TSKB ADVISORY SERVICES

Monthly Energy Bulletin

TSKB Economic Research

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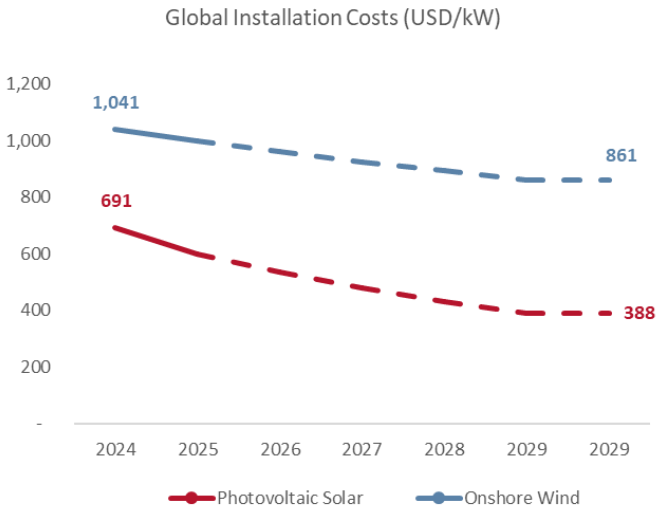
In 2024, 91% of renewable energy projects provided electricity at a lower cost than fossil fuel alternatives.

International Renewable Energy Agency (IRENA) has published its report titled "Renewable Power Generation Costs in 2024". According to the report, 91% of newly commissioned renewable energy sources at the grid scale in 2024 provided electricity at a lower cost than fossil fuel alternatives.

Among renewable energy sources, onshore wind energy projects were the cheapest source with a leveled electricity cost of USD 0.034 per kilowatthour. Wind energy projects were followed by photovoltaic solar projects (USD 0.043/kWh) and hydroelectric projects (USD 0.057/kWh).

IRENA predicts that global installation costs for solar power will fall from USD 691 /kW to USD 388 /kW by 2029, and from USD1,041 /kW to USD861 /kW for onshore wind power. The report also emphasizes that battery storage costs will decrease to USD 192 /kWh in 2024, 93% lower than the 2010 figure.

In addition, while stating that renewable energy sources saved USD 467 billions that would have been spent on fossil fuels in 2024, IRENA underlined that renewable energy resources stand out not only with their low costs but also with their contributions to energy security, economic stability and resilience.



Source: IRENA, TSKB Economic Research

Subsequently, IRENA published its updated report on Renewable Energy Statistics for 2025. The report includes a revision of capacity data released in March. Accordingly, IRENA estimates global renewable energy capacity for 2024 of 4,443 gigawatts (GW), a downward revision of 5.3 GW compared to the previous data. It emphasizes that this downward revision is due to hydroelectric and wind power plants. With this adjustment, the share of renewable energy capacity in total capacity is 46.2%. According to the report, solar energy capacity ranks first among renewable energy sources with a share of 42% in the renewables mix followed by hydroelectric power (28.7%), wind (25.5%) and bioenergy (3.4%).

34.8 TWh	2,965.2 TL/MWh
July Gross Generation	Average MCP

18.8%

Daily average licensed electricity generation increased by 18.8% MoM and by 0.5% YoY in July.

Click for details.

