject to the submission of a detailed chemical safety data sheet prepared by chemical evaluation experts that is also to be provided to buyers.

The Turkish Ministry of Environment and Urbanisation analyzes the applications within a three-week period following the date such applications are submitted. Applicants who comply with the applicable legal requirements and submit complete data are authorised to continue their operations.

Among the Group's companies, Soda Sanayii will be subject to REACH. Soda Sanayii expects to fully complete the application, and be in compliance, with REACH in 2018.

Workplace Safety

There are numerous laws governing the establishment and safety of workplaces in Turkey, the principal of which laws are the Regulation regarding Licensing for Opening and Operating a Workplace published in the Official Gazette dated 10 August 2005 and numbered 25902 (the “*Workplace Regulation*”) and the Law on Work Health and Safety numbered 6331 published in the Official Gazette dated 30 June 2012 numbered 28339 (the “*Health and Safety Law*”). Additional laws govern specific issues of health and security at the workplace, such as the Regulation on Work Health and Security Services published in the Official Gazette dated 29 December 2012 and numbered 28512 and the Regulation regarding Health and Safety Measures for Working with Chemicals published in the Official Gazette dated 12 August 2013 and numbered 28733.

Workplace Regulation

The Workplace Regulation governs the granting of permits for the establishment of workplaces. In order to establish production facilities, an entity must apply to governmental authorities (*i.e.*, special provincial administrations, metropolitan municipalities or municipalities, depending upon the location of the workplace) to obtain a “facility location and establishment permit” (which may be substituted with an environmental impact assessment). The facility location and establishment permit is valid for five years from the date of issuance and may be extended for another two years under certain circumstances. After a facility has been built, it cannot be operated until the relevant entity has obtained an “opening and operating permit” (where deemed necessary or upon the application of the owner of the workplace, after first having undertaken a trial of the facility’s operations under a trial permit valid for a maximum of one year). After an application for an operating and operating permit has been submitted, the applicable governmental authorities visit and audit the workplace and, if no non-compliance is detected, may issue an opening and operating permit.

Workplaces operating without the requisite licences may be shut down and operational activities may be suspended until the authorities determine that the relevant requirements are complied with.

Health and Safety Law

The Health and Safety Law was published on 30 December 2012 and came into force at different stages. This law strengthened the health and safety requirements in workplaces in the public and private sectors with very limited exemptions such as the workplaces for the manufacture of goods and services without employing third persons, including the implementation of work health and safety units, the provision or procurement of health and safety services and the employment or outsourcing of workplace doctors and occupational safety experts. The Health and Safety Law prescribes other obligations on employers, such as conducting risk assessments, establishing emergency plans and supervising compliance with health and safety measures. Employers violating these legal obligations are subject to administrative monetary fines.

Product Liability

Although there is no specific code of product liability in Turkey, numerous regulations have (in connection with Turkey’s EU accession process) been adopted in order to bring Turkish laws into conformity with Directive 92/59/EEC (published by the European Council on 3 December 2001) on general product safety.

The Turkish Code of Obligations numbered 6098 published in the Official Gazette dated 4 February 2011 numbered 27836 regulates the liability of sellers in respect of defective goods. In addition, the Consumer Protection Law numbered 6502 published in the Official Gazette dated 28 November 2013 and numbered 28835 governs the liability of manufacturers, producers and suppliers of defective products and services. Producers and manufacturers are obligated to recall the series of defective products when such series is determined as defective with a court order. Both of these laws permit consumers to bring strict liability indemnification claims for damage caused by such defective products and (if such claims are successful) the relevant producer or manufacturer will be held liable unless they prove that the defect on the goods occurred after they were delivered to the market.

Anti-Trust Legislation

The main Turkish anti-trust legislation is the Act on the Protection of Competition numbered 4054 published in the Official Gazette dated 13 December 1994 and numbered 22140 (the “*Competition Act*”) and secondary laws issued thereunder (together, the “*Anti-Trust Legislation*”), which laws govern all entities active in, or affecting, the goods and services markets within Turkey. The Anti-Trust Legislation aims to prevent monopolies and, through the regulation of agreements, concerted practices and decisions preventing, disrupting or otherwise limiting competition, the abuse of dominant positions and mergers and acquisitions that might result in substantial lessening of competition.

In principle, all anti-competitive agreements, arrangements, concerted practices and decisions and actions of associations of entities are prohibited under the Competition Act. Examples of prohibited actions include fixing the purchase or sale price of goods, partitioning certain markets and sharing and controlling any kind of market resources, controlling or determining the supply or demand in a market, complicating and restricting the activities of competing entities, excluding entities from the market or preventing their entry to the market, exclusive dealings and applying different terms to purchasers of equal status are examples of actions that directly or indirectly can be expected to prevent, distort or restrict competition.

Abuse of Dominant Position

The Competition Act prohibits entities from abusing their dominant position through agreements with others or through concerted practices. Abuse of a dominant position is specified, in particular, as: (a) preventing other entities from entering the relevant market, (b) discriminating by offering different terms to purchasers of equal status, (c) tying arrangements (*e.g.*, requiring that a purchaser acquire a product or service when it purchases another product or service), (d) imposing limitations to the terms of a resale of a purchased good, (e) distorting competitive conditions through exploitation of financial, technological and commercial advantages resulting from dominance in a market or (f) restricting production, marketing or technical development to the prejudice of consumers. Entities that are in a dominant position within a given market are under close scrutiny of the Competition Board of Turkey (the “*Competition Board*”).

Mergers or Acquisitions

Mergers and acquisitions with a view to creating or strengthening a dominant position, which would result in significant lessening of competition in a market for goods or services within the whole or a part of the country, are prohibited under the Competition Act and such mergers and acquisitions in a given market require specific review by the Competition Board.

Consequences and Sanctions

The Competition Act permits the imposition of administrative monetary fines on entities that violate the provisions of the Competition Act, though such fines are subject to certain factors, such as whether the relevant entity actively cooperates with the Competition Board. Anti-competitive agreements, arrangements, concerted practices and decisions and actions of associations of entities violating the Competition Act are invalid.

Group Company Provisions

The TCC contains provisions governing group companies, including certain notification, registration and announcement obligations imposed upon members of a corporate group. Among these provisions are rules governing the circumstances under which a parent company might have liability for the obligations of its subsidiaries.

Liabilities arising from Dominance

These liability provisions are based upon the concept of dominance. Although the TCC does not give a clear definition of dominance, it states the circumstances in which dominance exists. Parent companies that exercise control over subsidiaries directly or indirectly through: (a) owning the majority of their voting rights, (b) holding the right to elect a number of members of their governing bodies sufficient to adopt resolutions or (c) holding the majority of

votes by themselves or with third parties based upon a voting arrangement, or through other means such as “dominance agreements,” are considered to be in a dominant position over such subsidiaries. A dominance agreement, which is regulated by both the TCC and the Regulation regarding the Trade Registry published in the Official Gazette dated 27 January 2013 numbered 28541, is defined as an agreement between a dominant party and a subsidiary that is a “capital company” (e.g., a joint stock company), which contract grants the dominant party the unconditional right to instruct the managing body of such subsidiary.

Parent companies are prohibited from exercising dominance in a way that might result in their subsidiaries incurring financial losses. The TCC provides that the shareholders or creditors of a subsidiary may seek indemnification of such loss from the parent company. If the decision-making bodies of subsidiaries in a corporate group adopt structural or other key decisions as a result of the exercise of dominance by the parent company, then shareholders who vote against the decision and annotate their objections to the minutes or object to the decisions in a written form are permitted to seek compensation before the court from the parent for their losses. Furthermore, upon the request of the shareholder who suffered from losses or if its justifiable as ex officio, the court may decide the repurchase by the company of its shareholding.

Notification, Registration and Announcement

In the event a person or entity (whether Turkish or otherwise) acquires or transfers shares of a Turkish company that result in such person or entity exceeding or falling under certain shareholding percentages, such person or entity must inform the applicable company and the relevant authorities, including the trade registry, within ten days of the completion of relevant transaction. All shareholder rights, including the voting rights attached to the relevant shares, will cease to apply unless and until the registration and announcement obligation is satisfied.

Subsidiaries of a group company are required to prepare an annual affiliation report to discuss all of the transactions made with the parent company and other subsidiaries of the parent company, transactions made with third parties upon the directions of the parent company in favour of the parent company or its other subsidiaries, measures taken and that were refrained from being taken in favour of those companies and losses incurred resulting from the corporate group relations and its compensation. Parent companies are required to prepare a control report with regard to their relations with subsidiaries upon the request of any members of the Board of Directors of the parent company.

Capital Markets Legislation

As a listed company, the Issuer and the listed Guarantors are subject to the Capital Markets Law and regulations, communiqués, other laws and rules issued by the CMB and Borsa İstanbul.

Certain Corporate Governance Provisions for Companies Listed on the Borsa İstanbul

On 3 January 2013, the CMB issued the Communiqué Serial: II-17.1 Corporate Governance Communiqué (“*Corporate Governance Communiqué*”), which provides certain mandatory and non-mandatory corporate governance principles as well as rules regarding related-party transactions and a company’s investor relations department. Some provisions of the Corporate Governance Communiqué are applicable to all companies incorporated in Turkey and listed on the Borsa İstanbul, whereas some others are applicable solely to companies whose shares are traded in certain markets of the Borsa İstanbul. As a company whose shares are listed on Borsa İstanbul, each of the the Issuer and listed Guarantors is subject to the Capital Markets Law, communiqués issued by the CMB and the rules of the Borsa İstanbul.

The Corporate Governance Communiqué contains principles relating to: (a) companies’ shareholders, (b) public disclosure and transparency and (c) the board of directors. A number of principles are compulsory, while the remaining principles apply on a “comply or explain” basis. If any of the Issuer or the listed Guarantors does not comply with any of the non-mandatory principles applicable to it under the Corporate Governance Communiqué, then it is required to explain any such non-compliance in its annual Corporate Governance Principles Compliance Report, which is published as part of its annual report.

The mandatory principles under the Corporate Governance Communiqué include: (a) the composition of the board of directors, (b) the appointment of independent board members, (c) requirements on board committees, (d) specific corporate approval requirements for related party transactions, transactions that may result in a conflict of interest and certain other transactions and (e) information rights in connection with general assembly meetings.

Pursuant to the Corporate Governance Communiqué, the board of directors of a listed company shall have at least five members and the majority of the board shall consist of non-executive directors. A certain number of these non-executive board members must be independent board members. Independent directors may be appointed for a period up to three years and can be re-elected, *provided* that they do not serve as a board member for more than six years within a period of ten years.

In addition to the mandatory principles regarding the composition of the board and the independent board members, the Corporate Governance Communiqué introduced specific corporate approval requirements, and subject to certain exceptions, valuation requirements for all material related party transactions such as asset and service purchases, leases, liability transfers and asset and service sales. All those types of transactions shall be approved by the majority of the independent board members. If not approved, then those transactions must be approved by the general assembly meeting and with respect to which related parties to those transactions are not allowed to vote. Meeting quorum shall not be sought for these resolutions and the resolution quorum is the simple majority of the attendees who may vote.

Further, there are certain restrictions under the Corporate Governance Communiqué for the granting by a listed company of a guarantee, a security interest or surety in favour of third parties. Pursuant to the Corporate Governance Communiqué, listed companies are allowed to grant a security interest, mortgage or surety (which is interpreted to include guarantees) (“*Security/Guarantee*”) only in the following circumstances: (a) for its own benefit, (b) for the benefit of its consolidated subsidiaries or (c) for the benefit of a third party to the extent that such *Security/Guarantee* is provided in order to conduct the ordinary course of its business.

A listed company is also permitted to provide *Security/Guarantee* to a third party for the benefit of its affiliates or joint ventures in proportion to its direct participation in the share capital of such affiliate or joint venture.

Moreover, the CMB issued a decision dated 27 January 2016 and numbered 3 that allows: (a) a listed company and its subsidiaries to provide a *Security/Guarantee* to a third party for the benefit of a group company (“*Fund Provider*”) up to the amount of the funds that it will receive from such *Fund Provider* and (b) privately held group companies to provide a *Security/Guarantee* to a third party for the benefit of its parent company (which must be a listed company) without any restriction.

Board resolutions regarding the granting of any *Security/Guarantee* in favour of third parties in order to carry out ordinary business activities require the affirmative vote of the majority of the independent board members. If the majority of independent board members do not approve such transactions, then the reason for dissent must be disclosed to the public.

The general assembly of shareholders is required to be informed of transactions that might lead to a conflict of interest with the listed company and its controlling shareholders, board members, high level executives and their up to second degree relatives.

The Capital Markets Law authorises the CMB to require listed companies to comply with the corporate governance principles in whole or in part and to take certain measures with a view to monitor compliance with the new principles, which include requesting injunctions from the court or filing lawsuits to determine or to revoke any unlawful transactions or actions that contradict these principles.

SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

Shareholders of the Issuer

As of the date of this Offering Circular, the issued share capital of the Issuer consists of 225,000,000,000 ordinary shares of par value 1 Kr (0.01 TRY) each. The following table sets out the Issuer's shareholders:

Holder	Number of Shares	Percentage holding
Türkiye İş Bankası A.Ş.....	151,003,484,856	67.11
Efes Holding A.Ş.....	18,507,264,032	8.23
Anadolu Hayat Emeklilik A.Ş.....	108,131,200	0.05
Other.....	55,381,119,923	24.61
Total.....	225,000,000,000	100.00

Shareholders of Trakya Cam

As of the date of this Offering Circular, the issued share capital of Trakya Cam consists of 125,000,000,000 ordinary shares of par value TRY 0.01 each. The following table sets out Trakya Cam's shareholders:

Holder	Number of Shares	Percentage holding
Türkiye Şişe ve Cam Fabrikaları A.Ş.....	86,894,159,574	69.45
Other.....	38,105,840,426	30.55
Total.....	125,000,000,000	100.00

Shareholders of Paşabahçe

As of the date of this Offering Circular, the issued share capital of Paşabahçe consists of 21,553,580,020 ordinary shares of par value TRY 0.01 each. The following table sets out Paşabahçe's shareholders:

Holder	Number of Shares	Percentage holding
Türkiye Şişe ve Cam Fabrikaları A.Ş.....	18,106,446,820	84.01
European Bank for Reconstruction and Development	3,329,204,400	15.45
Islamic Development Bank	117,928,800	0.55
Total.....	21,553,580,020	100.00

Shareholders of Anadolu Cam

As of the date of this Offering Circular, the issued share capital of the Anadolu Cam consists of 75,000,000,020 ordinary shares of par value TRY 0.01 each. The following table sets out Anadolu Cam's shareholders:

Holder	Number of Shares	Percentage holding
Türkiye Şişe ve Cam Fabrikaları A.Ş.....	57,821,839,186	77.10
Other.....	17,178,160,834	22.90
Total.....	75,000,000,020	100.00

Shareholders of Soda Sanayii

As of the date of this Offering Circular, the issued share capital of Soda Sanayii consists of 100,000,000,000 ordinary shares of par value TRY 0.01 each. The following table sets out Soda Sanayii's shareholders:

Holder	Number of Shares	Percentage holding
Türkiye Şişe ve Cam Fabrikaları A.Ş.	63,322,128,100	60.67
Other	36,677,871,900	39.33
Total	100,000,000,000	100.00

Related Party Transactions

For information regarding the Group's related party transactions, see Note 37 of the 2018 Consolidated Financial Statements.

INDUSTRY OVERVIEW

The Turkish Glass Industry

The Turkish glass industry is among the top five in the world in terms of production and export of glassware and glass containers, according to Business Turkey Today. In terms of production it has an 8% share of total glass production worldwide. Turkey's total glass production was US\$1.9 billion for 2012 and Turkey has a 5% share of the global export market for glassware. For the year 2012, total exports for the sector were worth US\$1.1 billion. The main markets for Turkish exports are Italy, UK, Germany, France, Egypt, the U.S., China, Russia, Bulgaria and Spain.

The Turkish glass industry traces its roots back to the eighteenth and nineteenth centuries, but the modern Turkish glass industry developed in the 1930s following a switch to modern mass production methods. During this period the focus was on meeting demand in Turkey for glass containers and houseware; *however*, following new investment in the 1960s, the industry commenced production of flat glass, automotive glass, industrial glass products and fibreglass.

The expansion of the construction industry and increased housing demand further boosted demand for flat glass and glass household goods during the 1970s. The encouragement of export-oriented growth policies during the 1980s made the glass industry one of Turkey's fastest growing export industries. With the expansion of access to export markets during 1990s, the industry increased its production capacity both in Turkey and through investments outside of Turkey. The industry's export activities encompass over 150 countries, achieved due to the strong logistic capabilities in Turkey and investment outside of Turkey.

Glass Production

Overview

Glass production basically derives from heating a mixture of raw materials to extremely high temperatures in a furnace. When molten, the glass can be either blown, poured into moulds in the case of glass vessels and glassware, or in the case of flat glass, made into sheets or floated as long ribbons for cutting into panels.

Modern glass production involves highly sophisticated technologies and requires considerable investment in plant and training, presenting significant barriers to entry.

Raw Materials

Most glass is a mixture of silica obtained from beds of fine sand or from pulverised sandstone. A base is usually added to the mixture in order to lower the melting point, usually a form of soda or, for finer glass, potash; *however*, a glass of this composition is water-soluble and is known as water glass, so lime is also added as a stabiliser in order to obtain an inert glass. Cullet (waste glass) is also included to assist in melting the mixture. Flat glass is similar in composition to container glass except that it contains a higher proportion of magnesium oxide.

The properties of glass are varied by adding other substances, commonly in the form of oxides, for example: lead for brilliance and weight, boron for thermal and electrical resistance, barium to increase the refractive index (as in optical glass), cerium to absorb infrared rays, metallic oxides to impart colour and manganese for removing unwanted colour. The term "crystal glass," derived from rock crystal, was of first applied to clear, highly refractive glass but it has come to denote in the trade a high-grade, colourless glass and is sometimes applied to any fine hand-blown glass.

Flat Glass Production

Much of the glass produced today is in the form of sheets of flat glass. The main flat glass products are designed for: (a) high quality glazing in homes, offices, hotels, shops, vehicles, public buildings and glass for horticulture, (b) wired glass for fire resistance, (c) patterned glass for privacy and decoration and (d) a wide range of glass for environmental control and energy conservation. Other uses for flat glass include toughened glass doors,

suspended window assemblies, cladding for the exterior of buildings, mirrors and low-reflection glass for pictures and instrument dials.

The two modern manufacturing processes for producing flat glass are the float glass and rolled glass processes. There are around 434 float plants worldwide with an estimated combined output of about 1.5 to 2.0 million tonnes of glass a week. A float plant, which operates non-stop for between 11 to 15 years, makes around 6,000 kilometres of glass per year in thicknesses of 0.4mm to 25mm and in widths up to three metres.

A float line can be nearly half a kilometre long. Raw materials mixed to make what is known as “batch” enter at one end and from the other, plates of glass emerge, cut precisely to specification, at rates as high as 6,000 tonnes a week. As the input travels through the furnace several processes (melting, refining, homogenising) take place simultaneously in the 2,000 tonnes of molten glass in the furnace, occurring in separate zones in a complex glass flow driven by high temperatures. Molten glass flows gently over a refractory spout and is floated on to a mirror-like surface of molten tin, starting at 1,100°C and leaving the float bath as a solid ribbon at 600°C.

The process can last as long as 50 hours, and delivers glass at 1,100°C, free from inclusions and bubbles, smoothly and continuously to the float bath. The melting process is critical to glass quality, while batch compositions can be modified to change the properties of the finished product.

As the ribbon cools considerable stresses are developed and in order to relieve these stresses the ribbon undergoes heat-treatment in a long furnace known as a “lehr.” This process is known as “annealment.” Temperatures are closely controlled both along and across the ribbon in order to produce glass of the requisite quality.

The glass is rigorously inspected at every stage of the production process for inclusions and flaws. Diamond wheels trim off seldge – stressed edges – and cut the ribbon to size dictated by a computer. Float glass is sold by the square metre. Computers translate customers’ requirements into patterns of cuts designed to minimise waste.

Glass Container Production

Until the second half of the nineteenth century bottles were made by hand gathering, blowing and finishing the neck. A semi-automatic method of bottle making was developed after 1850 but this has since been replaced by the fully automatic process. All bottles and jars are now made automatically by techniques deriving from two methods – “Press and Blow” or “Blow and Blow,” whereby glass containers are formed by pouring molten glass into a mould to form a “parison” and then either blowing a jet of compressed air or applying a plunger to create the desired shape.

Modern glass producing machines can comprise several sections and 10-by-12 section or 16-by-20 section tandem machines are now common. The machine can typically operate on the blow and blow or press and blow principle. Machines of this kind are currently capable of producing more than 600 containers per minute.

The NNPB process was introduced to gain better control over glass distribution in the container. The improved control over glass distribution has enabled significant reduction in glass weight of up to 33% without adversely affecting the mechanical performance of the container. A key component in the above process is the plunger, used to form the cavity in the parison during the forming stage. The function of the plunger is to evenly distribute the glass within the blank mould cavity and to aid the removal of thermal energy from the internal surface of the parison.

TERMS AND CONDITIONS OF THE NOTES

The following is the text of the Conditions of the Notes that (subject to modification and except for the paragraphs in italics) will be endorsed on the Certificates issued in respect of the Notes:

The US\$550,000,000 6.95 *per cent.* Guaranteed Notes due 2026 (the **Notes**, which expression shall in these Conditions, unless the context otherwise requires, include any further notes issued pursuant to Condition 17 and forming a single series with the Notes) of Türkiye Şiše ve Cam Fabrikaları A.Ş. (the **Issuer**) are constituted by a Trust Deed dated 14 March 2019 (the **Trust Deed**) among the Issuer, Trakya Cam Sanayii A.Ş. (**Trakya Cam**), Paşabahçe Cam Sanayii ve Ticaret A.Ş. (**Paşabahçe**), Anadolu Cam Sanayii A.Ş. (**Anadolu Cam**) and Soda Sanayii A.Ş. (**Soda Sanayii**) and, together with Trakya Cam, Paşabahçe and Anadolu Cam, the **Guarantors**) as guarantors and Citibank, N.A., London Branch (the **Trustee**) as trustee for the holders of the Notes (the **Noteholders**) issued subject to and with the benefit of an Agency Agreement dated 14 March 2019 (such agreement as amended and/or supplemented and/or restated from time to time, the **Agency Agreement**) made among the Issuer, the Guarantors, Citigroup Global Markets Europe AG as registrar (the **Registrar**), Citibank, N.A., London Branch as principal paying agent (the **Principal Paying Agent**) and the other initial paying agents named in the Agency Agreement (the **Paying Agents**) and the other agents named therein (together with the other Paying Agents and the Registrar, the **Agents**).

The statements in these Conditions include summaries of, and are subject to, the detailed provisions of and definitions in the Trust Deed. Copies of the Trust Deed and the Agency Agreement appertaining to the Notes are available for inspection during normal business hours by the Noteholders at the specified office of each of the Paying Agents. The Noteholders are entitled to the benefit of, are bound by, and are deemed to have notice of, all the provisions of the Agency Agreement and the Trust Deed applicable to them. References in these Conditions to the Trustee or any Agent shall include any successor appointed under the Trust Deed or the Agency Agreement, as applicable.

1. FORM, DENOMINATION AND TITLE

1.1 Form and Denomination

The Notes are issued in registered form in amounts of US\$200,000 and integral multiples of US\$1,000 in excess thereof (referred to as the **principal amount** of a Note). A certificate (each, a **Certificate**) will be issued to each Noteholder in respect of its registered holding of Notes. Each Certificate will be numbered serially with an identifying number which will be recorded on the relevant Certificate and in the register of Noteholders which the Issuer will procure to be kept by the Registrar outside of the United Kingdom. The Notes are issued pursuant to the Commercial Code (Law No. 6102), the Capital Markets Law (Law No. 6362) and the Communiqué No. VII-128.8 on Debt Instruments of the Capital Markets Board (in Turkish: *Sermaye Piyasası Kurulu*) (the **CMB**), in each case, of the Republic of Turkey (**Turkey**).

1.2 Title

Title to the Certificates passes only by registration in the register of Noteholders (the **Register**). The holder of any Certificate will (except as otherwise required by law) be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest or any writing on, or the theft or loss of, such Certificate) and no person will be liable for so treating the holder. In these Conditions, **Noteholder** and (in relation to a Note) **holder** means the person in whose name the applicable Certificate is registered in the Register.

2. TRANSFERS OF NOTES AND ISSUE OF CERTIFICATES

2.1 Transfers

A Note may be transferred by depositing the Certificate issued in respect of that Note, with the form of transfer on the back duly completed and signed, at the specified office of the Registrar or any of the other Agents.

2.2 Delivery of new Certificates

Each new Certificate to be issued upon transfer of Notes will, within five business days of receipt by the Registrar or the relevant other Agent of the duly completed form of transfer endorsed on the relevant Certificate, be mailed by uninsured mail at the risk of the holder entitled to the Note to the address specified in the form of transfer. For the purposes of this Condition, **business day** shall mean a day on which banks are open for business in the city in which the specified office of the Agent with whom a Certificate is deposited in connection with a transfer is located.

Where some but not all of the Notes in respect of which a Certificate is issued are to be transferred, a new Certificate in respect of the Notes not so transferred will, within five business days of receipt by the Registrar or the relevant other Agent of the original Certificate, be mailed by uninsured mail at the risk of the holder of the Notes not so transferred to the address of such holder appearing on the Register or as specified in the form of transfer.

2.3 Formalities free of charge

Registration in the Register of a transfer of a Certificate (or, to the extent requiring the issue of a new and/or replacement Certificate, of Notes represented thereby) will be effected without charge by or on behalf of the Issuer or any Agent but upon payment by the applicable Noteholder (or the giving of such indemnity as the Issuer or any Agent may reasonably require) in respect of any tax or other governmental charges which may be imposed in relation to such transfer.

2.4 Closed Periods

No Noteholder may require the transfer of a Certificate (or, to the extent requiring the issue of a new and/or replacement Certificate, of Notes represented thereby) to be registered in the Register during the period of 15 days ending on the due date for any payment of principal or interest on the Notes represented by such Certificate.

In the event of a partial redemption of Notes under Condition 8, the Registrar shall not:

- (a) register the transfer of a Certificate (or, to the extent requiring the issue of a new and/or replacement Certificate, such new or replacement Certificate and the Notes represented thereby) during the period beginning on the 65th day (or, if shorter, on the day on which the notice of redemption has been delivered pursuant to Condition 8) before the date of the partial redemption and ending on the day on which notice is given specifying the serial numbers of Certificates representing Notes called (in whole or in part) for redemption (both inclusive); or
- (b) register the transfer of any Certificate (or, to the extent requiring the issue of a new and/or replacement Certificate, such new or replacement Certificate and the Notes represented thereby), or part thereof, called for redemption.

2.5 Regulations

All transfers of Notes and entries on the Register will be made subject to the detailed regulations concerning transfer of Notes scheduled to the Agency Agreement. The regulations may be changed by the Issuer with the prior written approval of the Registrar and the Trustee. A copy of the current regulations will be mailed (free of charge) by the Registrar to any Noteholder who requests one.

3. STATUS

The Notes are direct, unconditional, unsubordinated and (subject to the provisions of Condition 5.3) unsecured obligations of the Issuer and (subject as provided above) rank and will rank *pari passu*, without any preference among themselves, with all other outstanding unsecured and unsubordinated obligations of

the Issuer, present and future, but, in the event of insolvency, only to the extent permitted by applicable laws relating to creditors' rights.

4. GUARANTEES

4.1 Guarantees

The payment of the principal and interest in respect of the Notes and all other moneys payable by the Issuer under or pursuant to the Trust Deed and/or these Conditions has been unconditionally and irrevocably guaranteed in the Trust Deed on a several and not joint basis by Trakya Cam in an aggregate amount equal to US\$183,333,333, by Paşabahçe in an aggregate amount equal to US\$110,000,000, by Anadolu Cam in an aggregate amount equal to US\$110,000,000 million and by Soda Sanayii in an aggregate amount equal to US\$36,666,667 million (the **Guarantees**), in each case subject to: (a) any increase in such amounts in connection with any issue of further notes pursuant to Condition 17 and (b) any reduction in such amounts upon any: (i) redemption of the Notes in part only and not in full pursuant to Conditions 8.3 or 8.4 or (ii) purchase and cancellation of Notes pursuant to Condition 8.7(b), which reduction (without considering any amounts already paid under any Guarantee) shall in each case be by an amount corresponding to the percentage by which the aggregate principal amount of the Notes then outstanding is reduced as a result of any such redemption or purchase and cancellation; *provided* that, for any Guarantor, should the aggregate amount of such Guarantor's Guarantee as so reduced be less than the amount that such Guarantor has already paid under its Guarantee, then the amount of such Guarantor's Guarantee shall only be so reduced to an amount equal to the amount that such Guarantor has already paid under its Guarantee.

4.2 Status of the Guarantees

The obligations of the Guarantors under the Guarantees constitute direct, unsubordinated and (subject to the provisions of Condition 5.3) unsecured obligations of each Guarantor, on a several basis and limited in amounts as set out in Condition 4.1, and (subject as stated above) rank and will rank *pari passu* with all other outstanding unsecured and unsubordinated obligations of the Guarantors, present and future, but, in the event of insolvency, only to the extent permitted by applicable laws relating to creditors' rights.

