

# Monthly Energy Bulletin

TSKB Economic Research

September 2024 #76

Ezgi İpek

ipeke@tskb.com.tr

Can Hakyemez

hakyemez@tskb.com.tr

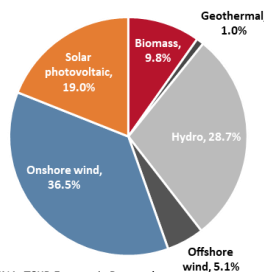
23 October 2024

## Half of the electricity generated in the European Union (EU) came from renewable resources in the first half of 2024

According to the report, "Energy Union Report 2024 Status" published by the European Commission, half of the electricity produced in the EU in the first half of 2024 was provided by renewable sources, while the share of Russian natural gas in EU imports decreased from 45% in 2021 to 18% in the first half of 2024. While the report reflects that energy prices in the EU have stabilized after the 2022 energy crisis, it emphasized that greenhouse gas emissions in the region fell by 32.5% in the 1990-2022 period. The report emphasizes that the European Commission's energy targets can be achieved through greater coordination, market integration and joint action, and calls for member states to complete their final updated National Energy and Climate Plans in line with the 2030 targets.

According to the "Renewable Energy Costs" report published by the International Renewable Energy Agency (IRENA), the savings in fuel costs of the energy sector achieved through the installation of renewable energy between 2000 and 2022 amounted to approximately USD 409 billion around the world, with Europe ranking second in terms of these savings at USD 88 billion, behind Asia with USD 212 billion in savings. Of these savings on a global basis, 36.5% came from onshore wind, 28.7% from hydro-electric power and 19.0% from solar power.

Distribution of Savings from Renewable Energy Installations by Source (between 2000-2023)



Source: IRENA, TSKB Economic Research

IRENA states that renewable energy capacity in 2023 increased by 54% compared to 2022 to reach 3,865 gigawatts (GW), marking the highest annual increase in capacity since 2000. According to the report, the global weighted average costs of electricity generated in 2023 fell for photovoltaic solar energy, onshore and offshore wind, concentrated solar power (CSP) and hydro-electric power. Compared to 2010, the largest decrease in levelized electricity costs was realized for photovoltaic solar energy, with a fall of 90%, followed by CSP and onshore wind energy, with a 70% decrease.

<b>28.6 TWh</b>	<b>2,395.8 TL/MWh</b>
September Gross Generation	Average MCP

**15.3%**

Daily average licensed electricity generation decreased by 15.3% MoM and increased by 0.6% YoY in September.

[Click for details.](#)

**6.9%**

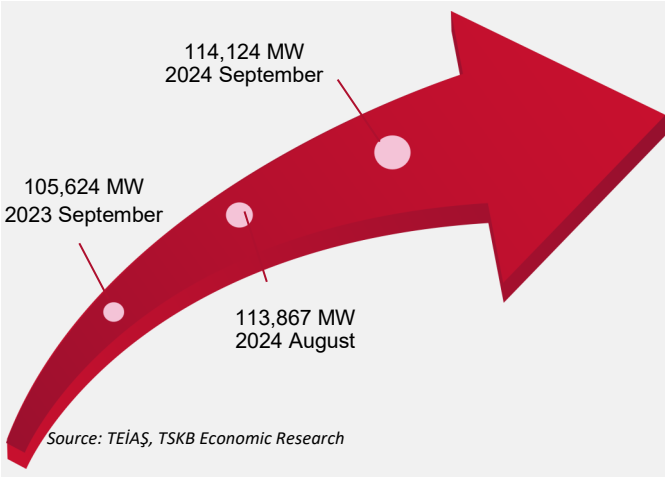
Market Clearing Price (MCP) decreased by 6.9% MoM and increased by 19.4% YoY in September.

[Click for details.](#)

