

Monthly Energy Bulletin

TSKB Economic Research

April 2024 #71

Ezgi İpek

ipeke@tskb.com.tr

Can Hakyemez

hakyemez@tskb.com.tr

17 May 2024

Energy Market Regulatory Authority (EMRA) publishes projection study on electric vehicles and charging infrastructure

According to the published figures, the number of electric vehicles in Türkiye reached 80,826 as of February 2024, with the total number of charging points reaching 17,233. The study includes three basic scenarios: low-est-case, base-case and highest-case regarding the number of electric vehicles and charging points, taking into account the market development trends of countries with developed electric vehicle markets abroad. According to the base-case scenario, the number of electric vehicles is expected to reach 3,307,577 in 2035 with the total number of charging points reaching 273,076. In all projections, total electricity consumption from electric vehicles is projected to be between 3.98 terawatt-hours (TWh) and 9.39 TWh in 2035, with the ratio of electric vehicles in total electricity consumption not projected to exceed 2% under the National Energy Plan, even in the highest-case scenario.

In its report entitled "Global Electric Vehicles Outlook 2024", the International Energy Agency (IEA) emphasizes that global electric vehicle sales will approach 14 million in 2023, reaching 18% of all cars sold, with the expectation that the growth will continue in 2024. Referring to the 25% YoY increase in sales of electric vehicles in the first quarter of 2024, to reach 3.4 million vehicles, the report emphasizes that global success in the sector will be achieved with the increase in electric vehicle sales in emerging and developing economies outside China. The report highlights that thanks to policy support, investments in the sector have been ramped up with renewed confidence that electrification will continue and prices will decline amid increasing competition and developing battery technologies, paving the way for increased affordability.

27.49
TWh

March Gross
Generation

1,764.0
TL/MWh

Average
MCP

-3.0%

Daily average licensed electricity generation decreased by 3.0% MoM and increased by 14.7% YoY in April.

[Click](#) for details.

-19.5%

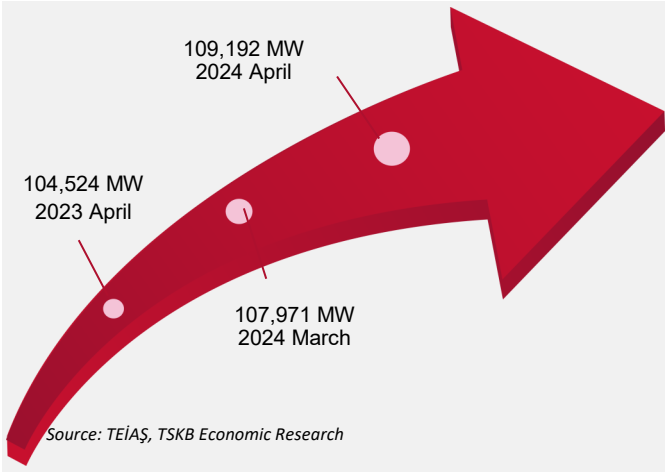
Market Clearing Price (MCP) decreased by 19.5% MoM and 0.4% YoY in April.

[Click](#) for details.

