

Monthly Energy Bulletin

TSKB Economic Research

September 2022 #52

Can Hakyemez

hakyemez@tskb.com.tr

20 October 2022

Boru Hatları ile Petrol Taşıma A.Ş. (BOTAŞ) publishes its tariff table for October

According to the published table, the sales price that BOTAŞ will apply to natural gas distribution companies in October for residential consumers has remained unchanged at TL 4,080 per 1,000 cubic meters of natural gas. The tariff for industrial subscribers has been set at TL 7,124 per 1,000 cubic meters of natural gas for Tier -1 customers and TL15,833 for Tier-2 customers. On the other hand, the natural gas sale prices pertaining to the customer groups specified in the natural gas wholesale tariff for October 2022, which entered effect from October 1, will be based on the daily reference price determined by the Organized Wholesale Natural Gas Market (OTSP) which is operated by Enerji Piyasaları İşletme A.Ş. (EPIAŞ). In the tariff for electricity generation, the price per 1,000 cubic meters of natural gas was set at TL 20,625.

According to the tariff list BOTAŞ published, the decision was taken to index the daily reference price to be formed in the first 25 days of September 2022 to the arithmetic average of the production of the gold, aluminum, copper, boron, zinc, iron/steel, silver, chromium, lead and magnesium which are included in the energy-intensive sectors, and the natural gas sales price in the oil refining and petrochemical industries. In industrial sectors outside these sectors, 60% of the actual consumption of Tier-2 subscribers whose average annual consumption exceeds 300,000 cubic meters will be indexed to the Tier-2 tariff and the remaining consumption amount will be indexed to the arithmetic average of the daily reference price. This pricing corresponds to an increase of approximately 37% in the tariff for the aforementioned energy-intensive sectors and 5% for other industrial sectors.

In addition, BOTAŞ announced a new tariff for accommodation facilities which hold a tourism business certificate and whose annual natural gas usage amount is less than 300,000 cubic meters, under the category of "Tier-1 Accommodation". This new tariff is calculated to be 25% higher than the "Tier-1 Industry" tariff.

27.38
TWh

September Gross
Generation

3,850.6
TL/MWh

Average
MCP

10.6%

Daily average licensed electricity generation increased by 10.6% MoM with a decline of 1.9% YoY in September.

[Click](#) for details.

25.6%

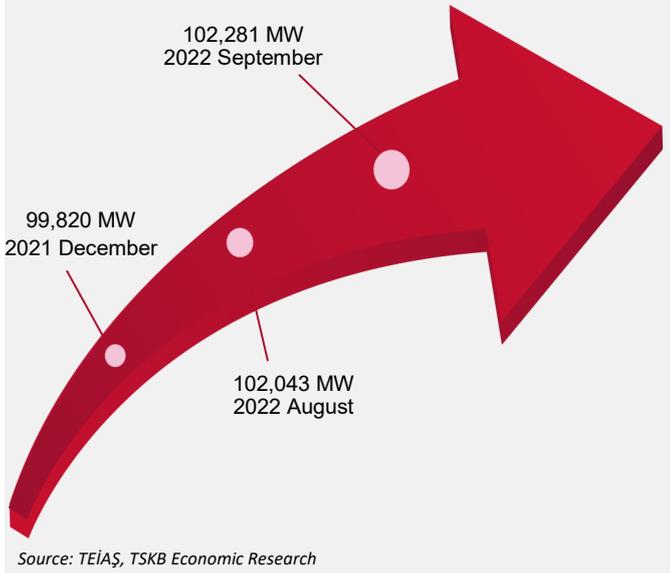
Market Clearing Price (MCP) increased by 639.3% YoY and by 25.6% MoM in September.

[Click](#) for details.