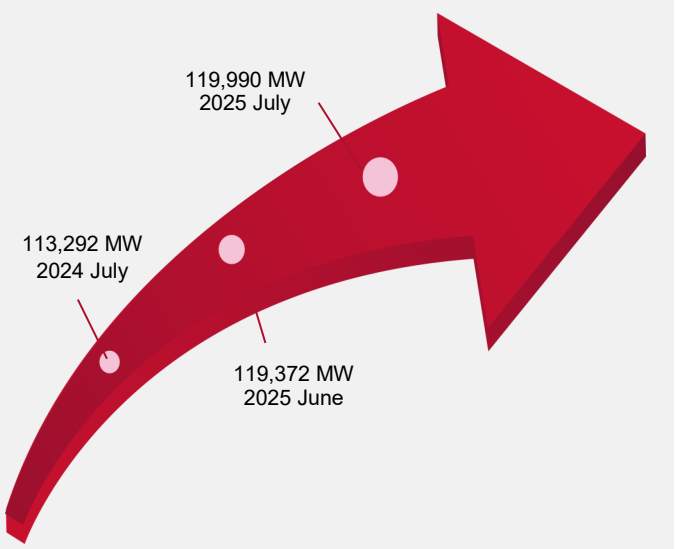
34.6%

Market Clearing Price (MCP) increased by 34.6% MoM and increased by 14.5% YoY in July.

Click for details.

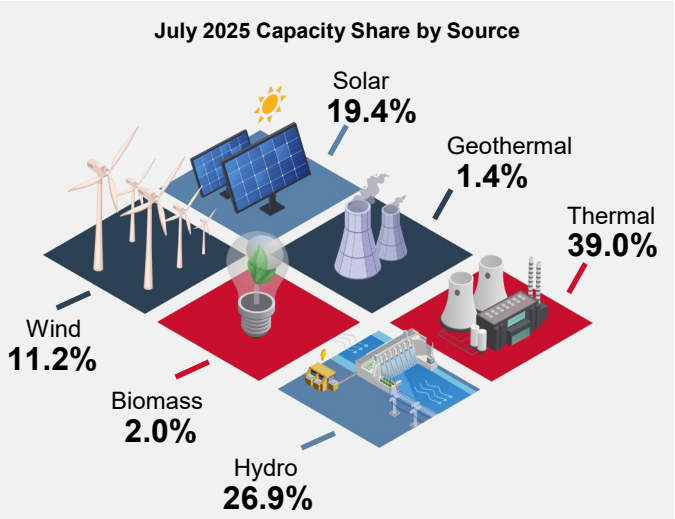
Installed Capacity Analysis

Türkiye's total installed generation capacity, which stood at 119,372 megawatts (MW) at the end of June 2025, was 119,990 MW at the end of July 2025. A total of 618.8 MW of net additional installed capacity was commissioned in July compared to June, of which 537.2 MW was provided by solar power plants and 76 MW by wind power plants. The installed capacity of natural gas and multi-fuel power plants increased by 6.9 MW, while the installed capacity of power plants using renewable waste decreased by 0.2 MW. There was no change in the installed capacity of other power plants.



Source: TEİAŞ, TSKB Economic Research

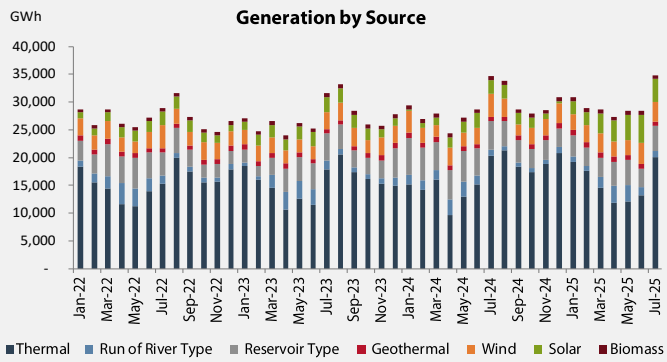
In July, 61% of the power plants in operation were power plants generating electricity from renewable resources. Hydroelectric power plants accounted for 26.9% of Türkiye's total installed electricity capacity, with the share of wind and solar power plants (combined) in total installed capacity exceeding the share of hydroelectric power plants, at 30.6%.