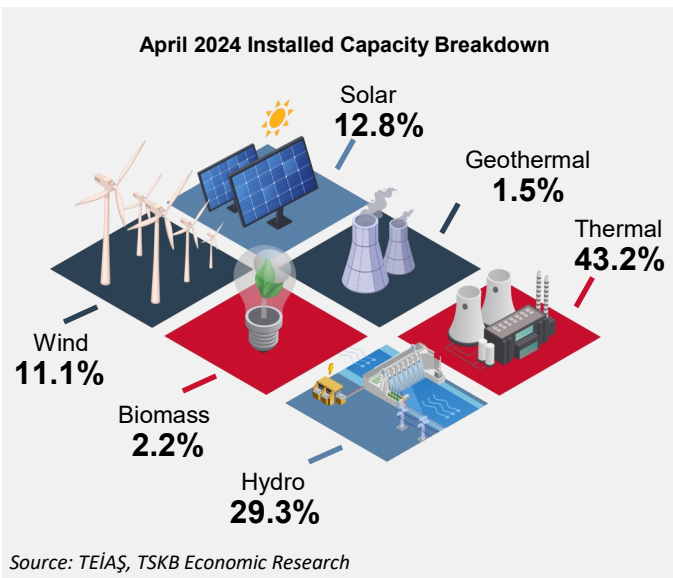


Installed Capacity Analysis

Türkiye's total installed generation capacity increased from 107,971 megawatts (MW) at the end of March 2024 to 109,192 MW in April. A net of 1,220.9 MW in additional installed capacity was commissioned in April compared to March, with solar power plants accounting for 1,253.2 MW of this installed capacity. In the same period, the installed capacity of hydroelectric power plants increased by 4.9 MW with a 2.9 MW increase in the capacity of wind farms, while the capacity of natural gas and multi-fuel power plants decreased by 38.3 MW.

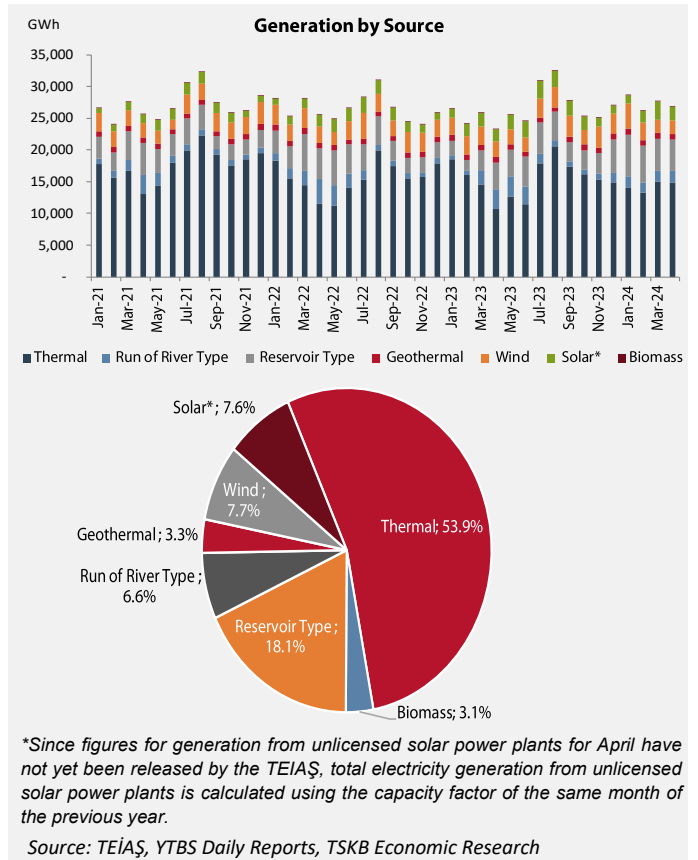


Renewable energy accounted for 56.9% of the installed capacity of the power plants in operation in April, thus continuing to increase. Hydroelectric power plants constituted 29.3% of Türkiye's total installed capacity, with wind and solar power plants accounting for a 23.8% share of total installed capacity.



