

Monthly Energy Bulletin

TSKB Economic Research

June 2023 #61

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19 July 2023

Clean energy investments in the Emerging Markets and Developing Economies (EMDE) on course to reach USD 2.2-2.8 trillion by the early 2030s

According to a report published by the International Energy Agency (IEA) and the International Finance Corporation (IFC), annual clean energy investments in EMDE countries must increase from USD 773 billion in 2022 to USD 2.2-2.8 trillion by the early 2030s in order to meet rising demand for energy in accordance with the Paris Agreement.

According to the report, private sector financing for clean energy investments in countries other than China must increase from the current USD 135 billion to USD 1.1 trillion within the next ten years. Furthermore, the report indicates that the private sector should meet 60% of the needs for clean energy investments in EMDE countries.

In addition, the IEA Executive Director Fatih Birol stated during a news conference that the energy crisis was still ongoing due to the uncertainty over how severe the next winter will be and China's liquified natural gas demand, adding that clean energy investments would exceed USD 1.7 trillion in 2023, with investments in solar energy alone exceeding investments in oil production for the first time in history.

According to the IEA's Executive Director, Fatih Birol, solar power investments have the potential to exceed overall investments in oil and natural gas before 2030.

24.85
TWh

June Gross
Generation

1,623.9
TL/MWh

Average
MCP

-8.8%

Daily average licensed electricity generation decreased by 2.1% MoM and 8.8% YoY in June.

[Click](#) for details.

-14.9%

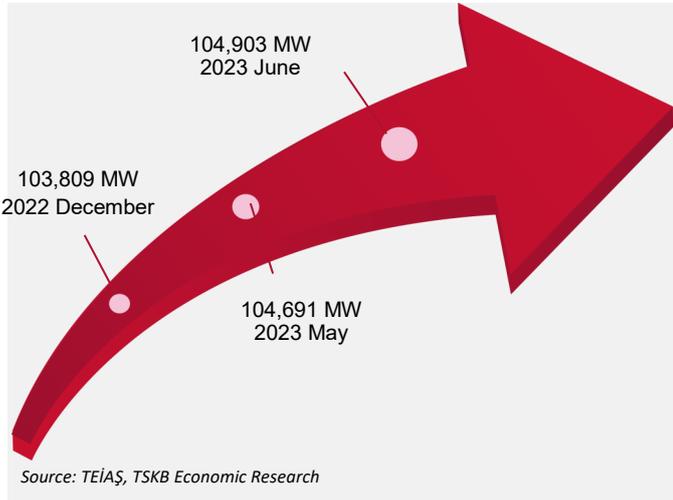
Market Clearing Price (MCP) decreased by 14.9% MoM and 27.2% YoY in June.

[Click](#) for details.

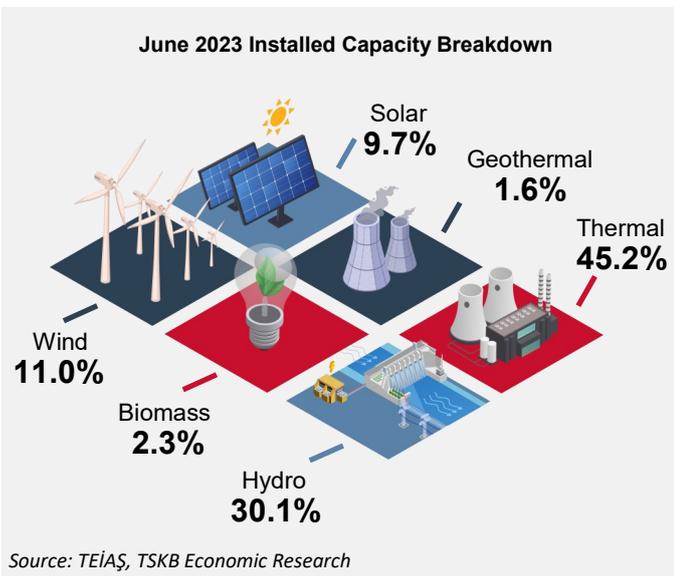


Installed Capacity Analysis

Türkiye's total installed generation capacity increased from 103,809 megawatts (MW) at the end of December 2022 to 104,903 MW at the end of the first half of 2023. A total of 211.9 MW in net installed capacity was commissioned in June, with solar power plants providing 124.6 MW of this installed electricity. During the same time period, wind power capacity increased by 84.3 MW and the capacity of renewable waste power plants increased by 31.0 MW. Geothermal power plants reduced their capacity by a net of 28.1 MW in June.