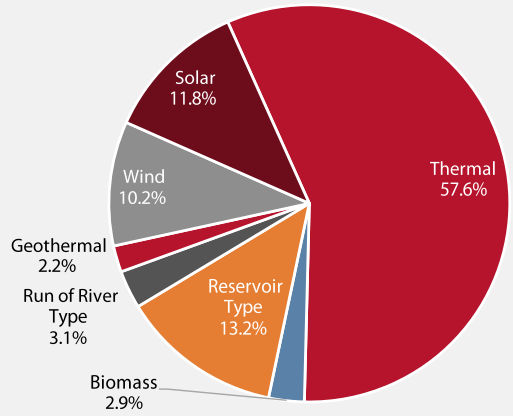


Source: TEİAŞ, TSKB Economic Research

Generation-Consumption Analysis

Total electricity generation stood at 34.8 terawatthours (TWh) in July 2025, up from approximately 28.4 TWh in June 2025. July's average daily electricity generation increased by 18.8% compared to the previous month and by 0.5% compared to the same period of the previous year.

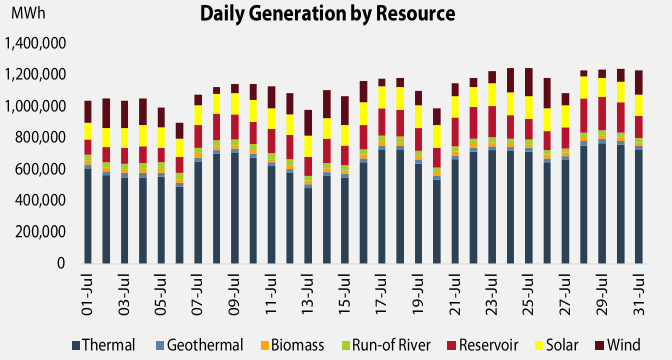




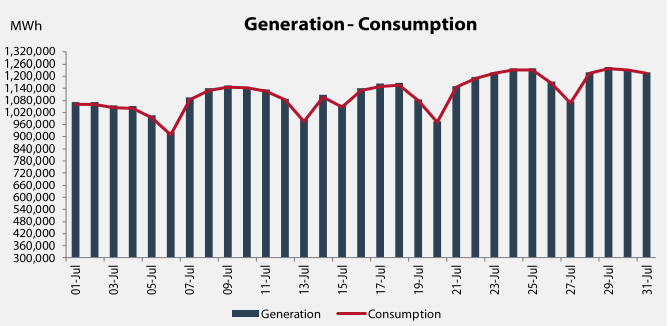
Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Thermal power plants, which provided 46.6% of the electricity generated in June, met 57.6% of the total electricity generated in July. A source-based breakdown of the electricity generation finds that hydroelectric power plants, which had a share of 16.9% in the previous month, generated 16.3% of the total electricity in July, while in the same period, the share of electricity generated from the wind stood at 10.2%, with geothermal power plants providing 2.2% of the total electricity generation.

The share of renewable energy plants in electricity generation, which was 51% in June 2025, decreased to 40.4% in July 2025. In the same period, dam-type hydroelectric power plants provided a 13.2% contribution to total generation with solar power plants providing 11.8% of the total electricity generated. In sum, wind and solar power provided 22% of the total electricity generated during the month.



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Daily electricity generation averaged 1,123,902 megawatt hours (MWh) in July with the highest generation in the month recorded at 1,244,883 MWh on Tuesday, July 29, while the lowest generation in was 923,100 MWh on Sunday, July 6.

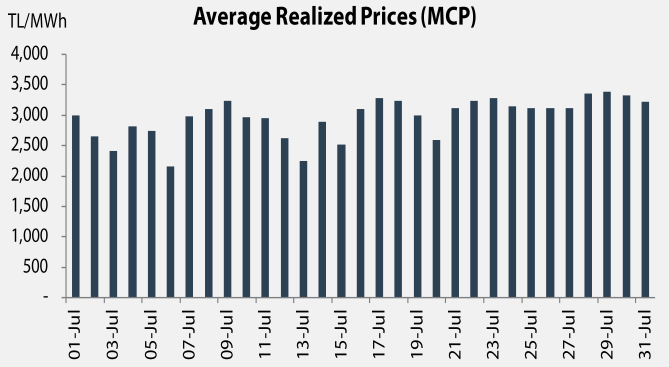
In the same period, daily electricity consumption averaged 1,115,473 MWh with the highest consumption recorded on Tuesday, July 29, at 1,239,129 MWh, and the lowest on Sunday, July 6, at 908,868 MWh.