5. COVENANTS

So long as any of the Notes remains outstanding:

5.1 Restricted Payments

- (a) The Issuer will not, and will not cause or permit any of its Restricted Subsidiaries to, directly or indirectly:
 - (i) declare or pay any dividend or make any other payment or distribution on account of the Issuer's or any of its Restricted Subsidiaries' Equity Interests (including, without limitation, any such payment or distribution made in connection with any merger or consolidation involving the Issuer or any of its Restricted Subsidiaries) or to the direct or indirect holders of the Issuer's or any of its Restricted Subsidiaries' Equity Interests in their capacity as such (other than dividends or distributions payable in Equity Interests (other than Disqualified Stock) of the Issuer and other than dividends or distributions payable to the Issuer or a Restricted Subsidiary of the Issuer);
 - (ii) purchase, redeem or otherwise acquire or retire for value (including, without limitation, any such purchase, redemption, acquisition or retirement made in connection with any merger or consolidation involving the Issuer) any Equity Interests of the Issuer or any direct or indirect parent of the Issuer;

- (iii) make any payment on or with respect to, or purchase, redeem, defease or otherwise acquire or retire for value, any Indebtedness of the Issuer or any Guarantor that is expressly contractually subordinated in right of payment to the Notes or to any Guarantee (excluding any intercompany Indebtedness between or among the Issuer and any of its Restricted Subsidiaries), except: (A) a payment of interest or principal at or after the Stated Maturity thereof or (B) the purchase, repurchase, redemption, defeasance or other acquisition or retirement of Indebtedness purchased in anticipation of satisfying a sinking fund obligation, principal instalment or scheduled maturity, in each case due within one year of the date of such purchase, repurchase, redemption, defeasance or other acquisition or retirement; or
- (iv) make any Restricted Investment;

(all such payments and other actions set forth in clauses (i) through (iv) above being collectively referred to as **Restricted Payments**), unless, at the time of and after giving effect to such Restricted Payment, the conditions specified in Condition 5.1(b) are satisfied or the Restricted Payment is permitted under Condition 5.1(c):

- (b) The conditions referred to in Condition 5.1(a) are that at the relevant time:
 - (i) no Default or Event of Default has occurred and is continuing or would occur as a consequence of such Restricted Payment;
 - (ii) the Issuer would, after giving *pro forma* effect thereto as if such Restricted Payment had been made at the beginning of the applicable four-quarter period, have been permitted to incur at least US\$1.00 of additional Indebtedness pursuant to the Consolidated Net Leverage Ratio test set forth in Condition 5.2(a); and
 - (iii) such Restricted Payment, together with the aggregate amount of all other Restricted Payments made by the Issuer and its Restricted Subsidiaries since the Existing Notes Issue Date (excluding Restricted Payments permitted by Condition 5.1(c)(ii), (iii), (iv), (vi), (vii), (viii), (ix) and (x)), is equal to or less than the sum, without duplication, of:
 - (A) 50 *per cent.* of the Consolidated Net Income of the Issuer for the period (taken as one accounting period) from the beginning of the fiscal quarter commencing immediately prior to the Existing Notes Issue Date to the end of the Issuer's most recently ended fiscal quarter for which internal financial statements are available at the time of such Restricted Payment (or, if such Consolidated Net Income for such period is a deficit, less 100 *per cent.* of such deficit); *plus*
 - (B) 100 *per cent.* of the aggregate net cash proceeds received and the Fair Market Value of marketable securities received by the Issuer since the Existing Notes Issue Date as a contribution to its common capital or from the issue or sale of Equity Interests of the Issuer (other than Disqualified Stock) or from the issue or sale of convertible or exchangeable Disqualified Stock or convertible or exchangeable debt securities of the Issuer that have been converted into or exchanged for such Equity Interests (other than Equity Interests (or Disqualified Stock or debt securities) sold to a Subsidiary of the Issuer); *plus*
 - (C) to the extent that any Restricted Investment that was made after the Issue Date is: (1) sold, disposed of or otherwise cancelled, liquidated or repaid, 100 *per cent.* of the aggregate amount received in cash and the Fair Market Value of any marketable securities received by the Issuer or any Restricted Subsidiary of the Issuer in connection therewith, or (2) made in an entity that subsequently becomes a Restricted Subsidiary of the Issuer, 100 *per cent.* of the Fair Market Value of

such Restricted Investment of the Issuer and its Restricted Subsidiaries as of the date such entity becomes a Restricted Subsidiary of the Issuer; *plus*

- (D) to the extent that any Unrestricted Subsidiary of the Issuer designated as such after the Existing Notes Issue Date is redesignated as a Restricted Subsidiary of the Issuer or is merged or consolidated into the Issuer or a Restricted Subsidiary of the Issuer, or all of the property or assets of such Unrestricted Subsidiary are transferred to the Issuer or a Restricted Subsidiary of the Issuer, 100 *per cent.* of the aggregate Fair Market Value of the property or assets received by the Issuer or a Restricted Subsidiary of the Issuer or the Issuer's and the Issuer's Restricted Subsidiaries' Restricted Investment in such Unrestricted Subsidiary, as the case may be, in each case, as of the date of such redesignation, merger, consolidation or transfer of property or assets, excluding the amount of any Investment in such Unrestricted Subsidiary that constituted a Permitted Investment made pursuant to clause (r) or (s) of the definition of "Permitted Investment"; *plus*
- (E) 100 *per cent.* of any cash dividends or distributions received by the Issuer or a Restricted Subsidiary of the Issuer after the Existing Notes Issue Date from an Unrestricted Subsidiary, to the extent that such dividends or distributions were not otherwise included in the Consolidated Net Income of the Issuer for such period.

(c) Condition 5.1(a) will not prohibit:

- (i) the payment of any dividend or the consummation of any irrevocable redemption within 60 days after the date of declaration of the dividend or giving of the redemption notice, as the case may be, if, at the time of declaration or notice, the dividend or redemption payment would have complied with the provisions of these Conditions;
- (ii) the making of any Restricted Payment in exchange for, or out of the net cash proceeds of the substantially concurrent sale (other than to a Subsidiary of the Issuer) of, Equity Interests of the Issuer (other than Disqualified Stock) or from the substantially concurrent contribution of common equity capital to the Issuer; *provided* that the amount of any such net cash proceeds that are utilised for any such Restricted Payment will be excluded from Condition 5.1(b)(iii)(B);
- (iii) the repurchase, redemption, defeasance or other acquisition or retirement for value of Indebtedness of the Issuer or any Guarantor that is contractually subordinated to the Notes or to such Guarantor's Guarantee, as the case may be, with the net cash proceeds from a substantially concurrent incurrence of Permitted Refinancing Indebtedness for the purpose of such repurchase, redemption, defeasance or other acquisition or retirement for value;
- (iv) the payment of any dividend (or, in the case of any partnership or limited liability company, any similar distribution) by a Restricted Subsidiary of the Issuer to the holders of its Equity Interests on no more than a *pro rata* basis;
- (v) the defeasance, repurchase, redemption or other acquisition or retirement for value of any Equity Interests of the Issuer or any Restricted Subsidiary of the Issuer held by any of the Issuer's (or any of its Restricted Subsidiaries') current or former officers, directors, employees or consultants pursuant to any equity subscription agreement, stock option agreement, restricted stock grant, shareholders' agreement or similar agreement; *provided* that the aggregate price paid after the Issue Date for all such repurchased, redeemed, acquired or retired Equity Interests may not exceed US\$20.0 million (or its equivalent in any other currency) in any calendar year (with unused amounts in any calendar year being permitted to be carried over into succeeding calendar years) and *provided further* that such amount in any calendar year may be increased by an amount not to exceed the cash proceeds from the sale of Equity Interests of the Issuer or a Restricted Subsidiary of the

Issuer received by the Issuer or such Restricted Subsidiary during such calendar year, in each case to members of management, other employees, directors or consultants of the Issuer, any of its Restricted Subsidiaries or any Parent Entity to the extent the cash proceeds from the sale of Equity Interests have not otherwise been included in any calculation under Condition 5.1(b)(iii)(B) or applied to the making of Restricted Payments pursuant to Condition 5.1(c)(ii);

- (vi) repurchases or redemptions of Subordinated Obligations (other than those held by Affiliates of the Issuer) at a purchase price not greater than: (A) the sum of: (1) 101 *per cent.* of the principal amount of such Subordinated Obligations and (2) the accrued and unpaid interest thereon (and related additional amounts, if any) in the event of a change of control or (B) 100 *per cent.* of the principal amount of such Subordinated Obligations and accrued and unpaid interest thereon (and related additional amounts, if any) in the event of an asset sale in connection with any change of control or asset sale required by the terms of such Subordinated Obligations, but only if:
 - (1) in the case of a Change of Control, the Issuer has first complied with and fully satisfied its obligations under the provisions of Condition 8.4; or
 - (2) in the case of an Asset Sale, the Issuer has complied with and fully satisfied its obligations in accordance with Condition 5.10;
- (vii) the repurchase, redemption or other acquisition for value of Capital Stock of the Issuer or a Restricted Subsidiary of the Issuer representing fractional shares of such Capital Stock in connection with a merger, consolidation, amalgamation or other combination involving the Issuer or a Restricted Subsidiary of the Issuer or any other transaction permitted by these Conditions;
- (viii) repurchases of Capital Stock deemed to occur upon the exercise of stock options if such Capital Stock represents a portion of the exercise price thereof;
- (ix) the declaration and payment of regularly scheduled or accrued dividends to holders of any class or series of Disqualified Stock of the Issuer or any Restricted Subsidiary of the Issuer issued on or after the Issue Date in accordance with the Consolidated Net Leverage Ratio test described below in Condition 5.2(a);
- (x) payments of cash, dividends, distributions, advances or other Restricted Payments by the Issuer or any of its Restricted Subsidiaries to allow the payment of cash in lieu of the issuance of fractional shares upon: (A) the exercise of options or warrants or (B) the conversion or exchange of Capital Stock of any such Person;
- (xi) advances or loans to: (A) any future, present or former officer, director, employee or consultant of the Issuer or a Restricted Subsidiary of the Issuer to pay for the purchase or other acquisition for value of Equity Interests (other than Disqualified Stock) of the Issuer or a Restricted Subsidiary of the Issuer or pursuant to any obligation under a forward sale agreement, deferred purchase agreement or deferred payment arrangement pursuant to any management equity plan or stock option plan or any other management or employee benefit or incentive plan or other agreement or arrangement or (B) any management equity plan or stock option plan or any other management or employee benefit or incentive plan or unit trust or the trustees of any such plan or trust to pay for the purchase or other acquisition for value of Equity Interests (other than Disqualified Stock) of the Issuer or a Restricted Subsidiary of the Issuer; *provided* that the total aggregate amount of Restricted Payments made after the Issue Date under this clause (xi) does not exceed US\$20.0 million (or its equivalent in any other currency) in any calendar year (with unused amounts in any calendar year being permitted to be carried over into succeeding calendar years);

- (xii) the payment of dividends in an aggregate amount not to exceed in any fiscal year 15 *per cent.* of the Consolidated Net Income of the Issuer for the immediately preceding fiscal year;
 - (xiii) so long as no Default or Event of Default has occurred and is continuing or would be caused thereby, the payment of any dividend out of Disposal Profits from an Asset Sale made in accordance with Condition 5.10; *provided* that the Issuer would have been able to incur at least US\$1.00 of additional Indebtedness pursuant to Condition 5.2(a) after giving *pro forma* effect to such dividend and such Asset Sale as if such dividend and such Asset Sale had been made at the beginning of the applicable four-quarter period; and
 - (xiv) so long as no Default or Event of Default has occurred and is continuing or would be caused thereby, other Restricted Payments in an aggregate amount not to exceed US\$100.0 million (or its equivalent in any other currency) since the Issue Date.
- (d) The amount of all Restricted Payments (other than cash) will be the Fair Market Value on the date of the Restricted Payment of the asset(s) or securities proposed to be transferred or issued by the Issuer or such Restricted Subsidiary, as the case may be, pursuant to the Restricted Payment.
 - (e) Unsecured Indebtedness shall not be deemed to be subordinate or junior to secured Indebtedness by virtue of its nature as unsecured Indebtedness.

5.2 Incurrence of Indebtedness and Issuance of Preferred Stock

- (a) The Issuer will not, and will not cause or permit any of its Restricted Subsidiaries to, directly or indirectly, create, incur, issue, assume, guarantee or otherwise become directly or indirectly liable, contingently or otherwise, with respect to (collectively, incur) any Indebtedness (including Acquired Debt), and the Issuer will not and will not permit any Guarantor to issue any Disqualified Stock and will not permit any of its Restricted Subsidiaries to issue any shares of Preferred Stock; *provided, however,* that the Issuer and any Guarantor may incur Indebtedness (including Acquired Debt) or issue Disqualified Stock and the Restricted Subsidiaries of the Issuer may incur Indebtedness (including Acquired Debt) or issue Preferred Stock if the Consolidated Net Leverage Ratio for the Issuer's most recently ended four full fiscal quarters for which internal financial statements are available immediately preceding the date on which such additional Indebtedness is incurred or Disqualified Stock or Preferred Stock is issued is less than 3.5 to 1.0, determined on a *pro forma* basis (including a *pro forma* application of the net proceeds therefrom) as if the additional Indebtedness had been incurred or the Disqualified Stock or the Preferred Stock had been issued, as the case may be, and the application of proceeds therefrom had occurred at the beginning of such four-quarter period.
- (b) Condition 5.2(a) will not prohibit the incurrence of any of the following items of Indebtedness (collectively, **Permitted Debt**):
 - (i) the incurrence by the Issuer of Indebtedness represented by the Notes to be issued on the Issue Date and the incurrence by any Guarantor of a Guarantee at any time;
 - (ii) the incurrence by the Issuer or any of its Restricted Subsidiaries of Existing Indebtedness;
 - (iii) the incurrence by the Issuer or any of its Restricted Subsidiaries of Permitted Refinancing Indebtedness in exchange for, or the net proceeds of which are used to renew, refund, refinance, replace, defease or discharge any Indebtedness (other than intercompany Indebtedness) that was permitted to be incurred under Condition 5.2(a) or 5.2(b)(i), (ii), (xii) or this clause (iii);

- (iv) the incurrence by the Issuer or any of its Restricted Subsidiaries of intercompany Indebtedness between or among the Issuer and/or any of its Restricted Subsidiaries; *provided, however*, that:
 - (A) if the Issuer or any Guarantor is the obligor on such Indebtedness and the payee is not the Issuer or a Guarantor, such Indebtedness must be unsecured and expressly subordinated to the prior payment in full in cash of all Obligations then due with respect to the Notes, in the case of the Issuer, or the relevant Guarantee, in the case of a Guarantor; and
 - (B) (1) any subsequent issuance or transfer of Equity Interests that results in any such Indebtedness being held by a Person other than the Issuer or a Restricted Subsidiary of the Issuer and (2) any sale or other transfer of any such Indebtedness to a Person that is not either the Issuer or a Restricted Subsidiary of the Issuer will be deemed, in each case, to constitute an incurrence of such Indebtedness by the Issuer or such Restricted Subsidiary, as the case may be, that was not permitted by this clause (iv);
- (v) the issuance by any of the Issuer's Restricted Subsidiaries to the Issuer or to any of its Restricted Subsidiaries of shares of Preferred Stock; *provided, however*, that:
 - (A) any subsequent issuance or transfer of Equity Interests that results in any such Preferred Stock being held by a Person other than the Issuer or a Restricted Subsidiary of the Issuer; and
 - (B) any sale or other transfer of any such Preferred Stock to a Person that is not either the Issuer or a Restricted Subsidiary of the Issuer, will be deemed, in each case, to constitute an issuance of such Preferred Stock by such Restricted Subsidiary that was not permitted by this clause (v);
- (vi) the incurrence by the Issuer or any of its Restricted Subsidiaries of Hedging Obligations not for speculative purposes (as determined in good faith by a responsible financial or accounting officer of the Issuer);
- (vii) the guarantee by the Issuer or any Restricted Subsidiary of the Issuer of Indebtedness of the Issuer or a Restricted Subsidiary of the Issuer that was permitted to be incurred by another provision of this covenant; *provided* that if the Indebtedness being guaranteed is subordinated to or *pari passu* with the Notes or a Guarantee, as applicable, then the guarantee shall be subordinated or *pari passu*, as applicable, to the same extent as the Indebtedness guaranteed;
- (viii) the incurrence by the Issuer or any of its Restricted Subsidiaries of Indebtedness arising from the honoring by a bank or other financial institution of a check, draft or similar instrument inadvertently drawn against insufficient funds, so long as such Indebtedness is covered within five Business Days;
- (ix) Indebtedness in respect of self-insurance obligations or captive insurance companies or consisting of the financing of insurance premiums in the ordinary course of business;
- (x) the incurrence by the Issuer or any of its Restricted Subsidiaries of Indebtedness arising from agreements of the Issuer or any of its Restricted Subsidiaries providing for customary indemnification, obligations in respect of adjustments of purchase price or, in each case, similar obligations, in each case, incurred or assumed in connection with the disposition of any business, assets or Capital Stock of a Subsidiary of the Issuer; *provided* that the

maximum aggregate liability in respect of all such Indebtedness shall at no time exceed the gross proceeds, including the Fair Market Value of non-cash proceeds (measured at the time received and without giving effect to any subsequent changes in value), actually received by the Issuer and its Restricted Subsidiaries in connection with such disposition (including as “actually received” for these purposes, any contingent or escrowed payment that can be received by the Issuer or a Restricted Subsidiary of the Issuer but is reduced by any such indemnification or other adjustment or similar obligations described herein);

- (xi) the incurrence by the Issuer or any of its Restricted Subsidiaries of Indebtedness in respect of: (A) letters of credit, bid, performance, appeal, surety and similar bonds, completion guarantees, judgment, advance payment, customs, VAT or similar instruments issued for the account of the Issuer or any of its Restricted Subsidiaries in the ordinary course of business (in each case, other than an obligation for money borrowed), including guarantees and obligations of the Issuer or any of its Restricted Subsidiaries with respect to letters of credit or similar instruments supporting such obligations or in respect of self-insurance and workers compensation obligations; and (B) any customary cash management, cash pooling or netting or setting off arrangements;
- (xii) Indebtedness of a Person outstanding on the date on which such Person becomes a Restricted Subsidiary of the Issuer or is acquired by the Issuer or a Restricted Subsidiary of the Issuer or merged, consolidated, amalgamated or otherwise combined with (including pursuant to any acquisition of assets and assumption of related liabilities) the Issuer or a Restricted Subsidiary of the Issuer in accordance with these Conditions (other than Indebtedness incurred: (A) to provide all or any portion of the funds utilised to consummate the transaction or series of related transactions pursuant to which such Person became a Restricted Subsidiary of the Issuer or was otherwise acquired by or was merged into the Issuer or a Restricted Subsidiary of the Issuer or (B) otherwise in connection with, or in contemplation of, such acquisition); *provided, however*, with respect to this clause (xii) that: (1) at the time of the acquisition or other transaction pursuant to which such Indebtedness was deemed to be incurred: (x) the Issuer would have been able to incur US\$1.00 of additional Indebtedness pursuant to Condition 5.2(a) after giving *pro forma* effect to the incurrence of such Indebtedness pursuant to this clause (xii) or (y) the Consolidated Net Leverage Ratio would not be more than it was immediately prior to giving *pro forma* effect to the incurrence of such Indebtedness pursuant to this clause (xii) or (2) if neither of the conditions set out in clauses (1)(x) and (y) is met, the aggregate outstanding principal amount of Indebtedness otherwise deemed to be incurred pursuant to this clause (xii) shall not exceed US\$100.0 million;
- (xiii) Indebtedness represented by guarantees of any Management Advances;
- (xiv) Indebtedness in connection with one or more standby letters of credit, guarantees, performance bonds or other reimbursement obligations, in each case, issued in the ordinary course of business and not in connection with the borrowing of money or the obtaining of an advance or credit (other than advances or credit for goods and services in the ordinary course of business and on terms and conditions that are customary in the Permitted Business, and other than the extension of credit represented by such letter of credit, guarantee or performance bond itself);
- (xv) the incurrence by the Issuer or any of its Restricted Subsidiaries of Indebtedness in the form of customer deposits and advance payments received in the ordinary course of business from customers for purchases in the ordinary course of business; and
- (xvi) the incurrence by the Issuer or any of its Restricted Subsidiaries of additional Indebtedness or the issuance of Disqualified Stock by the Issuer or any of the Guarantors or the issuance of Preferred Stock by any Restricted Subsidiary of the Issuer in an aggregate principal amount (or accreted value, as applicable) at any time outstanding, including all Permitted

Refinancing Indebtedness incurred to renew, refund, replace, defease or discharge any Indebtedness incurred pursuant to this clause (xvi), not to exceed an outstanding amount of: (A) US\$350.0 million during the period ending prior to the two-year anniversary date of the Issue Date and (B) US\$200.0 million on and after the two-year anniversary date of the Issue Date.

- (c) The Issuer will not incur, and will not permit any Guarantor to incur, any Indebtedness (including Permitted Debt) that is contractually subordinated in right of payment to any other Indebtedness of the Issuer or such Guarantor unless such Indebtedness is also contractually subordinated in right of payment to the Notes or the applicable Guarantee, as the case may be, on substantially identical terms; *provided, however*, that no Indebtedness will be deemed to be contractually subordinated in right of payment to any other Indebtedness of the Issuer or any Guarantor solely by virtue of being unsecured, by virtue of being secured with different collateral or by virtue of being secured on a junior priority basis.
- (d) For purposes of determining compliance with, and the outstanding principal amount of, any particular Indebtedness incurred pursuant to and in compliance with this covenant:
 - (i) in the event that an item or portion of an item of proposed Indebtedness meets the criteria of more than one of the categories of Permitted Debt described in Condition 5.2(b), or is entitled to be incurred pursuant to Condition 5.2(a), the Issuer, in its sole discretion, will be permitted to classify such item or portion of an item of Indebtedness on the date of its incurrence and only be required to include the amount and type of such Indebtedness in one of such clauses and will be permitted from time to time to reclassify all or a portion of such item of Indebtedness, in any manner that complies with this covenant;
 - (ii) guarantees of, or obligations in respect of letters of credit relating to, Indebtedness which is otherwise included in the determination of a particular amount of Indebtedness shall not be included; and
 - (iii) Indebtedness permitted by this covenant need not be permitted solely by reference to one provision permitting such Indebtedness but may be permitted in part by one such provision and in part by one or more other provisions of this covenant permitting such Indebtedness.
- (e) The amount of any Indebtedness outstanding as of any date will be:
 - (i) in the case of any Indebtedness issued with original issue discount, the amount of the liability in respect thereof determined in accordance with TAS;
 - (ii) other than Indebtedness covered in clause (i), the principal amount of the Indebtedness or otherwise the amount of the liability in respect thereof determined on the basis of TAS, in the case of any other Indebtedness; and
 - (iii) in respect of Indebtedness of another Person (the **First Person**) secured by a Lien on the assets of the Issuer or a Restricted Subsidiary thereof, the lesser of:
 - (A) the Fair Market Value of such assets at the date of determination; and
 - (B) the amount of the Indebtedness of the First Person.
- (f) Accrual of interest, accrual of dividends, the accretion or amortisation of original issue discount, the payment of interest on any Indebtedness in the form of additional Indebtedness, the reclassification of Preferred Stock as Indebtedness due to a change in accounting principles and the payment of dividends in the form of additional shares of Preferred Stock or Disqualified Stock will not be

deemed to be an Incurrence of Indebtedness or an issuance of Preferred Stock or Disqualified Stock for purposes of this covenant.

- (g) If at any time an Unrestricted Subsidiary becomes a Restricted Subsidiary of the Issuer, any Indebtedness of such Subsidiary shall be deemed to be incurred by a Restricted Subsidiary of the Issuer as of such time (and, if such Indebtedness is not permitted to be incurred as of such time under this Condition 5.2, the Issuer shall be in default of this covenant).
- (h) For purposes of determining compliance with any U.S. dollar-denominated restriction on the incurrence of Indebtedness, the U.S. dollar-equivalent principal amount of Indebtedness denominated in a different currency shall be utilised, calculated based on the relevant currency exchange rate in effect on the date such Indebtedness was incurred; *provided, however*, that: (i) if such Indebtedness denominated in non-U.S. dollar currency is subject to a Currency Exchange Protection Agreement with respect to U.S. dollars, the amount of such Indebtedness expressed in U.S. dollars will be calculated so as to take account of the effects of such Currency Exchange Protection Agreement; and (ii) the U.S. dollar-equivalent of the principal amount of any such Indebtedness outstanding on the Issue Date shall be calculated based on the relevant currency exchange rate in effect on the Issue Date. Notwithstanding the above, the principal amount of any refinancing Indebtedness incurred in the same currency as the Indebtedness being refinanced will be the U.S. dollar-equivalent of the Indebtedness refinanced determined on the date such refinanced Indebtedness was originally incurred, except that to the extent that:
 - (i) such U.S. dollar-equivalent was determined based on a Currency Exchange Protection Agreement, in which case the Permitted Refinancing Indebtedness will be determined in accordance with the preceding sentence; and
 - (ii) the principal amount of the refinancing Indebtedness exceeds the principal amount of the Indebtedness being refinanced, in which case the U.S. dollar equivalent of such excess will be determined on the date such refinancing Indebtedness is being incurred.
- (i) The principal amount of any Indebtedness incurred to refinance other Indebtedness, if incurred in a different currency from the Indebtedness being refinanced, shall be calculated based on the currency exchange rate applicable to the currencies in which such Permitted Refinancing Indebtedness is denominated that is in effect on the date of such refinancing.

5.3 Liens

The Issuer will not, and will not cause or permit any of its Restricted Subsidiaries to, directly or indirectly, create, incur, assume or suffer to exist any Lien of any kind securing Indebtedness upon any of its property or assets (whether now owned or hereafter acquired), except: (a) Permitted Liens or (b) if such Lien is not a Permitted Lien, to the extent that all payments due under the Trust Deed and the Notes or, in respect of Liens on property or assets of any Guarantor or any of its direct or indirect Subsidiaries that is a Restricted Subsidiary but not a Guarantor, the Guarantee of such Guarantor, are secured on an equal and ratable basis with the Indebtedness so secured (and if such Indebtedness so secured is subordinated or junior in right of payment to either the Notes or any Guarantee, as the case may be, then the Liens securing such Indebtedness shall be subordinate or junior in priority to the Lien securing the Notes or such Guarantee at least to the same extent as such Indebtedness is subordinate or junior to the Notes or such Guarantee, as the case may be), until such time as such Indebtedness is no longer secured by such Lien.

5.4 Dividend and other Payment Restrictions Affecting Subsidiaries

- (a) The Issuer will not, and will not cause or permit any of its Restricted Subsidiaries to, directly or indirectly, create or permit to exist or become effective any consensual encumbrance or restriction on the ability of any Restricted Subsidiary of the Issuer to:
- (i) pay dividends or make any other distributions on its Capital Stock to the Issuer or any of the Issuer's Restricted Subsidiaries or with respect to any other interest or participation in, or measured by, its profits, or pay any indebtedness owed to the Issuer or any of its Restricted Subsidiaries;
 - (ii) make loans or advances to the Issuer or any of its Restricted Subsidiaries; or
 - (iii) sell, lease or transfer any of its properties or assets to the Issuer or any of its Restricted Subsidiaries,

provided that: (A) the priority of any Preferred Stock in receiving dividends or liquidating distributions prior to dividends or liquidating distributions being paid on common stock and (B) the subordination of (including the application of any standstill period to) loans or advances made to the Issuer or any Restricted Subsidiary of the Issuer to other Indebtedness incurred by the Issuer or any Restricted Subsidiary of the Issuer, shall not be deemed to constitute such an encumbrance or restriction.

- (b) The restrictions in clause (a) will not apply to encumbrances or restrictions existing under or by reason of:
- (i) agreements governing Existing Indebtedness as in effect on the Issue Date and any amendments, restatements, modifications, renewals, supplements, increases, refundings, replacements or refinancings of those agreements; *provided* that the amendments, restatements, modifications, renewals, supplements, increases, refundings, replacements or refinancings are not materially more restrictive, taken as a whole, with respect to such dividend and other payment restrictions than those contained in those agreements on the Issue Date (as determined in good faith by the Board of Directors or a responsible accounting or financial officer of the Issuer);
 - (ii) the Trust Deed, the Notes (including further issuances as described in Condition 17) and the Guarantees;
 - (iii) applicable law, rule, regulation or order or the terms of any license, authorisation, approval, concession or permit or similar restriction;
 - (iv) any instrument governing Indebtedness or Capital Stock of a Person acquired by the Issuer or any of its Restricted Subsidiaries as in effect at the time of such acquisition (except to the extent such Indebtedness or Capital Stock was incurred in connection with or in contemplation of such acquisition), which encumbrance or restriction is not applicable to any Person, or the properties or assets of any Person, other than the Person, or the property or assets of the Person, so acquired and of such Person's Subsidiaries; *provided* that, in the case of Indebtedness, such Indebtedness was permitted by the terms of the Trust Deed and these Conditions to be incurred;
 - (v) customary non-assignment and similar provisions in contracts, leases and licenses (including, without limitation, licenses of intellectual property) entered into in the ordinary course of business;

- (vi) purchase money obligations for property (including Capital Stock) acquired in the ordinary course of business, Capital Lease Obligations and mortgage financings that impose restrictions on the property purchased or leased of the nature described in Condition 5.4(a)(iii);
- (vii) any agreement for the sale or other disposition of the Capital Stock of the Issuer or a Restricted Subsidiary of the Issuer or of all or substantially all of the assets of a Restricted Subsidiary of the Issuer, in each case that restricts distributions by the Issuer or the applicable Restricted Subsidiary pending the sale or other disposition;
- (viii) Permitted Refinancing Indebtedness; *provided* that the restrictions contained in the agreements governing such Permitted Refinancing Indebtedness are not materially more restrictive, taken as a whole, than those contained in the agreements governing the Indebtedness being refinanced (as determined in good faith by the Board of Directors or a responsible accounting or financial officer of the Issuer);
- (ix) Liens permitted to be incurred under the provisions of the covenant in Condition 5.3 that limit the right of the debtor to dispose of the assets subject to such Liens;
- (x) provisions limiting the disposition or distribution of assets or property in, or the transfer of Capital Stock of the entities covered by, joint venture agreements, asset sale agreements, sale-leaseback agreements, stock sale agreements and other similar agreements in the ordinary course of business (including agreements entered into in connection with a Restricted Investment), which limitations are applicable only to the assets, property or Capital Stock that are the subject of such agreements;
- (xi) agreements governing other Indebtedness of the Issuer or any of its Restricted Subsidiaries or the issuance of Preferred Stock by a Restricted Subsidiary of the Issuer or the payment of dividends thereon in accordance with the terms thereof permitted to be incurred subsequent to the Issue Date or issued, as applicable, under the covenant described in Condition 5.2; and any amendments, restatements, modifications, renewals, supplements, increases, refundings, replacements or refinancings of those agreements; *provided* that such encumbrance or restriction contained in such Indebtedness is not materially more restrictive taken as a whole than customary in comparable financings in such jurisdictions as such Indebtedness is being incurred (as determined in good faith by the Board of Directors or a responsible accounting or financial officer of the Issuer);
- (xii) voting requirements existing under corporate charters, bylaws, stockholders agreements and similar documents and agreements;
- (xiii) customary provisions restricting subletting or assignment of any lease governing a leasehold interest;
- (xiv) encumbrances or restrictions contained in Hedging Obligations permitted from time to time under these Conditions;
- (xv) restrictions on cash or other deposits or net worth imposed by customers or suppliers or required by insurance, surety or bonding companies, in each case under contracts entered into in the ordinary course of business;
- (xvi) any encumbrance or restriction contained in agreements governing Project Finance Indebtedness where the lenders are not-for-profit developmental agencies; and
- (xvii) any encumbrance or restriction existing under any agreement that extends, renews, refinances or replaces the agreements containing the encumbrances or restrictions in this

Condition 5.4(b); *provided* that the terms and conditions of any such encumbrances or restrictions are not materially more restrictive taken as a whole than those under or pursuant to the agreement so extended, renewed, refinanced or replaced (as determined in good faith by the Board of Directors or a responsible accounting or financial officer of the Issuer).

