Monthly Energy Bulletin

TSKB Economic Research

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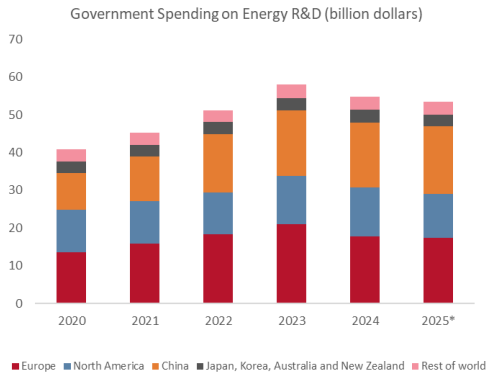
Energy security and competitiveness were central to energy innovation in 2025

According to the International Energy Agency's (IEA) "State of Energy Innovation 2026" report, most policies announced regarding innovation in 2025 aimed to encourage technological strength for competitiveness and energy security. However, affordability, greenhouse gas emissions and contributions to national economic performance also emerged as key drivers for energy innovation. The IEA notes that policies implemented in this vein focused on domestic energy sources and technologies which could support developments in critical minerals, grids and nuclear energy.

The IEA forecasts that public spending on energy R&D will amount to USD 53.4 billion in 2025, reflecting a 3% decline. This decline is attributed to pilot project commitments from the European Union (EU) budget and cuts to the US federal budget.

When examined on a regional basis, China stands out, drawing attention with its high expenditures on funding, patenting and energy R&D. The report highlights that while China and Europe follow similar trends in public energy R&D spending, there has been a significant increase in the number of patents originating in China.



Source: IEA, TSKB Economic Research
*2025 values show IEA projections.

According to the report, storage technologies emerge as the most prominent area in energy innovation with the increasing share of intermittent renewable energy sources in electricity generation and the growing prevalence of electrification turning the spotlight on storage technologies. In this regard, the IEA emphasizes that the number of patents related to energy storage technology will continue to rise and that developments in this area will be crucial for energy security, industrial policy and grid infrastructure.

The IEA has underlined that competitiveness, resilience, and energy technology issues must be addressed together in 2026, while drawing attention to the importance of access to funding at all stages of energy innovation. Additionally, it states the importance of strengthening both international and cross-sector partnerships.

27.7 TWh	2,078.2 TL/MWh
February Gross Generation	Average MCP

6.0%

Daily average licensed electricity generation decreased by 6.0% MoM and by 4.0% YoY in February.

Click for details.

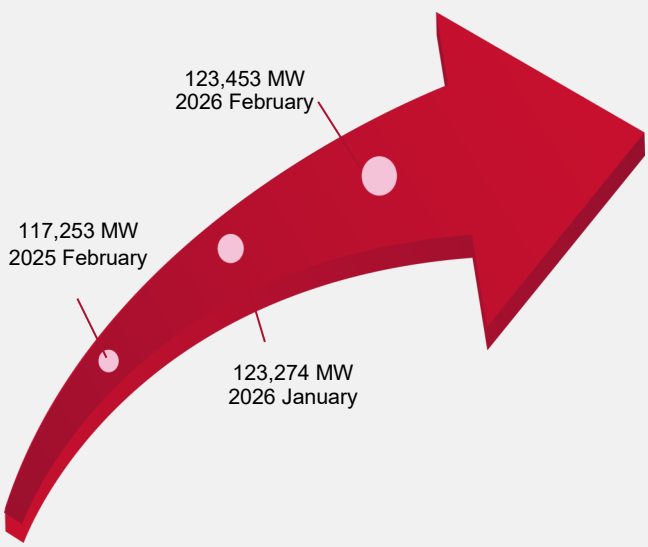
28.2%

Market Clearing Price (MCP) decreased by 28.2% MoM and by 16.1% YoY in February.

Click for details.