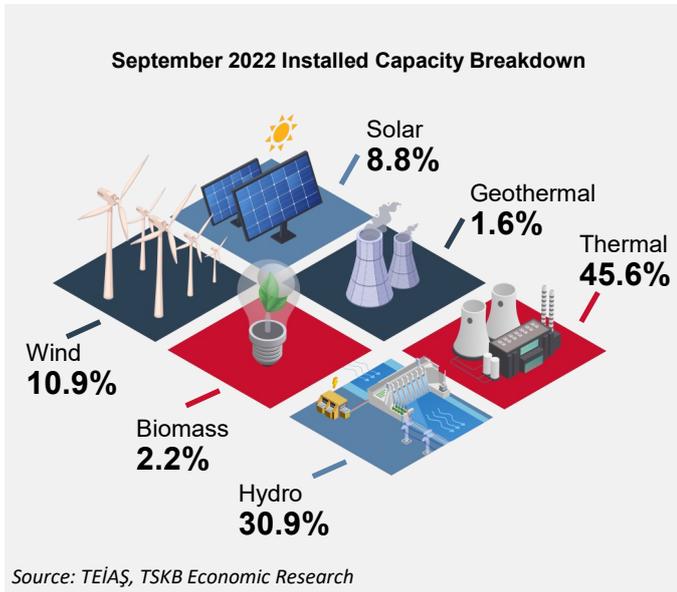


Installed Capacity Analysis

Turkey's total installed generation capacity, which had reached 99,820 megawatts (MW) at the end of December 2021, reached 102,281 MW by the end of September 2022. A net total of 238 MW in installed capacity came onstream in September, with solar power plants accounting for 168 MW of this installed capacity. In the same period, there was an increase of 62 MW in the total net installed capacity of wind farms, while the increase was 7 MW for renewable waste energy power plants.

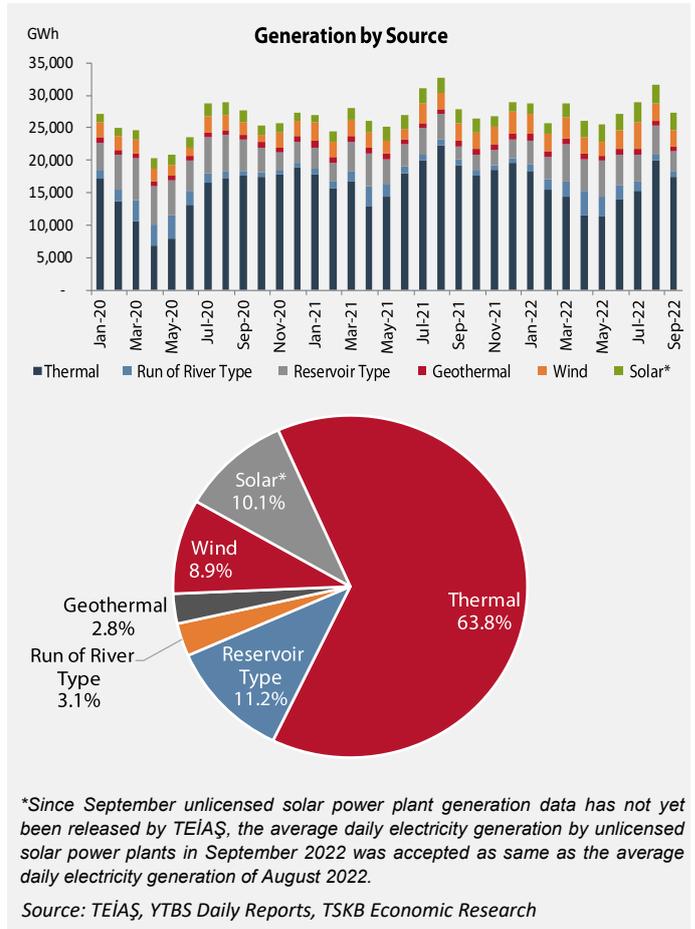


In August, 54.4% of the capacity of the power plants in operation consisted of renewable energy. Thus, the share of renewable resources remained above 54%. Hydroelectric power plants accounted for a 30.9% share of Turkey's total installed electricity power, followed by wind and solar power plants with a 19.7% share.