5.5 Merger, Consolidation or Sale of Assets

- (a) The Issuer will not, directly or indirectly: (x) consolidate, amalgamate or merge with or into another Person (whether or not the Issuer is the surviving corporation) or (y) sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of the properties or assets of the Issuer and its Restricted Subsidiaries, taken as a whole, in one or more related transactions, to another Person, unless:
- (i) either: (A) the Issuer is the surviving corporation or (B) the Person formed by or surviving any such consolidation, amalgamation or merger (if other than the Issuer) or to which such sale, assignment, transfer, lease, conveyance or other disposition has been made is an entity organised or existing under the laws of any member state of the European Union as in effect on 31 December 2003, Switzerland, Turkey, Canada, any state of the United States of America or the District of Columbia;
 - (ii) the Person formed by or surviving any such consolidation, amalgamation or merger (if other than the Issuer) or the Person to which such sale, assignment, transfer, conveyance, lease or other disposition has been made assumes all the obligations of the Issuer under the Notes, these Conditions and the Trust Deed;
 - (iii) immediately after such transaction or transactions, no Default or Event of Default exists;
 - (iv) the Issuer or the Person formed by or surviving any such consolidation, amalgamation or merger (if other than the Issuer), or to which such sale, assignment, transfer, conveyance, lease or other disposition has been made would, on the date of such transaction after giving *pro forma* effect thereto and any related financing transactions as if the same had occurred at the beginning of the applicable four-quarter period: (A) be permitted to incur at least US\$1.00 of additional Indebtedness pursuant to the Consolidated Net Leverage Ratio test set forth in Condition 5.2(a); or (B) have a Consolidated Net Leverage Ratio not more than it was immediately prior to giving *pro forma* effect to such transaction;
 - (v) each Guarantor (unless it is the other party to the transactions above, in which case clause (ii) shall apply) shall have by supplemental trust deed confirmed that its Guarantee shall apply to such Person's obligations in respect of the Trust Deed and the Notes and shall continue to be in effect; and
 - (vi) the Issuer shall have delivered to the Trustee an Officer's Certificate and an opinion of counsel, each stating that such consolidation, merger or transfer and such supplemental trust deed (if any) comply with the other provisions of this Condition 5.5; *provided* that: (A) such opinion of counsel shall not cover clause (iii) or (iv) and (B) in giving an opinion of counsel, counsel may rely on an Officer's Certificate as to any matters of fact.
- (b) The Issuer will not cause or permit any of the Guarantors (other than any Guarantor whose Guarantee is to be released in accordance with the terms of the Trust Deed) to sell or otherwise dispose of all or substantially all of its properties or assets to, or consolidate with or merge with or into (whether or not such Guarantor is the surviving Person), another Person, other than the Issuer or another Guarantor, unless:
- (i) immediately after giving effect to that transaction, no Default or Event of Default exists; and

- (ii) either:
 - (1) the Person acquiring the property or assets in any such sale or disposition or the Person formed by or surviving any such consolidation, amalgamation or merger (if other than the Issuer or another Guarantor) unconditionally assumes, pursuant to a supplemental trust deed substantially in the form specified in the Trust Deed, all the obligations of such Guarantor under the Trust Deed and its Guarantee on terms set forth therein; or
 - (2) the Net Proceeds of such sale or other disposition are applied in accordance with the provisions of Condition 5.10.
- (c) For purposes of this Condition 5.5, the sale, lease, conveyance, assignment, transfer, or other disposition of all or substantially all of the properties and assets of one or more Subsidiaries of the Issuer, which properties and assets, if held by the Issuer instead of such Subsidiaries, would constitute all or substantially all of the properties and assets of the Issuer on a consolidated basis, shall be deemed to be the transfer of all or substantially all of the assets of the Issuer.
- (d) In addition, the Issuer: (i) will not, directly or indirectly, lease all or substantially all of the properties and assets of it and the Restricted Subsidiaries of the Issuer taken as a whole, in one or more related transactions, to any other Person and (ii) will not cause or permit any of the Guarantors to, directly or indirectly, lease all or substantially all of the properties and assets of such Guarantor and its Subsidiaries (other than such Subsidiaries that are Unrestricted Subsidiaries) taken as a whole, in one or more related transactions, to any other Person.
- (e) Condition 5.5(a)(iii) and (iv) will not apply to any merger or consolidation of the Issuer or any Restricted Subsidiary of the Issuer into an Affiliate solely for the purpose of reincorporating the Issuer or such Restricted Subsidiary of the Issuer in another jurisdiction for tax reasons.
- (f) Nothing in the Trust Deed will prevent, and (notwithstanding the above in this Condition 5.5) this covenant will not apply to, any Restricted Subsidiary of the Issuer consolidating with, merging with or into or transferring all or part of its properties and assets to the Issuer or a Guarantor.

5.6 Designation of Restricted and Unrestricted Subsidiaries

- (a) The Board of Directors of the Issuer may designate any Restricted Subsidiary of the Issuer to be an Unrestricted Subsidiary if that designation would not cause a Default. If a Restricted Subsidiary of the Issuer is designated as an Unrestricted Subsidiary, the aggregate Fair Market Value of all outstanding Investments owned by the Issuer and its Restricted Subsidiaries in the Subsidiary designated as an Unrestricted Subsidiary will be deemed to be an Investment made as of the time of the designation and will reduce the amount available for Restricted Payments under the covenant in Condition 5.1 or under one or more clauses of the definition of Permitted Investments, as determined by the Issuer. That designation will only be permitted if the Investment would be permitted at that time and if the Restricted Subsidiary otherwise meets the definition of an Unrestricted Subsidiary.
- (b) Any designation of a Subsidiary of the Issuer as an Unrestricted Subsidiary will be evidenced to the Trustee by filing with the Trustee a certified copy of a resolution of the Board of Directors of the Issuer giving effect to such designation and an Officer's Certificate certifying that such designation complied with the preceding conditions and was permitted by the covenant in Condition 5.1. If, at any time, any Unrestricted Subsidiary would fail to meet the preceding requirements as an Unrestricted Subsidiary, it will thereafter cease to be an Unrestricted Subsidiary for purposes of the Trust Deed and any Indebtedness of such Subsidiary will be deemed to be incurred by a Restricted Subsidiary of the Issuer as of such date and, if such Indebtedness is not permitted to be incurred as of such date under the covenant in Condition 5.2, the Issuer will be in default of such covenant.

- (c) The Board of Directors of the Issuer may at any time designate any Unrestricted Subsidiary to be a Restricted Subsidiary of the Issuer; *provided* that such designation will be deemed to be an incurrence of Indebtedness by a Restricted Subsidiary of the Issuer of any outstanding Indebtedness of such Unrestricted Subsidiary, and such designation will only be permitted if: (i) such Indebtedness is permitted under the covenant in Condition 5.2, calculated on a *pro forma* basis as if such designation had occurred at the beginning of the applicable four-quarter reference period; and (ii) no Default or Event of Default would be in existence following such designation.

5.7 Financial Statements

The Issuer will send to the Trustee as soon as they become available but in any event: (a) within 190 days after the end of each of its financial years, a copy of the Issuer's audited annual consolidated financial statements for such financial year, together with the report thereon by the Issuer's independent auditors, and (b) within 90 days after the end of the first half year of each of its financial years, a copy of the Issuer's consolidated financial statements for such six-month period, certified by two directors of the Issuer as fairly representing the financial position of the Issuer and its consolidated entities as at the relevant date, and the results of operations and changes in financial position of the Issuer and its consolidated entities for the relevant period then ended, each prepared and presented in accordance with the relevant laws of Turkey. Contemporaneously with the furnishing of each such financial statements discussed above, the Issuer will also post such financial statements on the Issuer's website.

5.8 Maintenance of Authorisations

The Issuer will: (a) and will procure that the Restricted Subsidiaries of the Issuer will, take all action considered necessary, in the opinion of the Issuer, to ensure the continuance of its corporate existence, its business and/or operations; *provided, however*, that the Issuer will not be required to ensure such continuance of any of its Restricted Subsidiaries if the Board of Directors of the Issuer shall determine that such continuance is no longer desirable in the conduct of the business of the Issuer and its Subsidiaries, taken as a whole, and the loss thereof is not adverse in any material respect to the Noteholders; and (b) will procure that the Guarantors will, take all necessary action to obtain, and do or cause to be done all things necessary to: (i) ensure the continuance of all consents, licences, approvals and authorisations in Turkey and (ii) make or cause to be made all registrations, recordings and filings which may be required in Turkey for, in the case of both clauses (i) and (ii), the execution, delivery or performance of the Notes, these Conditions, the Trust Deed and the Agency Agreement or for the validity, enforceability or admissibility in evidence thereof.

5.9 Transactions with Affiliates

- (a) The Issuer will not, and will not cause or permit any of its Restricted Subsidiaries to, directly or indirectly, enter into or permit to exist any transaction or series of related transactions (including, without limitation, the purchase, sale, transfer, assignment, lease, conveyance or exchange of any property or assets or the rendering of any service) in any twelve month period which has or in aggregate have a value in excess of US\$30.0 million (or its equivalent in any other currency) with, or for the benefit of, any Affiliate (an **Affiliate Transaction**) including, without limitation, intercompany loans, disposals or acquisitions, unless the terms of such Affiliate Transaction are no less favourable to the Issuer or such Restricted Subsidiary, as the case may be, than those that could be obtained (at the time of such transaction or, if such transaction is pursuant to a written agreement, at the time of the execution of the agreement providing therefor) in a comparable arm's-length transaction with a Person that is not an Affiliate of the Issuer or such Restricted Subsidiary, as the case may be.
- (b) The following items will not be deemed to be Affiliate Transactions and, therefore, will not be subject to the provisions of Condition 5.9(a):
 - (i) any employment agreement, collective bargaining agreement, consultant, employee benefit arrangements with any employee, consultant, officer or director of the Issuer or any Restricted Subsidiary, including under any stock option, stock appreciation rights, stock

incentive or similar plans, entered into in the ordinary course of business (including severance, termination and other similar payments to former or departing employees, consultants, officers or directors);

- (ii) transactions between or among the Issuer and any Restricted Subsidiary or between or among Restricted Subsidiaries;
- (iii) transactions in the ordinary course of business with a Person (other than an Unrestricted Subsidiary) that is an Affiliate of the Issuer solely because the Issuer owns, directly or through a Restricted Subsidiary, an Equity Interest in, or controls, such Person;
- (iv) payment of reasonable and customary fees and reimbursements of expenses (pursuant to indemnity arrangements or otherwise) of officers, directors, employees or consultants of the Issuer or any of its Restricted Subsidiaries;
- (v) any issuance of Equity Interests (other than Disqualified Stock) of the Issuer to Affiliates of the Issuer;
- (vi) any Restricted Payment that does not violate Condition 5.1 and any Permitted Investments (other than Permitted Investments described in clause (c), (j), (m)(ii), (r) and (s) of the definition thereof);
- (vii) Management Advances;
- (viii) transactions pursuant to, or contemplated by any agreement of the Issuer and its Restricted Subsidiaries as in effect on the Issue Date and transactions pursuant to any amendment, modification or extension to such agreement, so long as such amendment, modification or extension, taken as a whole, is not more disadvantageous to the holders of the Notes in any material respect than the original agreement as in effect on the Issue Date; and
- (ix) transactions with customers, clients, suppliers, or purchasers or sellers of goods or services or providers of employees or other labour, in each case in the ordinary course of business and otherwise in compliance with these Conditions that are fair to the Issuer or the Restricted Subsidiaries, in the reasonable determination of the members of the Board of Directors of the Issuer or the senior management thereof, or are on terms at least as favourable as might reasonably have been obtained at such time from an unaffiliated Person.

5.10 Asset Sales

- (a) The Issuer will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly, consummate an Asset Sale unless:
 - (i) the Issuer (or the Restricted Subsidiary, as the case may be) receives consideration at the time of the Asset Sale at least equal to the Fair Market Value of the assets or Equity Interests issued or sold or otherwise disposed of; and
 - (ii) at least *75 per cent.* of the consideration received in the Asset Sale by the Issuer or such Restricted Subsidiary is in the form of cash or Cash Equivalents. For purposes of this provision, each of the following will be deemed to be cash:
 - (A) any liabilities, as shown on the Issuer's most recent consolidated balance sheet, of the Issuer or any Restricted Subsidiary of the Issuer (other than contingent liabilities and liabilities that are by their terms subordinated to the Notes or any Guarantee) that are assumed by the transferee of any such assets (whether pursuant to a customary novation

- or indemnity agreement or otherwise) that releases the Issuer or such Restricted Subsidiary from further liability or indemnifies the Issuer or such Restricted Subsidiary against further liabilities;
- (B) any securities, notes or other obligations received by the Issuer or any such Restricted Subsidiary from such transferee that are converted by the Issuer or such Restricted Subsidiary into cash or Cash Equivalents within 90 days following the closing of the Asset Sale, to the extent of the cash or Cash Equivalents received in that conversion;
 - (C) any Capital Stock or assets of the kind referred to in Conditions 5.10(b)(i)(C) or that could be capital expenditures as referred to in 5.10(b)(i)(D);
 - (D) any Designated Non-Cash Consideration received by the Issuer or any Restricted Subsidiary in such Asset Sales having an aggregate Fair Market Value, taken together with all other Designated Non-Cash Consideration received pursuant to this clause (D) that is at that time outstanding, not to exceed \$25.0 million at the time of the receipt of such Designated Non-Cash Consideration (with the Fair Market Value of each item of Designated Non-Cash Consideration being measured at the time received and without giving effect to subsequent changes in value);
 - (E) Indebtedness (other than Subordinated Obligations) of any Restricted Subsidiary of the Issuer that is no longer a Restricted Subsidiary of the Issuer as a result of such Asset Sale, to the extent that the Issuer and each other Restricted Subsidiary of the Issuer are released from any guarantee of such Indebtedness in connection with such Asset Sale; and
 - (F) consideration consisting of Indebtedness of the Issuer or any Guarantor received from Persons who are not the Issuer or any Restricted Subsidiary of the Issuer.
- (b) Within 365 days after the receipt of any Net Proceeds from an Asset Sale, the Issuer or any Restricted Subsidiary of the Issuer may:
- (i) apply such Net Proceeds (at the option of the Issuer or Restricted Subsidiary):
 - (A) to consummate a purchase of Notes under an offer to all Holders of Notes to purchase Notes at a purchase price equal to at least 100 *per cent.* of the principal amount thereof plus accrued and unpaid interest and additional amounts, if any, to (but not including) the date of purchase (whether or not accepted by any Holder and subsequently resulting in the consummation of any purchase of Notes, such offer being a **Notes Offer**);
 - (B) to repay, repurchase, prepay or redeem: (1) *Pari Passu Debt* that is not *Public Debt* and which matures prior to the final maturity of the Notes at a price of no more than 100 *per cent.* of the principal amount of such *Pari Passu Debt* plus accrued and unpaid interest and additional amounts, if any, to the date of such repayment, repurchase, prepayment or redemption, provided that the Issuer would have been able to incur at least US\$1.00 of additional Indebtedness pursuant to Condition 5.2(a) after giving *pro forma* effect to such Asset Sale and repayment as if such Asset Sale and repayment had been made at the beginning of the applicable four-quarter period, (2) any Indebtedness of a Restricted Subsidiary of the Issuer that is not a Guarantor, or (3) any Indebtedness that is secured by a Lien on the assets or property subject to such Asset Sale and, in each case, if the Indebtedness repaid, repurchased, prepaid or redeemed is revolving credit Indebtedness, to correspondingly reduce commitments with respect thereto;
 - (C) to acquire all or substantially all of the assets of, or any Capital Stock of, another Permitted Business (in the case of any such acquisition of Capital Stock, only if after

- giving effect to any such acquisition, the Permitted Business is or becomes a Restricted Subsidiary of the Issuer);
- (D) to make capital expenditures; or
 - (E) to acquire other assets (other than Capital Stock) not classified as current assets under TAS that are used or useful in a Permitted Business;
- (ii) enter into a binding commitment to apply the Net Proceeds pursuant to Condition 5.10(b)(i)(C), (D) or (E); *provided* that such binding commitment shall be treated as a permitted application of the Net Proceeds from the date of such commitment until the earlier of: (A) the date on which such acquisition or expenditure is consummated and (B) the 365th day following the expiration of the aforementioned 365 day period; or
 - (iii) apply any Disposal Profits resulting from such Asset Sale for the payment of dividends permitted to be made pursuant to Condition 5.1(c)(xiii).
- (c) Pending the final application of any Net Proceeds, the Issuer or any Restricted Subsidiary of the Issuer may temporarily reduce revolving credit borrowings or otherwise invest the Net Proceeds in any manner that is not prohibited by the Trust Deed. Any Net Proceeds from Asset Sales that are not applied, invested or subject to a Notes Offer as provided in Condition 5.10(b) will, after the applicable 365 day or (for (b)(ii)) other applicable period, constitute **Excess Proceeds**.
 - (d) When the aggregate amount of Excess Proceeds exceeds US\$25.0 million (or its equivalent in any other currency), within ten Business Days thereof (or such longer period as might be required by applicable law or contract), the Issuer will make an offer (an **Asset Sale Offer**) to all Holders of Notes and may make an offer to some or all of the holders of other Indebtedness that is *pari passu* with the Notes or any Guarantees of the Issuer or any Guarantor to purchase, prepay or redeem the maximum principal amount of Notes and such other *pari passu* Indebtedness (plus all accrued interest on the Indebtedness, any additional amounts with respect thereto and the amount of all fees and expenses, including premiums, incurred in connection therewith) that may be purchased, prepaid or redeemed out of the Excess Proceeds. The offer price for the Notes in any Asset Sale Offer will be equal to at least 100 *per cent.* of the principal amount, plus accrued and unpaid interest and additional amounts, if any, to (but excluding) the date of purchase, prepayment or redemption, subject to any rights of Holders of Notes on the relevant Record Date to receive interest due on the relevant Interest Payment Date to the extent that such Interest Payment Date falls prior to the relevant date of purchase, prepayment or redemption, and will be payable in cash. If any Excess Proceeds remain after consummation of an Asset Sale Offer, the Issuer and its Restricted Subsidiaries may use those Excess Proceeds for any purpose not otherwise prohibited by the Trust Deed and shall cease to be considered to be Excess Proceeds.
 - (e) If the aggregate principal amount of Notes and other *pari passu* Indebtedness tendered into (or to be prepaid or redeemed in connection with) such Asset Sale Offer (plus the interest, additional amounts and other amounts to be included therein in accordance with clause (d)) exceeds the amount of Excess Proceeds or if the aggregate principal amount of Notes tendered pursuant to a Notes Offer (plus the interest, additional amounts and other amounts to be included therein in accordance with clause (b)(i)(A)) exceeds the amount of the Net Proceeds so applied, the Notes to receive the portion of such amount allocated to the Notes will be selected in the manner described in Condition 8.5 to be purchased on a pro rata basis (or, in the case of Notes issued in global form, based on a method that most nearly approximates a *pro rata* selection as the Trustee deems fair and appropriate) unless otherwise required by applicable law or applicable stock exchange or depository requirements, based on the amounts tendered or required to be prepaid or redeemed. Upon completion of each Asset Sale Offer, the amount of Excess Proceeds will be reset at zero.
 - (f) The Issuer will comply with the requirements of Rule 14e-1 under the U.S. Exchange Act and any other applicable securities laws and regulations to the extent those laws and regulations are applicable

in connection with each repurchase of Notes pursuant to Condition 8.4, an Asset Sale Offer or a Notes Offer. To the extent that the provisions of any securities laws or regulations conflict with the Change of Control, Asset Sale Offer or Notes Offer provisions of these Conditions, the Issuer will comply with the applicable securities laws and regulations and will not be deemed to have breached its obligations under the Change of Control, Asset Sale Offer or Notes Offer provisions of these Conditions by virtue of such compliance.

5.11 Suspension of Certain Covenants when Notes Rated Investment Grade

- (a) If on any date following the Issue Date:
 - (i) the Notes have achieved Investment Grade Status; and
 - (ii) no Default or Event of Default shall have occurred and be continuing on such date,

then, beginning on that day and continuing until such time, if any, at which the Notes cease to have Investment Grade Status (such period, the **Suspension Period**), Conditions 5.1, 5.2, 5.4 and 5.10 will no longer be applicable and any related default provisions herein will cease to be effective and will not be applicable to the Issuer and its Restricted Subsidiaries.

- (b) Such covenants will not be of any effect with regard to the actions of the Issuer and the Restricted Subsidiaries of the Issuer properly taken during the continuance of the Suspension Period; *provided* that: (i) with respect to the Restricted Payments made after any termination of the Suspension Period, the amount of Restricted Payments will be calculated as though Condition 5.1 had been in effect prior to, but not during, the Suspension Period, (ii) all Indebtedness incurred, or Disqualified Stock or Preferred Stock issued, during the Suspension Period will be classified to have been incurred pursuant to Condition 5.2(b)(ii) (treating the issuance of such Disqualified Stock or Preferred Stock as if it were the incurrence of Existing Indebtedness), (iii) all Liens incurred during the Suspension Period will be classified as Permitted Liens described in clause (d) of the definition thereof and (iv) any Asset Sales during the Suspension Period shall be deemed not to have resulted in any Net Proceeds and the amount of Excess Proceeds shall be deemed to be US\$0.
- (c) The Issuer shall notify the Trustee that the conditions set forth in Condition 5.11(a) have been satisfied; *provided* that no such notification shall be a condition for the suspension of the covenants described in this Condition 5.11 to be effective.

5.12 Definitions

In these Conditions:

Acquired Debt means, with respect to any specified Person:

- (a) Indebtedness of such specified Person existing at the time such Person is merged with or into the Issuer or any of its Restricted Subsidiaries or became a Restricted Subsidiary of the Issuer, whether or not such Indebtedness is incurred in connection with, or in contemplation of, such specified Person merging with or into the Issuer or any of its Restricted Subsidiaries, or becoming a Restricted Subsidiary of the Issuer; and
- (b) Indebtedness secured by a Lien encumbering any property or asset acquired by such specified Person.

Affiliates of any specified Person means any other Persons, directly or indirectly, controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, **control** when used with respect to any Person means the power to direct or cause the direction of the

management or policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms **controlling**, **controlled** or **under common control** have meanings correlative to the foregoing.

Asset Sale means:

- (a) except with respect to the sales described in clause (b), the sale, lease, conveyance or other disposition of any assets; *provided* that the sale, lease, conveyance or other disposition of all or substantially all of the assets of the Issuer and its Restricted Subsidiaries taken as a whole will be governed by the provisions of Condition 8.4 and/or the provisions in Condition 5.5 and not by the provisions of Condition 5.10; and
- (b) the issuance of Equity Interests in any Restricted Subsidiary or the sale by the Issuer or its Subsidiaries of Equity Interests in any of its Subsidiaries.

Notwithstanding the preceding, none of the following items will be deemed to be an Asset Sale:

- (i) any single transaction or series of related transactions that involves assets having a Fair Market Value of less than US\$20.0 million (or its equivalent in any other currency);
- (ii) a transfer of assets or Equity Interests between or among the Issuer and its Restricted Subsidiaries;
- (iii) an issuance of Equity Interests by a Restricted Subsidiary of the Issuer to the Issuer or to a Restricted Subsidiary of the Issuer;
- (iv) the sale or lease of products, services, equipment or accounts receivable in the ordinary course of business;
- (v) any sale or other disposition of damaged, unserviceable, worn-out or obsolete assets in the ordinary course of business;
- (vi) the sale or other disposition of cash or Cash Equivalents in the ordinary course of business;
- (vii) the making of a Permitted Investment or a Restricted Payment that does not violate Condition 5.1;
- (viii) granting of Liens not prohibited by the covenant described in Condition 5.3;
- (ix) the licensing or sublicensing of intellectual property and licenses, leases or subleases of other property in the ordinary course of business and which do not materially interfere with the business of the Issuer and its Restricted Subsidiaries taken as a whole;
- (x) a surrender or waiver of contract rights or the settlement, release or surrender of contract, tort or other claims of any kind in the ordinary course of business;
- (xi) transactions permitted by Condition 5.5;
- (xii) dispositions of receivables in connection with the compromise, settlement or collection thereof in the ordinary course of business or in bankruptcy or similar proceedings and exclusive of factoring or similar arrangements;
- (xiii) any exchange of assets (including a combination of assets, including cash and Cash Equivalents) for assets related to a Permitted Business, which received assets are of comparable or greater value to the business of the Issuer and its Restricted Subsidiaries as

a whole than the value of the disposed assets, as determined in good faith by the Issuer;
and

- (xiv) foreclosure, condemnation or any similar action with respect to any property or other assets.

Board of Directors means:

- (a) with respect to a corporation, the board of directors of the corporation or any committee thereof duly authorised to act on behalf of such board;
- (b) with respect to a partnership, the board of directors (as determined in the same manner as this definition of “Board of Directors”) of the general partner of the partnership;
- (c) with respect to a limited liability company, the managing member or members or any controlling committee of managing members thereof; and
- (d) with respect to any other Person, the board or committee of such Person serving a similar function.

Capital Lease Obligation means, at the time any determination is to be made, the amount of the liability in respect of a capital lease that would at that time be required to be capitalised on a balance sheet prepared in accordance with TAS, and the Stated Maturity thereof shall be the date of the last payment of rent or any other amount due under such lease prior to the first date upon which such lease may be prepaid by the lessee without payment of a penalty.

Capital Stock means:

- (a) in the case of a corporation, corporate stock;
- (b) in the case of an association or business entity, any and all shares, interests, participations, rights or other equivalents (however designated) of corporate stock;
- (c) in the case of a partnership or limited liability company, partnership interests (whether general or limited) or membership interests; and
- (d) any other interest or participation that confers on a Person the right to receive a share of the profits and losses of, or distributions of assets of, the issuing Person, but excluding from all of the foregoing any Indebtedness convertible into Capital Stock, whether or not such Indebtedness includes any right of participation with Capital Stock.

Cash Equivalents means:

- (a) securities issued or directly and fully guaranteed or insured by the government of the United States of America, a member state of the European Union on 31 December 2003, Switzerland, Norway, Turkey or Canada (including, in each case, any agency or instrumentality thereof), as the case may be, the payment of which is backed by the full faith and credit of the United States of America, the relevant member state of the European Union (whether or not it has ceased to be such a member state since 31 December 2003), Switzerland, Norway, Turkey or Canada, as the case may be, having maturities of not more than twelve months from the date of acquisition;
- (b) certificates of deposit, time deposits, eurodollar time deposits, money market deposits, overnight bank deposits or bankers’ acceptances (and similar instruments) having maturities of not more than twelve months from the date of acquisition thereof issued by any commercial bank which is organised under, or authorised to operate as a commercial bank under, the laws of a member state of the European Union or of the United States of America, the United Kingdom, Switzerland, Norway, Turkey or Canada the

long term debt of which (or of the holding company of which) is rated at the time of acquisition thereof at least “A+” or the equivalent thereof by S&P, “A-1” or the equivalent thereof by Moody’s, “A+” or the equivalent thereof by Fitch or the equivalent rating category of another internationally recognised rating agency (or, in the case of a commercial bank which is organised under, or authorised to operate as a commercial bank under, the laws of Turkey, the long term debt of which (or of the holding company of which) is rated at the time of acquisition thereof at least the same rating as the rating of Türkiye İş Bankası A.Ş. or the sovereign rating of Turkey), and having combined capital and surplus in excess of US\$500 million (or its equivalent in any other currency);

- (c) repurchase obligations with a term of not more than 30 days for underlying securities of the types described in clauses (a) and (b) entered into with any financial institution meeting the qualifications specified in clause (b) above;
- (d) commercial paper having at least one of the two highest ratings obtainable from Fitch or Moody’s, or carrying an equivalent rating by another internationally recognised rating agency if both of the two named rating agencies cease publishing ratings of investments, and in any case maturing within one year after the date of acquisition thereof; and
- (e) interests in any investment company or money market fund which invests 95 *per cent.* or more of its assets in instruments of the type specified in clauses (a) through (d) above.

Consolidated EBITDA means, with respect to the Issuer for any period: (a) Operating Profit before Financial Income and Expense, as stated in the most recent Statement of Income delivered as a part of the financial statements most recently delivered pursuant to Condition 5.7, plus (b) Depreciation and Amortisation, each as stated in the most recent Statement of Cashflows delivered as a part of the financial statements most recently delivered pursuant to Condition 5.7 (but excluding the Operating Profit before Financial Income and Expense, Depreciation and Amortisation with respect to any Unrestricted Subsidiaries).

Consolidated Net Income means, with respect to any specified Person for any period, the net income (loss) of such Person and its Restricted Subsidiaries for such period, on a consolidated basis (excluding the net income (loss) of any Unrestricted Subsidiaries), determined in accordance with TAS and without any reduction in respect of Preferred Stock dividends.

Consolidated Net Leverage means, as of any date of determination, the total amount of Indebtedness (other than Indebtedness of the type specified in clauses (iv), (v), (vi), (vii) (without duplication of any Indebtedness included in this definition), (viii), (ix), (x), (xi), (xiii), (xiv) and (xv) of Condition 5.2(b)) of the Issuer and its Restricted Subsidiaries on a consolidated basis as of such date of determination less cash and Cash Equivalents of the Issuer and its Restricted Subsidiaries as of such date of determination (other than: (a) cash and Cash Equivalents which are the proceeds of any Indebtedness in respect of the Incurrence of which the calculation of Consolidated Net Leverage Ratio is made, (b) Cash Equivalents which consist of securities issued, guaranteed or insured by the government of Turkey or any agency or instrumentality thereof (or repurchase obligations for such securities or interests in any investment company or money market fund which invests at least 95 *per cent.* of its assets in such securities) and (c) cash and Cash Equivalents received in any Asset Sale for which a Notes Offer has not been made in accordance with Condition 5.10(b), except to the extent such cash and Cash Equivalents remain after an Asset Sale Offer has been made in accordance with Condition 5.10(d).