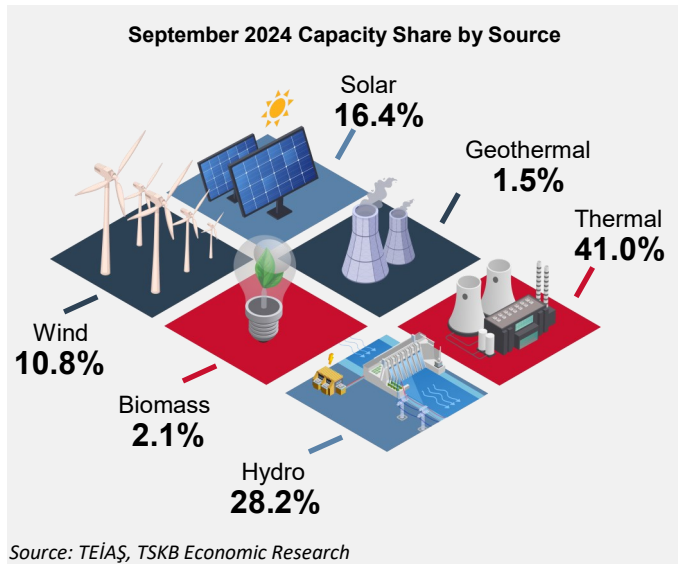


# Installed Capacity Analysis

Türkiye's total installed capacity, which was stood at 113,867 megawatts (MW) at the end of August 2024, inched up to 114,124 MW in September. A total of 240.6 MW of net installed capacity was commissioned in September compared to August, with 236.0 MW of this installed capacity provided by solar power plants. In the same period, the installed capacity of natural gas and multi-fuel power plants decreased by 23.2 MW, the installed capacity of power plants using renewable waste decreased by 2.1 MW and the installed capacity of wind farms decreased by 0.1 MW compared to the previous month. No change was observed in the installed capacity of other sources.

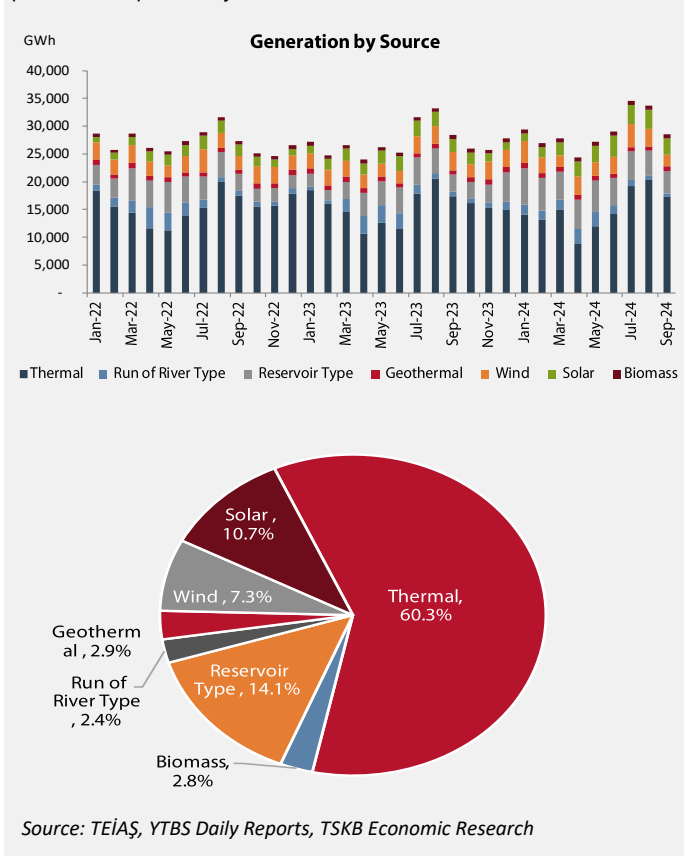


Of the capacity in operation in September, 59% consisted of power plants generating electricity from renewable sources. Thus, the proportion of renewable resources continued to increase, approaching 60%. Hydroelectric power plants accounted for 28.2% of Türkiye's total installed electricity capacity, while the share of wind and solar power plants in total installed generation capacity stood at 27.2%.



