

# Monthly Energy Bulletin

TSKB Economic Research

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Can Hakyemez

hakyemez@tskb.com.tr

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## A total of 5 gigawatts (GW) offshore wind power plants are targeted by 2035

In a statement, Alparslan Bayraktar, the Minister for Energy and Natural Resources, said that in order to reach the target of 65% of Turkey's installed capacity being based on renewable energy by 2035 in the Turkish National Energy Plan, each year it would be necessary to add 3 GW in new solar power capacity and 1.5 GW in new wind capacity with a total of 5 GWs in off-shore wind capacity in place by 2035. Stating that the government had also discussed the production of equipment from critical mines while accelerating renewable energy sources, Mr. Bayraktar underlined that Turkey's renewable energy potential would play a key role, especially in green hydrogen production.

Mr. Bayraktar stated that the USD 200 billion in investments were planned to be carried until 2035 on renewable energy, nuclear energy, exploration of oil and natural gas, natural gas-oil and electricity infrastructure projects and interconnection projects, adding that Turkey had spent USD 96.5 billion on energy imports last year. Mr. Bayraktar added that Turkey would be able to meet 20% of its total oil needs by the end of 2024, reiterating that Sinop was the second location for nuclear power, and that the government had been in talks with Russia, South Korea and China for the second nuclear power plant and a potential third nuclear power plant in Thrace, adding that the government was also working on modular nuclear power plants.

31.44  
TWh

July Gross  
Generation

1,977.4  
TL/MWh

Average  
MCP

8.8%

Daily average licensed electricity generation increased by 20.7% MoM and 8.8% YoY in July.

[Click](#) for details.

21.8%

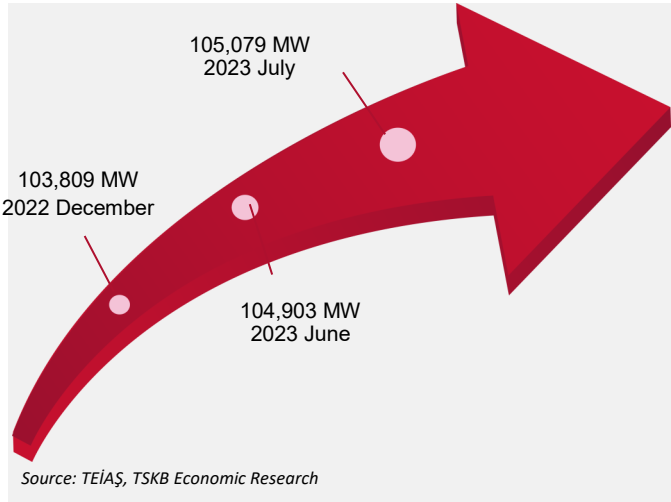
Market Clearing Price (MCP) increased by 21.8% MoM with a decrease of 15.1% YoY in July.

[Click](#) for details.

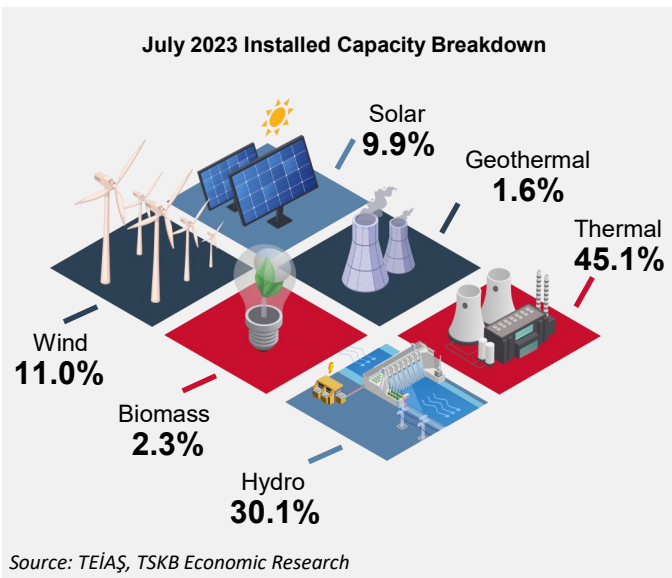


# Installed Capacity Analysis

Türkiye's total installed capacity, which stood at 103,809 megawatts (MW) at the end of December 2022, reached 105,079 MW by the end of July 2023. Net installed capacity of 175.9 MW was commissioned in July, with solar power plants accounting for 157.0 MW of this amount. In the same period, there was an increase of 14.0 MW in wind capacity and 2.1 MW in the capacity of renewable waste power plants. There was a net reduction of 5.2 MW in the capacity of natural gas power plants in July.