Consolidated Net Leverage Ratio means as of any date of determination, the ratio of: (a) the Consolidated Net Leverage of the Issuer on such date to (b) the Consolidated EBITDA of the Issuer for the most recently ended four full fiscal quarters for which internal financial statements are available immediately preceding the date on which the applicable additional Indebtedness is incurred or the applicable Disqualified Stock or Preferred Stock is issued, as the case may be. In the event that the Issuer or any of its Restricted Subsidiaries incurs, assumes, guarantees, repays, repurchases, redeems, defeases or otherwise discharges any Indebtedness (other than ordinary course working capital borrowings) or issues, repurchases or redeems Preferred Stock subsequent to the commencement of the period for which the Consolidated Net Leverage Ratio is being calculated and on or prior to the date on which the event for which the calculation of the

Consolidated Net Leverage Ratio is made (the **Calculation Date**), then the Consolidated Net Leverage Ratio will be calculated giving *pro forma* effect (as determined in good faith by a responsible accounting or financial officer of the Issuer) to such incurrence, assumption, guarantee, repayment, repurchase, redemption, defeasance or other discharge of Indebtedness, or such issuance, repurchase or redemption of Preferred Stock, and the use of the proceeds therefrom, as if the same had occurred at the beginning of the applicable four-quarter reference period; *provided, however*, that the *pro forma* calculation of the Consolidated Net Leverage Ratio shall not give effect to: (i) any Indebtedness incurred on the Calculation Date (and, for the avoidance of doubt, not reclassified on such Calculation Date) pursuant to Condition 5.2(b) or (ii) the discharge on the Calculation Date of any Indebtedness to the extent that such discharge results from the proceeds incurred pursuant to the provisions described in Condition 5.2(b).

In addition, for purposes of calculating the Consolidated Net Leverage Ratio:

- (i) acquisitions that have been made by the Issuer or any of its Restricted Subsidiaries, including through mergers, consolidations or otherwise (including acquisitions of assets used or useful in the Permitted Business), and including any related financing transactions and including increases in ownership of Restricted Subsidiaries, during the four-quarter reference period or subsequent to such reference period and on or prior to the Calculation Date or that are to be made on the Calculation Date will be given *pro forma* (including *Pro Forma* Cost Savings) effect as if they had occurred on the first day of the four-quarter reference period;
- (ii) the Consolidated EBITDA attributable to discontinued operations, as determined in accordance with TAS, and operations or businesses (and ownership interests therein) disposed of prior to the Calculation Date, will be excluded;
- (iii) any Person that is a Restricted Subsidiary on the Calculation Date will be deemed to have been a Restricted Subsidiary at all times during such four- quarter period; and
- (iv) any Person that is not a Restricted Subsidiary on the Calculation Date will be deemed not to have been a Restricted Subsidiary at any time during such four- quarter period.

Currency Exchange Protection Agreement means, in respect of any Person, any foreign exchange contract, currency swap agreement, currency option, cap, floor, ceiling or collar or agreement or other similar agreement or arrangement designed to protect such Person against fluctuations in currency exchange rates as to which such Person is a party.

Default means any event that is, or with the passage of time or the giving of notice or both would be, an Event of Default.

Designated Non-Cash Consideration means the non-cash consideration received by the Issuer or one of its Restricted Subsidiaries in connection with an Asset Sale that is so designated as “Designated Non-Cash Consideration” pursuant to an Officer’s Certificate, setting forth the basis of the valuation thereof, less the amount of cash or Cash Equivalents received in connection with a subsequent sale of such Designated Non-Cash Consideration (which cash or Cash Equivalents shall be considered to have been received as consideration for such Asset Sale).

Disposal Profit means the excess of the Net Proceeds received in respect of an Asset Sale less the carrying value of such disposed asset or right, in accordance with TAS, in the most recent audited annual or unaudited interim consolidated financial statements of the Issuer.

Disqualified Stock means any Capital Stock that, by its terms (or by the terms of any security into which it is convertible, or for which it is exchangeable, in each case, at the option of the holder of the Capital Stock), or upon the happening of any event, matures or is mandatorily redeemable, whether pursuant to a sinking fund obligation or otherwise, or redeemable at the option of the holder of the Capital Stock, in whole or in

part, on or prior to the date that is 91 days after the date on which the Notes mature; *provided* that only the portion of Capital Stock which so matures or is mandatorily redeemable, or is so redeemable at the option of the holder thereof, prior to such date will be deemed to be Disqualified Stock. Notwithstanding the preceding sentence, any Capital Stock that would constitute Disqualified Stock solely because the holders of the Capital Stock have the right to require the Issuer to repurchase such Capital Stock upon the occurrence of a change of control or an asset sale will not constitute Disqualified Stock if the terms of such Capital Stock provide that the Issuer may not repurchase or redeem any such Capital Stock pursuant to such provisions unless such repurchase or redemption complies with Condition 5.1. For purposes hereof, the amount of Disqualified Stock which does not have a fixed repurchase price shall be calculated in accordance with the terms of such Disqualified Stock as if such Disqualified Stock were purchased on any date on which Indebtedness shall be required to be determined pursuant to the Trust Deed and/or these Conditions, and if such price is based upon, or measured by, the Fair Market Value of such Disqualified Stock, then such Fair Market Value is to be determined as set forth herein.

Equity Interests means Capital Stock and all warrants, options or other rights to acquire Capital Stock (but excluding any Indebtedness that is convertible into, or exchangeable for, Capital Stock).

Existing Indebtedness means Indebtedness of the Issuer and its Restricted Subsidiaries in existence on the Issue Date after giving effect to the use of proceeds of the offering of the Notes on the Issue Date, until such amounts are repaid.

Existing Notes Issue Date means 9 May 2013.

Fair Market Value means the value that would be paid by a willing buyer to an unaffiliated willing seller in a transaction not involving distress or necessity of either party, as determined in good faith by a responsible accounting or financial officer of the Issuer.

Hedging Obligations means, with respect to any specified Person, the obligations (where applicable, on a net basis) of such Person under:

- (a) interest rate swap agreements (whether from fixed to floating or from floating to fixed), interest rate cap agreements and interest rate collar agreements, other agreements or arrangements designed to manage interest rates or interest rate risk;
- (b) any foreign exchange contract, currency swap agreement, currency option, cap, floor, ceiling or collar or agreement or other similar agreement or arrangement designed to protect such Person against fluctuations in currency exchange rates; and
- (c) other agreements or arrangements designed to protect such Person against fluctuations in interest rates or currency exchange rates, including Currency Exchange Protection Agreements.

Indebtedness means, with respect to any specified Person, any indebtedness of such Person (excluding accrued expenses and trade payables):

- (a) in respect of borrowed money;
- (b) evidenced by bonds, notes, debentures or similar instruments;
- (c) representing reimbursement obligations in respect of letters of credit, banker's acceptances or similar instruments (except to the extent any such reimbursement obligations relate to trade payables and such obligations are satisfied within 30 days of incurrence);
- (d) representing Capital Lease Obligations;

- (e) representing the balance deferred and unpaid of the purchase price of any property or services due more than six months after such property is acquired or such services are completed;
- (f) representing the principal component or liquidation preference of all obligations of such Person with respect to any Disqualified Stock or, with respect to any Restricted Subsidiary, any Preferred Stock (but excluding, in each case, any accrued dividends);
- (g) representing any Hedging Obligations;
- (h) representing the principal component of all Indebtedness of other Persons secured by a Lien on any asset of such specified Person, whether or not such Indebtedness is assumed by such specified Person; *provided, however*, that the amount of such Indebtedness will be the lesser of: (i) the Fair Market Value of such asset at such date of determination and (ii) the amount of such Indebtedness of such other Persons; and
- (i) representing the principal component of Indebtedness of other Persons to the extent guaranteed by such Person;

provided that the foregoing indebtedness (other than letters of credit and other indebtedness of the type specified in clauses (g), (h) and (i) above) shall be included in this definition of Indebtedness only if, and to the extent that, the indebtedness would appear as a liability upon a balance sheet of such Person prepared in accordance with TAS. The term **Indebtedness** shall not include:

- (i) any lease of property which would be considered an operating lease under TAS;
- (ii) for the avoidance of doubt, any contingent obligations in respect of workers' compensation claims, early retirement or termination obligations, pension fund obligations or contributions, or similar claims, obligations or contributions or social security or wage taxes; or
- (iii) in connection with the purchase by the Issuer or any Restricted Subsidiary of the Issuer of any business, any post-closing payment adjustments to which the seller may become entitled to the extent such payment is determined by a final closing balance sheet or such payment depends on the performance of such business after the closing; *provided, however*, that at the time of closing, the amount of any such payment is not determinable and, to the extent such payment thereafter becomes fixed and determined, the amount is paid within 30 days thereafter.

Investment Grade Rating means, in relation to S&P, a rating of "BBB-" or above, in relation to Moody's, a rating of "Baa3" or above, in relation to Fitch, a rating of "BBB-" or above, and, in the case of any other Rating Agency, a comparable rating from that Rating Agency;

Investment Grade Status shall occur when the Notes are rated as follows by the following Rating Agencies: "Baa3" or better by Moody's or "BBB-" or better by Fitch (or, if any such entity ceases to rate the Notes, the equivalent investment grade credit rating from any other "nationally recognized statistical rating organization" within the meaning of Rule 15c3-1(c)(2)(vi)(F) under the U.S. Exchange Act selected by the Issuer as a replacement agency).

Investments means, with respect to any Person, all direct or indirect investments by such Person in other Persons (including Affiliates) in the forms of loans (including guarantees or other obligations, but excluding advances or extensions of credit to customers or suppliers made in the ordinary course of business), advances or capital contributions (excluding endorsements of negotiable instruments and documents in the ordinary course of business, and commission, travel and similar advances to officers, employees and consultants made in the ordinary course of business), purchases or other acquisitions for consideration of Indebtedness, Equity Interests or other securities, together with all items that are or would be classified as investments on a balance

sheet prepared in accordance with TAS. If the Issuer or any Restricted Subsidiary of the Issuer sells or otherwise disposes of any Equity Interests of any direct or indirect Restricted Subsidiary of the Issuer such that, after giving effect to any such sale or disposition, such Person is no longer a Restricted Subsidiary of the Issuer, the Issuer will be deemed to have made an Investment on the date of any such sale or disposition equal to the Fair Market Value of the Issuer's Investments in such Restricted Subsidiary that were not sold or disposed of in an amount determined as provided in Condition 5.1(d). The acquisition by the Issuer or any Subsidiary of the Issuer of a Person that holds an Investment in a third Person will be deemed to be an Investment by the Issuer or such Subsidiary in such third Person in an amount equal to the Fair Market Value of the Investments held by the acquired Person in such third Person in an amount determined as provided in Condition 5.1(d). Except as otherwise provided in the Trust Deed, the amount of an Investment will be determined at the time the Investment is made and without giving effect to subsequent changes in value and shall be determined as provided in Condition 5.1(d).

Issue Date means the date of the original issuance of Notes (*i.e.*, without considering any further issues pursuant to Condition 17).

Lien means, with respect to any asset, any mortgage, lien, pledge, charge, security interest or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law, including any conditional sale or other title retention agreement or any lease in the nature thereof.

Management Advances means loans or advances made to, or guarantees with respect to loans or advances made to, directors, officers or employees of the Issuer or any Restricted Subsidiary of the Issuer:

- (a) in respect of travel, entertainment or moving-related expenses incurred in the ordinary course of business;
- (b) in respect of moving-related expenses incurred in connection with any closing or consolidation of any facility or office; or
- (c) in the ordinary course of business and (in the case of this clause (iii)) not exceeding US\$3.0 million (or its equivalent in any other currency) in the aggregate outstanding at any time.

Minority Interest means the percentage interest represented by any Capital Stock of a Restricted Subsidiary of the Issuer that are not owned by the Issuer or a Restricted Subsidiary of the Issuer.

Net Proceeds means the aggregate cash proceeds received by the Issuer or any of its Restricted Subsidiaries in respect of any Asset Sale (including, without limitation, any cash received upon the sale or other disposition of any Designated Non-Cash Consideration or any other consideration received in non-cash form or any Cash Equivalents received in any Asset Sale), net of the direct costs relating to such Asset Sale and the sale of such Designated Non-Cash Consideration or other consideration received in non-cash form, including, without limitation:

- (a) all legal, accounting, investment banking, commissions and other fees and expenses incurred, title and recording tax expenses, and all federal, state, provincial, foreign and local taxes required to be paid or accrued as a liability under TAS as a consequence of such Asset Sale after taking into account any available tax credits or deductions and any tax sharing arrangements;
- (b) all payments made on any Indebtedness which is secured by any assets subject to such Asset Sale, in accordance with the terms of any Lien upon such assets, or which must by its terms, or in order to obtain a necessary consent to such Asset Sale, or by applicable law be repaid out of the proceeds from such Asset Sale;
- (c) all distributions and other payments required to be made to holders of Minority Interests in Subsidiaries or joint ventures as a result of such Asset Sale; and

- (d) the deduction of appropriate amounts to be provided by the seller as a reserve, in accordance with TAS, or held in escrow, in either case for adjustment in respect of the sale price or for any liabilities associated with the assets disposed of in such Asset Sale and retained by the Issuer or any Restricted Subsidiary of the Issuer after such Asset Sale.

Non-Recourse Debt means Indebtedness:

- (a) as to which neither the Issuer nor any of its Restricted Subsidiaries: (i) provides credit support of any kind (including any undertaking, agreement or instrument that would constitute Indebtedness), (ii) is directly or indirectly liable as a guarantor or otherwise or (iii) constitutes the lender;
- (b) no default with respect to which (including any rights that the holders of the Indebtedness may have to take enforcement action against an Unrestricted Subsidiary) would permit upon notice, lapse of time or both any holder of any Indebtedness of the Issuer or any of its Restricted Subsidiaries to declare a default on such Indebtedness or cause the payment of such Indebtedness to be accelerated or payable prior to its Stated Maturity; and
- (c) the explicit terms of which provide there is no recourse to the stock or assets of the Issuer or any of its Restricted Subsidiaries.

Obligations means any principal, interest, penalties, fees, indemnifications, reimbursements, damages and other liabilities payable under the documentation governing any Indebtedness.

Officer means, with respect to the Issuer, the Chairman of the Board of Directors, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Chief of Staff, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Managing Director, Director or any Vice-President of the Issuer.

Officer's Certificate means a certificate signed on behalf of any Person by an Officer.

Parent Entity means any direct or indirect parent company or entity of the Issuer.

Pari Passu Debt means: (a) with respect to the Notes, any Indebtedness of the Issuer that ranks equally in right of payment with the Notes, and (b) with respect to any Guarantee, any Indebtedness that ranks equally in right of payment to such Guarantee.

Permitted Business means: (a) any businesses, services or activities engaged in by the Issuer or any of its Restricted Subsidiaries on the Issue Date, (b) any business derived from the research and development operations of the Issuer or any of its Subsidiaries and (c) any businesses, services and activities engaged in by the Issuer or any of its Restricted Subsidiaries that are related, complementary, incidental, ancillary or similar to any of the foregoing or are extensions or developments of any thereof.

Permitted Investments means:

- (a) any Investment in the Issuer or in a Restricted Subsidiary of the Issuer;
- (b) (i) any Investment in cash and Cash Equivalents and (ii) any Investment in debt securities issued by Persons organised in a member state (other than Turkey) of the Organisation for Economic Co-operation and Development having maturities of not more than five years from the date of acquisition and having an Investment Grade Rating at the time of acquisition thereof from at least two Rating Agencies;

- (c) any Investment by the Issuer or any Restricted Subsidiary of the Issuer in any Person if as a result of such Investment:
 - (i) such Person becomes a Restricted Subsidiary of the Issuer; or
 - (ii) such Person is merged, consolidated or amalgamated with or into, or transfers or conveys substantially all of its assets to, or is liquidated into, the Issuer or a Restricted Subsidiary of the Issuer;
- (d) any Investment made as a result of the receipt of non-cash consideration from an Asset Sale that was made pursuant to and in compliance with the covenant described in Condition 5.10;
- (e) any acquisition of assets or Capital Stock solely in exchange for the issuance of Equity Interests (other than Disqualified Stock) of the Issuer;
- (f) any Investments received in compromise or resolution of: (i) obligations of trade creditors or customers that were incurred in the ordinary course of business of the Issuer or any of its Restricted Subsidiaries, including pursuant to any plan of reorganisation or similar arrangement upon the bankruptcy or insolvency of any trade creditor or customer; or (ii) litigation, arbitration or other disputes with Persons who are not Affiliates;
- (g) Investments represented by Hedging Obligations, which obligations are permitted by Condition 5.2(b)(vi);
- (h) receivables owing to the Issuer or any Restricted Subsidiary of the Issuer created or acquired in the ordinary course of business and payable or dischargeable in accordance with customary trade terms; *provided, however*, that such trade terms may include such concessionary trade terms as the Issuer or any such Restricted Subsidiary deems reasonable under the circumstances;
- (i) surety and performance bonds and workers' compensation, utility, lease, tax, performance and similar deposits and prepaid expenses in the ordinary course of business;
- (j) guarantees of Indebtedness permitted under Condition 5.2;
- (k) Investments of a Restricted Subsidiary of the Issuer acquired after the Issue Date or of any entity merged into or consolidated or amalgamated with the Issuer or a Restricted Subsidiary of the Issuer in accordance with Condition 5.5 to the extent that such Investments were not made in contemplation of or in connection with such acquisition, merger, consolidation or amalgamation and were in existence on the date of such acquisition, merger, consolidation or amalgamation;
- (l) Investments received as a result of a foreclosure by the Issuer or any of its Restricted Subsidiaries with respect to any secured Investment in default;
- (m) (i) any Investment existing on, or made pursuant to a binding commitment existing on, the Issue Date and any extension, modification or renewal of any such Investment; *provided* that the amount of any such Investment may be increased: (A) as required by the terms of such Investment, or such commitment, as in existence on the Issue Date or (B) as otherwise permitted under the Trust Deed, or (ii) any new Investment made in exchange for, or out of the net cash proceeds of the redemption, other repayment or disposition of, any Investment described in clause (i) or this clause (ii); *provided* that such new Investment is of a similar type and has a comparable or greater market value as the Investment being exchanged, redeemed, repaid or disposed of;
- (n) Investments in the Notes and any other Indebtedness of the Issuer or any Restricted Subsidiary of the Issuer;

- (o) Management Advances;
- (p) payroll, commission, travel, relocation and similar advances to cover matters that are expected at the time of such advances ultimately to be treated as expenses for accounting purposes and that are made in the ordinary course of business;
- (q) prepaid expenses, negotiable instruments held for collection and lease, utility and workers' compensation, performance and similar deposits made in the ordinary course of business by the Issuer or any Restricted Subsidiary of the Issuer;
- (r) Investments in any Person engaged in a Permitted Business and of which at least 20 *per cent.* of the total equity and voting interests is at the time of determination (or will be after giving *pro forma* effect to such Investment) owned or controlled, directly or indirectly, by the Issuer or any Restricted Subsidiary of the Issuer; *provided* that each such Investment: (i) has been approved by the Board of Directors of the Issuer and (ii) has a Fair Market Value on the date of making such Investment at least equal to the aggregate cash paid and/or Fair Market Value of the assets transferred to such Person; and
- (s) other Investments in any Person having an aggregate Fair Market Value (measured on the date each such Investment was made and without giving effect to subsequent changes in value), when taken together with all other Investments made pursuant to this clause (s) that are at the time outstanding, not to exceed US\$100.0 million (or its equivalent in any other currency); *provided* that if an Investment is made pursuant to this clause in a Person that is not a Restricted Subsidiary and such Person subsequently becomes a Restricted Subsidiary or is subsequently designated a Restricted Subsidiary pursuant to Condition 5.1, such Investment shall thereafter be deemed to have been made pursuant to clause (a) or (c) of this definition of "Permitted Investments" and not this clause.

Permitted Liens means:

- (a) Liens in favour of the Issuer or any Restricted Subsidiary of the Issuer;
- (b) Liens on property of a Person existing at the time such Person becomes a Restricted Subsidiary of the Issuer or is merged with or into or consolidated or amalgamated with the Issuer or any Restricted Subsidiary of the Issuer; *provided* that such Liens were in existence prior to the contemplation of such Person becoming a Restricted Subsidiary of the Issuer or such merger, consolidation or amalgamation and do not extend to any assets other than those of the Person that becomes a Restricted Subsidiary of the Issuer or is merged into or consolidated or amalgamated with the Issuer or such Restricted Subsidiary;
- (c) Liens on property or assets (including Capital Stock) existing at the time of acquisition of the property or assets by the Issuer or any Restricted Subsidiary of the Issuer; *provided* that such Liens were in existence prior to such acquisition and not incurred in contemplation of such acquisition;
- (d) Liens existing on the Issue Date;
- (e) Liens for taxes, assessments or governmental charges or claims that: (i) are not yet due and payable or (ii) are being contested in good faith by appropriate proceedings promptly instituted and diligently concluded; *provided* that any reserve or other appropriate provision as is required in conformity with TAS has been made therefor;
- (f) survey exceptions, easements or reservations of, or rights of others for, licenses, rights of way, sewers, pipe lines, electric lines, telegraph and telephone lines and other similar purposes, or zoning or other restrictions as to the use of real property that were not incurred in connection with Indebtedness and that do not in the aggregate materially adversely affect the value of said properties or materially impair their use in the operation of the business of the applicable Person;

- (g) Liens encumbering property or assets under construction arising from progress or partial payments by a customer of the Issuer or its Restricted Subsidiaries relating to such property or assets;
- (h) Liens in favour of customs and revenue authorities arising as a matter of law to secure payments of customs duties in connection with the importation of goods;
- (i) any attachment, prejudgment or judgment Lien that does not constitute an Event of Default and notices of *lis pendens* and associated rights related to litigation being contested in good faith by appropriate proceedings and for which adequate reserves have been made;
- (j) Liens created for the benefit of the Noteholders or to secure the Obligations under the Notes or the Guarantees;
- (k) Liens to secure any Permitted Refinancing Indebtedness permitted to be incurred under the Trust Deed and/or these Conditions; *provided, however*, that:
 - (i) the new Lien shall be limited to all or part of the same property and assets that secured or, under the written agreements pursuant to which the original Lien arose, could secure the original Lien (plus improvements and accessions to such property or assets or proceeds or distributions thereof); and
 - (ii) the Indebtedness secured by the new Lien is not increased to any amount greater than the sum of: (A) the outstanding principal amount, or, if greater, committed amount, of the Indebtedness renewed, refunded, refinanced, replaced, defeased or discharged with such Permitted Refinancing Indebtedness and (B) an amount necessary to pay any fees and expenses, including premiums, related to such renewal, refunding, refinancing, replacement, defeasance or discharge;
- (l) Liens arising solely by virtue of any statutory or common law provisions relating to banker's Liens, rights of set-off or similar rights and remedies as to deposit accounts or other funds maintained or deposited with a depository institution;
- (m) Liens on cash, Cash Equivalents or other property or assets arising in connection with the defeasance, discharge or redemption of Indebtedness;
- (n) any: (i) interest or title of a lessor or sublessor under any lease and for compliance with the terms of such leases; (ii) restriction or encumbrance that the interest or title of such lessor or sublessor may be subject to (including without limitation, ground leases or other prior leases of the demised premises, mortgages, mechanics' liens, tax liens, and easements); or (iii) subordination of the interest of the lessee or sublessee under such lease to any restrictions or encumbrance referred to in the preceding clause (ii);
- (o) Liens arising under the Trust Deed in favour of the Trustee for its own benefit and similar Liens in favour of other trustees, agents and representatives arising under instruments governing Indebtedness permitted to be incurred under the Trust Deed and these Conditions; *provided, however*, that such Liens are solely for the benefit of the trustees, agents or representatives in their capacities as such and not for the benefit of the holders of the Indebtedness;
- (p) Liens securing Hedging Obligations, which obligations are permitted by Condition 5.2(b)(vi);
- (q) Liens upon specific items of inventory, receivables or other goods (or the proceeds thereof) of any Person securing such Person's obligations in respect of bankers' acceptances or receivables securitisations issued or created in the ordinary course of business for the account of such Person to facilitate the purchase, shipment or storage of such inventory, receivables or other goods (or the proceeds thereof);

- (r) Liens arising out of conditional sale, title retention, consignment or similar arrangements for the sale of assets entered into in the ordinary course of business;
- (s) (i) mortgages, liens, security interests, restrictions, encumbrances or any other matters of record that have been placed by any developer, landlord, contractor or other third party on property over which the Issuer or any Restricted Subsidiary has easement rights or on any real property leased by the Issuer or any Restricted Subsidiary (including those arising from progress or partial payments by a third party relating to such property or assets) and subordination or similar agreements relating thereto and (ii) any condemnation or eminent domain proceedings or compulsory purchase order affecting real property;
- (t) Liens (including put and call arrangements) on Capital Stock or other securities of any Unrestricted Subsidiary that secure Indebtedness of such Unrestricted Subsidiary;
- (u) pledges of goods, the related documents of title and/or other related documents arising or created in the ordinary course of business of the Issuer or any Restricted Subsidiary of the Issuer or operations as Liens only for Indebtedness to a bank or other financial institution directly relating to the goods or documents on or over which the pledge exists;
- (v) limited recourse Liens in respect of the ownership interests in any joint ventures which are not Restricted Subsidiaries of the Issuer securing a guarantee or other obligation of the Issuer or a Restricted Subsidiary with respect to obligations of such joint ventures;
- (w) Liens on any proceeds loan made by the Issuer or any Restricted Subsidiary of the Issuer in connection with any future incurrence of Indebtedness permitted under the Trust Deed and/or these Conditions and securing that Indebtedness;
- (x) Liens created on any asset of the Issuer or a Restricted Subsidiary of the Issuer established to hold assets of any stock option plan or any other management or employee benefit or incentive plan or unit trust of the Issuer or a Restricted Subsidiary of the Issuer securing any Indebtedness to finance the acquisition of such assets;
- (y) Liens over treasury stock of the Issuer or a Restricted Subsidiary of the Issuer purchased or otherwise acquired for value by the Issuer or such Restricted Subsidiary pursuant to a stock buy-back scheme or other similar plan or arrangement;
- (z) Liens on assets or property of a Restricted Subsidiary that is not a Guarantor securing Indebtedness of any Restricted Subsidiary that is not a Guarantor permitted by Condition 5.2;
- (aa) the following ordinary course items:
 - (i) leases or subleases granted to others that do not materially interfere with the ordinary course of business of the Issuer and its Restricted Subsidiaries, taken as a whole;
 - (ii) landlords', carriers', warehousemen's, mechanics', materialmen's, repairmen's or the like Liens arising by contract or statute in the ordinary course of business;
 - (iii) pledges or deposits made in the ordinary course of business: (A) in connection with leases, tenders, bids, statutory obligations, surety or appeal bonds, government contracts, performance bonds and similar obligations; or (B) in connection with workers' compensation, unemployment insurance and other social security legislation (including, in each case, Liens to secure letters of credit issued to assure payment of such obligations);
 - (iv) Liens arising from Uniform Commercial Code financing statement filings under U.S. state law (or similar filings under the laws of other applicable jurisdictions) regarding operating

leases entered into by the Issuer and its Restricted Subsidiaries in the ordinary course of business;

- (v) Liens on insurance policies and proceeds thereof, or other deposits, to secure insurance premium financings in the ordinary course of business;
 - (vi) leases, licenses, subleases and sublicenses of assets in the ordinary course of business; and
 - (vii) Liens securing or arising by reason of any netting or set-off arrangement entered into in the ordinary course of banking or other trading activities; and
- (bb) Liens incurred with respect to Indebtedness at any one time outstanding that does not exceed US\$100.0 million (or its equivalent in any other currency).

Permitted Refinancing Indebtedness means any Indebtedness of the Issuer or any of its Restricted Subsidiaries issued in exchange for, or the net proceeds of which are used to extend, renew, refund, refinance, replace, exchange, defease or discharge, other Indebtedness of the Issuer or any of its Restricted Subsidiaries (other than intercompany Indebtedness); *provided that*:

- (a) the aggregate principal amount (or, if issued with original issue discount, aggregate issue price) of such Permitted Refinancing Indebtedness does not exceed the principal amount (or accreted value, if applicable) of the Indebtedness being extended, renewed, refunded, refinanced, replaced, exchanged, defeased or discharged (plus all accrued interest on the Indebtedness and the amount of all fees and expenses, including premiums, incurred in connection therewith);
- (b) such Permitted Refinancing Indebtedness has: (i) a final maturity date that is either: (A) no earlier than the final maturity date of the Indebtedness being renewed, refunded, refinanced, replaced, exchanged, defeased or discharged or (B) after the final maturity date of the Notes and (ii) has a Weighted Average Life to Maturity that is equal to or greater than the Weighted Average Life to Maturity of the Indebtedness being extended, renewed, refunded, refinanced, replaced, defeased or discharged;
- (c) if the Indebtedness being extended, renewed, refunded, refinanced, replaced, defeased or discharged is expressly contractually subordinated in right of payment to the Notes or a Guarantee, as the case may be, such Permitted Refinancing Indebtedness is subordinated in right of payment to the Notes or such Guarantee, as the case may be, on terms at least as favourable to the Holders of Notes as those contained in the documentation governing the Indebtedness being extended, renewed, refunded, refinanced, replaced, exchanged, defeased or discharged; and
- (d) if the Issuer or any Guarantor was the obligor on the Indebtedness being renewed, refunded, refinanced, replaced, defeased or discharged, such Indebtedness is incurred either by the Issuer or by a Guarantor.

Person means any individual, company, corporation, firm, partnership, joint venture, association, unincorporated organisation, trust or other judicial entity, including, without limitation, any state or agency of a state or other entity, whether or not having separate legal personality.

Preferred Stock means any Equity Interest with preferential right (as compared to common stock of the applicable Person) of payment of dividends or distributions or upon liquidation, dissolution, or winding-up of such Person.

Pro Forma Cost Savings means, without duplication, with respect to any period, reductions in costs and related adjustments that have been actually realised or are projected by the Issuer's chief financial officer in good faith to result from reasonably identifiable and factually supportable actions or events, but only if such

reductions in costs and related adjustments are so projected by the Issuer to be realised during the consecutive four-quarter period commencing after the transaction giving rise to such calculation.

Project Finance Indebtedness means any Indebtedness which is issued, borrowed or raised by a Project Subsidiary to finance the ownership, acquisition, development and/or operation of an asset or project.

Project Subsidiary means any Subsidiary of the Issuer: (a) the Capital Stock of which is partially held by third party investors and/or the Issuer and/or one or more of its Restricted Subsidiaries and (b) which is established solely for the purpose of ownership, acquisition, development and operation of an asset or project.

Public Debt means any Indebtedness consisting of bonds, debentures, notes or other similar debt securities issued in: (a) a public offering registered under the U.S. Securities Act or (b) a private placement to institutional investors that is underwritten for resale in accordance with Rule 144A or Regulation S under the U.S. Securities Act, whether or not it includes registration rights entitling the holders of such debt securities to registration thereof with the U.S. Securities and Exchange Commission for public resale.

Rating Agency means S&P Global Ratings Europe Limited (**S&P**), Fitch Ratings Limited (**Fitch**) or Moody's Investors Service Limited (**Moody's**), or any of their respective successors, or any other rating agency of international standing;

Restricted Investment means an Investment other than a Permitted Investment.

Restricted Subsidiary means any Subsidiary of the Issuer that is not an Unrestricted Subsidiary.