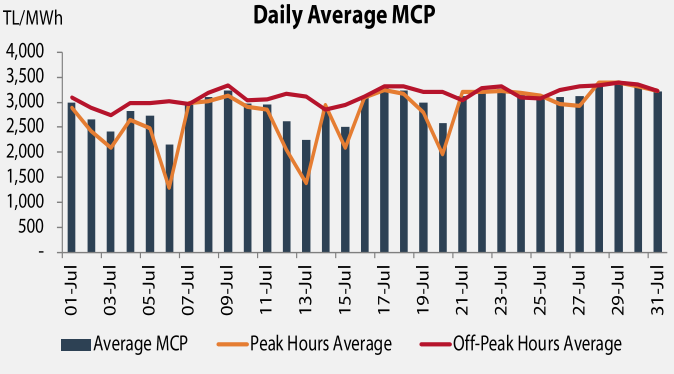
Electricity Price Analysis

The daily average market clearing price (MCP) ranged between TL 2,152.3 and TL 3,393.8 per MWh in July with a daily MCP average for July of TL 2,956.2 /MWh. The highest daily average MCP was recorded on Tuesday, July 29 at TL 3,393.8 /MWh with the lowest daily average MCP being TL 2,152.3 /MWh on Sunday, July 6.

Looking at the hourly data, July's MCP reached the maximum price limit of TL 3,400 /MWh for a total of 157 hours, while falling to its minimum price for just one hour during July at TL 151 /MWh.

Turning to July's daily MCP, the average MCP for peak hours (8AM-8PM) was 5.8% lower than the average value of all hours to be recorded at TL 2,794.40 /MWh. The maximum limit price of TL 3,400/MWh was recorded 65 times during peak hours while the lowest price of TL 151 /MWh was realized for one hour during peak hours.

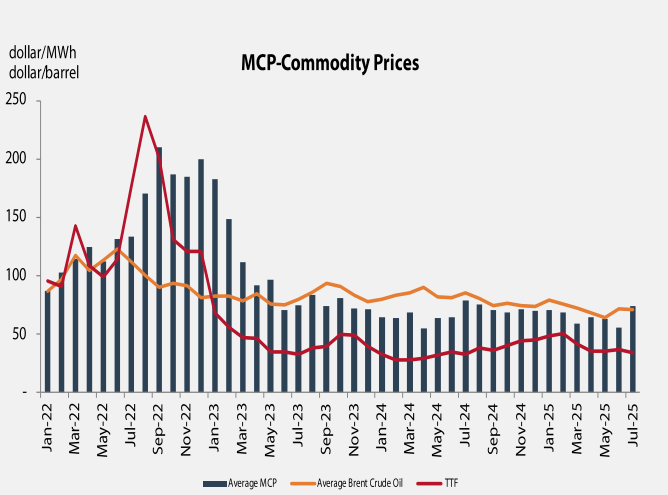




Source: EXIST, TSKB Economic Research

In the same period, the average rate for off-peak hours (8PM-8AM) was TL 3,135.9 /MWh. The maximum limit price of TL 3,400 /MWh was realized for 92 hours during off-peak hours while the lowest rate in off-peak hours, of TL 689.60 /MWh, was recorded between 7-8 AM on Thursday, July 3.

The average MCP decreased from USD 55.90 /MWh in June to an average of USD 73.80 /MWh in July. Compared to the same period of the previous year, the MCP was down by 6.4% in dollar terms.