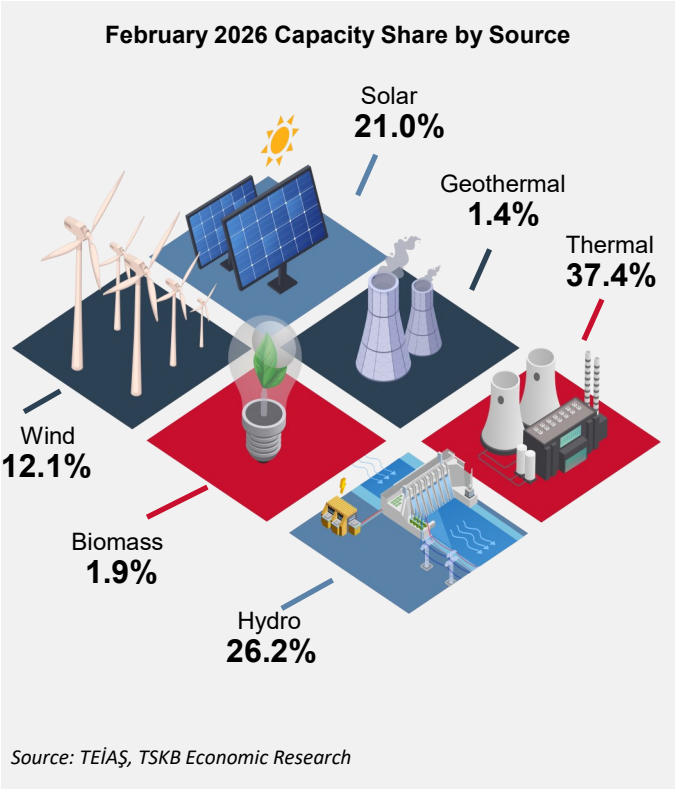
Installed Capacity Analysis

Türkiye's total installed capacity, which stood at 123,274 megawatts (MW) at the end of January 2026, reached 123,453 MW in February 2026 with a total net additional installed capacity of 179.1 MW being commissioned in February. Solar energy plants accounted for 142.3 MW of the commissioned capacity, while the installed capacity of wind farms increased by 23.2 MW. The installed capacity of renewable waste and hydroelectric plants increased by 11.4 MW and 2.1 MW, respectively, with no change was observed in the combined capacity of other plants.



Source: TEİAŞ, TSKB Economic Research

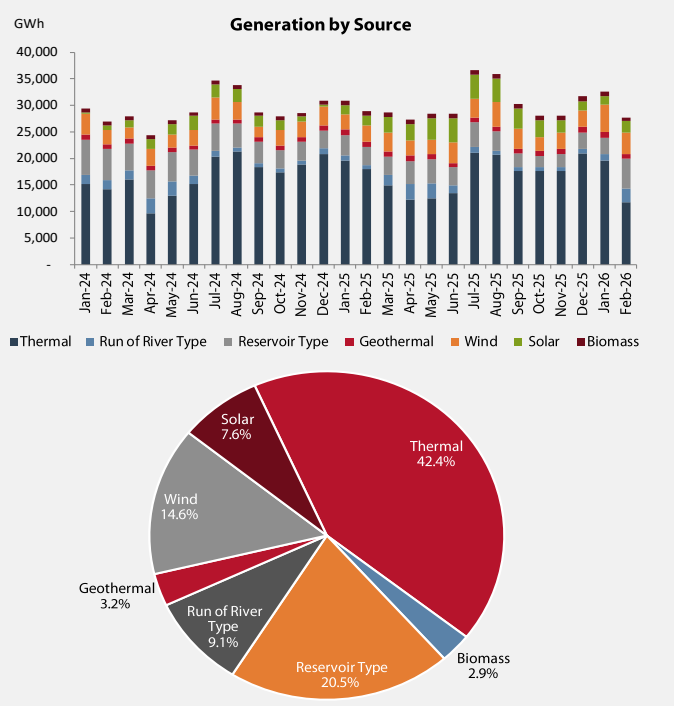
In February, plants generating electricity from renewable sources constituted 62.6% of the capacity in operation with hydroelectric plants accounting for 26.2% of Türkiye's total electricity installed capacity, while the combined share of wind and solar energy plants remained above than that of hydroelectric plants, at 33.1% of the total installed capacity.