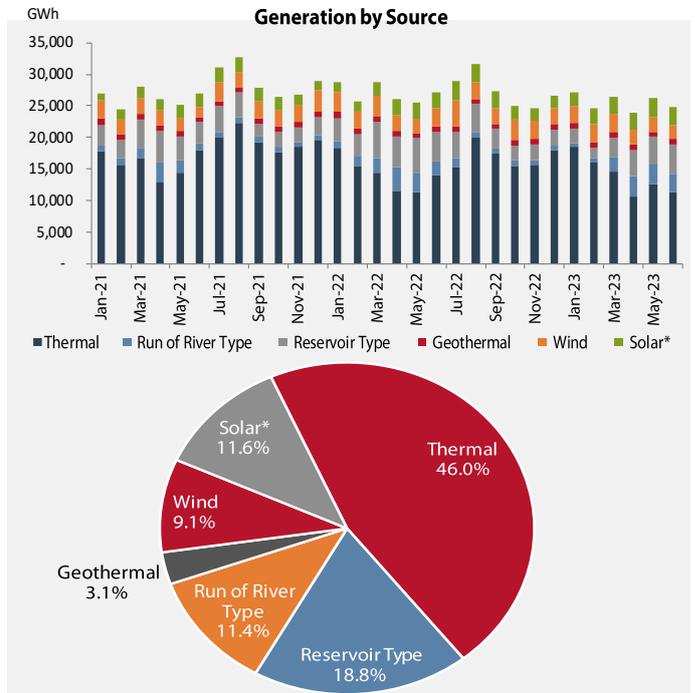


In June, power plants generating electricity from renewable resources accounted for 54.8% of total capacity of all operating power plants. As a result, the share of renewable resources increased and remained over 54%. Hydroelectric power plants contributed 30.1% to Türkiye's total installed capacity, while wind and solar power plants accounted for 20.7% of total installed capacity.



Generation-Consumption Analysis

Total generation declined from roughly 26.2 terawatt-hours (TWh) in May to 24.9 TWh in June. The average daily electricity generation also declined by 2.1% in June when compared to the same period of last year, and by 8.8% when compared to the previous month.

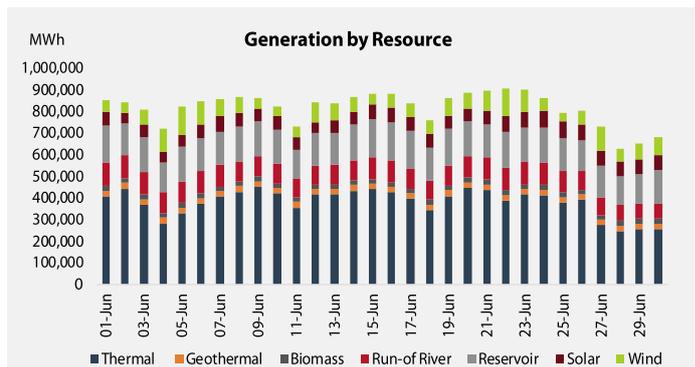


*Since June unlicensed solar power plant generation data has not yet been released by TEİAŞ, the average daily electricity generation by unlicensed solar power plants in June was accepted as same as the average daily electricity generation of May.