Source: EPİAŞ, TCMB, EIA, TSKB Economic Research

Average Commodity Prices

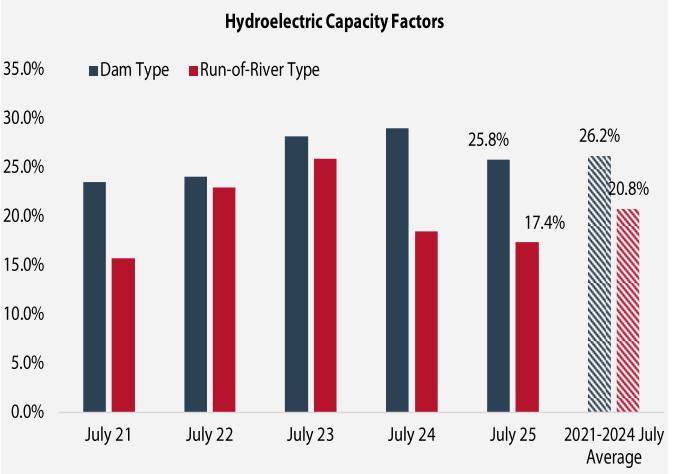
The price Brent crude decreased by 1.1% on a monthly basis from an average of USD 70.7 per barrel in June to USD 70.7 per barrel in July. This average price was 17% lower than in the same period of the previous year.

The TTF natural gas contract price, which averaged USD 36.7 /MWh in June, decreased by 7.6% on a monthly basis to USD 33.9 /MWh in July. However, the TTF was up by 4.4% compared to the same period of the previous year.

Hydroelectric Capacity Factors

The capacity factors for hydroelectric power plants in July 2025 stood at 25.8% for the dam-type plants, a decrease of 3.2 percentage points compared to July 2024, and 17.4% for the run-of-river type plants, a decrease of 1.1 percentage points. Comparing the months of July over the last 5 years, July 2024 saw the highest capacity factor of 29%, with run-of-river type power plants recording their highest capacity factor, of 26%, in July 2023.

In July 2025, it was noted that the capacity factor of dam-type power plants was 0.4 percentage points lower than the average of the months of July between 2021-2024, while the capacity utilization factor of run-of-river type power plants were 3.4 percentage points below the average.



Source: TEIAS, EPIAS, TSKB Economic Research

Electricity Generation From Renewable Energy Sources Could Overtake Coal

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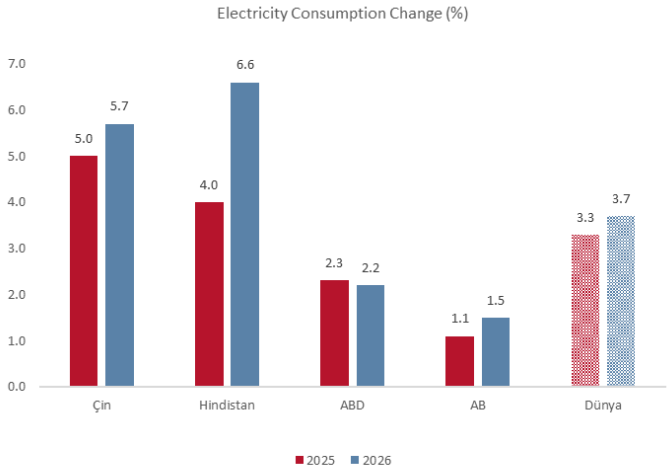
The February issue of the Energy Bulletin referred to the data in the "Electricity 2025" report published by International Energy Agency (IEA) under the title "Global electricity consumption will continue to grow over the next three years". In the last week of July, an update of this report was published with some of the changes outlined below.

Pointing out that there was a 4.4% increase in demand for electricity globally in 2024, the update report states that the growth in demand for electricity in 2025 and 2026 will remain in a range of 3-4%. Despite the decline in economic activity, it points out that the extreme heat experienced since 2024 has given extra momentum to the growth in electricity demand. However, in addition to the increasing use of air conditioning, the expansion of data centers and ongoing electrification efforts will also contribute to the substantial growth in electricity demand in 2026.