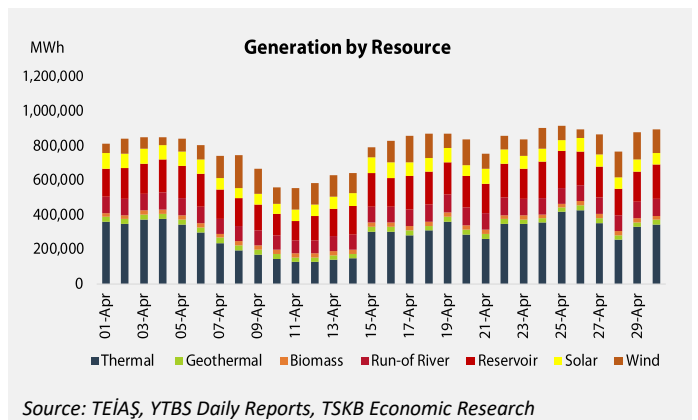
Generation-Consumption Analysis

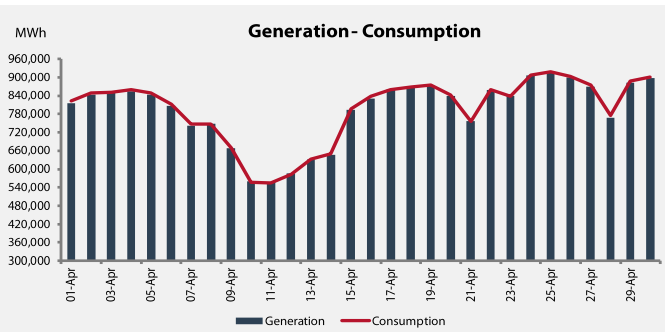
Total electricity generation decreased from approximately 28.33 TWh in March 2024 to 27.47 TWh in April, albeit increasing by 14.7% in YoY terms, while decreasing by 3.0% compared to the previous month.



Thermal power plants, which accounted for 52.8% of electricity generation in March, met 54% of all total electricity generation in April. Looking at the breakdown of electricity generation by source, hydroelectric power plants generated 24.7% of the total electricity in April, compared to a 24% share in the previous month, while the share of electricity generated by wind increased by 0.2 percentage points compared to the previous month to reach 7.7% and geothermal power plants provided 3.3% of the total electricity.

The share of renewable energy power plants in electricity generation decreased slightly from 44.6% in March to 43.4% in April with dam-type hydroelectric power plants contributing 18.1% of total generation and run-of-river type hydroelectric power plants meeting 6.6% of total generation. In addition, the ratio of electricity obtained from wind and solar power in total electricity generation stood at 15.3%. Among the forms of renewable energy, wind was the second main source in April after dam-type hydroelectric power, with a share of 7.7%.





Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

In April, licensed power plants generated an average of 794,334 megawatt-hours (MWh) of electricity per day with the highest generation from licensed power plants in April being recorded on Wednesday, 24 April at 918,973 MWh with the lowest level of generation being 559,029 MWh, on Thursday, 11 April.

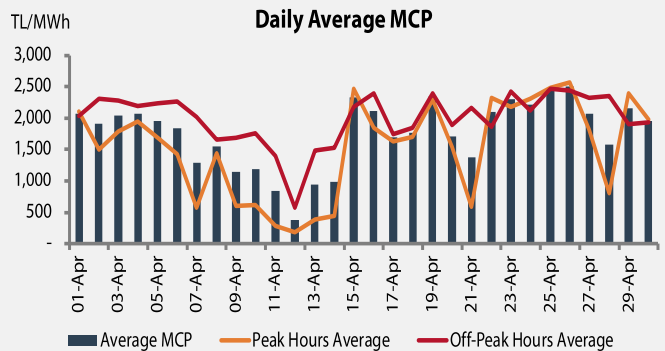
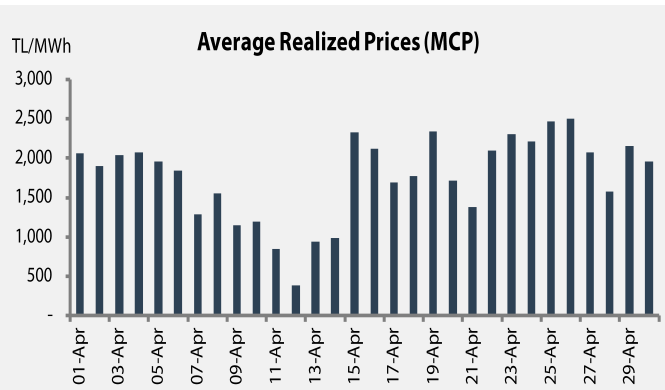
During the same period, electricity consumption averaged 796,549 MWh per day, with the highest level of consumption in April recorded on Thursday, 25 April at 919,590 MWh, with the lowest electricity consumption recorded on Sunday, April 11, with 555,147 MWh.