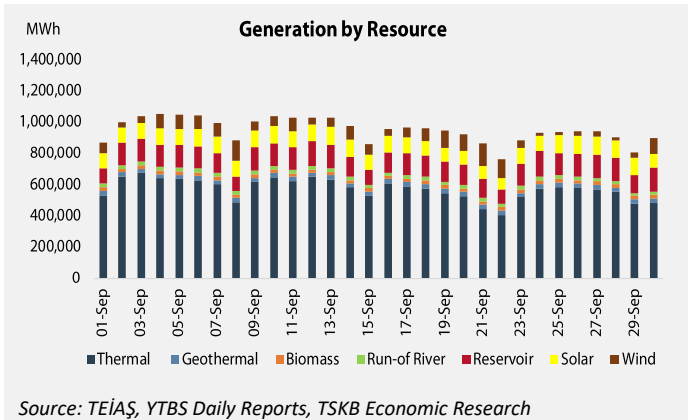
# Generation-Consumption Analysis

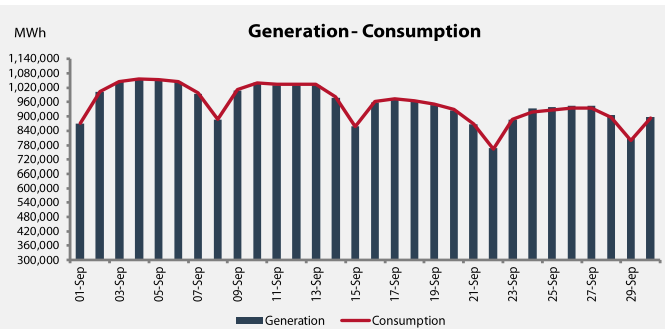
A total of 28.6 TWh of electricity was generated in September, compared to approximately 33.8 TWh in August 2024. The average daily electricity generation for September decreased by 15.3% compared to the previous month, while increasing by 0.6% compared to the same period of the previous year.



Thermal power plants, which provided 60.1% of the electricity generated in August, accounted for 60.3% of all electricity generation in September. Looking at a source-based breakdown of electricity generation from power plants, the share of electricity generated from hydroelectric power plants increased from 15.8% in August to 16.5% in September, with wind farms providing 7.3% of the electricity and geothermal power plants providing 2.9% of the total electricity generated.

The share of renewable energy plants in electricity generation declined slightly from 37.7% in August to 37.4% in September 2024. In the same period, dam-type hydroelectric power plants contributed 14.1% to total generation with run-of-river type hydroelectric power plants providing 2.9% of all electricity generated. In addition, wind and solar energy accounted for 18% of total electricity generation. In September, solar power plants were recorded as the second renewable source of electricity after dam-type hydroelectric power plants, with a share of 10.7%.





Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Daily electricity generation averaged 953,082 megawatt-hours (MWh) in September. The highest generation during the month was realized on Wednesday, 4 September, with total generation of 1,054,883 MWh, with the lowest on Sunday, 22 September with generation of 767,230 MWh.

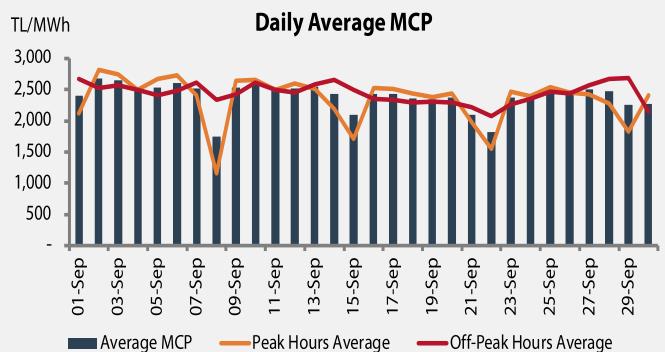
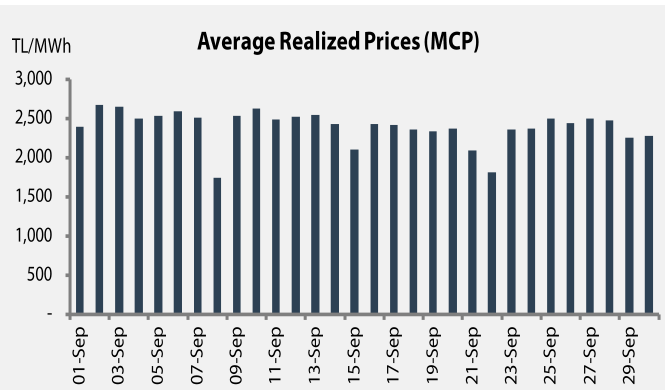
In the same period, daily electricity consumption averaged 952,344 MWh. The highest level of consumption was realized on Thursday, 5 September (1,056,375 MWh) with the lowest on Sunday, 22 September (762,814 MWh).

## Electricity Price Analysis

In September, the daily average market clearing price (MCP) ranged between TL 1,742.6 and TL 2,669.8 TL per MWh. The daily average MCP for September was TL 2,395.8 /MWh with the highest daily average MCP recorded on Monday, 2 September at TL 2,699.8 /MWh and the lowest on Sunday, 8 September (TL 1,742.6 /MWh).

In terms of the hourly data, the MCP reached its highest level of TL 3,000 /MWh, for a total of 65 hours in September with the minimum price of TL 235.0 /MWh recorded between 11.00-12.00 on Sunday, 8 September.