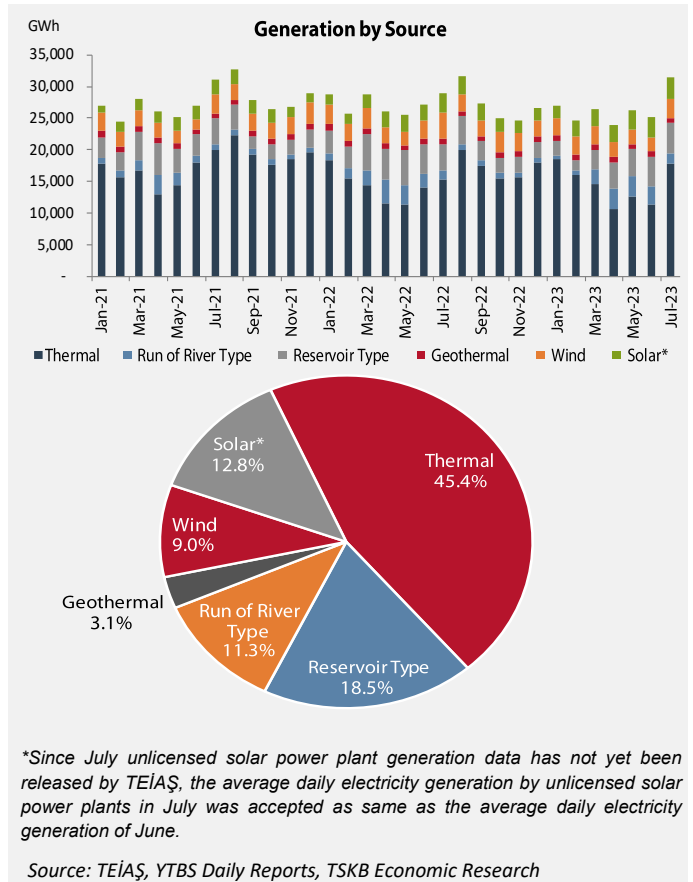


Power plants generating electricity from renewable sources constituted 54.9% of the installed capacity of the power plants in operation in July. Thus, the share of renewables continued to increase, remaining above 54%. Hydroelectric power plants accounted for 30.1% of Türkiye's total electricity installed capacity, with wind and solar power plants having a 20.9% share of total installed capacity.



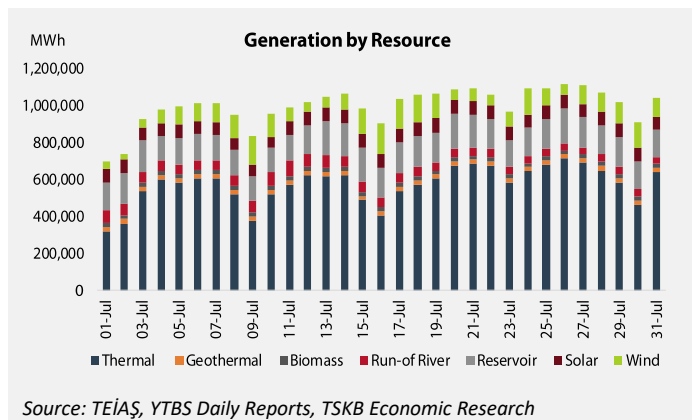
# Generation-Consumption Analysis

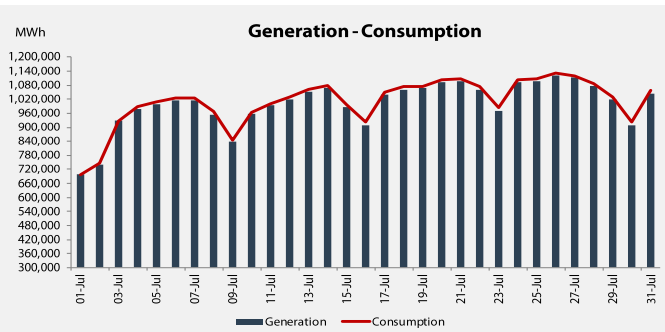
Total electricity generation increased from 25.2 terawatt-hours (TWh) in June to was 31.4 TWh in July. Meanwhile, daily electricity generation in July was 8.8% higher than in the same period of the previous year and 20.7% higher than in the previous month.