Electricity Price Analysis

In April, the daily average market clearing price (MCP) fluctuated between TL 380.2 and 2,508.4 per MWh. The daily average MCP in April was TL 1,764.0 /MWh. The highest daily average MCP was recorded on Friday, 26 April (TL 2,508.4 /MWh) and the lowest daily average MCP was recorded on Friday, 12 April (TL 380.2 /MWh).

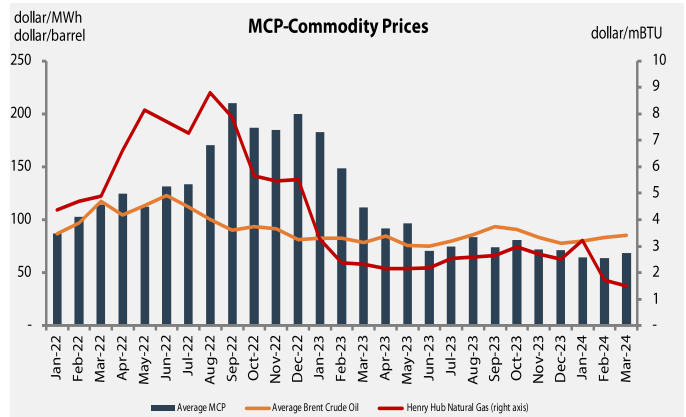
On the basis of the hourly data, the MCP reached the maximum price limit of TL 2,700 /MWh for a total of 87 hours in April. The minimum hourly electricity price of TL 0 /MWh was recorded on Friday, 12 April between 12PM and 1PM.

Looking into the MCP for April, the average for peak hours (8AM-8PM) was 23.4% lower than the average for all hours, to be recorded at TL 1,530.6 /MWh. The maximum limit price of TL 2,700 /MWh was recorded for 38 hours during peak hours while the lowest price of zero was recorded for one hour during peak hours.



Source: EXIST, TSKB Economic Research

In the same period, the average off-peak rate (between 8PM-8AM) was TL 1,997.50/MWh. While the maximum limit price of TL 2,700/MWh was realized for 49 hours during off-peak hours, the lowest price of TL 75/MWh during off-peak hours was recorded between 4-5AM on Friday, 12 April. The MCP decreased from an average of USD 68.40/MWh in March to USD 54.50/MWh in April, marking a fall of 40.4% YoY.



Source: EPİAŞ, TCMB, EIA, TSKB Economic Research

Average Commodity Prices

The price of Brent oil, averaged USD 85.36 /bbl in March, increased by 5.5% on a monthly basis to USD 90.02 /bbl in April, an increase of 6.4% YoY.

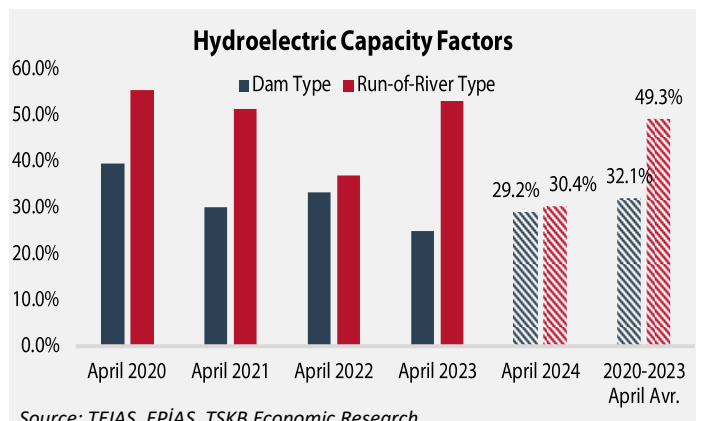
The Henry Hub natural gas contract price, which averaged USD 1.49 /mbtu in March, increased by 7.4% on a monthly basis to reach USD 1.60 /mbtu, although this was 25.9% lower than in the same month of the previous year.