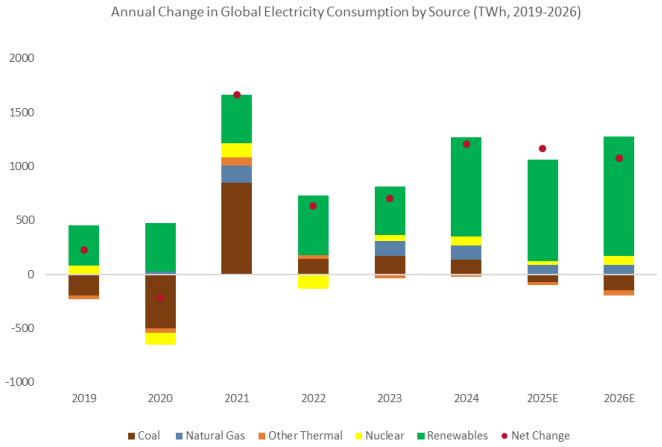
IEA stated that Chinese electricity consumption, which increased by 7% in 2024, would continue to grow at a milder rate in 2025, with growth projected to be around 5% in 2025. Pointing out that the situation in India was similar, the report predicts that the rise in electricity consumption in India will be around 4% in 2025. The IEA expects electricity consumption in China and India to continue to grow in 2026, by 5.7% in China and 6.6% in India, driven by demand for electricity from data centers.



Source: IEA, TSKB Economic Research

A more moderate rise in electricity consumption is expected in the US and European Union (EU) countries. In the US, which recorded 2.1% growth in electricity consumption in 2024, increases of 2.3% and 2.2% are expected in 2025 and 2026, respectively. As in China, data center investments undertaken by companies such as Meta, Amazon and Microsoft will be among the most important factors in the rise in electricity consumption in the USA. The report stresses that electricity consumption from data centers will grow steadily by 2030. The increase in electricity consumption in the EU is expected to be more limited.

EU electricity consumption had been projected to grow by 1.6% in 2025 and 1.7% in 2026. These forecasts have now been revised downward to 1.1% and 1.5% respectively in this report.



Source: IEA, TSKB Economic Research

The rise in renewable energy is highlighted as meeting the increase in electricity consumption. The report stresses that renewable energy will record the strongest growth in, while there may be marginal increases in the amount of electricity generated from natural gas and nuclear. The report expects a decrease in the amount of electricity generated from coal and other thermal power plants in 2025 and 2026, with renewables potentially surpassing coal in 2025 and 2026 depending on the weather and economic developments.

The report projects that electricity generation from wind and solar power will provide an around 1,000 terawatt hours (TWh) in additional electricity in 2026, equal to Japan's entire electricity consumption. The report, which expects the share of wind and solar energy in total electricity generation to increase from 15% in 2024 to 17% in 2025 and 20% in 2026, also highlights the necessity of increasing flexibility and electricity storage facilities for the integration of intermittent renewable energy sources into the grid.

While the importance of wind and solar is highlighted in both the "Electricity 2025" report and the "Electricity Update 2025" report, the update report suggests that coal may lag behind renewables for the first time. In this vein, it remains important to follow the progress of wind and solar power.

Sector News

Local News

- Natural gas wholesale price tariffs increased. According to the tariffs announced by Petroleum Pipeline Company (BOTAŞ), which will enter effect from July 2, 2025, natural gas sales prices were increased by an average of 7.86% for industrial consumers and by an average of 24.6% for residential consumers.

- Army Assistance Institution (OYAK) reaches agreement to acquire 51% of the shares of İSKEN Sugözü Power Plant. According to the statement issued by the company, once the purchase of the shares belonging to the German headquarters Steag Power GmbH is completed, OYAK will fully own ISKEN, which meets 2.6% of Türkiye's electricity needs.

- Renewable Energy Supply Agreements could contribute to Türkiye's 2053 Net Zero target. According to the SHURA Energy Transformation Center's study, Renewable Energy Supply Agreements, which are long-term bilateral agreements for the sale and purchase of electricity, facilitate financing by providing predictability of income for investors. In addition, they ensure the use of low-emission energy by private sector organizations that purchase energy. The report draws attention to the need to improve the design of the electricity market, harmonize policies that support the growth in renewable energy capacity with Renewable Energy Supply Agreements, structure risks and introduce measures to encourage consumers to spread Renewable Energy Supply Agreements in Türkiye.