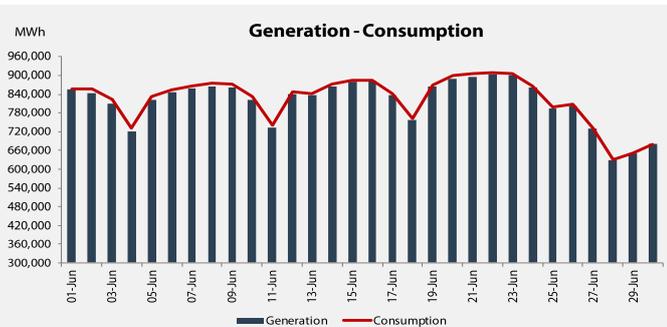
Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Thermal power plants, which generated 48.0% of the electricity generated in May, generated 46.0% of all electricity generated in June. Looking at the resource-based breakdown between power plants, hydroelectric power plants accounted for 30.2% of total electricity generation in June, up from 28.5% in the previous month. During the same time period, the share of electricity generated by wind climbed by 0.2 percentage points from the previous month to reach 9.1%. Geothermal power plants generated 3.1% of the total electricity.

In June 2023, the share of renewable energy plants in electricity production increased from 42.7% in 2022 to 54.0%. During the same time period, dam-type hydroelectric power plants generated 18.8% of total generation, while river-type hydroelectric power plants contributed 11.4%. Furthermore, the electricity obtained from wind and solar power plants was recorded as 20.6% of total electricity produced.



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

In June, licensed power plants generated an average of 818,315 MWh of electricity per day. The highest generation realized from licensed power plants during June was 904,754 MWh, on Thursday, June 22, while the lowest level of generation from permitted power plants in the same period was 721,009 MWh on Sunday, June 4.

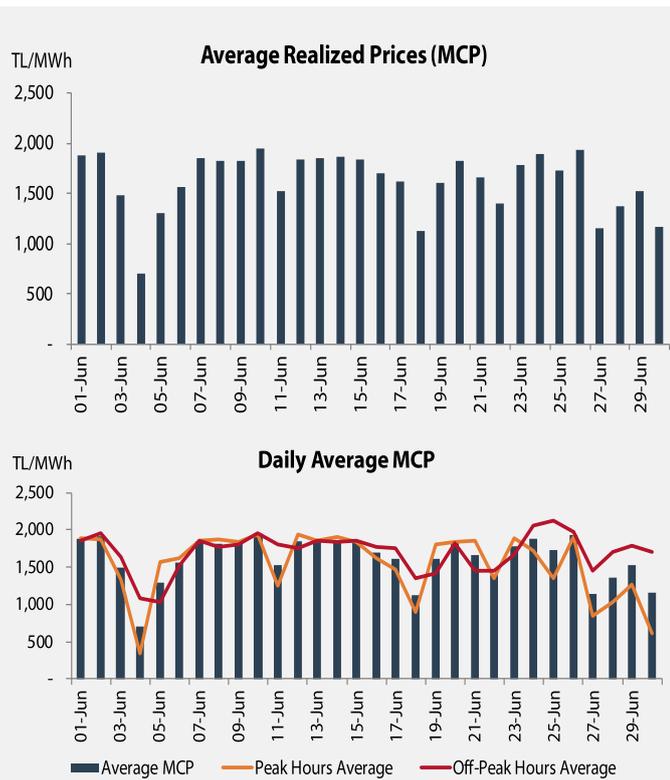
The average daily consumption of electricity in the same time period was 824,422 MWh. The highest level of consumption during the month was 910,308 MWh on Thursday, June 22, while the lowest was 730,177 MWh on Sunday, June 4.

Electricity Price Analysis

The daily average market clearing price (MCP) in June ranged between TL 705 and TL 1,950 TL/MWh during June. The daily MCP average stood at TL 1,623.90/MWh during the month while the highest daily average MCP was TL 1,945.40 /MWh on Wednesday, June 10 with the lowest daily average MCP of TL 706.10 /MWh on Sunday, June 4.

On the basis of the hourly data, the MCP reached its maximum price limit of TL 2,600 /MWh for 9 hours on Sunday, June 4, while the hourly minimum electricity price was TL 99.90 /MWh for a duration of two hours.