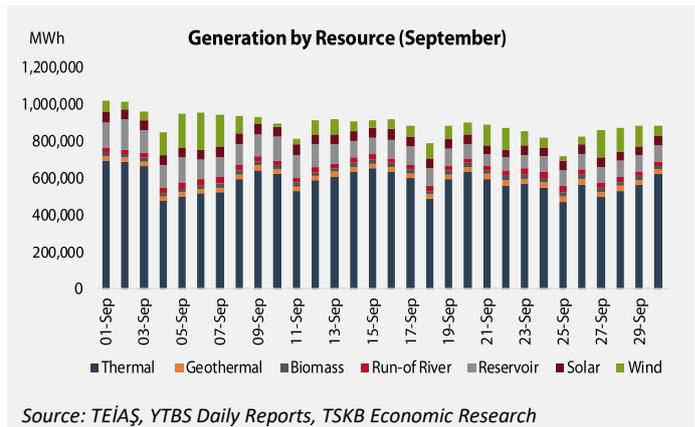
Electricity Generation Analysis

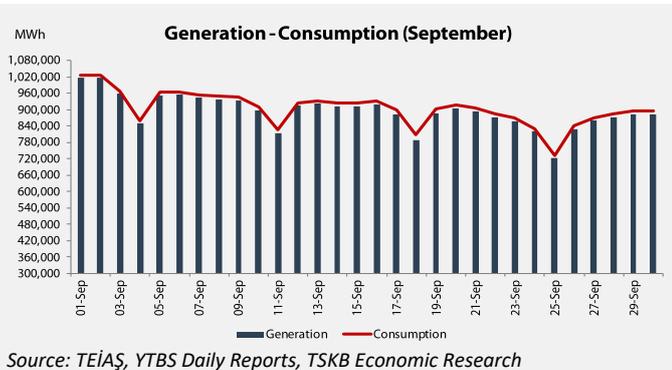
Total electricity generation, which was approximately 31.65 terawatt-hours (TWh) in August, was realized at 27.38 TWh in September. September's daily average electricity generation decreased by 1.9% compared to the same period of the previous year, and by 10.6% compared to the previous month.



Thermal power plants, which had provided 62.9% of the electricity generated in August, accounted for 62.8% of the electricity generation in September. In terms of the breakdown of the power plants by resource, hydroelectric power plants, which had a 17.1% share in the previous year, generated 14.3% of the electricity in September. In the same period, share of electricity generated by wind increased by 0.2% compared to the previous month to reach 8.9%. Geothermal power plants had a 2.8% share of total electricity generation.

The share of renewable energy power plants in total generation, which averaged 36.0% in 2021, was realized at 36.2% in September. In the related period, dam-type hydroelectric power plants contributed 11.2% to total generation, while run-of-the-river type hydroelectric power plants provided 3.1% of total electricity generation. The decrease in the share of electricity generated by hydroelectric power plants has continued since May .





In September, daily average electricity generation from licensed power plants was realised at 894,564 MWh. In September, the maximum generation from licensed power plants was recorded as 1,019,465 MWh on Thursday, September 1. In the same period, the minimum power production was 722,159 MWh recorded on Sunday, September 25.

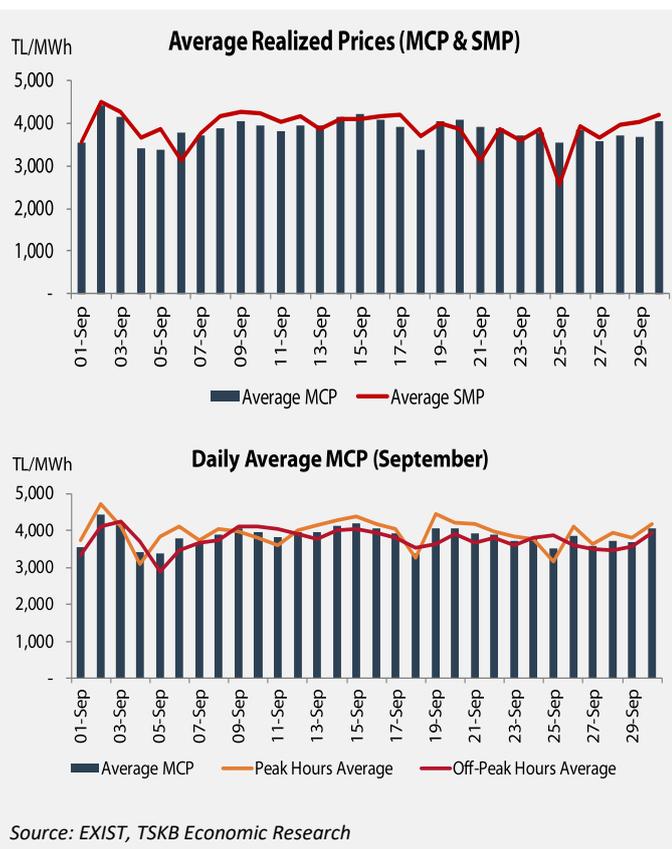
In the same period, daily average electricity consumption was realised at 906,207 MWh. The maximum consumption seen during September was recorded on Friday, September 2 at 1,027,960 MWh with the minimum on Sunday, September 25 at 733,942 MWh.