- Unit surveillance fee for photovoltaic cells increased to USD 170 per kg. In May 2024, the surveillance fee, which was set at USD 85 per kg and which paid for the storage of imported products in customs territories for a certain period of time, was doubled. Similarly, the surveillance fee for doped silicon wafers has also been increased from USD 85 to USD 170 per kg. According to the communiqué published in the Official Gazette, the regulations will enter force after 60 days.

- Two new ships have been added to Türkiye's energy fleet. According to a statement issued by the Ministry of Energy and Natural Resources, the deep-sea drilling vessels purchased by Türkiye Petrolleri, which have the same features, are aimed at expanding Türkiye's exploration and production capacity. The Minister of Energy and Natural Resources, Alparslan Bayraktar, stated that with the new additions, Türkiye's fleet is now one of the four most modern energy fleets in the world.

- Crude oil pipeline agreement between Türkiye and Iraq expires on July 27, 2026. According to the Presidential Decree published in the Official Gazette, the agreement, which will expire, has been in force since 1973.

- Minister of Energy and Natural Resources Alparslan Bayraktar reportedly proposes new mechanism for the Türkiye -Iraq crude oil pipeline to operate at full capacity. Mr. Bayraktar added that the extension of the pipeline, which has a capacity of 1.5 million barrels, to the south is an option in the proposal. In addition, Mr. Bayraktar pointed out that joint exploration activities for oil and natural gas and small modular reactors were on the agenda between the USA and Türkiye, while suggesting that a new liquefied natural gas (LNG) agreement could be completed with the USA.

- "Super Permit Law" enters force after publication in the Official Gazette. The law plans to shorten the permit processes in renewable energy investment processes from 48 months to 18 months. In addition, it is stated that accelerated procedures will be applied in bureaucratic processes for solar, wind and geothermal power projects.

- Energy Market Regulatory Authority (EMRA) publishes "Electricity Market Sector Report" and "Natural Gas Market Sector Report" for May. Accordingly, electricity consumption in May increased by 4.1% compared to the same month of the previous year to reach 28.3 TWh, while increasing from 27.1 TWh in April. Meanwhile, billed electricity consumption in May increased by 3.4% year-on-year to 22.7 TWh. According to the other report, "Natural Gas Market Sector Report", total natural gas consumption increased by 28% in May compared to the same month of the previous year to reach 4.08 billion cubic meters (bcm), while 36.5% of the natural gas consumed was used by residential users. Natural gas imports, on the other hand, increased by 22.8% compared to May 2024 to reach 3.53 bcm.

Foreign News

- Organization of Petrol Exporting Countries (OPEC) publishes its Annual Statistical Bulletin. According to the bulletin, global oil demand in 2024 increased by 1.5% compared to 2023, averaging 103.9 million barrels per day (bpd). Global oil demand increased on a year-on-year basis in almost every region, with the sharpest increases recorded in non-OECD Asia, China, India, the Middle East, Africa, Latin America and OECD Europe. Global oil production, on the other hand, fell by 1% year-on-year to 75.6 million bpd in 2024, the first decline since 2020. Proven global crude oil reserves increased by 0.1% year-on-year to 1.57 billion barrels by the end of 2024, while the reserves of OPEC member countries remained stable at 1.24 billion barrels.

- OPEC to increase oil production by 548,000 bpd in August. The decision was taken by 8 OPEC members - Saudi Arabia, Russia, Iraq, the United Arab Emirates, Kuwait, Kazakhstan, Algeria and Oman.

- OPEC publishes its 2025 World Oil Outlook report. The report predicts that global primary energy demand will increase by 23% by 2050 when compared to its 2024 level, to reach 378,000 barrels of oil equivalent per day. Emphasizing that India, Asia, Africa and the Middle East will play a role in this increase, the report states that demand will increase in all primary energy sources except coal. Among primary energy sources, OPEC projects that the share of oil and natural gas in energy demand will remain above 50%, with a 13.5% share for renewable energy sources. In addition, demand for electricity is expected to reach 57,500 TWh in 2050, up from 31,500 TWh in 2024, with the strongest growth in developing countries. OPEC underlines that global oil demand will remain brisk, predicting that demand will reach 113.3 million bpd in 2030 and 123 million bpd in 2050, up from 103.7 million bpd in 2024.