Stated Maturity means, with respect to any instalment of interest or principal on any Indebtedness, the date on which the payment of interest or principal was scheduled to be paid (whether or not the borrower has a right to defer payment) in the documentation governing such Indebtedness as of the date of original incurrence of the relevant Indebtedness, and will not include any contingent obligations to repay, redeem or repurchase any such interest or principal prior to the date originally scheduled for the payment thereof.

Subordinated Obligation means any Indebtedness of the Issuer (whether outstanding on the Issue Date or thereafter incurred) which is subordinate or junior in right of payment to the Notes pursuant to a written agreement or any Indebtedness of a Guarantor (whether outstanding on the Issue Date or thereafter incurred) which is subordinate or junior in right of payment to the relevant Guarantee pursuant to a written agreement, as the case may be.

Subsidiary means, with respect to any specified Person:

- (a) any corporation, association or other business entity (other than a partnership, joint venture, limited liability company or similar) of which more than 50 *per cent.* of the total ordinary voting power of Capital Stock entitled (without regard to the occurrence of any contingency and after giving effect to any voting agreement or stockholders' agreement that effectively transfers voting power) to vote in the election of directors, managers or trustees of the corporation, association or other business entity is at the time owned or controlled, directly or indirectly, by that Person or one or more of the other Subsidiaries of that Person (or a combination thereof); and
- (b) any partnership, joint venture, limited liability company or similar entity of which: (i) more than 50 *per cent.* of the capital accounts, distribution rights, total equity and voting interests or general and limited partnership interests, as applicable, are owned or controlled, directly or indirectly, by such Person or one or more of the other Subsidiaries of that Person or a combination thereof, whether in the form of membership, general, special or limited partnership interests or otherwise, and (ii) such Person or any Subsidiary of such Person is a controlling general partner or otherwise controls such entity.

TAS means the Turkish Accounting Standards used for the preparation and presentation of financial statements by public companies in Turkey pursuant to the “Communiqué on Financial Reporting in Capital Markets” Serial II, No. 14.1, promulgated in the Official Gazette dated 13 June 2013 and No. 28676 (as amended, supplemented or restated from time to time).

U.S. Securities Act means the United States Securities Act of 1933, as amended, and the rules and regulations of the U.S. Securities and Exchange Commission promulgated thereunder.

Unrestricted Subsidiary means any Subsidiary of the Issuer that is designated by the Board of Directors of the Issuer as an Unrestricted Subsidiary pursuant to a resolution of the Board of Directors, but only to the extent that such Subsidiary:

- (a) has no Indebtedness other than Non-Recourse Debt;
- (b) except as permitted by the covenant described above in Condition 5.10, is not party to any agreement, contract, arrangement or understanding with the Issuer or any Restricted Subsidiary of the Issuer unless the terms of any such agreement, contract, arrangement or understanding are no less favourable to the Issuer or such Restricted Subsidiary than those that might be obtained at the time from Persons who are not Affiliates of the Issuer; and
- (c) is a Person with respect to which neither the Issuer nor any of its Restricted Subsidiaries has any direct or indirect obligation: (i) to subscribe for additional Equity Interests or (ii) to maintain or preserve such Person’s financial condition or to cause such Person to achieve any specified levels of operating results.

Weighted Average Life to Maturity means, when applied to any Indebtedness at any date, the number of years obtained by dividing:

- (a) the sum of the products obtained by multiplying: (i) the amount of each then remaining instalment, sinking fund, serial maturity or other required payments of principal, including payment at final maturity, in respect of the Indebtedness, by (ii) the number of years (calculated to the nearest one-twelfth, with one-twenty-fourth being rounded upward) that will elapse between such date and the making of such payment; by
- (b) the then outstanding principal amount of such Indebtedness.

6. INTEREST

6.1 Interest Rate and Interest Payment Dates

The Notes bear interest from and including 14 March 2019 at the rate of 6.95 *per cent. per annum*, payable semi-annually in arrear on the 14th day of each March and September (each an **Interest Payment Date**). The first payment (representing a full six months’ interest) shall be made on the Interest Payment Date falling in September 2019.

6.2 Interest Accrual

Each Note will cease to bear interest from and including its due date for redemption unless, upon due presentation, payment of the principal in respect of the Note is improperly withheld or refused or unless default is otherwise made in respect of payment. In such event, interest will continue to accrue as provided in the Trust Deed.

6.3 Calculation of Broken Interest

When interest is required to be calculated in respect of a period of less than a full six months, it shall be calculated on the basis of a 360-day year consisting of 12 months of 30 days each and, in the case of an incomplete month, the number of days elapsed on the basis of a month of 30 days.

7. PAYMENTS

7.1 Payments in respect of Notes

Payment of principal and interest will be made by transfer to the registered account of the Noteholder or by U.S. dollar cheque drawn on a bank that processes payments in U.S. dollars mailed to the registered address of the Noteholder if it does not have a registered account. Payments of interest due otherwise than on an Interest Payment Date and payments of principal will only be made against presentation (or, in the case of a redemption in full of the Notes represented by a Certificate, surrender) of the relevant Certificate at the specified office of any of the Paying Agents. Interest on Notes due on an Interest Payment Date will be paid to the holder shown on the Register at the close of business on the date (the **Record Date**) being the fifteenth day before the due date for the payment of interest.

For the purposes of this Condition, a Noteholder's registered account means the U.S. dollar account maintained by or on behalf of it with a bank that processes payments in U.S. dollars, details of which appear on the Register at the close of business, in the case of principal and interest due otherwise than on an Interest Payment Date, on the second Business Day (as defined in Condition 7.4 below) before the due date for payment and, in the case of principal or interest due on an Interest Payment Date, on the relevant Record Date, and a Noteholder's registered address means its address appearing on the Register at that time.

7.2 Payments subject to Applicable Laws

Payments in respect of principal and interest on the Notes are subject in all cases to: (a) any fiscal or other laws and regulations applicable in the place of payment, but without prejudice to the provisions of Condition 9, and (b) any withholding or deduction required pursuant to FATCA.

In these Conditions, "**FATCA**" means: (i) an agreement described in Section 1471(b) of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**"), (ii) Sections 1471 through 1474 of the Code, (iii) any regulations or agreements thereunder or official interpretations thereof, (iv) any intergovernmental agreement between the United States and any other governmental authority entered into in connection with the implementation of the foregoing or (v) any applicable law implementing such an intergovernmental agreement.

7.3 No commissions

No commissions or expenses shall be charged to the Noteholders in respect of any payments made in accordance with this Condition.

7.4 Payment on Business Days

Where payment is to be made by transfer to a registered account, payment instructions (for value the due date or, if that is not a Business Day, for value the first following day which is a Business Day) will be initiated and, where payment is to be made by cheque, the cheque will be mailed, on the Business Day preceding the due date for payment or, in the case of a payment of principal or a payment of interest due otherwise than on an Interest Payment Date, if later, on the Business Day on which the relevant Certificate is presented or surrendered, as applicable, at the specified office of an Agent.

Noteholders will not be entitled to any interest or other payment for any delay after the due date in receiving the amount due if the due date is not a Business Day, if the Noteholder is late in presenting or surrendering

its Certificate (if required to do so) or if a cheque mailed in accordance with this Condition arrives after the due date for payment.

In these Conditions, **Business Day** means a day (other than a Saturday or Sunday) on which commercial banks are open for business in London and New York City and, in the case of presentation or surrender of a Certificate, in the place in which the Certificate is presented or surrendered.

7.5 Partial Payments

If the amount of principal or interest which is due on the Notes is not paid in full, the Registrar will annotate the Register with a record of the amount of principal or interest in fact paid.

7.6 Agents

The names of the initial Agents and their initial specified offices are set out in the Agency Agreement. The Issuer reserves the right, subject to the prior written approval of the Trustee, at any time to vary or terminate the appointment of any Agent and to appoint additional or other Agents; *provided that*:

- (a) there will at all times be a Principal Paying Agent;
- (b) there will at all times be a Paying Agent (which may be the Principal Paying Agent) having a specified office in a jurisdiction within Europe other than the jurisdiction in which the Issuer is incorporated; and
- (c) there will at all times be a Registrar.

Notice of any termination or appointment of any Agent and of any changes in specified offices of an Agent will be given to the Noteholders promptly by the Issuer in accordance with Condition 14.

8. REDEMPTION AND PURCHASE

8.1 Redemption at Maturity

Unless previously redeemed or purchased and cancelled as provided below, the Issuer will redeem the Notes at their principal amount on 14 March 2026.

8.2 Redemption for Taxation Reasons

If the Issuer satisfies the Trustee immediately before the giving of the notice referred to below that:

- (a) as a result of any change in, or amendment to, the laws or regulations of a Relevant Jurisdiction (as defined in Condition 9), or any change in the application or official interpretation of the laws or regulations of a Relevant Jurisdiction, which change or amendment becomes effective after the Issue Date, on the next Interest Payment Date: (i) the Issuer would be required to pay additional amounts as provided or referred to in Condition 9 or (ii) any of the Guarantors would, if required to make payment under its Guarantee, be required to pay such additional amounts; and
- (b) the requirement cannot be avoided by the Issuer, or, as the case may be, such Guarantor, taking reasonable measures available to it,

then the Issuer may at its option, having given not less than 30 nor more than 60 days' notice to the Noteholders in accordance with Condition 14 (which notice shall be irrevocable), redeem all (but not some only) of the Notes at any time at their principal amount together with interest accrued to but excluding the date of redemption, *provided that* no such notice of redemption shall be given earlier than 90 days prior to

the earliest date on which the Issuer or, as the case may be, a Guarantor, would be obliged to pay such additional amounts were a payment in respect of the Notes then due.

Prior to the publication of any notice of redemption pursuant to this Condition 8.2, the Issuer shall deliver to the Trustee: (A) a certificate signed by two Directors of the Issuer, or, as the case may be, the applicable Guarantor, stating that the requirement referred to in clause (a)(i) or (ii) above will apply on the next Interest Payment Date and cannot be avoided by the Issuer, or, as the case may be, such Guarantor, taking reasonable measures available to it and (B) an opinion of independent legal advisers of recognised standing to the effect that the Issuer or, as the case may be, such Guarantor has or will become obliged to pay such additional amounts or the Issuer will be required to make such withholding or deduction as a result of the change or amendment, and the Trustee shall be entitled to accept the certificate and such opinion as sufficient evidence of the satisfaction of the conditions precedent set out above, in which event such satisfaction shall be conclusive and binding on the Noteholders.

8.3 Redemption at the Option of the Issuer

The Issuer may on any one or more occasions, on giving not less than 30 nor more than 60 days' notice to the Trustee, the Principal Paying Agent and, in accordance with Condition 14, the Noteholders (which notices shall be irrevocable and shall specify the date fixed for redemption and the applicable record date), redeem all or a part of the Notes at any time during the period commencing on (and including) the day that is 90 days prior to the Maturity Date to (but excluding) the Maturity Date at their principal amount, together with interest accrued to (but excluding) the date fixed for redemption.

At any time prior to the day that is 90 days prior to the Maturity Date, the Issuer may on any one or more occasions, having given not less than 30 nor more than 60 days' notice to the Trustee, the Principal Paying Agent and, in accordance with Condition 14, the Noteholders (which notices shall be irrevocable and shall specify the date fixed for redemption and the applicable record date), redeem all or a part of the Notes at the Make-Whole Redemption Price.

For the purposes of this Condition 8.3:

Make-Whole Redemption Price means, in respect of each Note, the greater of: (a) 100 *per cent.* of the principal amount of such Note and (b) the sum of the present values of the Remaining Scheduled Payments with respect to such Note discounted to the date of redemption on a semi-annual basis (assuming a 360-day year consisting of 12 months of 30 days each) at the U.S. Treasury Rate *plus* a spread of 50 basis points, together with accrued interest on the principal amount of such Note to (but excluding) the date of redemption, all as determined by the Determination Agent.

U.S. Treasury Rate means, with respect to any redemption date, the rate *per annum* equal to the semi-annual equivalent yield to maturity (computed as of the third business day immediately preceding such redemption date) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for that redemption date.

Comparable Treasury Issue means the United States Treasury security or securities selected by the Determination Agent that would be utilised, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Notes.

Comparable Treasury Price means, with respect to any redemption date, the average of three Reference Treasury Dealer Quotations for the redemption date.

Reference Treasury Dealer means each of the three nationally recognised firms selected by the Determination Agent that are primary U.S. Government securities dealers.

Reference Treasury Dealer Quotation means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Determination Agent, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Determination Agent by such Reference Treasury Dealer at 5.00 p.m., New York City time on the third business day in New York City, New York immediately preceding such redemption date.

Remaining Scheduled Payments means, with respect to a Note, the remaining scheduled payments of the principal thereof and interest thereon that would be due after the related redemption date but for such redemption; *provided* that if such redemption date is not an Interest Payment Date, then the amount of the next scheduled interest payment thereon will be reduced by the amount of interest accrued thereon to such redemption date.

Determination Agent means a leading investment bank or financial institution of international standing: (a) selected by the Issuer for the purposes of calculating the Make-Whole Redemption Price and (b) notified to the Noteholders by the Issuer in accordance with Condition 14.

Unless the Issuer defaults in the payment of the redemption price payable under this Condition 8.3, interest will cease to accrue on the Notes or portions thereof called for redemption on (but excluding) the applicable redemption date.

8.4 Redemption at the Option of the Holders Upon a Change of Control

If a Change of Control Put Event occurs, the Issuer will, upon any Noteholder giving to the Issuer through an Agent notice within the Change of Control Put Period (unless prior to the giving of such notice the Issuer has given notice of redemption for all of the Notes under Condition 8.2 and/or 8.3) redeem in whole (but not in part) the Notes the subject of the notice on the Change of Control Redemption Date at 100 *per cent.* of their principal amount (the **Change of Control Redemption Amount**) together with interest accrued to but excluding the date of redemption.

Promptly upon the Issuer becoming aware that a Change of Control Put Event has occurred, the Issuer shall give notice to the Noteholders in accordance with Condition 14 (a **Change of Control Notice**) specifying the nature of the relevant Change of Control Put Event, the circumstances giving rise to it and the procedure for Noteholders to exercise their rights to require redemption of any Notes pursuant to this Condition 8.4.

To exercise such right, any holder of the Notes must deliver at the specified office of any Agent on any Business Day falling within the Change of Control Put Period a duly signed and completed notice of exercise in the form obtainable from the specified office of any Agent (a **Change of Control Put Notice**) and in which the holder must specify a bank account (or, if payment is required to be made by cheque, an address) to which payment is to be made under this Condition 8.4 accompanied by the Certificate for such Notes or evidence satisfactory to the Agent concerned that the Certificate for such Notes will, following the delivery of the Change of Control Put Notice, be held to its order or under its control. A Change of Control Put Notice given by a holder of any Note shall be irrevocable except where, prior to the due date of redemption, an Event of Default has occurred and is continuing, in which event such holder, at its option, may elect by notice to the Issuer to withdraw the Change of Control Put Notice and instead request the Trustee to give notice that the Notes are immediately due and repayable under Condition 11.

If 85 *per cent.* or more in principal amount of the Notes outstanding immediately before the Change of Control Redemption Date are redeemed on such redemption, the Issuer may, on giving not less than 30 nor more than 60 days' notice to the Noteholders in accordance with Condition 14 (such notice to be given within 30 days of the Change of Control Redemption Date), redeem all but not some only of the remaining outstanding Notes at the Change of Control Redemption Amount together with interest accrued to but excluding the date of redemption.

For the purposes of this Condition 8.4:

Change of Control means the occurrence of either of the following:

- (a) the direct or indirect sale, lease, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or a series of related transactions, of all or substantially all of the properties or assets of the Issuer and its Restricted Subsidiaries taken as a whole to any “person” (as that term is used in Section 13(d) of the U.S. Exchange Act) other than one or more Permitted Holders, Türkiye İş Bankası A.Ş. or any Subsidiary of Türkiye İş Bankası A.Ş.; or
- (b) Türkiye İş Bankası A.Ş. and the Permitted Holders (collectively) cease to own, directly or indirectly, at least a majority of: (i) the issued share capital of the Issuer or (ii) the voting rights of the Issuer. For the purposes of this definition, Türkiye İş Bankası A.Ş. and the Permitted Holders (collectively) will be deemed to control the Issuer if (whether directly or indirectly and whether by the ownership of share capital, the possession of voting power, contract, trust or otherwise) they have the power to appoint and/or remove all or the majority of the members of the Board of Directors or other governing body of the Issuer.

Change of Control Period means the period commencing on the Relevant Announcement Date and ending 90 days after the Change of Control (or such longer period for which the Notes are under consideration (such consideration having been announced publicly within the period ending 90 days after the Change of Control) for rating review or, as the case may be, rating by a Rating Agency, such period not to exceed 60 days after the public announcement of such consideration);

a **Change of Control Put Event** will be deemed to occur if a Change of Control occurs and on the Relevant Announcement Date the Notes have:

- (a) been assigned at the invitation of the Issuer:
 - (i) an Investment Grade Rating by any Rating Agency and, within the Change of Control Period, that credit rating is either downgraded to a Non-investment Grade Rating or such Rating Agency ceases to assign a credit rating to the Notes, and, in each case, does not subsequently upgrade its credit rating assigned to the Notes to an Investment Grade Rating or re-assign an Investment Grade Rating to the Notes by the end of the Change of Control Period; or
 - (ii) a Non-investment Grade Rating by any Rating Agency and, within the Change of Control Period, that credit rating is either downgraded by one or more categories (by way of example, “BB+” to “BB” being one rating category) or such Rating Agency ceases to assign a credit rating to the Notes and, in each case, does not subsequently upgrade its credit rating assigned to the Notes to, or re-assign a credit rating to the Notes of, the category assigned to the Notes on the Relevant Announcement Date or better by the end of the Change of Control Period;

provided that if on the Relevant Announcement Date the Notes have been assigned at the invitation of the Issuer a credit rating from more than one Rating Agency, at least one of which is an Investment Grade Rating, then clause (i) only will apply; or

- (b) not been assigned a credit rating by any Rating Agency at the invitation of the Issuer and a Negative Rating Event also occurs within the Change of Control Period;

Change of Control Put Period means the period of 30 days following the date on which a Change of Control Notice is given;

Change of Control Redemption Date means the fifth Business Day following the expiry of the Change of Control Put Period;

a **Negative Rating Event** shall be deemed to have occurred at any time if at such time there is no credit rating assigned to the Notes by any Rating Agency at the invitation of the Issuer and: (a) the Issuer does not, either prior to, or not later than 21 days after, the occurrence of the Change of Control, seek, and thereafter throughout the Change of Control Period use all reasonable endeavours to obtain, a credit rating of the Notes or (b) if the Issuer does so seek and use such endeavours, it is unable to obtain such a credit rating that is an Investment Grade Rating by the end of the Change of Control Period;

a **Non-investment Grade Rating** means, in relation to any rating agency, a rating other than an Investment Grade Rating from such rating agency;

Permitted Holders means: (a) Türkiye İş Bankası A.Ş. Mensupları Munzam Sosyal Güvenlik ve Yardımlaşma Sandığı Vakfı and (b) any entity controlled (whether directly or indirectly) by Türkiye İş Bankası A.Ş. Mensupları Munzam Sosyal Güvenlik ve Yardımlaşma Sandığı Vakfı, whether by the ownership of share capital, the possession of voting power, contract, trust or otherwise, and in the case of each of clauses (a) and (b) (acting in concert with any other Permitted Holder involved in the relevant transaction), which has the power to appoint and/or remove all or the majority of the members of the Board of Directors or other governing body of the Issuer.

Relevant Announcement Date means the date that is the earlier of: (a) the date of the first public announcement of the consummation of the relevant Change of Control and (b) the date of the earliest Relevant Potential Change of Control Announcement (if any); and

Relevant Potential Change of Control Announcement means any public announcement or statement by the Issuer, any actual or potential bidder or any adviser acting on behalf of any actual or potential bidder relating to any potential Change of Control where within 180 days following the date of such announcement or statement, a Change of Control occurs.

8.5 Provisions relating to Partial Redemption

If less than all of the Notes are to be redeemed at any time, then selection of such Notes for redemption will be made in compliance with the rules, if any, of any stock exchange on which the Notes are listed or, if such Notes are not then listed or there are no such applicable rules, on a pro rata basis and in such manner as the Trustee may deem appropriate and fair; *provided* that no Notes of US\$200,000 in principal amount or less shall be redeemed in part. Where some but not all of the Notes in respect of which a Certificate is issued are to be redeemed, the notice of redemption that relates to such Certificate shall state the portion of the principal amount of the Notes to be redeemed, and, where applicable, a new Certificate in a principal amount equal to the unredeemed Notes will be issued in the name of the Noteholder thereof upon cancellation of the original Certificate. Any such new Certificate will be delivered to the specified office of an Agent or (at the risk and, if mailed at the request of the Noteholders otherwise than by ordinary uninsured mail, at the expense of the Noteholder) sent by mail to the Noteholder. For so long as the Notes are in global form and held in a clearing system or clearing systems, beneficial interests in such Notes shall be partially redeemed on a *pro rata* basis in accordance with the rules and procedures of the applicable clearing system(s).

8.6 Purchases

The Issuer and any Subsidiary of the Issuer (including any Guarantor) may at any time purchase Notes (including beneficial interests in Certificates) in the open market or otherwise at any price. The Notes so purchased, while held by or on behalf of the Issuer or any of its Subsidiaries, will not entitle the holder to vote at any meetings of the Noteholders and (in the manner described in the Trust Deed) will be deemed not to be outstanding for the purposes, *inter alia*, of calculating quorums at meetings of the Noteholders or for the purposes of Condition 15 of or in respect of the exercise by the Trustee of any right, power or discretion by reference to the interests of the Noteholders and may be resold by the Issuer or such Subsidiary only in

“offshore transactions” in accordance with Regulation S under the U.S. Securities Act or pursuant to any other available exemption from registration under the U.S. Securities Act.

8.7 Cancellation

All Notes which are: (a) redeemed will forthwith be cancelled, and accordingly may not be reissued or resold, and (b) purchased by or on behalf of the Issuer or any Subsidiary of the Issuer (including any Guarantor) (including as a result of a Notes Offer) may be held, resold or, at the option of the Issuer or (with the Issuer’s consent) the applicable Subsidiary holding such Notes, surrendered to any Paying Agent and/or the Registrar for cancellation.

8.8 Notices Final

Upon the expiry of any notice period as is referred to in Conditions 5.10, 8.2, 8.3 or 8.4 above, the Issuer shall be bound to redeem the Notes to which the notice refers in accordance with the terms of the applicable Condition.

9. TAXATION

9.1 Payment without Withholding

All payments in respect of the Notes by or on behalf of the Issuer or under and pursuant to a Guarantee by or on behalf of a Guarantor shall be made free and clear of, and without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or governmental charges (including related interest and penalties) of whatever nature (**Taxes**) imposed, assessed or levied by or on behalf of any Relevant Jurisdiction, unless such withholding or deduction of Taxes is required by law. In that event, the Issuer or, as the case may be, such Guarantor will pay such additional amounts as may be necessary in order that the net amounts received by the Noteholders after the withholding or deduction shall equal the respective amounts which would have been receivable in respect of the Notes or under and pursuant to the applicable Guarantee, as the case may be, in the absence of the withholding or deduction; except that no additional amounts shall be payable in relation to any payment in respect of any Note or under and pursuant to any Guarantee where the relevant Notes are:

- (a) presented for payment by or on behalf of a holder who is liable to the Taxes in respect of such Notes by reason of his having some connection with any Relevant Jurisdiction other than the mere holding of such Notes;
- (b) presented for payment in Turkey; or
- (c) presented for payment more than 30 days after the Relevant Date (as defined below) except to the extent that a holder would have been entitled to additional amounts on presenting the same for payment on the last day of the period of 30 days assuming (if not the case) that day to have been a Business Day.

Notwithstanding any other provision of these Conditions, in no event will the Issuer, any Paying Agent or any other Person be required to pay any additional amounts in respect of the Notes for, or on account of, any withholding or deduction required pursuant to FATCA.

9.2 Interpretation

In these Conditions:

- (a) **Relevant Date** means the date on which the payment first becomes due but, if the full amount of the money payable has not been received by an Agent or the Trustee on or before the due date, it

means the date on which, the full amount of the money having been so received, notice to that effect has been duly given to the Noteholders by the Issuer in accordance with Condition 14; and

- (b) **Relevant Jurisdiction** means Turkey or any political subdivision or any authority thereof or therein having power to tax or any other jurisdiction or any political subdivision or any authority thereof or therein having power to tax to which the Issuer or, as the case may be, any Guarantor becomes subject in respect of payments made by it of principal and interest on the Notes (in the case of the Issuer) or any amount due and payable under and pursuant to the relevant Guarantee (in the case of a Guarantor).

9.3 Additional Amounts

Any reference in these Conditions to any amounts in respect of the Notes shall be deemed also to refer to any additional amounts which may be payable under this Condition or under any undertakings given in addition to, or in substitution for, this Condition pursuant to the Trust Deed.

10. PRESCRIPTION

Claims in respect of principal and interest will become prescribed unless made within 10 years (in the case of principal) and five years (in the case of interest) from the Relevant Date, as defined in Condition 9.

11. EVENTS OF DEFAULT

11.1 Events of Default

If: (i) any of the following events shall have occurred and be continuing and (ii) in the case of the occurrence of any such events as are described in clauses (b), (c), (e) (other than the winding up or dissolution of the Issuer or any of the Guarantors), (f), (g), (h) and (i) below, the Trustee shall have certified in writing to the Issuer and the Guarantors that such event is, in its opinion, materially prejudicial to the interests of the Noteholders (an **Event of Default**), the Trustee at its discretion may, and if so requested in writing by the holders of at least one fifth in principal amount of the Notes then outstanding or if so directed by an Extraordinary Resolution of the Noteholders shall, (subject in each case to being indemnified and/or secured and/or prefunded to its satisfaction) give notice to the Issuer and the Guarantors that the Notes are, and they shall accordingly forthwith become, immediately due and repayable at their principal amount, together with interest accrued to but excluding the date of repayment as provided in the Trust Deed:

- (a) if default is made in the payment of any principal or interest due in respect of the Notes or any of them and the default continues for a period of five business days in the case of principal or 10 business days in the case of interest;
- (b) if the Issuer fails to perform or observe (including to cause any of its Restricted Subsidiaries to perform or observe) any of its other obligations under these Conditions or the Trust Deed and (except in any case where the Trustee considers the failure is incapable of remedy, when no continuation or notice as is hereinafter mentioned will be required) the failure continues for the period of 30 days (or such longer period as the Trustee may permit) following the service by the Trustee on the Issuer of notice requiring the same to be remedied;
- (c) any security given by the Issuer or any of its Restricted Subsidiaries for any Indebtedness becomes enforceable;
- (d) default under any mortgage, trust deed or instrument under which there may be issued or by which there may be secured or evidenced any Indebtedness for money borrowed by the Issuer or any of its Restricted Subsidiaries (or the payment of which is guaranteed by the Issuer or any of its Restricted Subsidiaries), whether such Indebtedness or guarantee now exists, or is created, after the Issue Date, if that default:

- (i) is caused by a failure to pay principal of such Indebtedness at final maturity thereof after giving effect to any applicable grace periods provided in such Indebtedness and such failure to make any payment has not been waived or the maturity of such Indebtedness has not been extended (a **Payment Default**); or
- (ii) results in the acceleration of such Indebtedness prior to its express maturity, and, in each case, the principal amount of any such Indebtedness, together with the principal amount of any other such Indebtedness under which there has been a Payment Default or the maturity of which has been so accelerated, aggregates US\$50.0 million (or its equivalent in any other currency) or more;
- (e) if any order is made by any competent court or resolution is passed for the winding up or dissolution of the Issuer or any Restricted Subsidiary of the Issuer;
- (f) if the Issuer or any of its Restricted Subsidiaries ceases or threatens to cease to carry on the whole or a substantial part of its business, save for the purposes of reorganisation on terms approved in writing by the Trustee or by an Extraordinary Resolution of Noteholders, or the Issuer or any of its Restricted Subsidiaries stops or threatens to stop payment of, or is unable to, or admits inability to, pay, its debts (or any class of its debts) as they fall due or is deemed unable to pay its debts pursuant to or for the purposes of any applicable law, or is adjudicated or found bankrupt or insolvent;
- (g) if: (i) proceedings are initiated against the Issuer or any of its Restricted Subsidiaries under any applicable liquidation, insolvency, composition, reorganisation or other similar laws or an application is made (or documents filed with a court) for the appointment of an administrative or other receiver, manager, administrator or other similar official, or an administrative or other receiver, manager, administrator or other similar official is appointed, in relation to the Issuer or any of its Restricted Subsidiaries or, as the case may be, in relation to the whole or any part of the undertaking or assets of any of them or an encumbrancer takes possession of the whole or any part of the undertaking or assets of any of them, or a distress, execution, attachment, sequestration or other process is levied, enforced upon, sued out or put in force against the whole or any part of the undertaking or assets of any of them, and (ii) in any such case (other than the appointment of an administrator) unless initiated by the relevant company, is not discharged within 60 days;
- (h) if the Issuer or any of its Restricted Subsidiaries (or their respective directors or shareholders) initiates or consents to judicial proceedings relating to itself under any applicable liquidation, insolvency, composition, reorganisation or other similar laws (including the obtaining of a moratorium) or makes a conveyance or assignment for the benefit of, or enters into any composition or other arrangement with, its creditors generally (or any class of its creditors) or any meeting is convened to consider a proposal for an arrangement or composition with its creditors generally (or any class of its creditors); or
- (i) if any of the Guarantees ceases to be, or is claimed by the relevant Guarantor not to be, in full force and effect.

12. ENFORCEMENT

- 12.1** The Trustee may at any time, at its discretion and without notice, take such proceedings against the Issuer and/or any of the Guarantors or any other action as it may think fit to enforce the provisions of these Conditions, the Trust Deed and the Notes, but it shall not be bound to take any such proceedings or any other action in relation to these Conditions, the Trust Deed or the Notes unless: (a) it shall have been so directed by an Extraordinary Resolution of the Noteholders or so requested in writing by the holders of at least one-fifth in principal amount of the Notes then outstanding, and (b) it shall have been indemnified and/or secured and/or prefunded to its satisfaction.

12.2 No Noteholder shall be entitled to proceed directly against the Issuer or any of the Guarantors unless the Trustee, having become bound so to proceed, fails so to do within a reasonable period and the failure shall be continuing.

13. REPLACEMENT OF CERTIFICATES

If any Certificate is lost, stolen, mutilated, defaced or destroyed, it may be replaced at the specified office of the Registrar upon payment by the claimant of the expenses incurred in connection with the replacement and on such terms as to evidence and indemnity as the Issuer may reasonably require. Mutilated or defaced Certificates must be surrendered before replacements will be issued.