Electricity Price Analysis

In September, the daily average market clearing price (MCP) and system marginal price (SMP) were realised between TL 2,550-4,550 / MWh. The MCP averaged TL 3,850.60/MWh in September while the SMP averaged TL 3,881.90/MWh in the same period. The minimum daily average MCP was TL 3,368.10/MWh on Monday, September 5 with a minimum daily average MCP of TL 2,559.40/MWh on Sunday, September 25.

A look at the hourly data finds that MCP was realised at the determined maximum price limit of TL 4,800 /MWh for a total of 59 hours in September, with the SMF at the maximum for a total of 131 hours.

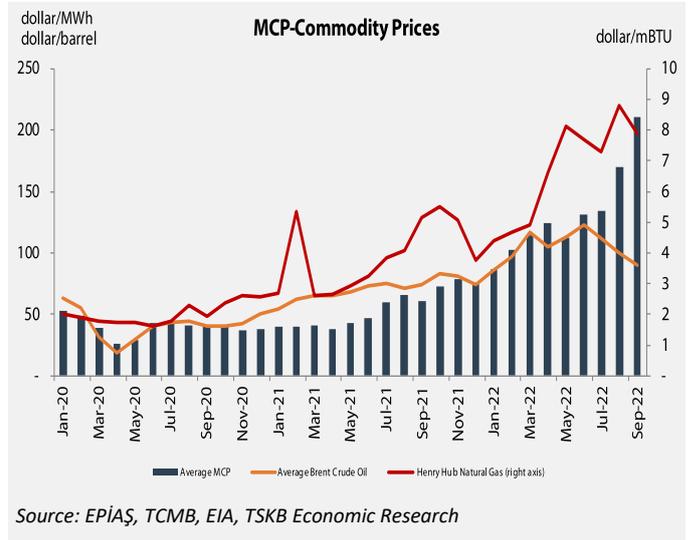
An analysis of the daily MCP for September finds that the peak hours average (between 8AM-8PM) was 2.4% higher than the overall average.



age to be recorded at TL 3,942.30/MWh. The maximum price limit of TL 4,800 /MWh was reached for 28 hours with the minimum peak hours rate of TL 1,650 /MWh recorded on Sunday, September 4.

In the same period, average off-peak rate (between 8PM-8AM) was TL 3,758.90/MWh. The maximum price limit of TL 4,800 /MWh was recorded for a total of 21 hours during off-peak hours with the minimum off-peak price of TL 1,000 /MWh recorded on Monday, September 5.

The MCP, having averaged USD 170.10 /MWh in August, increased to an average of USD 210.30 /MWh in September, 244.2% higher when compared to the same period of the previous year.



Average Commodity Prices

The average price of a barrel of Brent crude oil decreased from USD 100.5 in August to USD 89.9 in September, a decrease of 10.6% on the month, but 20.5% higher than in same period of the previous year.

The contract price of Henry Hub natural gas, which averaged USD 8.80 /mbtu in August, decreased by 10.6% month-on-month to USD 7.90 /mbtu in September. This nevertheless marked a 52.7% increase when compared to the same period of the previous year.