Thermal power plants, which provided 45.4% of electricity generation in June, met 56.7% of the total electricity generated in July. On a resource-based breakdown for the power plants, hydroelectric power plants, which had a share of 29.8% of electricity generation in the previous month, generated 20.7% of the total electricity in July. In the same period, the share of electricity generated from wind increased by 0.7 percentage points compared to the previous month to reach 9.7%. Geothermal power plants, on the other hand, accounted for 2.3% of the total electricity generated.

The share of renewable energy plants in electricity generation edged up from 42.7% in July 2022 to 43.3% in July 2023. In the related period, dam-type hydroelectric power plants contributed 15.5% of the total generation, while river-type hydroelectric power plants accounted for 5.1% of the total generation. In addition, wind and solar power accounted for 20.3% of total generation.





Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

In July, the average daily electricity generation from licensed power plants stood at 1,001,005 MWh with the highest generation from licensed power plants during the month being recorded on Wednesday, July 26 at 1,121,904 MWh, with the lowest generation from licensed power plants in the month recorded on Saturday, July 1, at 699,906 MWh.

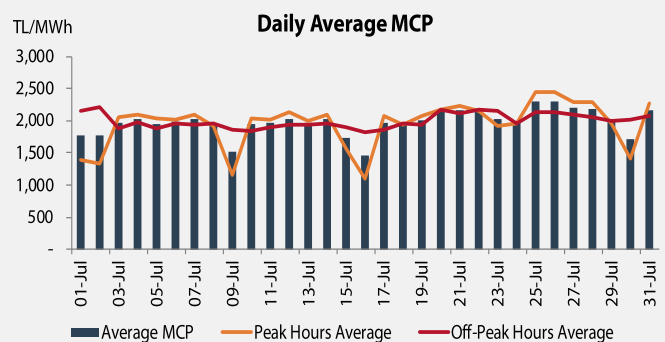
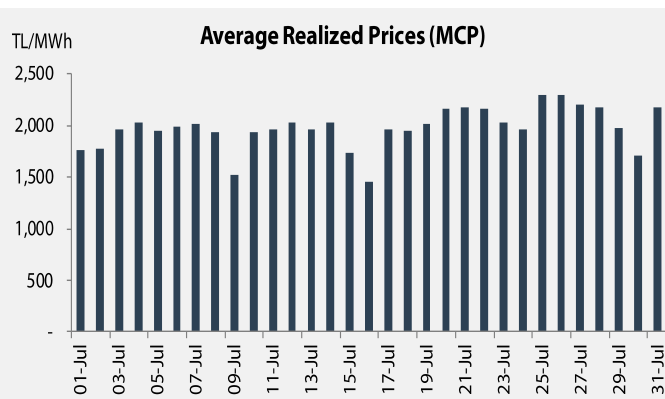
In the same period, daily electricity consumption averaged 1,009,794 MWh. The highest consumption during the month was recorded on Wednesday, July 26, at 1,131,007 MWh, with the lowest electricity consumption recorded on Saturday, July 1, at 696,013 MWh.

## Electricity Price Analysis

The average daily market clearing price (PTF) varied between TL 1,450 /MWh and TL 2,300 /MWh in July, with the daily MCP average being TL 1,977.4 /MWh in July. The highest daily average MCP was recorded on Tuesday, July 25 at TL 2,291.6 /MWh and the lowest daily average MCP value, of TL 1,453.8 /MWh recorded on Sunday, July 16.

Looking at the hourly data, July's MCP was realized at its maximum price limit of TL 2,700 /MWh for 10 hours. The hourly minimum electricity price of TL 570 /MWh was recorded at 12:00 on Sunday, July 16.

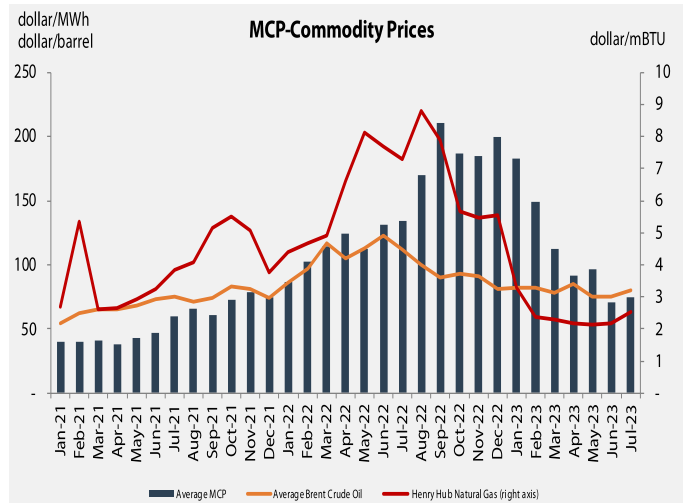
In terms of the daily MCP for the month of July, the peak hours average (between 8AM-8PM) was 1% below the average value of all hours, at TL 1,957.6 /MWh. The maximum limit price of TL 2,700 /MWh was recorded for 5 hours during peak hours and the lowest price of TL 570 /MWh was recorded for 1 hour during peak hours.