Hydroelectric Capacity Factors

Dam-type hydroelectric power plants operated at a Capacity Factor Rate of 29.4% in April (up 4.1 percentage points compared to April 2023) while run-of-river type hydroelectric power plants operated at 30.4% capacity, down 22.7 percentage points compared to April 2023.

Looking at the capacity factors for the month of April in the last 5 years, capacity factor for both types of power plants in April 2024 was 17.8 percentage points lower on average when compared to April 2020, when the rates were at their highest.

The capacity factor of dam-type power plants was 2.9 percentage points lower than the 2020-2023 average for April, while the capacity factor for river type power plants was 25.2 percentage points lower than the April average.



Source: TEİAŞ, EPİAŞ, TSKB Economic Research



Sector News

Local News

- **Türkiye Electricity Transmission Inc. (TEİAŞ) publishes the Capacity Mechanism Payment List for February 2024.** According to the published list, the capacity support given in February increased by 22.5% compared to the previous month to reach TL 279 million, while the highest support of TL 69 million was provided to the Soma Kolin Thermal Power Plant.

- **World Bank signs a USD 416 million loan agreement with the Turkish Development and Investment Bank (TKYB).** Within the scope of the TIER project, the agreement, which will provide long-term financing opportunities for industrial enterprises in Türkiye to reduce air pollution and greenhouse gas emissions, is expected to reduce greenhouse gas emissions by 220,000 tonnes per year.

- **Turkish Petroleum Refineries Inc. (TÜPRAŞ) announces USD 256 million investment to reduce carbon emissions.** The investment planned to be carried out within the scope of the Strategic Transformation Plan announced by the company in 2021 is aimed to be used to produce high value-added chemical products and to reduce Scope 3 emissions.

- **Minister of Energy and Natural Resources, Alparslan Bayraktar, urges focus on smart energy transformation.** At the World Energy Council, Alparslan Bayraktar, who wrote an article titled "Why do we need to continue to explore for oil and gas and triple our renewable energy capacity?", emphasized that Türkiye would continue to pursue a strategy based on resource diversity by investing in both traditional and renewable energy resources. Stating that Türkiye had multifaceted goals such as ensuring supply security, ensuring affordable cost, reaching net zero emissions and achieving energy independence, the Minister for Energy and Natural Resources, Alparslan Bayraktar, underlined that abandoning fossil fuels would not be rational without creating alternative means to ensure Türkiye's prosperity and maintain its competitive position.

- **Türkiye in talks with ExxonMobil on long-term liquefied natural gas (LNG) supply.** The Minister of Energy and Natural Resources, Alparslan Bayraktar, announced in an interview with the Financial Times that negotiations were ongoing with ExxonMobil to supply approximately USD 1.1 billion worth of LNG. According to the statement issued by the Ministry of Energy and Natural Resources (MENR), when the negotiations are completed, 2.5 million tonnes of LNG per year will be produced within the scope of the agreement.

Foreign News

- **European Commission approves EUR 350 million aid plan to support Germany's renewable hydrogen production.** The plan, approved through the European Hydrogen Bank, will support the production of up to 75,000 tonnes of green hydrogen through the construction of up to 90 MW of electrolyzers. This plan is expected to contribute to Germany reaching at least 10 gigawatts (GW) of domestic electrolyser capacity by 2030.

- **US Environmental Protection Agency (EPA) to provide USD 20 billion in financing for clean energy projects in local communities.** Funding provided through the Greenhouse Gas Reduction Fund (GGRF) under the Inflation Reduction Act (IRA) aims to ensure that low-income and disadvantaged communities, and in particular providing access to the capital they need for climate and clean energy projects. The projects to be financed are expected to reduce greenhouse gas emissions by 40 million tonnes by 2030.