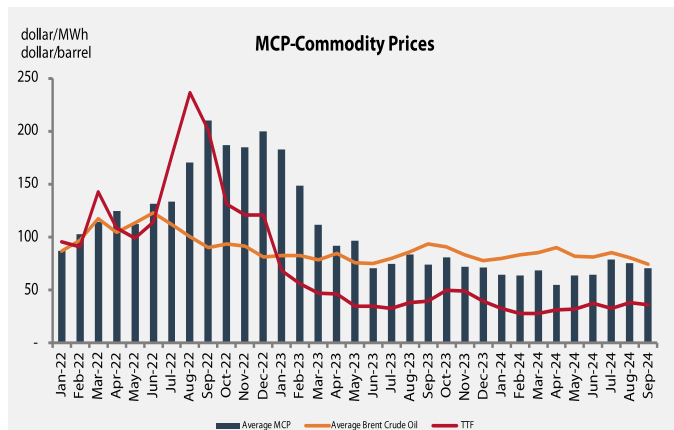
An analysis of the daily MCP for September finds an average of peak hours (8AM-8PM) rate 0.02% below the average for all hours, to be recorded at TL 2,349.9 /MWh. The maximum limit price of TL 3,000.0 /MWh was recorded on 46 occasions during peak hours with the lowest price of TL 230.9 /MWh was realized for 1 hour during peak hours.



Source: EXIST, TSKB Economic Research

In the same period, the average for off-peak hours (8PM-8AM) was TL 2,589.7 /MWh. While the maximum limit price of TL 3,000 /MWh was realized for 40 hours during off-peak hours, the lowest price of TL 1,250.0 /MWh was only recorded between 11.00-12.00 on Sunday, 8 September.

The MCP decreased from an average of USD 75.7 /MWh in August to an average of USD 70.4 /MWh in September, marking a fall of 5.3% in USD terms when compared to the same period of the previous year.



Source: EPIAŞ, TCMB, EIA, TSKB Economic Research

### Average Commodity Prices

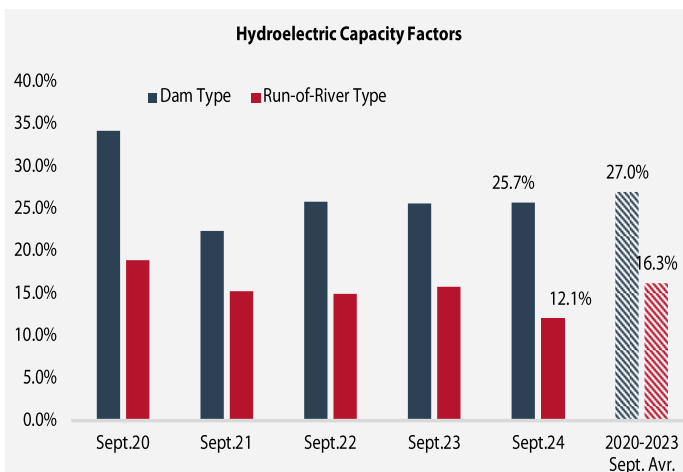
Brent crude oil prices declined by 7.6% month-on-month from an average of USD 80.20/bbl in August to USD 74.1/bbl in September, coming in 20.9% lower than in the same period of the previous year.

The TTF natural gas contract price, which averaged USD 38.4 /MWh in August, decreased by 5.5% month-on-month to USD 36.2 /MWh in September. The TTF price was down by 7.9% when compared to the same period of the previous year.

### Hydroelectric Capacity Factors

The capacity factors for dam-type and run-of-river type hydroelectric power plants for September 2024 were 23.5% and 11.3%, respectively. When compared to September 2023, these capacity factors increased by 5.1 percentage points for the dam-type power plants but declined by 2.0 percentage points for the run-of-river type power plants. Comparing this September with the same month over the last five years, run-of-river type power plants were at their lowest level for the month of September for the last 5 years.

For August, the capacity factor for dam-type power plants was 3.7 percentage points higher than the average for the same month in the years of 2020 to 2023, while the capacity factor for run-of-river type power plants was 2.5 percentage points below the average.



Source: TEİAŞ, EPIAŞ, TSKB Economic Research



# Energy in the Future of European Competitiveness Report

Can Hakyemez hakyemez@tskb.com.tr



The Former President of the European Central Bank (ECB) and former Prime Minister of Italy, Mario Draghi, published his report entitled "The Future of European Competitiveness" on Europe's competitiveness and strategy in September. The report points to energy prices as being one of the most important factors suppressing the EU's competitiveness. The report, which emphasizes rising natural gas prices, especially during the energy crisis in 2022, also highlights the volatility in electricity prices and the variation in electricity prices between EU countries.