14. NOTICES

14.1 Notices to the Noteholders

All notices to the Noteholders will be mailed to them at their respective addresses in the Register maintained by the Registrar. The Issuer shall also ensure that notices are duly given or published in a manner which complies with the rules and regulations of any stock exchange on which the Notes are for the time being listed at the request of the Issuer (and the rules and regulations of any relevant authority of such stock exchange). Any such notice shall be deemed to have been given on the fourth day after the date of mailing; *provided* that, so long as the Notes are admitted to trading on the Irish Stock Exchange plc trading as Euronext Dublin (**Euronext Dublin**) and the rules of such stock exchange so require, all notices to Noteholders shall be deemed to be duly given when published on the website of Euronext Dublin and/or in a daily newspaper of general circulation in the Republic of Ireland or otherwise delivered in a manner required by Euronext Dublin.

14.2 Notices from the Noteholders

Notices to be given by any Noteholder shall be in writing and given by lodging the same, together with the relevant Certificate, with the Registrar or, if the Certificates are held in a clearing system, may be given through the clearing system in accordance with its standard rules and procedures.

15. MEETINGS OF NOTEHOLDERS, MODIFICATION, WAIVER AND AUTHORISATION

15.1 Meetings of Noteholders

The Trust Deed contains provisions for convening meetings of the Noteholders to consider any matter affecting their interests, including the modification or abrogation by Extraordinary Resolution of any of these Conditions or any of the provisions of the Trust Deed or the Agency Agreement. The quorum at any meeting for passing an Extraordinary Resolution will be one or more Persons present holding or representing more than 50 *per cent.* in principal amount of the Notes for the time being outstanding, or at any adjourned meeting one or more Persons present whatever the principal amount of the Notes held or represented by him or them, except that at any meeting the business of which includes the modification or abrogation of certain of these Conditions and certain of the provisions of the Trust Deed the necessary quorum for passing an Extraordinary Resolution will be one or more Persons present holding or representing not less than two-thirds, or at any adjourned meeting not less than one-third, of the principal amount of the Notes for the time being outstanding. An Extraordinary Resolution passed: (a) at any meeting of the Noteholders, (b) in writing or (c) by way of electronic consents through the clearing systems (in a form satisfactory to the Trustee) will be binding on all Noteholders, whether or not they are present at the meeting and whether or not they voted on the Extraordinary Resolution.

15.2 Modification, Waiver, Authorisation and Determination

The Trustee may agree, without the consent of the Noteholders, to any modification of, or to the waiver or authorisation of any breach or proposed breach of, any of these Conditions or any of the provisions of the

Trust Deed or the Agency Agreement, or determine, without any such consent as aforesaid, that any Event of Default or Default (as defined in the Trust Deed) shall not be treated as such (provided that, in any such case, it is not, in the opinion of the Trustee, materially prejudicial to the interests of the Noteholders) or may agree, without any such consent as aforesaid, to any modification which, in its opinion, is of a formal, minor or technical nature or to correct a manifest error.

15.3 Trustee to have Regard to Interests of Noteholders as a Class

In connection with the exercise by it of any of its trusts, powers, authorities and discretions (including, without limitation, any modification, waiver, authorisation or determination), the Trustee shall have regard to the general interests of the Noteholders as a class but shall not have regard to any interests arising from circumstances particular to individual Noteholders (whatever their number) and, in particular but without limitation, shall not have regard to the consequences of any such exercise for individual Noteholders (whatever their number) resulting from their being for any purpose domiciled or resident in, or otherwise connected with, or subject to the jurisdiction of, any particular territory or any political sub-division thereof and the Trustee shall not be entitled to require, nor shall any Noteholder be entitled to claim, from the Issuer, any of the Guarantors, the Trustee or any other Person any indemnification or payment in respect of any tax consequence of any such exercise upon individual Noteholders except to the extent already provided for in Condition 9 and/or any undertaking given in addition to, or in substitution for, Condition 9 pursuant to the Trust Deed.

15.4 Notification to the Noteholders

Any modification, abrogation, waiver, authorisation or determination shall be binding on the Noteholders and, unless the Trustee agrees otherwise, any modification shall be notified by the Issuer to the Noteholders as soon as practicable thereafter in accordance with Condition 14; *provided* that failure to give such notice shall not invalidate such modification.

16. INDEMNIFICATION OF THE TRUSTEE AND ITS CONTRACTING WITH THE ISSUER AND THE GUARANTORS

16.1 Indemnification of the Trustee

The Trust Deed contains provisions for the indemnification of the Trustee and for its relief from responsibility, including provisions relieving it from taking action unless indemnified and/or secured and/or prefunded to its satisfaction.

16.2 Trustee Contracting with the Issuer and the Guarantors

The Trust Deed also contains provisions pursuant to which the Trustee is entitled, *inter alia*: (a) to enter into business transactions with the Issuer and/or the Guarantors and/or any of the Issuer's other Subsidiaries and to act as trustee for the holders of any other securities issued or guaranteed by, or relating to, the Issuer and/or the Guarantors and/or any of the Issuer's other Subsidiaries, (b) to exercise and enforce its rights, comply with its obligations and perform its duties under or in relation to any such transactions or, as the case may be, any such trusteeship without regard to the interests of, or consequences for, the Noteholders and (c) to retain and not be liable to account for any profit made or any other amount or benefit received thereby or in connection therewith.

17. FURTHER ISSUES

The Issuer is at liberty from time to time without the consent of the Noteholders to create and issue further notes either: (a) ranking *pari passu* in all respects (or in all respects save for the amount and/or date of the first payment of interest thereon, the issue date and/or the date from which interest starts to accrue) and so that the same shall be consolidated and form a single series with the outstanding Notes constituted by the Trust Deed or any supplemental deed; *provided* that such further notes will be fungible with the existing Notes

for U.S. federal income tax purposes as a result of their issuance being a “qualified reopening” under U.S. Treasury Regulation §1.1275-2(k) and will be guaranteed together with the outstanding Notes, to the satisfaction of the Trustee, such that the aggregate amount of the Guarantees upon the issue of such further notes and their consolidation to form a single series with the outstanding Notes is at least equal to the product of: (i) the amount (expressed as a percentage) resulting from the division of the aggregate amounts guaranteed by the Guarantees by the aggregate principal amount of the Notes outstanding, in each case immediately prior to any such issue of further notes, and (ii) the aggregate principal amount of the notes outstanding once consolidated and forming a single series with such further Notes, or (b) upon such terms as to ranking, interest, conversion, redemption and otherwise as the Issuer may determine at the time of issue. Any further notes which are to form a single series with the outstanding Notes constituted by the Trust Deed shall be constituted by a deed supplemental to the Trust Deed.

18. GOVERNING LAW AND SUBMISSION TO JURISDICTION

18.1 Governing Law

The Trust Deed (including the Guarantee) and the Notes, and any non-contractual obligations arising out of or in connection with them, are governed by, and will be construed in accordance with, English law.

18.2 Jurisdiction of English courts

Each of the Issuer and each of the Guarantors has, in the Trust Deed, irrevocably agreed for the benefit of the Trustee and the Noteholders that the High Court of Justice of England and Wales in London (and any competent United Kingdom appellate court in respect of any appeal relating to any judgment or order originally of the High Court of Justice of England and Wales) are to have exclusive jurisdiction to settle any disputes which may arise out of or in connection with the Trust Deed or the Notes, and any non-contractual obligations arising out of or in connection with the Trust Deed or the Notes, and accordingly has submitted to the exclusive jurisdiction of the High Court of Justice of England and Wales in London (and any competent United Kingdom appellate court in respect of any appeal relating to any judgment or order originally of the High Court of Justice of England and Wales).

Each of the Issuer and the Guarantors has, in the Trust Deed, waived, to the extent permitted by law, any objection to the High Court of Justice of England and Wales in London (and any competent United Kingdom appellate court in respect of any appeal relating to any judgment or order originally of the High Court of Justice of England and Wales) on the grounds that they are an inconvenient or inappropriate forum.

To the extent permitted by law, the Trustee and the Noteholders may take any suit, action or proceeding arising out of or in connection with the Notes (including any proceeding relating to any non-contractual obligations arising out of or in connection with the Notes) (together referred to as **Proceedings**) against the Issuer or any Guarantor in any other court of competent jurisdiction and concurrent Proceedings in any number of jurisdictions.

18.3 Consent to Enforcement

Each of the Issuer and the Guarantors agrees, without prejudice to the enforcement of a judgment obtained in the High Court of Justice of England and Wales in London (and any competent United Kingdom appellate court in respect of any appeal relating to any judgment or order originally of the High Court of Justice of England and Wales) according to the provisions of Article 54 of the International Private and Procedural Law of Turkey (Law No. 5718), that in the event that any action is brought in relation to the Issuer or any Guarantor in a court in Turkey in connection with the Notes, in addition to other permissible legal evidence pursuant to the Civil Procedure Code of Turkey (Law No. 6100), any judgment obtained in the High Court of Justice of England and Wales in London (and any competent United Kingdom appellate court in respect of any appeal relating to any judgment or order originally of the High Court of Justice of England and Wales) in connection with such action shall constitute conclusive evidence of the existence and amount of the claim against the Issuer or any Guarantor, pursuant to the provisions of the first sentence of Article 193

of the Civil Procedure Code of Turkey (Law No. 6100) and Articles 58 and 59 of the International Private and Procedural Law of Turkey (Law No. 5718).

18.4 Appointment of Process Agent

Each of the Issuer and the Guarantors has, in the Trust Deed, irrevocably and unconditionally appointed Türkiye İş Bankası A.Ş., London Branch of 8 Princess Street, London, EC2R 8HL for the time being as its agent for service of process in England in respect of any Proceedings and has undertaken that in the event of such agent ceasing so to act it will appoint another Person as the Trustee may approve as its agent in England for that purpose.

19. RIGHTS OF THIRD PARTIES

No rights are conferred on any Person under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Note, but this does not affect any right or remedy of any Person which exists or is available apart from that Act.

THE GLOBAL CERTIFICATES

The Global Certificates will contain the following provisions that apply to the Notes in respect of which they are issued whilst they are represented by the Global Certificates, some of which modify the effect of the Terms and Conditions of the Notes.

1. ACCOUNTHOLDERS

For so long as any of the Notes are represented by a Global Certificate, each person (other than another clearing system) who is for the time being shown in the records of a Clearing System as the holder of a particular aggregate principal amount of such Notes (each an “*Accountholder*”) (in which regard any certificate or other document issued by DTC or Euroclear or Clearstream, Luxembourg (as the case may be) as to the aggregate principal amount of such Notes standing to the account of any person shall be conclusive and binding for all purposes) shall be treated as the holder of such aggregate principal amount of such Notes (and the expression “*Noteholders*” and references to “*holding of Notes*” and “*holder of Notes*” shall be construed accordingly) for all purposes other than with respect to payments on such Notes, the right to which shall be vested, as against the Issuer, solely in the nominee for the relevant clearing system (the “*Relevant Nominee*”) in accordance with and subject to the terms of the Global Certificates. Each Accountholder must look solely to the applicable Clearing System (and its applicable participants) for its share of each payment made to the Relevant Nominee.

2. CANCELLATION

Cancellation of any Note following its redemption or purchase by the Issuer or any of its subsidiaries pursuant to Condition 8.7 will be effected by reduction in the aggregate principal amount of the Notes in the register of Noteholders and by the annotation of the appropriate schedule to the relevant Global Certificate.

3. PAYMENTS

Payment of principal and interest will be made by transfer to the registered account of the registered Noteholder or by U.S. dollar cheque drawn on a bank that processes payments in U.S. dollars mailed to the registered address of the registered Noteholder if it does not have a registered account. Payments of interest due otherwise than on an Interest Payment Date and payments of principal will only be made against presentation (or, in the case of a redemption in full of the Notes represented by a Certificate, surrender) of the relevant Certificate at the specified office of any of the Paying Agents. Interest on Notes due on an Interest Payment Date will be paid to the holder shown on the Register at the close of business on the applicable Record Date.

For so long as the Notes are in global form and held in a clearing system or clearing systems, beneficial interests in such Notes shall be partially redeemed on a *pro rata* basis in accordance with the rules and procedures of the applicable clearing system(s).

Distributions of amounts with respect to book-entry interests in the Regulation S Notes held through Euroclear or Clearstream, Luxembourg will be credited, to the extent received by the Principal Paying Agent, to the cash accounts of Euroclear or Clearstream, Luxembourg participants in accordance with the relevant system’s rules and procedures.

Holders of book-entry interests in the Rule 144A Notes holding through DTC will receive, to the extent received by the Principal Paying Agent, all distribution of amounts with respect to book-entry interests in such Notes from the Principal Paying Agent through DTC. Distributions in the United States will be subject to relevant U.S. tax laws.

A record of each payment made will be endorsed on the appropriate schedule to the relevant Global Certificate by or on behalf of the Principal Paying Agent and shall be *prima facie* evidence that payment has been made.

4. NOTICES

So long as a Note is represented by a Global Certificate and such Global Certificate is held on behalf of a Clearing System, notices to the applicable Noteholders may be given by delivery of the relevant notice to that Clearing System for communication by it to entitled Accountholders in substitution for notification as required by Condition 14. Any such notice shall be deemed to have been given to the Noteholders on the day after the day on which such notice is delivered to such Clearing System.

Whilst any of the Notes held by a Noteholder are represented by a Global Certificate, notices to be given by such Noteholder may be given by such Noteholder through the applicable Clearing System's operational procedures and otherwise in such manner as the Principal Paying Agent and the applicable Clearing System may approve for this purpose.

5. CHANGE OF CONTROL PUT EXERCISE NOTICE

For so long as any Note is represented by a Global Certificate and such Global Certificate is held on behalf of a Clearing System, to exercise the right to require redemption of the Notes under Condition 8.4, the Noteholder must, within the Change of Control Put Period set out in Condition 8.4, give notice to any Agent of such exercise in accordance with the standard procedures of the applicable Clearing System (which might include notice being given on such Noteholder's instruction by such Clearing System or any depositary for them to any Agent by electronic means) in a form acceptable to such Clearing System.

Any Change of Control Put Notice given in accordance with the standard procedures of a Clearing System by a Noteholder with respect to a redemption under Condition 8.4 shall be irrevocable except where, prior to the due date of redemption, an Event of Default has occurred and is continuing, in which event such Noteholder, at its option, may elect by notice to the Issuer to withdraw such Change of Control Put Notice and instead request the Trustee to give notice that the Notes are immediately due and repayable under Condition 11.

6. REGISTRATION OF TITLE

Registration of title to Notes in a name other than that of the Relevant Nominee will not be permitted except upon the occurrence of any of the following (each an "*Exchange Event*"):

(a) an Event of Default (as defined in Condition 11) has occurred and is continuing,

(b) the Issuer has been notified by DTC that DTC is unwilling or unable to continue to act as depositary with respect to the Global Certificate and no alternative clearing system is available or DTC has ceased to constitute a clearing agency registered under the Exchange Act or either Euroclear or Clearstream, Luxembourg has been closed for business for a continuous period of 14 days (other than by reason of holiday, statutory or otherwise) or has announced an intention permanently to cease business or has in fact done so and no successor or alternative clearing system is available, and in either case a successor clearing system is not appointed by the Issuer within 90 days after receiving such notice from Euroclear or Clearstream, Luxembourg, or

(c) the Issuer has or will become obliged to pay additional amounts as provided for or referred to in Condition 9 that it would not be obliged to were the Notes represented by the Global Certificate in definitive form.

The Issuer will promptly give notice to the Noteholders in accordance with Condition 14 if an Exchange Event occurs. In the event of the occurrence of an Exchange Event, DTC or its custodian, or Euroclear and/or Clearstream, Luxembourg, as the case may be, acting on the instructions of any holder of an interest in the Global Certificate, may give notice to the Registrar requesting exchange and, in the event of the occurrence of an Exchange Event as described in clause (c) above, the Issuer may also give notice to the Registrar requesting exchange. Any exchange shall occur no later than 10 days after the date of receipt of the first relevant notice by the Registrar.

The Registrar will not register title to the Notes in a name other than that of the Relevant Nominee for a period of 15 calendar days preceding the due date for any payment of principal or interest in respect of the Notes.

If only one of the Global Certificates (the “*Exchanged Global Certificate*”) becomes exchangeable for Certificates in accordance with the above paragraphs in this section, then transfers of Notes may not take place between, on the one hand, persons holding Certificates issued in exchange for beneficial interests in the Exchanged Global Certificate and, on the other hand, persons wishing to purchase beneficial interests in any other Global Certificate.

7. TRANSFERS

Transfers of book-entry interests in the Notes will be effected through the records of the Clearing Systems and their respective participants in accordance with the rules and procedures of the Clearing Systems and their respective direct and indirect participants, as more fully described under “*Book Entry Clearance Systems – Clearing and Settlement Procedures.*”

BOOK-ENTRY CLEARANCE SYSTEMS

The information set out below is subject to any change in or reinterpretation of the rules, regulations and procedures of the Clearing Systems currently in effect. The information in this section concerning the Clearing Systems has been obtained from sources that the Issuer's management believes to be reliable, but none of the Issuer, the Guarantors, the Trustee nor any Joint Bookrunner take any responsibility for the accuracy thereof. Investors wishing to use the facilities of any of the Clearing Systems are advised to confirm the continued applicability of the rules, regulations and procedures of the relevant Clearing System. None of the Issuer nor any other party to the Agency Agreement will have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Notes held through the facilities of any Clearing System or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

Book-entry Systems

DTC

DTC has advised the Issuer that it is a limited purpose trust company organised under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to Section 17A of the Exchange Act. DTC holds securities that its direct participants ("*Direct Participants*") deposit with DTC. DTC also facilitates the settlement among Direct Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerised book-entry changes in Direct Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organisations. Access to the DTC system is also available to others (such as securities brokers and dealers, banks and trust companies) that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("*Indirect Participants*" and, together with Direct Participants, "*Participants*").

Under the rules, regulations and procedures creating and affecting DTC and its operations (the "*DTC Rules*"), DTC makes book-entry transfers of notes among Direct Participants with respect to notes accepted into DTC's book-entry settlement system ("*DTC Notes*") as described below and receives and transmits distributions of principal, interest and other payments on DTC Notes. The DTC Rules are on file with the SEC. Participants with which beneficial owners of DTC Notes ("*DTC Beneficial Owners*") have accounts with respect to the DTC Notes similarly are required to make book-entry transfers and receive and transmit such payments on behalf of their respective DTC Beneficial Owners. Accordingly, although DTC Beneficial Owners will not possess the notes, the DTC Rules, by virtue of the requirements described above, provide a mechanism by which DTC Beneficial Owners will receive payments and will be able to transfer their interest in respect of the DTC Notes.

The original purchase of DTC Notes must be made by or through Direct Participants, which will receive a credit for the DTC Notes on DTC's records. The ownership interest of each DTC Beneficial Owner is in turn to be recorded on the relevant Direct Participant's and (if applicable) Indirect Participant's records. DTC Beneficial Owners will not receive written confirmation from DTC of their purchases, but each DTC Beneficial Owner is expected to receive written confirmation providing details of each transaction, as well as periodic statements of their holdings, from the Participant through which such DTC Beneficial Owner holds its interest in the DTC Notes. Transfers of ownership interests in the DTC Notes are to be accomplished by entries made on the books of Participants acting on behalf of DTC Beneficial Owners. DTC Beneficial Owners will not receive certificates representing their ownership interests in DTC Notes, except in the event that use of the book-entry system for the DTC Notes is discontinued.

To facilitate subsequent transfers, the Restricted Global Certificate will be registered in the name of DTC's partnership nominee, Cede & Co. This registration in the name of Cede & Co. effects no change in beneficial ownership. DTC has no knowledge of the actual DTC Beneficial Owners; DTC's records reflect only the identity of the Direct Participants to whose accounts such DTC Notes are credited, which might or might not be the DTC Beneficial Owners. The Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants and by Participants to DTC Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices for the DTC Notes will be sent to Cede & Co. If less than all of the DTC Notes are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant to be redeemed.

Neither DTC nor Cede & Co. will consent or vote with respect to DTC Notes. Under its usual procedures, DTC will mail an omnibus proxy to the Issuer as soon as possible after the record date. The omnibus proxy will assign Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the DTC Notes are credited on the record date (identified in a listing attached to the omnibus proxy).

Principal, interest and other payments on the DTC Notes will be made to DTC or its nominee. DTC's practice is to credit accounts of Direct Participants on the applicable payment date in accordance with their respective holdings as shown in the records of DTC, subject to the receipt of funds and corresponding detail information from the Issuer or the relevant Paying Agent. Payments by Participants to DTC Beneficial Owners will be governed by standing instructions and customary practices and will be the responsibility of such Participant and not of DTC or the Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, interest and other amounts to DTC or its nominee is the responsibility of the Issuer, disbursement of such payments to Direct Participants is the responsibility of DTC and disbursement of such payments to the DTC Beneficial Owners is the responsibility of Participants.

Since DTC may only act on behalf of Direct Participants, who in turn act on behalf of Indirect Participants, any DTC Beneficial Owner desiring to pledge its interest in DTC Notes to Persons that do not participate in DTC, or otherwise take actions with respect to such DTC Notes, will be required to effect such pledge through DTC and its Participants or, if not possible to so effect it, to withdraw its notes from DTC as described below.

The laws in some jurisdictions might require that certain Persons take physical delivery of securities in definitive form. Consequently, the ability to transfer an interest in DTC Notes to such Persons might depend upon the ability to exchange such interest for Notes in definitive form. Similarly, because DTC can only act on behalf of Direct Participants, who in turn act on behalf of Indirect Participants, the ability of a Person having an interest in DTC Notes to pledge such interest to Persons that do not participate in the DTC system or otherwise to take action in respect of such Notes may depend upon the ability to exchange such interest for Notes in definitive form. The ability of any holder of an interest in DTC Notes to resell, pledge or otherwise transfer such interests might be impaired if the proposed transferee of such interests is not eligible to hold such interests through a Participant.

Clearstream, Luxembourg

Clearstream, Luxembourg is incorporated under the laws of Luxembourg as a professional depository. Clearstream, Luxembourg holds securities for its customers and facilitates the clearance and settlement of securities transactions between Clearstream, Luxembourg customers through electronic book-entry changes in accounts of Clearstream, Luxembourg customers, thereby eliminating the need for physical movement of certificates. Transactions may be settled by Clearstream, Luxembourg in any of a number of currencies, including U.S. dollars. Clearstream, Luxembourg provides to its customers, among other things, services for safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Clearstream, Luxembourg also deals with domestic securities markets in several countries through established depository and custodial relationships.

Clearstream, Luxembourg is registered as a bank in Luxembourg and, as such, is subject to regulation by the *Commission de Surveillance du Secteur Financier* and the *Banque Centrale du Luxembourg*, which supervise and oversee the activities of Luxembourg banks. Clearstream, Luxembourg's customers are recognised financial institutions around the world, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Clearstream, Luxembourg is available to other institutions that clear through or maintain a custodial relationship with a direct participant in Clearstream, Luxembourg. Clearstream, Luxembourg has established an electronic bridge with Euroclear to facilitate settlement of trades between Clearstream, Luxembourg and Euroclear.

The ability of an owner of a beneficial interest in a Note held through Clearstream, Luxembourg to pledge such interest to Persons that do not participate in the Clearstream, Luxembourg system, or otherwise take action in respect of such interest, might be limited by the lack of a definitive note for such interest because Clearstream, Luxembourg can act only on behalf of Clearstream, Luxembourg's customers, who in turn act on behalf of their own customers. The laws of some jurisdictions might require that certain Persons take physical delivery of securities in definitive form. Consequently, the ability to transfer beneficial interests in such Notes to such Persons might be limited. In addition, beneficial owners of Notes held through the Clearstream, Luxembourg system will receive payments of principal, interest and any other amounts in respect of the Notes only through Clearstream, Luxembourg participants.

Euroclear

Euroclear holds securities for its customers and facilitates the clearance and settlement of securities transactions by electronic book-entry transfer between its direct participants. Euroclear provides various services, including safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Euroclear also deals with domestic securities markets in several countries through established depository and custodial relationships. Euroclear customers are world-wide financial institutions, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Euroclear is available to other institutions that clear through or maintain a custodial relationship with participants in Euroclear.

The ability of an owner of a beneficial interest in a Note held through Euroclear to pledge such interest to Persons that do not participate in the Euroclear system, or otherwise take action in respect of such interest, might be limited by the lack of a definitive note for such interest because Euroclear can act only on behalf of Euroclear's customers, who in turn act on behalf of their own customers. The laws of some jurisdictions might require that certain Persons take physical delivery of securities in definitive form. Consequently, the ability to transfer beneficial interests in such Notes to such Persons might be limited. In addition, beneficial owners of Notes held through the Euroclear system will receive payments of principal, interest and any other amounts in respect of the Notes only through Euroclear participants.

Book-entry Ownership of and Payments in respect of Global Certificates

The Issuer has applied to each of Euroclear and Clearstream, Luxembourg to have Global Certificates accepted in its book-entry settlement system. Upon the issue of any such Global Certificate, Euroclear and/or Clearstream, Luxembourg, as applicable, will credit, on its internal book-entry system, the respective nominal amounts of the interests represented by such Global Certificate to the accounts of Persons who have accounts with Euroclear and/or Clearstream, Luxembourg, as applicable. Such accounts initially will be designated by or on behalf of the relevant Joint Bookrunner. Interests in such a Global Certificate will be limited to participants of Euroclear and/or Clearstream, Luxembourg, as applicable. Interests in such a Global Certificate will be shown on, and the transfer of such interests will be effected only through, records maintained by Euroclear and/or Clearstream, Luxembourg or its nominee (with respect to the interests of direct Euroclear and/or Clearstream, Luxembourg participants) and the records of direct or indirect Euroclear and/or Clearstream, Luxembourg participants (with respect to interests of indirect Euroclear and/or Clearstream, Luxembourg participants).

The Issuer has also applied to DTC in order to have the Notes represented by a Global Certificate accepted in its book-entry settlement system. Upon the issue of the Global Certificate for the Rule 144A Notes, DTC or its custodian will credit, on its internal book-entry system, the respective nominal amounts of the individual beneficial interests represented by such Global Certificate to the accounts of Persons who have accounts with DTC. Such accounts initially will be designated by or on behalf of the relevant Joint Bookrunner. Interests in such a Global Certificate will be limited to Direct Participants. Ownership of beneficial interests in a Global Certificate accepted by DTC will be shown on, and the transfer of such ownership will be effected only through, records maintained by DTC or its nominee (with respect to the interests of Direct Participants) and the records of Direct Participants and Indirect Participants (with respect to interests of Indirect Participants).

Payments of principal and interest in respect of a Global Certificate will be made to the applicable Clearing System (or its nominee) as the registered holder of such Global Certificate. The Issuer expects each Clearing System

to credit accounts of their respective direct accountholders on the applicable payment date. The Issuer also expects that payments by direct participants in a Clearing System to indirect participants in such Clearing System will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers of such Clearing System, and will be the responsibility of such direct participant and not the responsibility of such Clearing System, the Trustee, any Paying Agent, the Registrar, the Issuer or the Guarantors. Payments of principal and interest on the Notes to a Clearing System (or its nominee) are the responsibility of the Issuer.

Transfers of Notes Represented by Global Certificates

Transfers of any interests in Notes represented by a Global Certificate within DTC, Euroclear or Clearstream, Luxembourg will be effected in accordance with the customary rules and operating procedures of the relevant Clearing System. Subject to compliance with the transfer restrictions applicable to the Notes described in “*Transfer Restrictions*,” cross-market transfers between Participants in DTC, on the one hand, and directly and indirectly through Clearstream, Luxembourg or Euroclear participants, on the other, will be effected by the relevant Clearing Systems in accordance with its rules and through action taken by the Registrar, the Trustee, the Paying Agents and any custodian (“*Custodian*”) with whom the relevant Global Certificates have been deposited.

On or after the Issue Date, transfers of Notes between participants in Clearstream, Luxembourg and Euroclear and transfers of Notes between Participants in DTC will generally have a settlement date two business days after the trade date (T+2). The customary arrangements for delivery versus payment will apply to such transfers.

Cross-market transfers between participants in Clearstream, Luxembourg or Euroclear and Participants in DTC will need to have an agreed settlement date between the parties to such transfer. Because there is no direct link between DTC, on the one hand, and Clearstream, Luxembourg and Euroclear, on the other, transfers of interests in the relevant Global Certificates will be effected through the Registrar, the Trustee and the Custodian receiving instructions (and, where appropriate, certification) from the transferor and arranging for delivery of the interests being transferred to the credit of the designated account for the transferee. In the case of cross-market transfers, settlement between Euroclear or Clearstream, Luxembourg participants and DTC’s Participants cannot be made on a delivery-versus-payment basis. The securities will be delivered on a free delivery basis and arrangements for payment must be made separately.

Each Clearing System has published rules and operating procedures designed to facilitate transfers of beneficial interests in securities among participants of the Clearing Systems; *however*, they are under no obligation to perform or continue to perform such procedures, and such procedures might be discontinued or changed at any time. None of the Issuer, the Guarantors, the Trustee, the Agents or any Joint Bookrunner will be responsible for any performance by the Clearing Systems or their respective direct or indirect participants of their respective obligations under the rules and procedures governing their operations and none of them will have any liability for any aspect of the records relating to beneficial interests in the Notes represented by Global Certificates or for maintaining, supervising or reviewing any records relating to such beneficial interests.

TAXATION

This is a general summary of certain U.S. federal and Turkish income tax considerations in connection with an investment in the Notes. This summary does not address all aspects of U.S. federal and Turkish tax law or the laws of other jurisdictions (such as tax-related laws in the United Kingdom). While this summary is considered to be a correct interpretation of existing laws in force on the date of this Offering Circular, there can be no assurance that those laws or the interpretation of those laws will not change. This summary does not discuss all of the tax consequences that might be relevant to an investor in light of such investor's particular circumstances or to investors subject to special rules, such as regulated investment companies, certain financial institutions or insurance companies.

Prospective investors in the Notes are advised to consult their tax advisers with respect to the tax consequences of the purchase, ownership or disposition of the Notes as well as any tax consequences that might arise under the laws of any state, municipality or other taxing jurisdiction of their respective citizenship, residence or domicile.