- **Organization of Petroleum Exporting Countries (OPEC) leaves its forecast for daily global crude oil demand for 2024 unchanged.** According to the Monthly Oil Market Report for April published by OPEC, the oil demand forecast for 2024 remains at 104.46 million barrels per day, unchanged from the previous month's forecast.

- **IEA publishes its April Oil Market Report.** The IEA announced its forecast of an increase of 1.6 million barrels per day in total oil demand for the first quarter of 2024 – a downward revision of 120,000 barrels per day compared to its previous forecast, due to weaker than expected OECD deliveries.

- **Ren21 publishes Renewable Energy Resources 2024 Global Status Report.** According to the report, renewable energy capacity additions in 2023 increased by 36% compared to 2022 to reach 473 GW, with photovoltaic solar energy accounting for three quarters of this increase. Ren21 highlighted that global investments in renewable energy resources increased by 8% compared to 2022, to reach USD 622.5 billion, adding that global employment in the renewable energy sector increased by 8% in 2022 compared to 2021 to reach 13.7 million jobs, according to the latest available data.

- **Global Energy Monitor (GEM) publishes Rise and Fall 2024 Report.** The report states that **69.5 GW of coal power plant capacity was commissioned in 2023 with 21.1 GW retired.** The report emphasizes that this net increase of 48.4 GW in capacity, representing a net increase of 2% compared to 2022, is the highest increase recorded since 2016. In addition, while the report highlights that China accounted for 68% of this increase, the slowdown in decommissioned capacities in the USA and Europe also affected the increase. In her evaluation of the report, GEM Coal Program Director Flora Champenois stated that in order to achieve the goals of the Paris Agreement, countries that need to retire coal power plants should do so more rapidly, while countries with plans for new coal power plants should not reconsider.

- **Global Wind Energy Council (GWEC) publishes 2024 Global Wind Report.** The report emphasizes that 117 GW of wind energy capacity will be connected to the electricity grid in 2023 and the global cumulative capacity is on course to grow by 13% YoY to reach 1 terawatt (TW). The GWEC highlights that 106 GW of new wind capacity in 2023 will consist of onshore wind farms with 10.6 GW being offshore wind power plants. Stating that the sector has become more optimistic on growth with the inclusion of the global target to triple the use of renewable energy by 2030 in the final text of the COP28, the report underlines that in order to achieve these targets, the rate of annual growth must least triple to reach 320 GW by 2030.

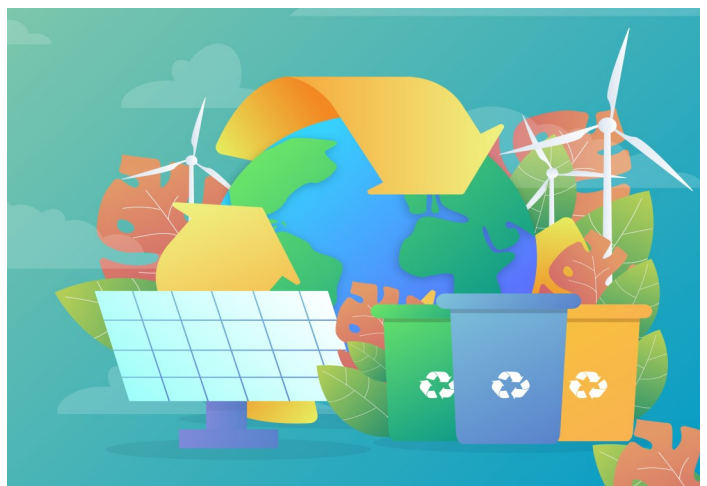
- **International Renewable Energy Agency (IRENA) publishes its report “Geopolitics of Energy Transition: Energy Security”.** In the report, IRENA stated that 22% of global energy consumption would be electricity consumption in 2020, predicting that this rate would rise to 51% by 2050. While renewable energy resources accounted for 28% of electricity generation in 2020, this proportion is projected to rise to 91% by 2050. The report states that the energy transition compatible with limiting warming to 1.5°C is possible with the development of renewable energy, it warns that policy makers should not focus only on the transition from the fossil fuel era to a system based on renewable energy. In this context, IRENA highlights the versatility of energy security while recommending that attention should be placed on capabilities in prioritizing actions such as modernization and expansion of infrastructure, policy and market adaptation and the development of institutional and human capacity.