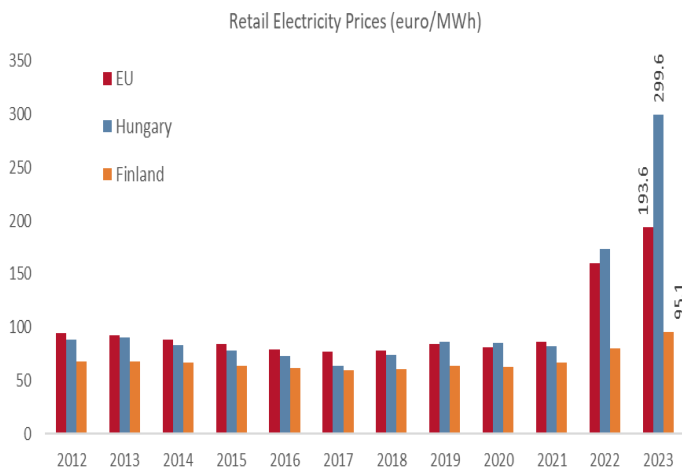
Former President Draghi stated in his report that EU member states face higher and more volatile energy prices than other regions. He emphasized that the increase in natural gas prices, especially due to the escalation in tensions between Russia and Ukraine in 2022, had affected the EU, which is dependent imports for more than 90% of its natural gas and reduced the bloc's competitiveness, especially in industry. By comparison, natural gas prices in the EU are 2-3 times higher than in the United States and 4-5 times higher than in China.

Pointing out that electricity prices are also high as a result of high natural gas prices, the report reflects that these prices also vary within the EU due to different pricing structures. It is also possible to see this variability in Eurostat data. In 2023, electricity prices applied to industry across the EU increased by 20.7% compared to 2022 to EUR 193.6 per MWh, while electricity prices in Hungary, which is more dependent on natural gas, increased by 72.3% year-on-year to EUR 299.6 /MWh. However, in Finland, which is least dependent on natural gas, prices rose by just 18.6% to EUR 95.1 /MWh.

Stating that the fall in the amount of electricity generated from hydroelectric power plants due to the effects of climate change and drought will create more volatility in electricity prices, the report emphasizes that the continuation of this volatility may give rise to uncertainty in energy costs and investment appetite, and thus a decrease in competitiveness.



In this context, Mario Draghi points out the necessity of faster integration of renewable energy sources into the electricity system in order to reduce the high energy costs, and emphasizes the importance of accelerating permit processes. Among the solutions proposed by the report to increase competitiveness are investing in the electricity grid to provide electricity more reliably by renewable energy plants, increasing electricity trade by homogenizing electricity pricing among EU countries and treating it as a single market, reducing the impact of natural gas on electricity prices by increasing the share of renewable energy plants, encouraging high electricity users to generate their own power, concluding long-term purchase contracts for electricity for industrialists and accelerating investments in nuclear power plants. Among the proposals in relation to natural gas, the report recommends turning to different source countries, increasing purchasing power with bulk purchasing strategies and ensuring that trade is compulsory within the EU.



Source: Eurostat, TSKB Economic Research



## Sector News

### Local News

- **Petroleum Pipelines and Transportation Inc. (BOTAŞ) leaves sales tariff unchanged for natural gas used by residential and industrial subscribers as well as for natural gas for electricity generation purposes in September.**

- **BOTAŞ signs liquefied natural gas (LNG) agreement with Shell for a period of 10 years, with an annual capacity of approximately 4 billion cubic meters.** With the agreement, which will enter force from 2027, a total of 40 LNG cargoes will be delivered within the next 10 years. The Minister of Energy and Natural Resources, Alparslan Bayraktar, stated that this agreement would go beyond the purchase and sale process and offer additional regional and global trade opportunities, adding that the active role of BOTAŞ in regional natural gas trade would be strengthened and expanded with the agreement.

- **Ministry of Energy and Natural Resources (MENR) holds meeting with Energy China.** According to a statement from the Minister of Energy and Natural Resources, Alparslan Bayraktar, on social media, the details of large-scale investment opportunities in renewable energy were discussed during the meeting. It is reported that Türkiye plans to establish a partnership with China to process deposits of rare earth minerals, placing Türkiye as a more attractive location for Chinese electric vehicle and battery manufacturers with this potential partnership.

- **Akkuyu Nuclear Power Plant aiming to commission all 4 reactors in 2028.** The Minister for Energy and Nat-

ural Resources, Alparslan Bayraktar, stated that the first reactor would be commissioned starting from 2025 with the Akkuyu power plant alone expected to meet 10% of Türkiye's electricity needs in 2028. He added that the clean energy generated from the Akkuyu plant would reduce carbon emissions by 30 million tons.