Source: EXIST, TSKB Economic Research

In the same period, the average off-peak price (8PM-8AM) was TL 1,997.2 /MWh. The maximum limit price of TL 2,700.0 /MWh was realized for 5 hours during off-peak hours with the lowest off-peak price of TL 980 /MWh recorded on Sunday, July 16.

The MCP increased from an average of USD 70.8 /MWh in June to an average of USD 74.7 /MWh in July. The MCP was 44.2% lower in dollar terms when compared to the same period of the previous year.



Source: EPIAŞ, TCMB, EIA, TSKB Economic Research

## Average Commodity Prices

The barrel price Brent crude oil, which averaged USD 74.84 /bbl in June, rose 6.3% to USD 80.11 bbl in July, though remaining 28.4% lower than in the same period of the previous year.

The Henry Hub natural gas contract price, which averaged USD 2.18 /mbtu in June, increased by 17.0% month-on-month to USD 2.55 /mbtu, but again was 65.0% lower when compared to the same period of the previous year.







## Sector News

### Local News

- **The Head of the Energy Market Regulatory Authority (EMRA), Mustafa Yılmaz said that the maximum settlement price (AUF) worked for the benefit of consumers, adding that the AUF, which has been in effect since 2022, prevented a 110% increase in electricity tariffs, saving consumers around TL 200 billion.** Pointing out that the AUF works as a safety valve, President Yılmaz said that thanks to the AUF, electricity producers had not needed to shut down their power plants. (July 31, 2023)

- **EMRA has updated the Renewable Energy Resources Support Mechanism (YEKDEM) unit cost.** According to the updated YEKDEM unit cost list published in the Official Gazette, the average unit cost of TL 185.47 per megawatt hour (MWh) between July and December. In YEKDEM unit costs, which demonstrated an increase of 145.4% compared to the previous July-December average determined in April, the highest monthly YEKDEM unit cost is expected to be TL 220.22/MWh in October. (July 17, 2023)

- **The maximum price limit for electricity was raised to TL 2,700 /MWh.** According to the decision taken by EMRA published in the Official Gazette, the maximum price limit in the day-ahead market and balancing power market was raised from TL 2,600 /MWh to TL2,700 /MWh, while the minimum price limit of zero remained unchanged. (July 4, 2023)

### Foreign News

- **Global coal demand expected to reach a record in 2023.** According to the "Coal Market Report" for July published by the International Energy Agency (IEA), global coal demand is ex-

pected to rise to 8.4 billion tonnes in 2023, an increase of 0.4% compared to the previous year. According to the report, global demand for coal is expected to decrease in the USA and Europe with growth realized in Asia in 2023, with weak demand in the electricity market and an increase in renewable energy being among the reasons for the decrease in the USA and Europe. However, the report predicts that global demand for coal will decrease by 0.1% in 2024. (July 31, 2023)

- **IEA predicts 2% YoY growth in global electricity demand in 2023.** The "Electricity Market Report-Update 2023" published by the IEA predicts that the global electricity demand, which had grown by 2.3% in 2022, will increase by around 2% in 2023 with the impact of the contraction in the electricity demand of developed countries. Pointing out that electricity demand is expected to decline by 2% in the US, 3% in Japan and by 3% in the European Union, the report expects a 3.3% increase in electricity demand in 2024. The report also draws attention to the fact that the growth in global electricity demand in the next 2 years will be met entirely from renewable energy sources, and it is stated that 2024 may be the first year that electricity generated from renewable energy sources surpasses electricity generation from coal. (July 20, 2023)

- **IEA revises its daily oil demand forecast for 2023 downwards, while Organization of Petroleum Exporting Countries (OPEC) leaves its forecast unchanged.** IEA's "Oil Market Report" for July lowered its oil demand growth forecast for 2023 by 220,000 bbl/day to 2.2 million barrels per day. On the other hand, the "Oil Market Report" published by OPEC maintained its expectation of growth for global oil demand in 2023 of an extra 2.44 million barrels per day. As a result, while IEA now expects oil demand of 102.1 million bbl/day for 2023, OPEC expects demand to come in at 102.0 million barrels per day.