Sector News

Local News

- **Maximum settlement price mechanism in electricity market extended for 6 months.** According to the Energy Market Regulatory Authority (EMRA)'s decision published in the Official Gazette, the maximum settlement prices are determined as TL 4,500 /MWh for natural gas power plants, TL 2,750 /MWh for imported coal power plants, TL 2,050 /MWh for domestic coal power plants and TL 1,540 /MWh for power plants operating with renewable resources. (30 September 2022)

- **Turkey must establish 85 GW in wind farms if it is to achieve its net zero target, according to the Minister for Energy and Natural Resources, Fatih Dönmez.** In his speech, Fatih Dönmez stated that this would mean an eight-fold increase in the installed wind power capacity over the next 30 years, while adding that the Turkey was always ready to carry out the necessary constructive cooperation based on a win-win approach as a credible and strategic partner in providing energy supply security for Europe. (28 September 2022)

- **25% of the payments can be completed in Ruble terms in Russian natural gas settlements.** According to a statement made by the Russian President Vladimir Putin, an agreement has been reached so 25% of payments in the delivery of Russian natural gas to Turkey can be carried out in Ruble terms. President Putin said that work on the Akkuyu Nuclear Power Plant was continuing and that they were hoping to see first unit be activated in 2023. President Recep Tayyip Erdoğan also remarked that an agreement had been reached in the dispute with the contractor Turkish company for the Akkuyu Nuclear Power Plant on July 26 and that the process would resume rapidly. (19 September 2022)

- **Russia could "evaluate and meet any additional natural gas demand from Turkey" according to Russian Vice Pres-**

ident, Alexander Novak. In the announcement, Vice President Novak indicated that delivery of Russian natural gas to Europe would decrease this year due to sanctions, and that Russia would therefore evaluate and may meet any increased demand from Turkey. While the Vice President added that the price of natural gas will be determined in accordance with demand and market conditions, he also added that the natural gas deliveries to the Europe are long-term agreements. (16 September 2022)

- **Unlicensed electricity generation based on renewable energy sources can now be carried out on treasury immovables.** According to the "National Real Estate General Communiqué" published in the Official Gazette, the easing will be established on treasury immovables that will be determined by the Ministry of Environment, Urbanization and Climate Change General Directorate of National Real Estate for up to 29 years for the purpose of producing unlicensed electricity based on renewable energy sources, especially solar energy and wind energy. Those holding licences for mining or geothermal operations, industrialists, individuals in the public and private services sector and those engaged in agricultural activities, except for those in the residential and lighting subscriber group, will be able to benefit from this measure to produce the electricity they need. (13 September 2022)

- **Subsidies continuing for electricity and natural gas, according to Minister for Energy and Natural Resources Minister, Fatih Dönmez.** In the statement, Mr. Dönmez remarked that a subvention had been made at a rate of 80% for natural gas and 50% for electricity in the first phase, stating that the subvention cost, which was approximately TL 100 billion last year, could nearly double this year. (07 September 2022)

News From Abroad

- **Germany to establish a EUR200 billion fund to protect energy costs.** The German Chancellor, Olaf Scholz, announced that the German government would establish a EUR200 billion fund to protect consumers and companies from high energy costs. Meanwhile, the Minister for Economy and Climate Protection, Robert Habeck, on the other hand, specified that setting an upper limit to the natural gas prices would not block saving efforts and he called on all consumers to use less fuel this winter to prevent restrictions on the use of natural gas. (30 September 2022)

- **Climate change presenting a serious risk to the production capacity of the US economy, according to the Secretary of State for the Treasury in the US, Janet Yellen.** In her statement, Janet Yellen declared that to overcome those risks, the transition to a clean energy economy should be stepped up. While Ms. Yellen added that the US President Joe Biden had allocated more than USD 430 billion to modernize the country's energy system, she added that the country's transition to green energy would be accelerated, paving the way for reduced energy costs for American families and companies. (28 September 2022)

- **Britain lifts ban on shale gas extraction.** In a statement made by the UK Government, it was stated that the ban on activities for the extraction of shale gas introduced in 2019 amid concerns that it could trigger seismic tremors has been lifted. In his speech where he declared that the ban on the extraction of local gas resources was being lifted, the Minister for Work, Energy and Industrial Strategy, Jacob Rees-Mogg, said that in order for UK to become a net energy exporter by 2040, all avenues of opportunity would need to be explored. (23 September 2022)

- **European countries have allocated approximately EUR 500 billion to the energy crisis.** According to research published by the Brussels-based think tank Bruegel, European countries have implemented a range of measures between September 2021 and September 2022 to tackle the increase in energy prices with the UK allocating EUR 178.6 billion, Germany EUR 100.2 billion, Italy EUR 59.2 billion, France EUR 53.6 billion and Spain EUR 35.5 billion for these measures, with the other 20 countries in Europe included in the study having allocated EUR 63.3 billion. (22 September 2022)