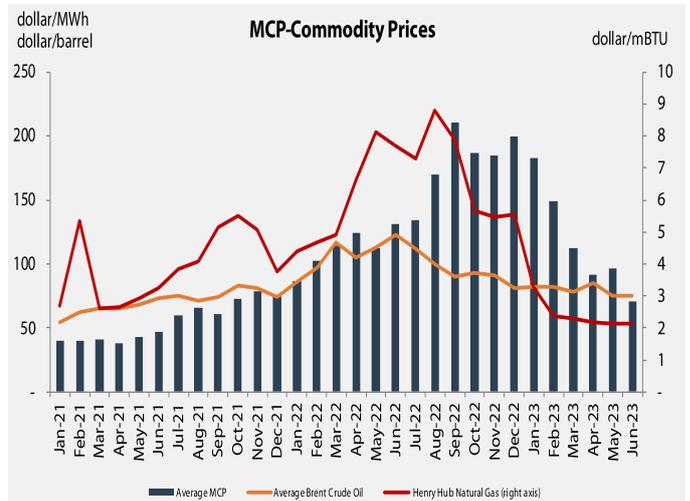
When the daily MCP analysis for June is conducted, the average of the peak hours (08.00-20.00) was reported as 1.545.8 TL/MWh, which was 4.8% lower than the average value of all hours. During peak hours, the maximum limit price of 2,600 TL/MWh was recorded for three hours, while the lowest price of 99.99 TL/MWh was recorded for two hours on Friday, June 30.



Source: EXIST, TSKB Economic Research

During the same time period, the average off-peak hour (8PM-8AM) tariff was TL 1,702.10 /MWh. The highest price limit of TL 2,600 /MWh was realized for 6 hours during off-peak hours, while the lowest off-peak tariff was recorded on Sunday, 4 June at TL 250.00 /MWh.

Having averaged USD 96.7 /MWh in May, the MCP fell to USD 70.3 per MWh in June. The MCP was 46.5% lower in dollar terms when compared to the same period of the previous year.

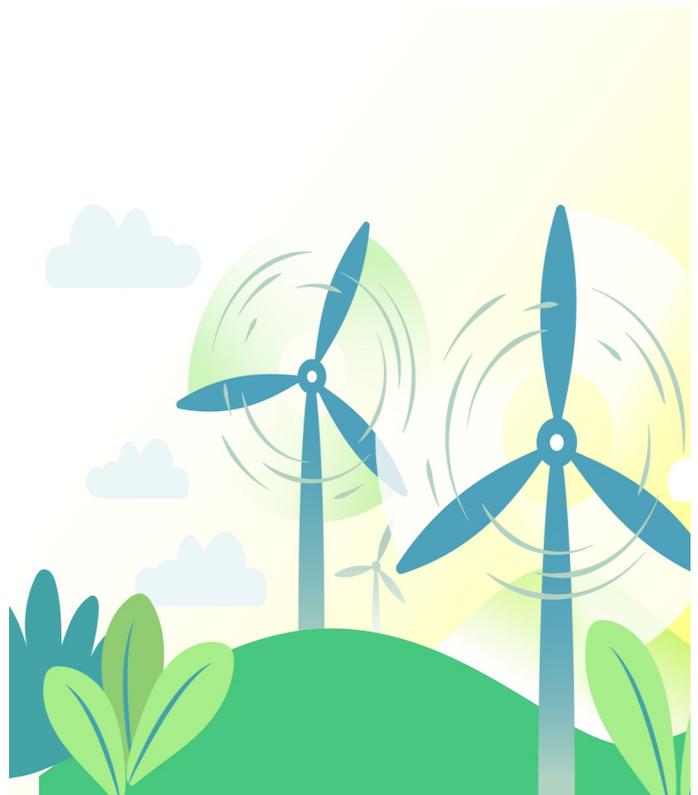


Source: EPIAŞ, TCMB, EIA, TSKB Economic Research

Average Commodity Prices

The Brent crude oil price, which had averaged USD 75.47/bbl in May, fell to USD 75.14/bbl in June, a 0.4% decline on a monthly basis, taking the average price to 38.8% lower than in the same period of the previous year.