- **European Parliament approves withdrawal of European Union (EU) from the Energy Charter Agreement.** The exit decision adopted in the European Parliament aims to prevent energy companies, especially those producing fossil fuels, from suing governments due to policies that harm their investments and from undermining efforts to tackle climate change. Anna Cavazzini, an MEP who is leading the European Parliament’s efforts to exit the agreement, said the vote was a big step in the right direction for the EU and emphasized that fossil fuel companies could no longer stand in the way of consistent climate protection.

- **IEA publishes Natural Gas Report for the second quarter of 2024.** The report states that in the wake of the natural gas supply shock experienced in 2022, the markets entered a gradual balancing process in 2023 and remained stable in the second quarter of 2024, with unseasonably mild winter weather and improving supply fundamentals. According to the report, after a moderate first quarter, the IEA’s global natural gas demand growth forecast for 2024, previously announced as 2.5% growth, was revised down to 2.3% growth, while

stating that consumption of natural gas in the winter of 2023-2024 increased by 2% YoY.

- **G7 countries pledge to close coal power plants by 2035.** According to media reports, G7 countries agreed to phase out coal by 2035. The final declaration of the meeting, detailing the G7 countries’ commitments to decarbonise their economies, will be published in due course.





Economic Research

ekonomikarastirmalar@tskb.com.tr

MECLİSİ MEBUSAN CAD.
NO:81 FİNDİKLİ İSTANBUL 34427, TÜRKİYE
T: +90 (212) 334 50 50 F: +90 (212) 334 52 34

This document was produced by Türkiye Sınai Kalkınma Bankası A.S. (“Industrial Development Bank of Türkiye”) (“TSKB”) solely for information purposes and for the use of registered broker or dealer, whether the registered broker or dealer is acting as principal for its own account or as agent for others, or a bank acting in a broker or dealer capacity as permitted by U.S.A. law. This document shall not to be reproduced under any circumstances and is not to be copied or made available to any person other than the recipient. It is produced and distributed in the Republic of Türkiye. This document does not constitute an offer of, or an invitation by or on behalf of TSKB or any other company to any person, to buy or sell any security. The information contained herein has been obtained from published information and other sources which TSKB considers to be reliable. No liability or responsibility whatsoever is accepted by TSKB for the accuracy or completeness of any such information. All estimates, expressions of opinion and other subjective judgments contained herein are made as of the date of this document. TSKB may, from time to time, have a long or short position in any of the securities mentioned herein and may buy or sell those securities or options thereon either on their own account or on behalf of their clients. TSKB may, to the extent permitted by law, act upon or use the above material or the conclusions stated above or the research or analysis on which they are based before the material is published to recipients and from time to time provide investment banking, investment management or other services for or solicit to seek to obtain investment banking, or other securities business from, any entity referred to in this document.

Any customer wishing to effect transactions in any securities referred to herein or options thereon should do so only by contacting a representative of TSKB.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior consent of Türkiye Sınai Kalkınma Bankası A.S.

This document does not constitute an offer to sell, or an invitation to subscribe for or purchase, any of the offer shares in any jurisdiction to any person to whom it is unlawful to make such an offer or solicitation in such jurisdiction. The distribution of this document in certain jurisdictions may be restricted by law. Persons into whose possession this document comes are required by TSKB and the managers to inform themselves about and to observe any such restrictions. No person has been authorized to give any information or to make any representation except as contained in this publication.

In making an investment decision investors must rely on their own examination of the Company and the terms of the offering including the merits and risk involved.