Certain U.S. Federal Income Tax Considerations

The following summary describes certain U.S. federal income tax consequences of the acquisition, ownership and disposition of a Note by a U.S. Holder (as defined below) whose functional currency is the U.S. dollar that acquires the Notes in this Offering from the Joint Bookrunners at their original issue price (generally the first price at which a substantial amount of the Notes are sold for money to the public, not including purchases by bond houses, brokers or similar persons or organisations acting in the capacity of underwriters, placement agents or wholesalers) for cash and who hold such Notes as capital assets within the meaning of Section 1221 of the Code (generally, property held for investment) and assumes that such issue price is the price stated on the cover of this Offering Circular. This summary does not address all aspects of U.S. federal income taxation that may be applicable to particular U.S. Holders subject to special U.S. federal income tax rules, including, among others, banks, financial institutions, accrual method taxpayers that file applicable financial statements (as described in Section 451(b) of the Code), insurance companies, passive foreign investment companies, controlled foreign corporations, retirement or other tax-deferred accounts, S corporations, broker-dealers or dealers or traders in securities or currencies, tax-exempt organisations, partnerships or other pass-through entities and investors in such entities, expatriates, real estate investment trusts, regulated investment companies, persons that holds securities as part of a straddle, hedge, conversion transaction, or other integrated investment, non-United States trusts or estates with United States beneficiaries, personal holding companies, or governments or their controlled entities. This summary also does not apply to holders of Existing Notes that participate in the Tender Offer. In addition, this summary does not address consequences to U.S. Holders of the acquisition, ownership and disposition of a Note under any other U.S. federal tax laws (*e.g.*, estate tax, alternative minimum tax, the Medicare tax on unearned income or gift tax laws) or under the tax laws of any state, locality or other political subdivision of the United States or other countries or jurisdictions.

As used herein, the term "*U.S. Holder*" means a holder of a Note that is for U.S. federal income tax purposes: (a) an individual who is a citizen or resident of the United States, (b) a corporation created or organised in or under the laws of the United States, any state thereof or the District of Columbia, (c) an estate the income of which is subject to U.S. federal income taxation regardless of its source or (d) a trust that is subject to U.S. tax on its worldwide income regardless of its source. If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds a Note, the U.S. federal income tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. Therefore, a partnership holding a Note and its partners should consult their own tax advisers regarding the U.S. federal income tax consequences of the acquisition, ownership and disposition of a Note. References herein to a U.S. Holder holding a Note shall also refer to the holding of a beneficial interest in a Global Certificate.

The discussion below is based upon the Code, U.S. Treasury regulations thereunder and judicial and administrative interpretations thereof, all as in effect as of the date of this Offering Circular and any of which may at any time be repealed, revoked or modified or subject to differing interpretations, potentially retroactively, so as to result in U.S. federal income tax consequences different from those discussed below.

The summary of the U.S. federal income tax consequences set out below is for general information only. Prospective purchasers should consult their tax advisers as to the particular tax consequences to them of owning the Notes, including the applicability and effect of state, local, foreign and other tax laws and possible changes in tax law.

Certain contingent payments

In certain circumstances, the Issuer may choose or be obligated to pay amounts in excess of the stated interest or principal on the notes (see “*Conditions of the Notes—Condition 8 (Redemption and Purchase)*,” “*Conditions of the Notes—Condition 9 (Taxation)*”). The obligation to make such payments may implicate the provisions of Treasury Regulations relating to “contingent payment debt instruments.” Under applicable Treasury Regulations, the possibility that such an amount will be paid will not cause a debt instrument to be considered a contingent payment debt instrument if, as of the date such debt instruments were issued, there is only a remote chance that such an amount will be paid, the amount is incidental or certain other exceptions apply. The Issuer intends to take the position that the contingencies associated with such payments on the Notes should not cause the Notes to be subject to the contingent payment debt instrument rules. This determination is binding upon a U.S. Holder unless such U.S. Holder discloses its contrary position in the manner required by applicable Treasury regulations. This determination is not, however, binding upon the U.S. Internal Revenue Service IRS (the “*IRS*”) and, if the IRS were to successfully challenge this determination, then a U.S. Holder might be required to accrue interest income at a higher rate than the stated interest rate on the Notes and to treat as ordinary income any gain realised on the taxable disposition of a Note. The remainder of this discussion assumes that the Notes will not be treated as contingent payment debt instruments. U.S. Holders are urged to consult their own tax advisers regarding the potential application to the Notes of the contingent payment debt instrument rules and the consequences thereof.

Payments of interest

Payments of interest on the Notes, including additional amounts pursuant to Condition 9, if any, generally will be taxable to a U.S. Holder as ordinary income at the time that such payments are received or accrued in accordance with such U.S. Holder’s usual method of accounting for U.S. federal income tax purposes. Interest paid on a Note generally will constitute foreign source income for U.S. federal income tax purposes and generally will be considered “passive” income, which is treated separately from other types of income in computing the foreign tax credit that may be allowable to U.S. Holders under U.S. federal income tax laws. Subject to applicable restrictions and limitations, a U.S. Holder may be entitled to claim a U.S. foreign tax credit in respect of any Turkish withholding taxes imposed on interest received on the Notes. A U.S. Holder who does not elect to claim a credit for foreign tax may instead claim a deduction in respect of the Turkish withholding taxes; *provided* that the U.S. Holder elects to deduct rather than claim a credit for all foreign taxes for such taxable year. U.S. Holders that are eligible for benefits under the double tax treaty between the United States and Turkey (the “*Double Tax Treaty*”) or are otherwise entitled to a refund for the taxes withheld under Turkish tax law generally will not be entitled to a foreign tax credit or deduction for the amount of any Turkish taxes withheld in excess of the maximum rate under the Double Tax Treaty or for those taxes that have been otherwise refunded to them under Turkish tax law. The rules relating to foreign tax credits or deducting foreign taxes are extremely complex, and U.S. Holders are urged to consult their own tax advisers regarding the availability and advisability of claiming a foreign tax credit or a deduction with respect to any Turkish taxes withheld from payment.

It is expected that the Notes will not be issued with original issue discount (“*OID*”) for U.S. federal income tax purposes. The Notes will be treated as issued with *OID* if their principal amount exceeds their issue price by more than a *de minimis* amount of 0.25% of the principal amount multiplied by the number of complete years from the issue date of the Notes until their maturity. If the Notes are issued with more than a *de minimis* amount of *OID*, a U.S. Holder would be required to include *OID* in income as it accrues based upon a constant yield to maturity method before the receipt of corresponding cash payments.

The remainder of this discussion assumes that the Notes are not issued with more than a *de minimis* amount of *OID*.

Sale, exchange and redemption of Notes

Upon the sale, exchange, redemption, retirement at maturity or other taxable disposition of a Note, a U.S. Holder generally will recognise taxable gain or loss equal to the difference between the amount realised (*i.e.*, the amount of cash and the fair market value of any property received on the disposition (except to the extent the cash or property received is attributable to accrued and unpaid interest not previously included in income, which is treated like a payment of interest)) and the U.S. Holder's tax basis in the Note. A U.S. Holder's tax basis in a Note generally will equal the amount paid for the Note. Gain or loss recognised by a U.S. Holder on the sale, exchange or other disposition of a Note will be capital gain or loss and will be long-term capital gain or loss if the Note was held by the U.S. Holder for more than one year. Long-term capital gains are currently subject to a maximum U.S. federal income tax rate of 20% for certain U.S. Holders. Gain or loss realised by a U.S. Holder on the sale or retirement of a Note generally will be U.S. source. The deductibility of capital losses is subject to significant limitations. U.S. Holders should consult their own advisers about the availability of U.S. foreign tax credits or deductions with respect to any Turkish taxes imposed upon a disposition of Notes.

Information reporting and backup withholding

Information returns may be filed with the IRS (unless the U.S. Holder establishes, if requested to do so, that it is an exempt recipient) in connection with payments on the Notes, and the proceeds from the sale, exchange or other disposition of Notes. If information reports are required to be made, then a U.S. Holder may be subject to U.S. backup withholding if it fails to provide its taxpayer identification number or to establish that it is exempt from backup withholding. The amount of any backup withholding imposed upon a payment will be allowed as a credit against any U.S. federal income tax liability of a U.S. Holder and may entitle the U.S. Holder to a refund; *provided* that the required information is timely furnished to the IRS.

U.S. Holders should consult their own tax advisers regarding any filing and reporting obligations they might have as a result of their acquisition, ownership or disposition of Notes.

FATCA

Pursuant to certain provisions of the Code, commonly known as FATCA, a "foreign financial institution" may be required to withhold on certain payments it makes ("*foreign passthru payments*") to persons that fail to meet certain certification, reporting, or related requirements. The Issuer might be a foreign financial institution for these purposes. A number of jurisdictions, including Turkey, have entered into, or have agreed in substance to, intergovernmental agreements with the United States to implement FATCA ("*IGAs*"), which modify the way in which FATCA applies in their jurisdictions. Under the provisions of IGAs as currently in effect, a foreign financial institution in an IGA jurisdiction would generally not be required to withhold under FATCA or an IGA from payments that it makes. Certain aspects of the application of the FATCA provisions and IGAs to instruments such as the Notes, including whether withholding would ever be required pursuant to FATCA or an IGA with respect to payments on instruments such as the Notes, are uncertain and might be subject to change. Even if withholding would be required pursuant to FATCA or an IGA with respect to payments on instruments such as the Notes, such withholding would not apply prior to the date that is two years after the date on which final regulations defining foreign passthru payments are published in the U.S. Federal Register and Notes issued on or prior to the date that is six months after the date on which final regulations defining "foreign passthru payments" are filed with the U.S. Federal Register generally would be "grandfathered" for purposes of FATCA withholding unless materially modified after such date. Investors in the Notes should consult their own tax advisors regarding how these rules might apply to their investment in the Notes. In the event any withholding would be required pursuant to FATCA or an IGA with respect to payments on the Notes, no person will be required to pay additional amounts as a result of the withholding.

Certain Turkish Tax Considerations

The following discussion is a summary of certain Turkish tax considerations relating to an investment in the Notes by a person who is a non-resident of Turkey. References to "resident" in this section refer to tax residents of Turkey and references to "non-resident" in this section refer to persons who are not tax resident in Turkey. The discussion is based upon current law and is for general information only. The discussion below is not intended to constitute a complete analysis of all tax consequences relating to the acquisition, ownership or disposition of the Notes

that may be relevant to a decision to make an investment in the Notes. Furthermore, the discussion only relates to the interest of a person in the Notes where the Notes will not be held in connection with the conduct of a trade or business through a permanent establishment in Turkey. Each investor should consult its own tax advisers concerning the tax considerations applicable to its particular situation. This discussion is based upon laws and relevant interpretations thereof in effect as of the date of this Offering Circular, all of which are subject to change, possibly with a retroactive effect. In addition, it does not describe any tax consequences: (a) arising under the laws of any taxing jurisdiction other than Turkey or (b) applicable to a resident of Turkey or a permanent establishment in Turkey resulting either from the existence of a fixed place of business or appointment of a permanent representative.

For Turkish tax purposes, a legal entity is a resident of Turkey if its corporate domicile is in Turkey or its effective place of management is in Turkey. A resident legal entity is subject to Turkish taxes on its worldwide income, whereas a non-resident legal entity is only liable for Turkish taxes on its trading income made through a permanent establishment or on income otherwise sourced in Turkey.

An individual is a resident of Turkey if such individual has established domicile in Turkey or stays in Turkey more than six months in a calendar year. On the other hand, foreign individuals who stay in Turkey for six months or more for a specific job or business or particular purposes that are specified in the Turkish Income Tax Law might not be treated as a resident of Turkey depending upon the characteristics of their stay. A resident individual is liable for Turkish taxes on his or her worldwide income whereas a non-resident individual is only liable for Turkish taxes on income sourced in Turkey.

Income from capital investment is sourced in Turkey when the principal is invested in Turkey. Capital gain derived from trading income is considered sourced in Turkey when the activity or transaction generating such income is performed or accounted for in Turkey. The term “accounted for” means that a payment is made in Turkey, or, if the payment is made abroad, it is recorded in the books in Turkey or apportioned from the profits of the payer or the person or entity on whose behalf the payment is made in Turkey.

Any withholding tax levied on income derived by a non-resident is the final tax for such non-resident and no further declaration is required. Any other income of a non-resident sourced in Turkey that has not been subject to withholding tax will be subject to taxation through declaration where exemptions are reserved.

Interest paid on notes (such as the Notes) issued abroad by a Turkish corporation is subject to withholding tax, which tax (with respect to the Notes) would be paid by the Issuer in Turkey. Through the Tax Decrees, the withholding tax rates are set according to the original maturity of notes issued abroad as follows: (a) 10% withholding tax for notes with an original maturity of less than one year, (b) 7% withholding tax for notes with an original maturity of at least one year and less than three years, (c) 3% withholding tax for notes with an original maturity of at least three years and less than five years and (d) 0% withholding tax for notes with an original maturity of five years and more.

In general, capital gains are not taxed through withholding tax and therefore any capital gain sourced in Turkey with respect to the Notes may be subject to declaration; *however*, pursuant to Provisional Article 67 of the Turkish Income Tax Law, as amended by the law numbered 6111, special or separate tax returns will not be submitted for capital gains from the notes of a Turkish corporation issued abroad when the income is derived by a non-resident. Therefore, no tax is levied on non-resident persons in respect of capital gains from the Notes and no declaration is required.

A non-resident holder will not be liable for Turkish estate, inheritance or similar tax with respect to its investment in the Notes, nor will it be liable for any Turkish stamp issue, registration or similar tax or duty relating thereto.

Reduced Withholding Tax Rates

Under current Turkish laws, interest payments on notes issued abroad by a Turkish corporation to a non-resident holder will be subject to a withholding tax at a rate between 10% and 0% (inclusive) in Turkey, as detailed above.

If a double taxation treaty is in effect between Turkey and the country of which the holder of the notes is an income tax resident (in some cases, for example, pursuant to the treaties with the United Kingdom and the United States, the term “beneficial owner” is used) that provides for the application of a lower withholding tax rate than the local rate to be applied by the corporation, then the lower rate may be applicable. For the application of withholding at a reduced rate that benefits from the provisions of a double tax treaty concluded between Turkey and the country in which the investor is an income tax resident, an original copy of the certificate of residence signed by the competent authority referred to in Article 3 of the Treaty is required, together with a translated copy translated by a translation office, to verify that the investor is subject to taxation over its worldwide gains in the relevant country on the basis of resident taxpayer status, as a resident of such country to the related tax office directly or through the banks and intermediary institutions prior to the application of withholding. In the event the certificate of residence is not delivered prior to the application of withholding tax, then, upon the subsequent delivery of the certificate of residence, a refund of the excess tax shall be granted pursuant to the provisions of the relevant double taxation treaty and the Turkish tax legislation.

The Proposed Financial Transactions Tax

On 14 February 2013, the European Commission published a proposal (the “*Commission’s Proposal*”) for a Directive for a common financial transaction tax (“*FTT*”) to be adopted in certain member states of the EU (including Belgium, Germany, Estonia, Spain, France, Italy, Austria, Portugal, Slovenia and Slovakia) (the “*Participating Member States*”); *however*, Estonia has since stated that it will not participate. The Commission’s Proposal has very broad scope and might, if introduced, apply to certain dealings in the Notes (including secondary market transactions) in certain circumstances.

Under the Commission’s Proposal, the FTT could apply in certain circumstances to persons both within and outside of the Participating Member States. Generally, it would apply to certain dealings in the Notes where at least one party is a financial institution and at least one party is established in a Participating Member State. A financial institution might be, or be deemed to be, “established” in a Participating Member State in a broad range of circumstances, including: (a) by transacting with a person established in a Participating Member State or (b) where the financial instrument that is subject to the dealings is issued in a Participating Member State; *however*, the FTT proposal remains subject to negotiation among the Participating Member States. It may therefore be altered prior to any implementation, the timing of which remains unclear as of the date of this Offering Circular. Participating Member States might decide to withdraw and additional member states of the EU might decide to participate. Prospective investors in the Notes are advised to seek their own professional advice in relation to the FTT and its potential impact on the Notes.

CERTAIN CONSIDERATIONS FOR ERISA AND OTHER U.S. EMPLOYEE BENEFIT PLANS

Subject to the following discussion, the Notes (or beneficial interests therein) may be acquired by an “employee benefit plan” as defined in Section 3(3) of ERISA that is subject to Title I of ERISA, a “plan” as defined in and subject to Section 4975 of the Code or an entity deemed to hold plan assets of any of the foregoing (each, a “Benefit Plan Investor”), as well as by governmental plans (as defined in Section 3(32) of ERISA), certain church plans (as defined in Section 3(33) of ERISA) and non-U.S. plans (as described in Section 4(b)(4) of ERISA) (collectively, with Benefit Plan Investors, referred to as “Plans”). Section 406 of ERISA and Section 4975 of the Code prohibit Benefit Plan Investors from engaging in certain transactions with persons that are “parties in interest” under ERISA or “disqualified persons” under the Code with respect to such Benefit Plan Investor. A violation of these “prohibited transaction” rules might result in an excise tax or other penalties and liabilities under ERISA and the Code for such persons or the fiduciaries of such Benefit Plan Investor. In addition, Title I of ERISA requires fiduciaries of a Benefit Plan Investor subject to ERISA to make investments that are prudent, diversified and in accordance with the governing plan documents. Governmental plans, certain church plans and non-U.S. plans are not subject to the fiduciary responsibility provisions of ERISA or the prohibited transaction provisions of Section 406 of ERISA or Section 4975 of the Code; *however*, such plans might be subject to restrictions under applicable federal, state, local or non-U.S. law that are substantially similar to Section 406 of ERISA or Section 4975 of the Code (“*Similar Law*”).

General Fiduciary Matters

In considering an investment in the Notes of a portion of the assets of any Plan, a fiduciary should determine whether the investment is in accordance with the documents and instruments governing the Plan and the applicable provisions of ERISA, the Code or any Similar Law relating to a fiduciary’s duties to the Plan, including (without limitation) the prudence, diversification, delegation of control and prohibited transaction provisions of ERISA, the Code and any other applicable Similar Law.

Prohibited Transaction Issues

The acquisition, holding and/or disposition of the Notes (or beneficial interests therein) by or on behalf of a Benefit Plan Investor could be considered to give rise to a prohibited transaction if the Issuer, another party involved with this Offering or any of their respective affiliates is or becomes a party in interest or a disqualified person with respect to such Benefit Plan Investor. As noted elsewhere in this Offering Circular, İşbank, a Turkish private commercial bank, owns a direct controlling stake of over 50% of the Issuer’s shares. To the extent İşbank is a party in interest or disqualified person with respect to a Benefit Plan Investor, such ownership would cause the Issuer to be a party in interest or disqualified person with respect to such Benefit Plan Investor.

Certain exemptions from the prohibited transaction rules could be applicable to the purchase and holding of the Notes (or beneficial interests therein) by a Benefit Plan Investor depending upon the type and circumstances of the plan fiduciary making the decision to acquire such Notes (or beneficial interests therein) and the relationship of the party in interest to the Benefit Plan Investor. Included among these exemptions are Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code for certain transactions between a Benefit Plan Investor and non-fiduciary service providers to the Benefit Plan Investor, Prohibited Transaction Class Exemption (“PTCE”) 96-23 (regarding transactions effected by “in-house asset managers”), PTCE 95-60 (regarding investments by insurance company general accounts), PTCE 91-38 (regarding investments by bank collective investment funds), PTCE 90-1 (regarding investments by insurance company pooled separate accounts) and PTCE 84-14 (regarding transactions effected by “qualified professional asset managers”). Even if the conditions specified in one or more of these exemptions are met, the scope of the relief provided by these exemptions might or might not cover all acts that might be construed as prohibited transactions. There can be no assurance that any of these, or any other exemption, will be available with respect to any particular transaction involving the Notes, and prospective acquirers that are Benefit Plan Investors should consult with their legal advisors regarding the applicability of any such exemption.

Representations

By acquiring a Note (or any interest therein), each purchaser and transferee (and if the purchaser or transferee is a Plan, its fiduciary) will be deemed to represent, warrant and covenant that either: (a) it is not, and is not acquiring the Note (or any interest therein) with the assets of, a Plan or other plan subject to Similar Law or (b) the acquisition,

holding and disposition of the Note (or any interest therein) will not constitute or result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a violation of any Similar Law.

The foregoing discussion is general in nature and is not intended to be all inclusive. Due to the complexity of these rules and the penalties that may be imposed upon persons involved in nonexempt prohibited transactions, it is particularly important that fiduciaries, or other persons considering purchasing the Notes on behalf of, or with the assets of, any Plan, consult with their counsel regarding the potential applicability of ERISA, Section 4975 of the Code and any Similar Law to such investment and whether an exemption would be applicable to the purchase and holding of the Notes (or beneficial interests therein).

PLAN OF DISTRIBUTION

The Issuer intends to offer the Notes through the Joint Bookrunners. Subject to the terms and conditions stated in a subscription agreement dated 12 March 2019 among the Joint Bookrunners, the Issuer and the Guarantors (the “*Subscription Agreement*”), each of the Joint Bookrunners will severally agree to purchase, and the Issuer will agree to sell to each of the Joint Bookrunners, the principal amount of the Notes set forth opposite each Joint Bookrunner’s name below.

<i>Joint Bookrunners</i>	<i>Principal Amount of Notes</i>
BNP Paribas.....	US\$137,500,000
Citigroup Global Markets Limited	US\$137,500,000
HSBC Bank plc	US\$137,500,000
J.P. Morgan Securities plc	US\$137,500,000
Total	US\$550,000,000

The Subscription Agreement will provide that the obligations of the Joint Bookrunners to purchase the Notes are subject to approval of legal matters by counsel and to other conditions. The offering of the Notes by the Joint Bookrunners is subject to receipt and acceptance and subject to the Joint Bookrunners’ right to reject any order in whole or in part.

The Issuer has been informed that the Joint Bookrunners propose to resell the Notes at the offering price set forth on the cover page of this Offering Circular to persons reasonably believed to be QIBs in reliance upon Rule 144A and to persons other than U.S. persons (as defined in Regulation S) in “offshore transactions” in reliance upon Regulation S. See “*Transfer Restrictions*.” The prices at which the Notes are offered may be changed at any time without notice.

Offers and sales of the Notes in the United States will be made by those Joint Bookrunners, including (where applicable) in accordance with Rule 15a-6 under the Exchange Act.

The Notes and the Guarantees have not been registered under the Securities Act or any state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in transactions exempt from, or not subject to, the registration requirements of the Securities Act. See “*Transfer Restrictions*.”

Accordingly, until the expiration of a 40-day period after the later of the commencement of this Offering to persons other than distributors and the Issue Date (the “*Distribution Compliance Period*”), an offer or sale of Notes within the United States by a dealer that is not participating in this Offering might violate the registration requirements of the Securities Act if that offer or sale is made otherwise than in accordance with Rule 144A.

The Notes will constitute a new class of securities of the Issuer with no established trading market. The Issuer cannot provide any assurances to investors that the prices at which the Notes will sell in the market after this Offering will not be lower than the initial offering price or that an active trading market for the Notes will develop and continue after this Offering. The Joint Bookrunners have advised the Issuer that they currently intend to make a market in the Notes; *however*, they are not obligated to do so, and they may discontinue any market-making activities with respect to the Notes at any time without notice. Applications have been made to admit the Notes to listing on the Official List and to have the Notes admitted to trading on the Regulated Market; *however*, no assurance can be given that such applications will be accepted. Accordingly, the Issuer cannot provide any assurances to investors as to the liquidity of or the trading market for the Notes.

In connection with the Offering, one or more Joint Bookrunner(s) may purchase and sell Notes in the open market. These transactions may include over-allotment, syndicate covering transactions and stabilisation transactions. Over-allotment involves the sale of Notes in excess of the principal amount of Notes to be purchased by the Joint Bookrunners in this Offering, which creates a short position for the Joint Bookrunners. Covering transactions involve the purchase of the Notes in the open market after the distribution has been completed in order to cover short positions. Stabilisation transactions consist of certain bids or purchases of Notes made for the purpose of preventing or retarding

a decline in the market price of the Notes while the Offering is in progress. Any of these activities might have the effect of preventing or retarding a decline in the market price of the Notes. They might also cause the price of the Notes to be higher than the price that otherwise would exist in the open market in the absence of these transactions. The Joint Bookrunners might conduct these transactions in the over-the-counter market or otherwise. If the Joint Bookrunners commence any of these transactions, they may discontinue them at any time.

The Issuer expects that delivery of interests in the Notes will be made against payment therefor on the Issue Date specified on the cover page of this Offering Circular, which will be the 5th Business Day following the date of pricing of the Notes (this settlement cycle being referred to as “T+5”). Under Rule 15c6-1 of the Exchange Act, trades in the United States in the secondary markets generally are required to settle in two New York business days unless the parties to any such trade expressly agree otherwise. Accordingly, investors who wish to trade in the United States interests in Notes on their trade date or otherwise before the Issue Date will be required, by virtue of the fact that the Notes initially will settle in T+5, to specify an alternate settlement cycle at the time of any such trade to prevent a failed settlement. Investors in the Notes who wish to trade interests in Notes on their trade date or otherwise before their Issue Date should consult their own adviser.

The Joint Bookrunners and their respective affiliates are full service financial institutions engaged in various activities, which might include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The Joint Bookrunners or their respective affiliates might have performed investment banking and advisory services for the Issuer and its affiliates from time to time for which they might have received fees, expenses, reimbursements and/or other compensation. The Joint Bookrunners or their respective affiliates might, from time to time, engage in transactions with and perform advisory and other services for the Issuer and its affiliates in the ordinary course of their business. Certain of the Joint Bookrunners and/or their respective affiliates have acted and expect in the future to act as a lender to the Issuer and/or other members of the Group and/or otherwise participate in transactions with the Group.

In addition, Citigroup Global Markets Limited and J.P. Morgan Securities plc are also acting as dealer managers in connection with the concurrent Tender Offer. It is expected that a portion of the proceeds of the Offering of the Notes might be used in connection with the Tender Offer and any related purchase of the Existing Notes, including to pay certain fees and commissions to the dealer managers for the Tender Offer.

In the ordinary course of their various business activities, the Joint Bookrunners and their respective affiliates might make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and might at any time hold long and short positions in such securities and instruments. Such investment and securities activities might involve securities and instruments of the Issuer and/or other members of the Group. In addition, certain of the Joint Bookrunners and/or their respective affiliates hedge their credit exposure to the Issuer and/or other members of the Group pursuant to their customary risk management policies. These hedging activities might have an adverse effect on the future trading prices of an investment in the Notes. The Joint Bookrunners and their respective affiliates might also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and might hold, or recommend to clients that they acquire, long and/or short positions in such securities or instruments.

Each of the Issuer and each Guarantor, on a joint and several basis, will (in the Subscription Agreement) agree to indemnify each Joint Bookrunner against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the Joint Bookrunners are required to make because of those liabilities.

TRANSFER RESTRICTIONS

As a result of the following restrictions, investors in the Notes are advised to consult legal counsel prior to making any purchase, offer, sale, resale or other transfer of the Notes.

Because the following restrictions will apply with respect to the Notes, investors in the Notes are advised to consult legal counsel prior to making an offer, resale, pledge or transfer of any of the Notes.

Each purchaser and transferee of Notes (other than a person purchasing an interest in a Global Certificate with a view to holding it in the form of an interest in the same Global Certificate) or person wishing to transfer an interest from one Global Certificate to another or from global to definitive form (or *vice versa*) will be required to acknowledge, represent, warrant and agree, and each person purchasing an interest in a Global Certificate with a view to holding it in the form of an interest in the same Global Certificate will be deemed to have acknowledged, represented and agreed, as follows (terms used in this paragraph that are defined in Rule 144A or in Regulation S are used herein as defined therein):

(a) that either: (i) it is a QIB, purchasing (or holding) the Notes for its own account or for the account of one or more QIBs and it is aware that any sale to it is being made in reliance upon Rule 144A or (ii) it is not a U.S. person (other than a distributor) and is purchasing or acquiring the Notes in an offshore transaction in accordance with Regulation S under the Securities Act,

(b) that the Notes are (with the Guarantees) being offered and sold in a transaction not involving a public offering in the United States within the meaning of the Securities Act and that the Notes and the Guarantees have not been and will not be registered under the Securities Act or any other applicable U.S. federal or state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except as set forth below,

(c) that, unless it holds a Regulation S Note and is not a U.S. person, if in the future it decides to offer, resell, assign, transfer, pledge, encumber or otherwise dispose of such Notes, it will do so, prior to the date that is one year after the later of the Issue Date and the last date on which the Issuer or an affiliate of the Issuer was the owner of such Notes, only: (i) to the Issuer or any affiliate thereof, (ii) to a person whom the seller reasonably believes is a QIB purchasing for its own account or for the account of a QIB in a transaction meeting the requirements of Rule 144A, (iii) in an offshore transaction in compliance with Rule 903 or 904 under the Securities Act, (iv) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (v) pursuant to an effective registration statement under the Securities Act, in each case in accordance with all applicable securities laws of the United States and all other jurisdictions,

(d) that it will, and will require each transferee from it to, notify any transferee of the Notes from it of the resale restrictions, if then applicable,

(e) that each Global Certificate and other certificate issued with respect to Rule 144A Notes will contain a legend substantially in the following form (with, if in definitive form, appropriate revisions):

“THIS SECURITY AND THE GUARANTEES HEREOF HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE “SECURITIES ACT”), OF THE UNITED STATES OF AMERICA OR ANY OTHER APPLICABLE U.S. FEDERAL OR STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED, SOLD, ASSIGNED, TRANSFERRED, PLEDGED, ENCUMBERED OR OTHERWISE DISPOSED OF WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT) EXCEPT AS SET FORTH IN THE FOLLOWING SENTENCE. BY ITS ACQUISITION OF THIS SECURITY OR A BENEFICIAL INTEREST HEREIN, EACH HOLDER OF THIS SECURITY (OR A BENEFICIAL INTEREST HEREIN): (a) REPRESENTS (OR SHALL BE DEEMED TO REPRESENT) THAT IT IS A “QUALIFIED INSTITUTIONAL BUYER” (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) PURCHASING

THIS SECURITY (OR A BENEFICIAL INTEREST HEREIN) FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF ONE OR MORE QUALIFIED INSTITUTIONAL BUYER(S), (b) AGREES (OR SHALL BE DEEMED TO AGREE) ON ITS OWN BEHALF AND ON BEHALF OF ANY INVESTOR ACCOUNT FOR WHICH IT HOLDS THIS SECURITY (OR A BENEFICIAL INTEREST HEREIN) THAT IT WILL NOT OFFER, SELL, PLEDGE OR OTHERWISE TRANSFER SUCH SECURITY (OR BENEFICIAL INTEREST) EXCEPT IN ACCORDANCE WITH THE TRUST DEED AND, PRIOR TO THE DATE THAT IS ONE YEAR AFTER THE LATER OF THE ISSUE DATE AND THE LAST DATE ON WHICH THE ISSUER OR AN AFFILIATE (AS DEFINED IN RULE 144 UNDER THE SECURITIES ACT) OF THE ISSUER WAS THE OWNER OF SUCH SECURITIES OTHER THAN: (i) TO THE ISSUER OR ANY AFFILIATE THEREOF, (ii) TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER PURCHASING FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF A QUALIFIED INSTITUTIONAL BUYER IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (iii) IN AN OFFSHORE TRANSACTION IN COMPLIANCE WITH RULE 903 OR 904 UNDER THE SECURITIES ACT, (iv) PURSUANT TO THE EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (v) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, IN EACH CASE IN ACCORDANCE WITH ALL APPLICABLE SECURITIES LAWS OF THE UNITED STATES AND ALL OTHER JURISDICTIONS, AND (c) AGREES (OR SHALL BE DEEMED TO AGREE) THAT IT WILL DELIVER TO EACH PERSON TO WHOM THIS SECURITY (OR ANY BENEFICIAL INTEREST HEREIN) IS TRANSFERRED A NOTICE SUBSTANTIALLY TO THE EFFECT OF THIS LEGEND. NO REPRESENTATION IS MADE BY THE ISSUER OR THE GUARANTORS AS TO THE AVAILABILITY OF THE EXEMPTION PROVIDED BY RULE 144 FOR REALES OF THIS SECURITY (OR BENEFICIAL INTERESTS HEREIN).