The Henry Hub natural gas contract price, which averaged USD 2.15 /mBtu in May, fell 1.4% month on month to USD 2.12 /mBtu, marking a 72.5% fall compared to the same period of the previous year.





Sector News

Local News

- **Principles set for netting process of different points for unlicensed electricity generation.** According to the Energy Market Regulatory Authority (EMRA) decision published in the Official Gazette, unlicensed electricity generation facilities may realize the nettings of production and consumption facilities within the regional borders of different distribution and assigned supply firms by forming single or multiple groups. In order to ensure this netting happens, the generation and consumption facilities points must have the same Tax Identification Number. The facilities, for which a call letter for connection agreement was drawn up before the unlicensed electricity generation regulation was published on 12 May 2019, for which the agreement was signed or if the facilities entered operation after acceptance, will not be able to benefit from the regulation. Furthermore, unlicensed electricity generation facilities which belong to legal entities that hold an organized industrial zone distribution license, are subject to hourly settlement, have storage units or are not based on renewable resources will be excluded. Also, distribution fees for unlicensed energy producing facilities were raised from TL 668,442 to TL 737,099 /MWh. (26 June 2023)

- **Turkish Wind Power Union (TÜREB) expecting a surge in wind power capacity after 2026.** In his statement, the President of the Turkish Wind Power Union, İbrahim Erden, remarked that the Turkish Wind Power Union would focus on the construction of wind farms and the production of equipment, with the Union expecting an important surge after 2026 with the expansion in new financing opportunities. Mr. Erden noted that Türkiye has 25,000 MW of new wind generating capacity, including capacity which currently or soon will have a pre-license, adding that the Union was predicting that these projects would complete their project development process

within the next three years and will start operating in the following years. (13 June 2023)

- **10.2 billion cubic meters (bcm) of natural gas to be exported to Türkiye through The Trans Anatolian Natural Gas Pipeline Project (TANAP).** In his statement, from Azerbaijan's Ambassador in Ankara, Reşad Memmedov, stated that TANAP's capacity had increased and that it would export 10.2 bcm of natural gas to Türkiye and 12.0 bcm to Europe in 2023, to total 22.2 bcm. Ambassador Memmedov added that TANAP's transmission capacity would be doubled from the current 16 bcm and the construction of a natural gas pipeline between Iğdır and Azerbaijan's Nahçıvan Region, with an annual 500 million cubic meters carrying capacity was another future project. (12 June 2023)

- **Natural gas consumption declines 10.5% YoY in 2022.** According to the "2022 Natural Gas Market Sector Report" published by the EMRA, Türkiye's natural gas consumption fell by 10.5% in 2022 compared to 2021 to 53.5 bcm. Residential use accounted for 33.6% of natural gas consumption, with electricity generation accounting for 27.1%, industry 25.0% and other sectors accounting for the remainder. Türkiye imported a total of 54.7 bcm in 2022, a 6.9% decrease from 2021. While Russia, Iran, Azerbaijan, the United States and Algeria accounted for the majority of Türkiye's natural gas imports, liquefied natural gas (LNG) accounted for 27.8% of all imported natural gas. (7 June 2023)

Foreign News

- **Germany and the United States have agreed to another LNG arrangement.** There have been reports that the German corporation, Securing Energy For Europe (SEFE), has signed a 20-year contract with Venture Global LNG for the transport of

2.25 million tonnes of LNG per year to Germany. (27 June 2023)

- USD 9.4 trillion expected to have been invested in the worldwide clean hydrogen supply chain by 2050. According to Deloitte's report "Green Hydrogen: Energizing the Path to Net Zero," USD 9.4 trillion is expected to be invested in the worldwide clean hydrogen supply chain by 2050 to satisfy global decarbonization and climate targets. The clean hydrogen market is expected to generate USD 1.4 trillion in annual revenue by 2050, with green hydrogen accounting for 85% of the total. According to the paper, the cumulative decrease in greenhouse gas emissions from clean hydrogen could reach as much as 85 gigatonnes by 2050. (19 June 2023)