For 2024, IEA forecasts oil demand of 103.2 million bbl/day while OPEC forecasts oil demand of 104.3 million bbl/day. (July 14, 2023)

- **Bosch plans to invest EUR 2.5 billion in hydrogen (H<sub>2</sub>).** Bosch reportedly aims to invest approximately EUR 2.5 billion in H<sub>2</sub> technology by 2026 and to realize sales of approximately EUR 5 billion with H<sub>2</sub> technology by 2030. (July 14, 2023)

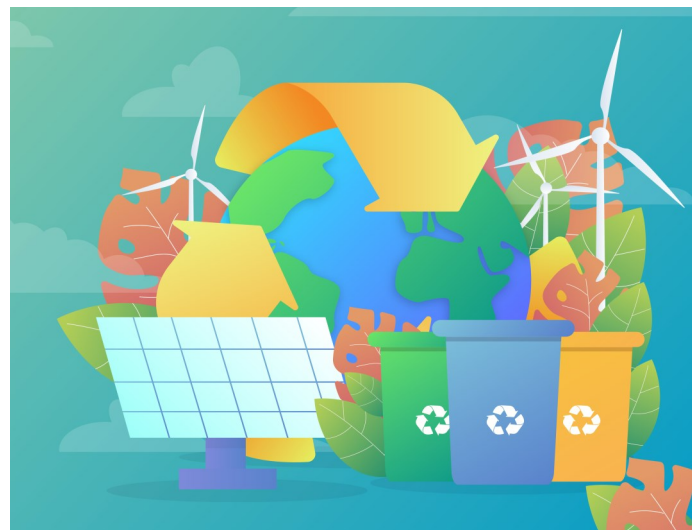
- **Supply-related issues in critical minerals may affect progress in the energy conversion in the short and medium term.** According to a report published by the International Renewable Energy Agency (IRENA), the energy transition is driving demand for critical minerals and increasing demand for critical minerals. While the report points out that there may be imbalances between supply and demand in many critical minerals, especially lithium, it states that supply-related problems in critical minerals are affecting the energy transformation. (July 12, 2023)

- **Strong growth in clean energy investments driving unprecedented growth in the critical minerals market.** According to the "Critical Minerals Market Report" published by IEA, the record expansion of clean energy technologies has increased demand for minerals such as lithium, cobalt, nickel and copper. The report points out that the energy sector is the source of demand for lithium, demand for which has tripled between 2017 and 2022, as well as for cobalt, which has seen a 70% increase in demand, and nickel, which has recorded a 40% rise in demand. Reflecting that the market for minerals used in the energy transition reached USD 320 billion in 2022, the report states that if all the critical mineral projects planned around the world were implemented, the supply of minerals would only be sufficient to support the national climate commitments announced by governments. (July 11, 2023)

- OPEC in membership talks with 4 countries. Heytham al-Gays, the Secretary General of OPEC, stated that OPEC was currently in talks with Azerbaijan, Malaysia, Brunei and Mexico to become members of the OPEC group. Adding in his statement that the global average oil and natural gas production had reached 100 million barrels per day and 4,000 billion cubic meters of natural gas in 2022, the Secretary General said that OPEC's expectation was that the demand for all energy sources, including oil and natural gas, would increase by approximately 23% by 2045. (July 6, 2023)

- **Saudi Arabia announces it will maintain voluntary oil cut with Russia to reduce oil exports by 500,000 bbl/day.** According to a statement issued by the Saudi Arabian Press Agency, in addition to the current cuts agreed by the OPEC and Allies (OPEC+), Saudi Arabia will maintain its 1 million bbl/day production cut in August. However, the Russian Deputy Prime Minister Alexander Novak announced that Russia would reduce its oil exports by 500,000 bbl/day in August. (04 July 2023)

- **USD 75 billion in investment needed to reduce oil and gas methane emissions.** According to the report titled "Financing the Reduction in Oil and Natural Gas Methane Emissions" published by IEA, USD 75 billion in investment is needed to achieve 75% reduction the energy sector's methane emissions by 2030, within the scope of IEA's "Net Zero Scenario in 2050". The report also underlines that USD 55 billion of this investment amount should be allocated to oil and natural gas facilities, with USD 15-20 billion of the total investment to be allocated to reducing emissions in low- and middle-income countries. (4 July 2023)





## **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

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