Source: TEİAŞ, TSKB Economic Research

Generation-Consumption Analysis

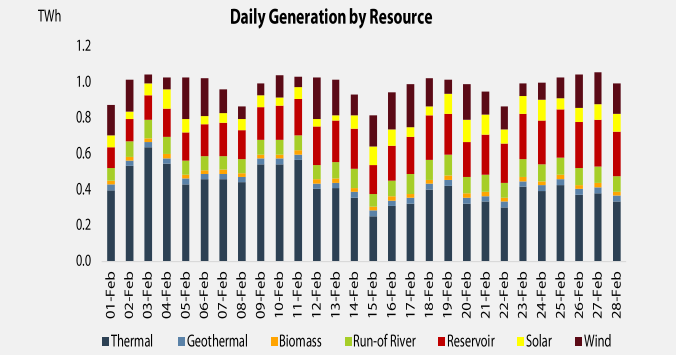
Total electricity generation, which stood at approximately 32.6 terawatthours (TWh) in January 2026, decreased to 27.7 TWh in February 2026. The average daily electricity generation in February decreased by 6.0% compared to the previous month and by 4.0% compared to the same period of the previous year.



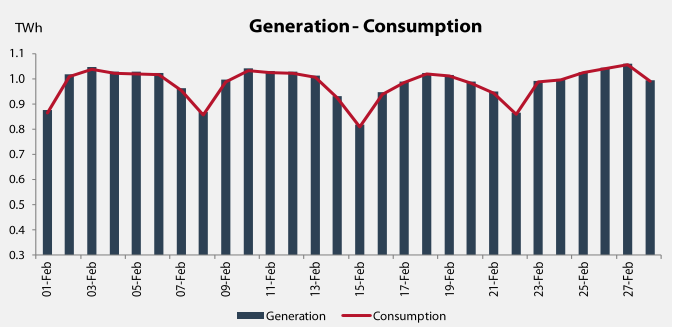
Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Thermal plants, which supplied 60.1% of electricity generated in January, accounted for 42.4% of total generation in February. The high output from hydroelectric plants in February was a key factor in this decline. Looking at the breakdown of electricity generation by source, hydroelectric plants generated 29.6% of total electricity in February, compared to a 13.0% share the previous month. During the same period, the share of electricity generated by solar energy plants reached 7.6%, while geothermal energy plants contributed 3.2% to total generation.

The share of renewable energy plants in electricity generation increased from 37.1% in January 2026 to 55.1% in February 2026. During this period, dam-type hydroelectric plants contributed 20.5% to total generation, while wind farms accounted for a 14.6% share, as the second largest renewable source of electricity generation. Meanwhile, the ratio of electricity generated from wind and solar energy plants in total electricity production stood at 22.2%.



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Daily electricity generation in February averaged 0.987 TWh. The highest generation during the month was recorded on Friday, February 27 with generation of 1.06 TWh while the lowest was the 0.818 TWh of electricity generated on Sunday, February 15.

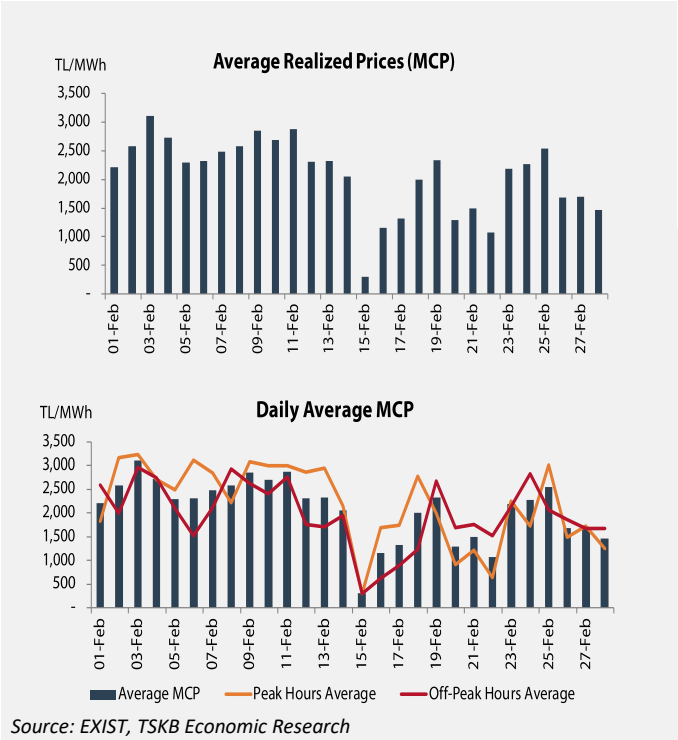
During the same period, daily electricity consumption averaged 0.980 TWh with the highest consumption taking place on Friday, February 27, at 1.05 TWh and the lowest electricity consumption being 0.810 TWh on Sunday, February 15.