- OPEC leaves its global oil demand growth forecast for 2025 unchanged at 1.3 million bpd. In its Monthly Oil Market Report for July, OPEC left its global oil demand growth forecast for 2026 unchanged from the previous month, at 1.3 million bpd.

- U.S. President Donald Trump signs executive order to remove subsidies for green energy sources such as wind and solar. The executive order, signed to advance the "Big Beautiful Bill", includes the termination of investment loans offered to these energy facilities and a review of regulations that facilitate the operation of the facilities.

- IEA releases its July Oil Market Report. According to the July report, global oil demand is predicted to increase by 700,000 bpd in 2025. The IEA has revised its global oil demand growth forecast down by 20,000 bpd compared to the previous month, underlining that this increase is the smallest increase seen since 2009 (excluding the 2020 Covid year). The report highlights the role of weak consumption in developing countries as one reason for this small increase, predicting demand will reach 104.4 million bpd in 2026, growing by 720,000 bpd.

- EU approves new package of sanctions against Russia. According to the package of sanctions, the crude oil ceiling price per barrel was reduced from USD 60 to USD 47,6, while an automatic and dynamic mechanism was put in place to review the ceiling price. This will ensure that the price cap is always 15% lower than the average market price of Urals crude oil in the previous six-month period. In addition, with the package of sanctions, a port access ban has been imposed on ships supporting Russia's energy sector, while an import ban has been imposed on refined petroleum products made from Russian crude oil and from third countries (except Canada, Norway, Switzerland, the UK and the USA). In addition, a full transaction ban was imposed on the Nord Stream 1 and 2 pipelines, while the exemption applied to oil imports from Russia to the Czechia has also been lifted. The package also includes sanctions against the banking and defence industries.

- China reportedly starts building the world's largest hydroelectric power plant in a USD 170 billion investment. According to the report, the power plant to be built on the Tibetan Plateau is planned to consist of 5 separate hydroelectric stations, with a capacity of 300 TWh. The report emphasizes that India and Bangladesh have conveyed their concerns about the possible effects of the power plant, which is expected to enter operations in 2030, on the ecosystem.

- Demand for natural gas expected to grow more rapidly in 2026 after slower growth in 2025. According to the IEA's natural gas sector report for the third quarter of 2025, preliminary data for 2025 shows that global natural gas demand increased by 1% year-on-year. The report highlights Europe and North America as driving this increase, while noting that demand for natural gas has decreased in Eurasia. In 2026, the year-on-year growth in demand is expected to reach 2% due to the natural gas consumption related to the industry and energy sector.

- Global demand for coal up by 1.5% year-on-year in 2024. According to the IEA's "Coal 2025 Mid-Year Update" report, coal demand reached an all-time high of 8.79 billion tonnes. While the report highlights the role of electricity generation in the increase in demand for coal, it emphasizes that China accounts for 56% of global coal consumption. In the first half of 2025, the IEA predicts that demand for coal will increase by less than 1%, with no growth expected in 2026.

- IEA publishes its "Electricity 2025-Mid-Year Update" report. According to the report, global electricity demand, which increased by 4.4% in 2024, is projected to grow by 3.3% in 2025 and 3.7% in 2026. This compares with an average rate of growth of 2.6% between 2015-2023, with the report emphasizing that these rates of growth are among the highest observed in the past decade. In addition, electricity demand is expected to grow more than twice as fast as total energy demand in 2025 as a result of industry, household appliances, the use of air conditioning, the expansion of data centers and electrification. The report states that more than 90% of the increase in electricity demand in 2025 will be met by new wind and solar energy capacity. The IEA predicts that total renewable electricity generation will outpace coal-generated electricity, with the share of coal in total generation falling to below 33%. Global CO_2 emissions from electricity generation are expected to remain stable this year and decline slightly in 2026 as low-emission sources replace fossil fuels.

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