- **Sale of BP Türkiye to Petrol Ofisi Group approved.** According to a statement by Mehmet Abbasoğlu, the CEO of Petrol Ofisi Group on social media, the Competition Authority has approved the agreement signed by Petrol Ofisi Group to take over BP Petrolleri A.Ş. and BP Türkiye Refining LTD. in the Turkish market.

- **Bigadiç Granular Boron Production Facility opened.** In a statement at the opening ceremony, the Minister of Energy and Natural Resources, Alparslan Bayraktar, stated that the total investment cost of the factory to be operated within Eti Maden was TL 614 million at 2024 prices. Adding that the annual income would be approximately TL 700 million, Minister Bayraktar stated that they targeted earnings of USD 1.3 billion on the sale of 2.5 million tons of boron by the end of 2024.

- **Çayırhan Thermal Power Plant to be privatized.** According to a statement issued by the Privatization Administration of the Ministry of Treasury and Finance, the movable and immovable properties used by Çayırhan Thermal Power Plant and Çayırhan Lignite Plant will be privatized through the tender method. According to the statement, the deadline for bidding for the tender has been set as 4 December.

- **Energy and Natural Resources Minister Alparslan Bayraktar calls on a lifting of nuclear technology**

**sanctions.** Mr. Bayraktar reportedly emphasized the importance of removing all obstacles such as trade and financial restrictions on nuclear technology, as well as sanctions against the sector. Stating that nuclear energy was vital for Türkiye to achieve its goals of becoming net zero by 2053, Minister Bayraktar stated that the government aimed to commission a total of 20 GW of nuclear power plants, including small modular reactors, by 2050.

**- Türkiye's natural gas supply portfolio undergoing a transformation.** The Minister for Energy and Natural Resources, Alparslan Bayraktar, said in a statement that Türkiye's natural gas portfolio had changed from long-term pipeline natural gas contracts to more flexible long-term energy contracts. He stated that Türkiye had undertaken large scale investments in natural gas infrastructure, underground storage and gasification units, pointing out that Türkiye played an important role in Europe's security of supply. Adding that Türkiye can bring 75 billion cubic meters of natural gas from suppliers in neighboring countries and other parts of the world, Mr. Bayraktar pointed out that 25 billion cubic meters of this amount could be exported to Europe.

**- Nine renewable energy resource areas (YEKA) identified for solar energy.** According to the statement issued by the MENR, the new areas are located in the provinces of Ankara, Bolu, Diyarbakır, Erzurum, Gaziantep, Kahramanmaraş and Nevşehir.

**- KPMG publishes its Energy Outlook 2024 report.** According to the report, written by KPMG and APLUS Energy and containing data for the first 6 months of 2024, Türkiye's total installed generation capacity had reached 110,539 megawatts (MW) as of the end of June 2024, with 57.3% of this capacity consisting of renewable energy. The report adds that the share of power plants belonging to Electricity Generation Inc. (EÜAŞ) in the total installed capacity decreased from 48.9% in 2010 to 19.5% by the end of June 2024, while the share of unlicensed power plants increased to 12.9%.

**- Applications for 2025 Renewable Energy Resources Support Mechanism (YEKDEM) may be submitted until 2 December, 2024.** According to the statement issued by the Energy Market Regulatory Authority (EMRA), the deadline for renewable energy plants looking to benefit from the YEKDEM in 2025 has been set as 2 December, 2024.

**- Amendment to regulations on energy efficiency published in the Official Gazette.** With the published amendment, the annual reporting date of energy efficiency consultancy (EVD) companies has been moved from January to February, while geothermal and biomass facilities supporting district heating systems are obliged to conduct surveys. It was decided that the certification of the energy management system would be carried out by institutions or companies accredited by the Turkish Accreditation Agency (TÜRKAK).

**- Energy Exchange İstanbul (EXIST) and Verra sign**

**memorandum of understanding on "Carbon Credit Trading Platform Cooperation".** With the strategic partnership, which is aimed to enable exchange-based trading for the first time, it will be possible to buy and sell Verra-approved carbon credits on the EXIST platform. In addition, EXIST will organize workshops to raise awareness for potential market participants within the scope of the cooperation.

**- Changes made in incentive practices regarding the support of domestic technologies in solar energy investments.** According to the communiqué published in the Official Gazette, solar panels and solar panel carrier construction systems to be procured from abroad within the scope of solar energy investments and solar panels produced without using domestically produced solar cells, starting from the ingot slicing stage or a stage before the production process, except for investments within the scope of incentive certificates for which a completion visa application will be made before February 28, 2025, will be included in the scope of "expenditures not evaluated within the scope of incentive certificates".