- **German government nationalizes energy company, Uniper.** In a statement made by the German Ministry for the Economy and Climate Protection, it was stated that the German government would transfer EUR 8 billion to the energy company Uniper, and the government would buy the 77.9% stake in Uniper held by the Finnish public company, Fortum, for EUR 1.70 per share. In the statement released by the Ministry, it was stated that after the completion of the capital increase and share purchase, the government would hold approximately 99% of the shares in Uniper. (22 September 2022)

- **Increase in demand for Chinese solar panels in Europe.** According to a report published by Caixin, the restrictions on the import of Russian natural gas due to the war between Russia and Ukraine have led to a surge in demand for Chinese solar panels in Europe. The report added that China exported photovoltaic panels with a total capacity of 51.5 gigawatts to European countries in the first 7 months of 2022 – an increase of 25.9% when compared to the same period of the previous year. This growth in 2022 is expected to increase China's

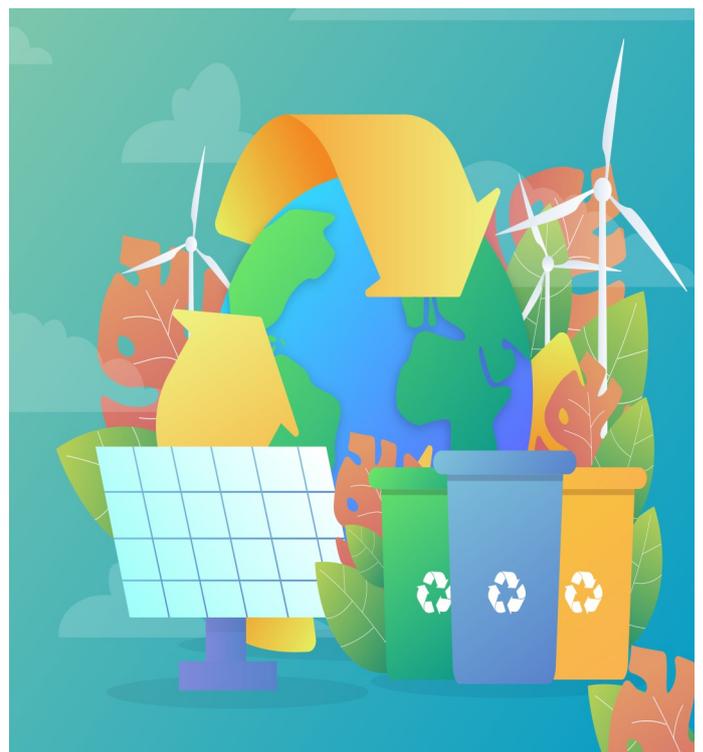
share in the solar panel manufacturing process. China accounted for 85% of solar cells and 84% of modules used in the solar energy manufacturing process in 2021. (22 September 2022)

- **Dutch government announces new measures to tackle energy crisis.** According to the statement, a temporary ceiling price will be applied for natural gas and electricity prices throughout the year of approximately EUR 1.50 per cubic meter of natural gas and EUR 0.70 /kWh of electricity with effect from 1 January 2023. It was added that the ceiling price may be reduced in accordance with the movements in energy prices, while a minimum price of EUR 1.20 will be applied per cubic meter of natural gas. Among the measures, in addition to the ceiling price application, an additional energy subsidy of EUR 1,300 will be provided for those on low incomes in 2023. It was also announced that energy companies would not be permitted to cut off natural gas and electricity supply for households which cannot pay their bills next winter, and an emergency fund would be created to prevent households from building up large debts. (21 September 2022)

- **USA announces the sale of up to 10 million barrels from its strategic oil reserve.** In a statement, the US Department of Energy stated that 155 million barrels of oil had been sold and that this would increase to 165 million barrels by November. (20 September 2022)

- **Oil company Eni confident that Italy will not need to buy natural gas from Russia this winter.** In a speech, Eni's CEO, Claudio Descalzi, reiterated that storage facilities were around 90% full, and on the assumption of a mild winter in Italy, he reiterated that the country could get through the winter without Russian natural gas. The CEO added that Algeria had already doubled its natural gas deliveries to Italy. (16 September 2022)