- UN Secretary-General Antonio Guterres advocates increased investment in renewable energy. The Secretary General highlighted in his remarks that oil, natural gas, and coal should be left where they belong and that renewable energy should be invested in. He also pointed out that if the current policies continue, global warming is expected to reach 2.8°C by the end of the century. According to the Secretary General, in order to limit global warming to 1.5°C, carbon emissions need to be cut by 45%, with the fossil fuel industry taking the lead. (16 June 2023)

- Growth in global oil consumption to decrease until 2028 according to the IEA. In its "Oil 2023" report, the IEA stated that based on existing policies and market trends, global demand for oil will rise by 6% between 2022 and 2028, reaching 105.7 million barrels per day. The report does, however, predict that the annual rate of growth in demand will decrease from 2.4 million barrels per day this year to 400,000 barrels per day in 2028, when global oil demand is expected to peak. Fatih Birol, the Executive Director of the IEA, indicated in a statement within the scope of the report that the trend toward renewable energy is gaining pace, and that oil producers should pay attention to this increasing rate of change and adjust their investment decisions to enable an orderly transition. (15 June 2023)

- The US Energy Information Administration (EIA) raises its forecast for oil prices. In its June "Short Term Energy Outlook Report", the EIA raised its forecast for the average price of Brent crude oil for 2023 from USD 78.65 /bbl to USD 79.54 /bbl, while now forecasting West Texas Intermediate (WTI) crude oil to average USD 74.61 /bbl this year (previously USD 73.62 /bbl). The EIA, which also updated its projections for 2024, predicts an average Brent crude price of USD 83.51 /bbl oil for 2024, while cutting its forecast for WTI crude oil to an average of USD 78.51 /bbl. According to the report, global oil demand will stand at 101.01 million barrels per day in 2023 and 102.71 million barrels per day in 2024. (9 June 2023)

- World Bank (WB) warns that it is critical to move quickly in order to meet the sustainable energy targets by 2030. According to the "Monitoring Sustainable Development Goal 7 (SDG#7) - 2023 Energy Progress Report" prepared by the World Bank, the IEA, the International Renewable Energy Agency (IRENA), the World Health Organization and the United Nations, although considerable progress has been achieved in the indicators, the present pace is not nearly enough to meet any of SDG#7's 2030 targets. While the report lauds the reduction in the number of people lacking access to electricity from 1.1 billion in 2010 to 675 million by 2021, it also warns that the pace of the decline after 2021 needs to be twice as fast in order to meet the 2030 target. Ac-

ording to the report, the percentage of renewable energy in total final energy consumption was 19.1% in 2020, but for global warming to be less than 1.5°C by 2030, this rate should reach 33-38%. According to the findings, the average fall in energy intensity between 2010 and 2020 was 1.8%, but it would need to decline by 3.4% per year between 2020 and 2030 to meet the 2030 target. (7 June 2023)

- The IEA's Executive Director Fatih Birol predicts increase in oil prices. In a session, Mr Birol stated the IEA was predicting a contraction in the oil markets in the second half of the year and that this may cause an increase in oil prices ahead of a decision by the Organization of the Petroleum Exporting Countries (OPEC) and the OPEC+ group, which includes some non-OPEC producer countries, to cut production, while adding that this possibility had become much more likely after this decision. Fatih Birol noted that global oil demand was on course to rise by around 2 million barrels per day in 2023, with China accounting for 60% of this growth. (06 June 2023)

- Global renewable energy capacity to reach new record in 2023. According to the IEA's "Renewable Energy Market Update - June 2023" report, worldwide renewable energy capacity will surge by an all-time high 440 GW this year, with solar power plants accounting for 65% of this increase. According to the report, the growth in solar power plants will be the driving force of the installation of rooftop solar power plants, with global renewable energy capacity reaching 4,500 GW after growth in 2023 and 2024. (1 June 2023)





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