**- EMRA publishes the "Electricity Market Sector Report" and "Natural Gas Market Sector Report" for July.** Accordingly, electricity generation in July increased by 8.5% compared to July 2023 to 34.4 terawatt-hours (TWh), while electricity consumption stood at 28.7 TWh in June. Billed electricity consumption increased by 8.2% year-on-year to 27.1 TWh. In addition, natural gas consumption increased by 9.5% compared to the same month of the previous year to reach 3.2 billion cubic meters (bcm), while 47.2% of the natural gas consumed was used by the conversion/cycle sector. Natural gas imports, on the other hand, increased by 18% compared to July 2023 to amount to 3.5 bcm.



## Foreign News

- **Central Europe's agricultural solar energy potential expected to benefit farmers and their energy systems.** According to Ember Climate's analysis, which includes Czechia, Hungary, Poland and Slovakia, it is stated that agricultural solar plants can increase crop productivity by up to 16%. Ember Climate emphasized that Central Europe can produce 191 terawatt-hours (TWh) of electricity using agricultural solar power. The analysis emphasizes that this generation – almost triple the current level – will increase land availability and that farmers can directly benefit from this transformation as part of the energy transition.

- **Intergovernmental partnerships able support a responsible and reliable critical minerals supply chain.** A new study from the International Energy Agency (IEA) states that intergovernmental partnerships are becoming an increasingly popular policy tool for the supply of critical minerals such as copper, lithium, nickel, cobalt and rare earth elements necessary for clean energy technology. However, it is emphasized that while these partnerships provide the basis for future cooperation and investment incentives, they are often announced without supporting agreements and are rarely binding. The IEA states that by ensuring partnerships are more transparent, mining projects can be developed responsibly. However, it highlights the importance of paying more attention to the needs of mineral-producing countries, incentives for responsible mining practice and greater dialogue with stakeholders.

- **China Minmetals to build a USD 1.4 billion lithium production facility.** It has been reported that the production facility planned by the state-owned mining company, China Minmetals, and local partners aims to secure China's potassium and lithium resources.

- **European Bank for Reconstruction and Development (EBRD) extend USD 60 million loan to Borusan EnBW Enerji.** According to the statement issued by the EBRD, the loan is aimed at financing the development and construction of 116 megawatts of onshore wind energy capacity in Sivas and Tekirdağ.

- **Organization of the Petroleum Exporting Countries (OPEC) slightly reduces its daily global oil demand forecast for 2024.** According to the Monthly Oil Market Report for September published by OPEC, the daily oil demand forecast for 2024, which was 104.32 million barrels in the previous month, has been adjusted to 104.24 million barrels in its September report. OPEC also revised its forecast for 2025 by 0.1 million barrels to 106.0 million barrels.

- **European Union (EU) to provide South Africa with a USD 35 million grant for green hydrogen.** The grant aims to support the development of a sustainable green hydrogen sector in South Africa, while also increasing investments in green hydrogen infrastructure.

- **EIA revises Brent oil price forecast downwards.** According to its "Short-Term Energy Outlook" report, the EIA now forecasts an average Brent crude oil price of USD 84/bbl (about the same as in the same month) but now forecasts an average Brent crude price of USD 84/bbl for 2025 too (down from USD 86/bbl in its previous month's forecast).

- **IEA publishes its Oil Market Report for September.** The report set out its global oil demand growth expectation for 2024, down from the growth of 970,000 bbl/day forecasted in the previous report to 900,000 bbl/day, with total oil demand for 2024 forecasted at 103 million bbl/day. The main reason put forward for the reduced growth forecast was the rapid slowdown in consumption in China. The report left its demand growth forecast for 2025 unchanged, at 950,000 barrels per day.

- **Global methane emissions continued to increase between 2020 and 2022.** According to the Global Carbon Project's Global Methane Budget 2024 Report, methane emissions, which increased by 20% between 2000 and 2020 (by 61 million tons per year), reached the highest growth rate between 2020 and 2020 – the highest rate of growth in methane emissions since 1986 when regular measurements started. According to 2022 figures, the countries with the highest methane emissions by volume were China (16%), India (9%), the USA (7%), Brazil (6%) and Russia (5%). To achieve net-zero emissions levels consistent with the Paris Agreement, methane emissions would need to be reduced by 45% by 2050 compared to 2019 levels.