- **Portugal announces EUR 1.4 billion support package to help companies deal with the energy crisis and high inflation.** Within the scope of this aid package, EUR 600 million of credit will be made available to the companies affected by this "new situation", such as difficulties in energy and raw material prices or supply chains. (16 September 2022)



- **Temporary levy to be applied to energy companies in Europe.** Ursula Von der Leyen, the President of the European Commission, said that due to increasing energy prices, the EU was planning to gather USD 140 billion by taxing energy companies writing record profits. While stipulating that the electricity market needs to be restructured, President Von der Leyen added that she believed the current pricing system, where electricity prices depend on natural gas prices, was no longer fit for purpose. Stating her belief that the dominant role of natural gas on electricity prices needs to be curtailed, the President of the European Commission said that the EU would ask member states to reduce their electricity consumption. While she remarked that hydrogen could be a game-changer in Europe, she added that the EU would undertake a EUR 3 billion investment to create a hydrogen market. In addition, the European Commission has suggested a 10% reduction in electricity consumption in member states, with a mandatory 5% reduction in consumption in peak hours. Frans Timmermans, the Senior Vice President of the European Commission, issued a statement on the subject where he claimed that a 5% reduction in electricity consumption during peak hours would result in the most expensive natural gas power plants reducing their operation, which would thus indirectly reduce electricity prices. (15 September 2022)

- **Transition to renewable energy could save at least USD 12 trillion by 2050.** According to a joint study carried out by Oxford University in the UK and Monash University in Australia, the transition from fossil fuels to renewable energy could bring savings of approximately USD 12 trillion by 2050. The work found that while prices were little changed in data regarding fossil fuels compiled by going back more than 100 years before 2020, the study found that the cost of wind and solar energy was decreasing gradually. (15 September 2022)

- **Germany ready for Russia's cut-off in the flow of natural gas, according to German Chancellor, Olaf Scholz.** The German Chancellor, Olaf Scholz said that the terminals in the north of the country were also ready for the import of liquefied natural gas (LNG) and that nuclear power plants located in the south of the country can be used at the beginning of next year, if necessary. (12 September 2022)

- **The UK announces plan to limit electricity and natural gas prices for two years.** Within the scope of the package, which will be implemented in the UK from October, electricity and natural gas bills will be kept at £2,500 per year for an average household. In addition, approximately £40 billion in additional liquidity support will be provided to the energy companies. British Prime Minister Liz Truss suggested that inflation could drop to 5% with the announced plan. (9 September 2022)

- **Austria and Greece to continue taking precautions within the scope of energy crisis.** The Austrian government has fixed the electricity unit price for consumption up to 2,900 kWh due to the rising energy prices, with the measure to enter effect from 1 November 2022. Within the scope of the regulation that will be in place between November 2022 and July 2023, the cost of one kWh has been fixed at EUR 0.10. Greece, on the other hand, announced a series of measures to reduce energy consumption in public institutions by 10%. The measures to be taken include monitoring previously taken savings measures such as keeping indoor temperatures at 27°C in summer and 19°C in winter in public buildings belong to the public institutions, and turning off heating, cooling and lighting systems when buildings are not in use. (8 September 2022)

- **Germany announces that it will keep two of its three nuclear power plants in the country running as an emergency reserve.** Germany's Minister for the Economy and Climate Protection, Robert Habeck, announced that 2 of the 3 nuclear power plants left in the country would continue to run until the middle of April 2021, as an emergency reserve amid the possible energy problems this winter. (6 September 2022)

- **Ukraine to send some of its 30 billion cubic meters of natural gas reserves to EU countries, according to Ukrainian Prime Minister, Denis Shmyhal.** (6 September 2022)

- **Gazprom halts natural gas flow to Europe.** Gazprom announced that malfunctions were detected in a turbine in the Nord Stream pipeline, which was taken into maintenance on 31 August and which is expected to be activated again on 3 September, and that the natural gas shipments from the pipeline had been suspended for an indefinite period. (5 September 2022)





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 Turkey”) (“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 Turkey. 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.