THIS SECURITY AND RELATED DOCUMENTATION (INCLUDING, WITHOUT LIMITATION, THE TRUST DEED AND AGENCY AGREEMENT REFERRED TO HEREIN) MAY BE AMENDED OR SUPPLEMENTED FROM TIME TO TIME, WITHOUT THE CONSENT OF, BUT UPON NOTICE TO, THE HOLDER OF THIS SECURITY (OR BENEFICIAL INTERESTS HEREIN) SENT TO THEIR REGISTERED ADDRESSES, TO MODIFY THE RESTRICTIONS ON AND PROCEDURES FOR REALES AND OTHER TRANSFERS OF THIS SECURITY (OR BENEFICIAL INTERESTS HEREIN) TO REFLECT ANY CHANGE IN APPLICABLE LAW (OR THE INTERPRETATION THEREOF) OR IN PRACTICES RELATING TO REALES OR OTHER TRANSFERS OF RESTRICTED SECURITIES GENERALLY. THE HOLDER OF THIS SECURITY (OR OF A BENEFICIAL INTEREST HEREIN) SHALL BE DEEMED, BY ITS ACCEPTANCE OR PURCHASE HEREOF (OR OF A BENEFICIAL INTEREST HEREIN), TO HAVE AGREED TO ANY SUCH AMENDMENT OR SUPPLEMENT (EACH OF WHICH SHALL BE CONCLUSIVE AND BINDING UPON THE HOLDER HEREOF (AND HOLDERS OF A BENEFICIAL INTEREST HEREIN) AND ALL FUTURE HOLDERS OF THIS SECURITY (AND HOLDERS OF A BENEFICIAL INTEREST HEREIN) AND ANY SECURITIES ISSUED IN EXCHANGE OR SUBSTITUTION HEREFOR, WHETHER OR NOT ANY NOTATION THEREOF IS MADE HEREON).

BY ACQUIRING THIS SECURITY (OR A BENEFICIAL INTEREST HEREIN), EACH PURCHASER AND TRANSFEREE (AND, ITS FIDUCIARY, IF APPLICABLE) WILL BE DEEMED TO REPRESENT, WARRANT AND COVENANT THAT EITHER: (a) IT IS NOT AND IS NOT ACQUIRING THIS SECURITY (OR BENEFICIAL INTERESTS HEREIN) WITH THE ASSETS OF: (i) AN "EMPLOYEE BENEFIT PLAN" AS DEFINED IN SECTION 3(3) OF THE EMPLOYEE RETIREMENT INCOME SECURITY ACT OF 1974, AS AMENDED ("ERISA"), THAT IS SUBJECT TO TITLE I OF ERISA, (ii) A "PLAN" AS DEFINED IN AND SUBJECT TO SECTION 4975 OF THE INTERNAL REVENUE CODE OF 1986, AS AMENDED (THE "CODE"), (iii) AN ENTITY DEEMED TO HOLD THE PLAN ASSETS OF ANY OF THE FOREGOING OR (iv) A GOVERNMENTAL, CHURCH NON-U.S. OR OTHER PLAN THAT IS SUBJECT TO A FEDERAL, STATE, LOCAL OR NON-U.S. LAW THAT IS SUBSTANTIALLY

SIMILAR TO SECTION 406 OF ERISA OR SECTION 4975 OF THE CODE (“SIMILAR LAW”) OR (b) THE ACQUISITION, HOLDING AND DISPOSITION OF THE SECURITY (OR BENEFICIAL INTERESTS HEREIN) WILL NOT CONSTITUTE OR RESULT IN A NON-EXEMPT PROHIBITED TRANSACTION UNDER SECTION 406 OF ERISA OR SECTION 4975 OF THE CODE OR A VIOLATION OF ANY SIMILAR LAW.”,

(f) if such investor holds a Regulation S Note, that if it should offer, resell, assign, transfer, pledge, encumber or otherwise dispose such Note prior to the expiration of the Distribution Compliance Period, it will do so only: (i)(A) in an offshore transaction in compliance with Rule 903 or 904 under the Securities Act or (B) to a QIB in compliance with Rule 144A, and (ii) in accordance with all applicable U.S. federal and state securities laws; and it acknowledges that Global Certificates or other certificates with respect to Regulation S Notes will contain a legend substantially in the following form (with, if in definitive form, appropriate revisions):

“THIS SECURITY AND THE GUARANTEES HEREOF HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE “SECURITIES ACT”), OF THE UNITED STATES OF AMERICA OR ANY OTHER APPLICABLE U.S. FEDERAL OR STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED, SOLD, ASSIGNED, TRANSFERRED, PLEDGED, ENCUMBERED OR OTHERWISE DISPOSED OF WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT) EXCEPT IN ACCORDANCE WITH THE TRUST DEED AND PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OR PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT AND IN COMPLIANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OR OTHER JURISDICTION. THE HOLDER OF THIS SECURITY (OR OF A BENEFICIAL INTEREST HEREIN) BY ITS ACCEPTANCE HEREOF (OR OF A BENEFICIAL INTEREST HEREIN) AGREES (OR SHALL BE DEEMED TO AGREE) ON ITS OWN BEHALF AND ON BEHALF OF ANY INVESTOR ACCOUNT FOR WHICH IT IS HOLDING THIS SECURITY (OR A BENEFICIAL INTEREST HEREIN) THAT NO OFFER, SALE, ASSIGNMENT, TRANSFER, PLEDGE, ENCUMBRANCE OR OTHER DISPOSITION OF THIS SECURITY (OR A BENEFICIAL INTEREST HEREIN) SHALL BE MADE TO A U.S. PERSON PRIOR TO THE EXPIRATION OF THE PERIOD OF 40 DAYS AFTER THE COMPLETION OF THE DISTRIBUTION OF ALL THE NOTES.

THIS SECURITY AND RELATED DOCUMENTATION (INCLUDING, WITHOUT LIMITATION, THE TRUST DEED AND AGENCY AGREEMENT REFERRED TO HEREIN) MAY BE AMENDED OR SUPPLEMENTED FROM TIME TO TIME, WITHOUT THE CONSENT OF, BUT UPON NOTICE TO, THE HOLDER OF THIS SECURITY (OR BENEFICIAL INTERESTS HEREIN) SENT TO THEIR REGISTERED ADDRESSES, TO MODIFY THE RESTRICTIONS ON AND PROCEDURES FOR REALES AND OTHER TRANSFERS OF THIS SECURITY (OR BENEFICIAL INTERESTS HEREIN) TO REFLECT ANY CHANGE IN APPLICABLE LAW (OR THE INTERPRETATION THEREOF) OR IN PRACTICES RELATING TO REALES OR OTHER TRANSFERS OF RESTRICTED SECURITIES GENERALLY. THE HOLDER OF THIS SECURITY (OR OF A BENEFICIAL INTEREST HEREIN) SHALL BE DEEMED, BY ITS ACCEPTANCE OR PURCHASE HEREOF (OR OF A BENEFICIAL INTEREST HEREIN), TO HAVE AGREED TO ANY SUCH AMENDMENT OR SUPPLEMENT (EACH OF WHICH SHALL BE CONCLUSIVE AND BINDING UPON THE HOLDER HEREOF (AND HOLDERS OF A BENEFICIAL INTEREST HEREIN) AND ALL FUTURE HOLDERS OF THIS SECURITY (AND HOLDERS OF A BENEFICIAL INTEREST HEREIN) AND ANY SECURITIES ISSUED IN EXCHANGE OR SUBSTITUTION HEREFOR, WHETHER OR NOT ANY NOTATION THEREOF IS MADE HEREON).

BY ACQUIRING THIS SECURITY (OR A BENEFICIAL INTEREST HEREIN), EACH PURCHASER AND TRANSFEREE (AND, ITS FIDUCIARY, IF APPLICABLE) WILL BE

DEEMED TO REPRESENT, WARRANT AND COVENANT THAT EITHER: (a) IT IS NOT, AND IS NOT ACQUIRING THIS SECURITY (OR BENEFICIAL INTERESTS HEREIN) WITH THE ASSETS OF: (i) AN "EMPLOYEE BENEFIT PLAN" AS DEFINED IN SECTION 3(3) OF THE EMPLOYEE RETIREMENT INCOME SECURITY ACT OF 1974, AS AMENDED ("ERISA"), THAT IS SUBJECT TO TITLE I OF ERISA, (ii) A "PLAN" AS DEFINED IN AND SUBJECT TO SECTION 4975 OF THE INTERNAL REVENUE CODE OF 1986, AS AMENDED (THE "CODE"), (iii) AN ENTITY DEEMED TO HOLD THE PLAN ASSETS OF ANY OF THE FOREGOING OR (iv) A GOVERNMENTAL, CHURCH, NON-U.S. OR OTHER PLAN THAT IS SUBJECT TO A FEDERAL, STATE, LOCAL OR NON-U.S. LAW THAT IS SUBSTANTIALLY SIMILAR TO SECTION 406 OF ERISA OR SECTION 4975 OF THE CODE ("SIMILAR LAW") OR (b) THE ACQUISITION, HOLDING AND DISPOSITION OF THE SECURITY (OR BENEFICIAL INTERESTS HEREIN) WILL NOT CONSTITUTE OR RESULT IN A NON-EXEMPT PROHIBITED TRANSACTION UNDER SECTION 406 OF ERISA OR SECTION 4975 OF THE CODE OR A VIOLATION OF ANY SIMILAR LAW.",

(g) that the Issuer, the Guarantors, the Joint Bookrunners and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations and agreements and agrees (or will be deemed to agree) that if any of such acknowledgements, representations or agreements made by it are no longer accurate, it shall promptly notify the Issuer and the Joint Bookrunners; and, if it is acquiring any Notes as a fiduciary or agent for one or more accounts it represents, that it has sole investment discretion with respect to each such account and that it has full power to make the foregoing acknowledgements, representations and agreements on behalf of each such account, and

(h) that either: (i) it is not and is not acquiring a Note (or any interest therein) with the assets, of a Plan or (ii) the acquisition, holding and disposition of a Note (or any interest therein) will not constitute or result in: (1) a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or (2) a violation of any Similar Law.

In accordance with Decree 32, residents of Turkey may purchase or sell securities in offshore transactions on an unsolicited (reverse inquiry) basis; *provided* that such purchase or sale is made through licensed banks authorised by the BRSA or licensed brokerage institutions authorised pursuant to CMB regulations and the purchase price is transferred through such licensed banks. As such, Turkish residents should use such licensed banks or licensed brokerage institutions when purchasing Notes and should transfer the purchase price through such licensed banks.

SELLING RESTRICTIONS

General

No action has been taken by the Issuer, the Guarantors or any of the Joint Bookrunners that would, or is intended to, permit a public offer of the Notes or possession or distribution of this Offering Circular or any other offering or publicity material relating to the Notes in any country or jurisdiction in which any such action for that purpose is required. Accordingly, each Joint Bookrunner has undertaken that it will not, directly or indirectly, offer or sell any Notes or have in its possession, distribute or publish any offering circular, prospectus, form of application, advertisement or other document or information in any country or jurisdiction except under circumstances that will, to the best of its knowledge and belief, result in compliance with any applicable laws and all offers and sales of Notes by it will be made on the same terms.

Turkey

The Issuer has obtained the CMB Approval from the CMB required for the issuance of the Notes. Pursuant to the CMB Approval, the offer, sale and issue of the Notes has been authorised and approved in accordance with Decree 32, the Capital Markets Law and its related legislation and the Debt Instruments Communiqué. In addition, Notes may only be offered or sold outside of Turkey in accordance with the CMB Approval.

Under the CMB Approval, the CMB has authorised the offering, sale and issue of the Notes on the condition that no transaction that qualifies as a sale or offering of securities in Turkey may be engaged in. Notwithstanding the foregoing, in accordance with Decree 32, residents of Turkey may acquire Notes so long as they comply with the restrictions described in the last paragraph of “- *Transfer Restrictions*” above.

Furthermore, a written approval from the CMB in respect of the Notes (whether in form of a tranche issuance certificate (*tertip ihraç belgesi*) or in any other form required under applicable law) is required to be obtained by the Issuer prior to the Issue Date.

United States

The Notes and the Guarantees have not been and will not be registered under the Securities Act or the securities laws of any State or other jurisdiction of the United States and the Notes may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in certain transactions exempt from the registration requirements of the Securities Act. Terms used in this paragraph have the meanings given to them by Regulation S under the Securities Act.

In connection with any Regulation S Notes, each Joint Bookrunner will (in the Subscription Agreement) represent and agree that it will not offer, sell or deliver such Regulation S Notes: (a) as part of their distribution at any time or (b) otherwise until the expiration of the Distribution Compliance Period other than in an offshore transaction to, or for the account or benefit of, persons who are not U.S. persons. Each Joint Bookrunner will (in the Subscription Agreement) further agree that it will send to each distributor, dealer or other person to which it sells any Regulation S Notes during the Distribution Compliance Period a confirmation or other notice setting forth the restrictions on offers and sales of the Regulation S Notes other than in offshore transactions to, or for the account or benefit of, persons who are not U.S. persons. Terms used in this paragraph have the meanings given to them by Regulation S under the Securities Act.

Until the expiration of the Distribution Compliance Period, an offer or sale of Regulation S Notes other than in an offshore transaction to a person that is not a U.S. person by any distributor (whether or not participating in the Offering) might violate the registration requirements of the Securities Act if such offer or sale is made otherwise than in accordance with an available exemption from registration under the Securities Act.

Prohibition of sales to EEA Retail Investors

Each Joint Bookrunner has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes that are the subject of the offering contemplated by the Offering Circular in relation thereto to any retail investor in the European Economic Area. For the purposes of this provision, the expression “retail investor” means a person who is one (or more) of the following: (a) a retail client as defined in point (11) of MiFID II or (b) a customer within the meaning of the Insurance Mediation Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II.

United Kingdom

In the United Kingdom, this Offering Circular is being distributed only to and is directed only at: (a) persons who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the “*Order*”), (b) high net worth bodies corporate falling within Article 49(2) of the Order and (c) any other persons to whom it may otherwise lawfully be communicated (all such persons together being referred to as “*relevant persons*”). Each Joint Bookrunner will (in the Subscription Agreement) represent, warrant and agree with the Issuer and the Guarantors that: (i) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended (“*FSMA*”)) received by it in connection with the issue or sale of any Notes in circumstances in which Section 21(1) of the FSMA does not apply to the Issuer or any Guarantor and (ii) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the United Kingdom.

LEGAL MATTERS

Certain matters as to United States law will be passed upon for the Issuer by Mayer Brown LLP and certain matters as to Turkish law will be passed upon for the Issuer by YAZICI Legal (excluding matters of Turkish taxation). Certain matters as to English and United States law will be passed upon for the Joint Bookrunners by Allen & Overy LLP and certain matters as to Turkish law will be passed upon for the Joint Bookrunners by Gedik & Eraksoy Avukatlık Ortaklığı (who will also pass upon matters of Turkish tax law).

OTHER GENERAL INFORMATION

Authorisation

The issuance and sale of the Notes by the Issuer and the execution and delivery by the Issuer of the Transaction Documents in connection therewith have been duly authorised pursuant to the authority of the officers of the Issuer under resolutions of its board of directors dated 10 April 2018.

The giving of the Guarantees by the Guarantors and the execution and delivery by the Guarantors of the Transaction Documents in connection therewith have been authorised pursuant to the authority of the respective officers of the Guarantors under resolution of their respective boards of directors dated 10 April 2018.

Listing

Application has been made to Euronext Dublin for the Notes to be admitted to the Official List and to trading on the Regulated Market. The Regulated Market is a regulated market for the purposes of MiFID II. It is expected that admission of the Notes to the Official List and to trading on the Regulated Market will be granted on or about the Issue Date, subject only to the issue of the Notes; *however*, no assurance can be given that such admission will occur.

The estimated total expenses related to the admission of the Notes to trading on the Regulated Market are €4,540.

Listing Agent

Walkers Listing Services Limited is acting solely in its capacity as Irish listing agent for the Issuer in connection with the Notes and is not itself seeking admission of the Notes to the Official List or to trading on the Regulated Market for the purposes of the Prospectus Directive.

Documents Available

Copies of the following documents will be available in physical form for inspection from the registered office of the Issuer (currently İcmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey) and from the specified office of the Principal Paying Agent:

- (a) documents incorporated herein by reference (see “*Documents Incorporated by Reference*”),
- (b) the articles of association (with a certified English translation thereof) of the Issuer and each of the Guarantors,
- (c) when published, the most recently published audited annual consolidated financial statements of the Issuer and the most recently published unaudited interim consolidated financial statements of the Issuer, in each case in English and together with any audit or review reports prepared in connection therewith (the Issuer currently prepares audited consolidated financial statements on an annual basis and unaudited, unreviewed consolidated financial statements on a quarterly basis, each in accordance with TAS),
- (d) when published, the most recently published audited annual consolidated financial statements of each of the Guarantors and the most recently published unaudited interim consolidated financial statements of each of the Guarantors, in each case in English and together with any audit or review reports prepared in connection therewith (each Guarantor currently prepares audited consolidated financial statements on an annual basis and unaudited, unreviewed consolidated financial statements on a quarterly basis, each in accordance with TAS), and
- (e) after the Issue Date, the Agency Agreement, the Trust Deed and the forms of the Certificates.

In addition, copies of this Offering Circular and each document incorporated by reference herein will also be available in electronic format on the Issuer's website (such website is not, and should not be deemed to, constitute a part of, or be incorporated into, this Offering Circular). See "*Documents Incorporated by Reference*" above.

Clearing Systems

The Notes have been accepted for clearance through DTC, Euroclear and Clearstream, Luxembourg, which are the entities in charge of keeping the records. Interest on each Note will be paid only to the person in whose name the applicable Certificate was registered at the close of business on the Record Date. Notwithstanding the Record Date established in the Conditions, the Issuer has been advised by DTC that through DTC's accounting and payment procedures, DTC will, in accordance with its customary procedures, credit interest payments received by DTC on any Interest Payment Date based upon DTC's Participants' holdings of the Notes on the close of business on the New York Business Day immediately preceding each such Interest Payment Date. A "*New York Business Day*" for these purposes is a day other than a Saturday, a Sunday or any other day on which banking institutions in New York, New York are authorised or required by law or executive order to close.

The Unrestricted Global Certificate has been accepted for clearance through Euroclear and Clearstream, Luxembourg (ISIN XS1961010987 and Common Code 196101098). Application has been made for acceptance of the Restricted Global Certificate into DTC's book-entry settlement system (ISIN US90016AAB61, Common Code 196182322 and CUSIP 90016AAB6).

The address of Euroclear is Euroclear Bank SA/NV, 1 Boulevard du Roi Albert II, B-1210 Brussels. The address of Clearstream, Luxembourg is Clearstream Banking S.A., 42 Avenue JF Kennedy, L-1855 Luxembourg. The address of DTC is 55 Water Street, New York, New York 10041, United States of America.

No Significant or Material Adverse Change

There has been: (a) no significant change in the financial or trading position of either the Issuer or the Group since 31 December 2018 (being the end of the last financial period for which the Group's financial statements have been published) and (b) no material adverse change in the financial position or prospects of the Issuer since 31 December 2018.

There has been: (a) no significant change in the financial or trading position of any of the Guarantors or their respective groups (*i.e.*, with respect to each Guarantor, its group includes itself and entities that consolidate into it) since 31 December 2018 (being the end of the last financial period for which each Guarantor's financial statements have been published) and (b) no material adverse change in the financial position or prospects of any of the Guarantors since 31 December 2018.

Litigation

Neither the Issuer nor any other member of the Group (including the Guarantors) is or has been involved in any governmental, legal or arbitration proceedings (including any such proceedings that are pending or threatened of which the Issuer is aware) in the 12 months preceding the date of this Offering Circular that might have or in such period had a significant effect on the financial position or profitability of the Issuer or the Group.

None of the Guarantors or their respective groups (*i.e.*, with respect to each Guarantor, its group includes itself and entities that consolidate into it) are or have been involved in any governmental, legal or arbitration proceedings (including any such proceedings that are pending or threatened of which a Guarantor is aware) in the 12 months preceding the date of this Offering Circular that might have or in such period had a significant effect on the financial position or profitability of a Guarantor or its group.

Interests of Natural and Legal Persons Involved in the Issue

Except with respect to the fees to be paid to the Joint Bookrunners, so far as the Issuer and the Guarantors are aware, no natural or legal person involved in the issue of the Notes has an interest, including a conflicting interest, that is material to the issue of the Notes.

Independent Auditors

The 2017 Consolidated Financial Statements, the 2018 Consolidated Financial Statements and the consolidated financial statements of each Guarantor as of and for the years ended 31 December 2017 and 2018 incorporated by reference into this Offering Circular have been audited by EY, independent auditors, in each case, in accordance with the Turkish Standards on Auditing and the Independent Standards on Auditing, which is a component of the Turkish Standards on Auditing, as stated in EY's independent auditors' reports incorporated by reference herein. EY is an independent auditor in Turkey and authorised by the CMB to conduct independent audits of companies in Turkey. EY is located at Orjin Maslak Plaza, Maslak Mahallesi Eski Büyükdere Caddesi No: 27 Kat: 1-5 34485 Sarıyer, İstanbul, Turkey.

The 2016 Consolidated Financial Statements and the consolidated financial statements of each Guarantor as of and for the year ended 31 December 2016 incorporated by reference into this Offering Circular have been audited by PwC, independent auditors, in each case, in accordance with the Turkish Standards on Auditing and the Independent Standards on Auditing, which is a component of the Turkish Standards on Auditing, as stated in PwC's independent auditors' reports incorporated by reference herein. PwC is an independent auditor in Turkey and authorised by the CMB to conduct independent audits of companies in Turkey. PwC is located at BJK Plaza, Süleyman Seba Caddesi, No:48 B Blok Kat 9, Akaretler, Beşiktaş 34357, İstanbul, Turkey.

Joint Bookrunners transacting with the Issuer and the Guarantors

Each of the Joint Bookrunners and certain of their respective affiliates have engaged, and might in the future engage, in investment banking and/or commercial banking transactions with, and might perform services for, the Issuer, one or more of the Guarantors and/or their respective affiliates in the ordinary course of business.

In addition, in the ordinary course of their business activities, the Joint Bookrunners and their respective affiliates might make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities might involve securities and/or instruments of the Issuer, one or more of the Guarantors or their respective affiliates. The Joint Bookrunners and their respective affiliates that have a credit relationship with the Issuer, one or more of the Guarantors and/or any of their respective affiliates might from time to time hedge such credit exposure consistent with their customary risk management policies. Typically, the Joint Bookrunners and their respective affiliates would hedge such exposure by entering into transactions that consist of either the purchase of credit default swaps or the creation of short positions in securities, including potentially the Notes. Any such short positions might adversely affect future trading prices of an investment in the Notes. The Joint Bookrunners and their respective affiliates might also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and might hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Material Contracts

Neither the Issuer nor any of the Guarantors have entered into any material contract outside the ordinary course of its business that might result in the Issuer or the applicable Guarantor being under an obligation or entitlement that is material to its ability to meet its obligations in respect of the Notes or the applicable Guarantee, as the case may be.

Trustee's Action

The Conditions and the Trust Deed provide for the Trustee to take action on behalf of the Noteholders in certain circumstances, but only if the Trustee is indemnified and/or secured and/or pre-funded to its satisfaction. It may not always be possible for the Trustee to take certain actions, notwithstanding the provision of an indemnity and/or security and/or pre-funding to it. Where the Trustee becomes obliged to take action and fails to do so in a reasonable time, and such failure is continuing, the Noteholders are permitted by the Conditions and the Trust Deed to take the relevant action directly.

Certain Information about the Issuer and the Guarantors

The Issuer is a holding and operating company, incorporated on 23 January 1936, registered with the İstanbul Trade Registry under registration number 21599-97. The Issuer operates under the Turkish Commercial Code, Capital Markets Law and other applicable laws. The Issuer's principal office is İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey, and its telephone number is +90 850 206 50 50.

Trakya Cam is a holding and operating company, incorporated on 30 December 1977, registered with the İstanbul Trade Registry under registration number 151415-098979. Trakya Cam operates under the Turkish Commercial Code, Capital Markets Law and other applicable laws. Trakya Cam's principal office is at İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey, and its telephone number is +90 850 206 50 50.

Paşabahçe is a holding and operating company, incorporated on 27 December 1972, registered with the İstanbul Trade Registry under registration number 119071. Paşabahçe operates under the Turkish Commercial Code, Capital Markets Law and other applicable laws. Paşabahçe's principal office is at İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey, and its telephone number is + 90 850 206 50 50.

Anadolu Cam is a holding and operating company, incorporated on 21 May 1969, registered with the İstanbul Trade Registry under registration number 103040-49276. Anadolu Cam operates under the Turkish Commercial Code, Capital Markets Law and other applicable laws. Anadolu Cam's principal office is at İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey, and its telephone number is +90 850 206 50 50.

Soda Sanayii is a holding and operating company, incorporated on 5 April 2001, registered with the İstanbul Trade Registry under registration number 495852-443434. Soda Sanayii operates under the Turkish Commercial Code, Capital Markets Law and other applicable laws. Soda Sanayii's principal office is at İçmeler Mahallesi, D-100 Karayolu Caddesi, No: 44/A, 34947, Tuzla, İstanbul, Turkey, and its telephone number is +90 850 206 50 50.

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APPENDIX 1

OVERVIEW OF SIGNIFICANT DIFFERENCES BETWEEN IFRS AND TAS

The Consolidated Financial Statements are presented in accordance with TAS. TAS differs from IFRS in certain respects. Such differences primarily relate to the format of presentation of financial statements, disclosure requirements (*e.g.*, IFRS 7) and accounting policies. TAS format and disclosure requirements are prescribed by relevant regulations and do not always conform to IFRS or IAS 34 standards. Among the differences in accounting policies, some of the most important as of 31 December 2018 are:

Reclassification and presentation differences

(a) The format for presentation of financial statements is governed by the POA. The following line items are segregated in the presentation financial statements according to POA:

(i) dividend income and gain on sale of fixed assets are classified under IFRS under the “income from investing activities” line item; and

(ii) impairment on tangible and intangible assets and loss on sale of fixed assets are classified under IFRS under the “expenses from investing activities” line item;

(b) presentation of disclosures required in accordance with IFRS 7 (mainly credit risk);

(c) foreign exchange gains and losses on trade receivables and trade payables are presented in other operating income and expense;

(d) advances given for inventories and fixed assets are presented under short term prepaid expenses and long term prepaid expenses, respectively;

(e) advances received are presented under deferred income;

(f) deposits given and received are presented under other receivables and other payables, respectively;

(g) there are currently no separate line items on the statement of financial position for contract assets and contract liabilities; those line items are presented in other current asset/trade receivables and deferred revenue, respectively;

(h) prepaid and deductible income taxes and funds in accordance with TAS 12 are classified under the “income tax assets” line item; and

(i) liabilities arising from salaries and social security benefits for employees are classified under the “short term liabilities for employee benefits” line item.

IAS 29 Application

Both the IASB and the CMB require companies operating in relevant jurisdictions (including Turkey), to apply International Accounting Standards (IAS) 29 Financial Reporting in Hyperinflationary Economies (“IAS 29”) for the year ended 31 December 2004. Based on IASB guidelines, Turkey would have been a jurisdiction that was required to apply IAS 29 for the year ended 31 December 2005 as well; *however*, the CMB did not require the same for companies listed on Borsa İstanbul.

Application of IAS 29 requires the restatement of non monetary items and equity items in the statement of financial position. As a result of the non-application by the Group of IAS 29 for the year ended 31 December 2005, IFRS and CMB Financial Reporting Standards differ.

As a result of the changes in the general purchasing power of the currency of a hyperinflationary economy as of 31 December 2004, IAS 29 requires that financial statements prepared in the currency of a hyperinflationary economy (including Turkey) be stated in terms of the measuring unit that is current at the balance sheet date and that the corresponding figures for previous periods also be restated in terms of the measuring unit at such date. Index and conversion factors applied to the Turkish Lira as of 31 December 2004 for the previous three years are as follows:

Year ended	Index	Conversion Factor
31 December 2002	6,478.8	1.29712
31 December 2003	7,382.1	1.13840
31 December 2004	8,403.8	1.00000

The main guidelines for the restatement of the Group's prior consolidated financial statements in accordance with IAS 29 are the following:

(a) the consolidated financial statements as of 31 December 2004 were restated with the purchasing power of the relevant currency at 31 December 2004;

(b) non-monetary assets and liabilities that were not carried at amounts in terms of the measuring unit current at the balance sheet date and the components of shareholders' equity including the adjustment to share capital in the consolidated statement of financial position as of 31 December 2004 were restated by applying the relevant conversion factors at current amounts prevailing as of 31 December 2004;

(c) the effect of inflation for the relevant period on the net monetary position of the Group was included in the consolidated statement of profit or loss for the year ended 31 December 2004 as a monetary gain or loss;

(d) the restatement of non monetary items and equity items in the statement of financial position in terms of the measuring unit current at the balance sheet date was terminated with effect from 1 January 2005; non-monetary assets and liabilities and the components of shareholders' equity (including the adjustment to share capital) in the consolidated statement of financial position were presented with the additions until 31 December 2004 expressed in terms of the purchasing power of the relevant currency at 31 December 2004 and the additions after 31 December 2004 at the carrying nominal value;

(e) depreciation and amortisation charges, and gain and losses on disposal, of these assets were calculated based upon the total of restated gross book value of property, plant and equipment and intangible assets expressed in terms of the purchasing power as of 31 December 2004 and nominal value of additions after 1 January 2005; and

(f) conversion of prior years' statements of financial position and statements of profit or loss accounts to current values by multiplying with price index and related coefficients does not mean that a company could convert these assets and liabilities to cash; similarly, this situation does not mean that the increase in the capital can be distributed to shareholders

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