- **USD 75 billion in clean hydrogen investments in 2024.** According to the Hydrogen Outlook Report for 2024 published by the World Hydrogen Council, committed investments, which stood at USD 10 billion in 2020, reached USD 75 billion in 434 projects in 2024. In addition, the total amount of investments to be realized by 2030 increased to USD 680 billion.



- **“Possible” to triple renewable energy capacity by 2030.** According to the report entitled "From Situation Assessment to Action" published by the IEA, the report states that the commitment to triple renewable energy capacity by 2030 written at COP28 was possible, pointing out that permitting processes and grid connections were among the challenges to realizing this commitment. The report also underlines that for this commitment to be realized, 25 million kilometers of electricity grids must be built or modernized by 2030 and 1,500 GW of energy storage capacity must be commissioned.

- **Setting appropriate wind and solar targets could limit global warming to 1.5°C while supporting the goal of tripling renewable energy capacity by 2030.** According to the report published by Climate Analytics, global wind and solar capacity needs to grow five-fold by 2030 compared to 2022 and eight-fold by 2035 to align with the target of limiting global warming to 1.5 °C. According to the report, electricity generated from wind and solar energy in Türkiye should increase by between 3-4 times compared to 2022 to reach 160-215 TWh by 2030. This requires the installation of more than 90 GW of wind and solar energy. Climate Analytics emphasizes that Türkiye's renewable energy targets should be updated and the energy transition should be accelerated.

- **Global primary energy demand projected to reach 374.1 million barrels per day of oil equivalent (mboe/d) in 2050.** According to the "World Oil Outlook 2024" report published by OPEC, global primary energy demand is expected to increase by 24% from 301.1 mboe/d equivalent in 2023 to 374.1 mboe/d in 2050. When the source breakdown of the forecasts is examined, oil demand is set to increase by 18% to 109.6 mboe/d by 2050 compared to its 2023 level, with coal demand on course to decrease by 37.1% from 78.0 mboe/d in 2023 to 49.1 mboe/d in 2050. Conversely, the largest increase among the various sources is the 346.9% increase in renewable sources, including hydro-electric power (from 9.6 mboe/d in 2023 to 42.9 mboe/d in 2050), not including biomass.

- **IEA publishes 2024 Breakthrough Agenda Report.** The report aims to identify where international action is needed by monitoring clean technologies and sustainable implementation targets across a range of sectors. Accordingly, while reducing power sector emissions remains a challenge for developing countries, their capital cost of ownership needs to be reduced and grid planning needs to be better coordinated. Although advances have been made in hydrogen technologies, it is emphasized that the necessary efforts have not been made in low-carbon hydrogen demand and infrastructure. While the IEA notes that more efforts are needed to increase low-emission steel and cement production, it highlights the need to improve financial and technical assistance, especially in emerging markets, to reduce emissions from buildings and road transport.

- **Colombia is expected to announce a \$40 billion investment plan to replace fossil fuel export revenues.** Colombian Minister of Environment and Sustainable Development Susana Muhamad stated that they will announce the plan on October 2 and expects close to \$10 billion in investments from international financial institutions and developed countries. He emphasizes that this investment will go to nature-based climate solutions, clean energy, electrification of transportation and projects that protect biodiversity. Minister Muhamad stated that the package will mimic the Just Energy Transition Partners (JETPs), which strain recipient developing countries due to heavy bureaucracy, and the plan highlights the role that multilateral development banks will play in terms of financial and technical expertise.

- **IEA publishes its report titled "The State of Energy Policy 2024".** According to the report, energy supply security and the adoption of clean energy have taken their place in energy policies over the last 4 years, while nearly 150 countries, covering approximately 95% of global greenhouse gas emissions, have put forward new and more ambitious climate commitments. Nearly 50 states have tightened energy efficiency, renewable energy and emissions standards and clean energy incentives. The IEA emphasizes that governments have allocated more long-term investment support to clean energy, amounting to over USD 2 trillion since 2020, while about 80% of this amount is concentrated in China, the European Union and the United States.

- **UK closes its last coal-fired power plant on 30 September, becoming the first G7 country to end coal-fired power generation.** However, according to Ember Climate's analysis, as the era of coal power in the UK comes to an end, many countries around the world are in the process of moving away from coal. The analysis states that coal-fired electricity generation in Organisation for Economic Co-operation and Development (OECD) countries has fallen by 52% since 2007, with solar and wind making up for 87% of this decline. Ember Climate highlights that 27 of the 38 OECD countries have committed to going coal-free by 2030 with plans to expand wind and solar power.





## **Economic Research**

ekonomikarastirmalar@tskb.com.tr

MECLİSİ MEBUSAN CAD.

NO:81 FİNDIKLI 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.