Electricity Price Analysis

During February, the daily average Market Clearing Price (MCP) ranged between TL 300.6 /MWh and TL 3,101.2 /MWh. The daily average MCP for February was TL 2,078.2 /MWh with the highest daily average MCP value being TL 3,101.2 /MWh, recorded on Tuesday, February 3, while the lowest daily average MCP value of TL 300.6 /MWh was recorded on Sunday, February 15.

Upon reviewing hourly data, the MCP reached the established maximum price limit of TL 3,400 /MWh for a total of 57 hours in February. The hourly minimum price in February was recorded at TL 0 /MWh for 20 hours.

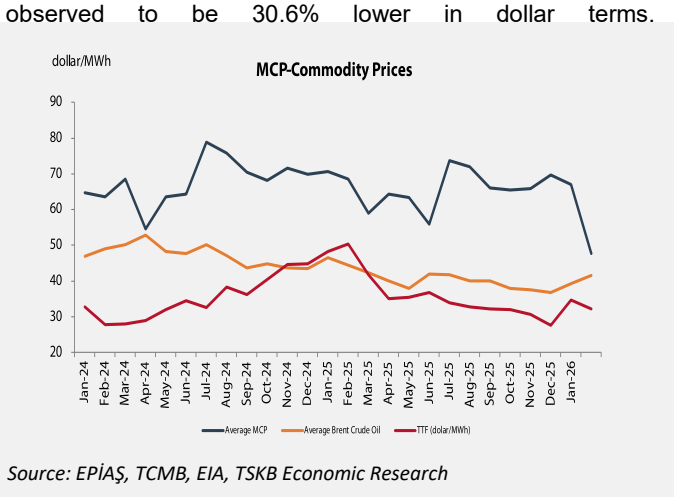
Looking at the daily MCP for February, the peak hours average (between 8AM and 8PM) was TL 2,109 /MWh, which is 5.4% above the average value of all hours. The maximum limit price of TL 3,400 /MWh was recorded 50 times during peak hours, with the lowest price during peak hours of TL 0 /MWh, for 14 hours.



Source: EXIST, TSKB Economic Research

During the same period, the off-peak hours average (8PM-8AM) was TL 1,966.4 /MWh. The maximum limit price of 3,400 TL/MWh occurred for 7 hours during off-peak hours, while the lowest price during off-peak hours, TL 0 /MWh, was recorded 6 times.

The MCP average, recorded at $67 /MWh in January, decreased to an average of $47.6 /MWh in February. Compared to the same period of the previous year, the MCP was observed to be 30.6% lower in dollar terms.



Source: EPİAŞ, TCMB, EIA, TSKB Economic Research

Average Commodity Prices

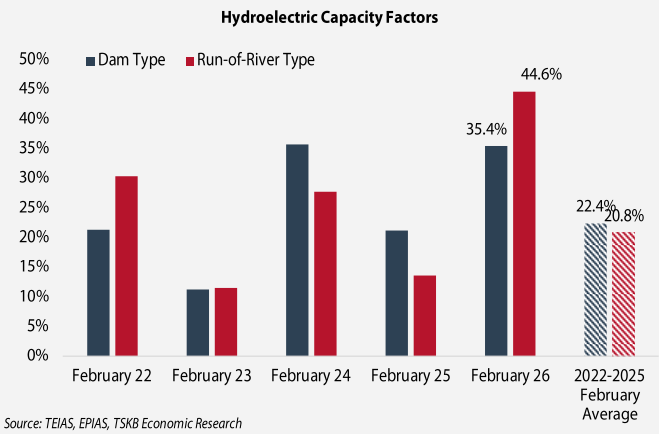
The price of Brent crude oil averaged $39.2 /MWh in January, rose to $41.7/MWh in February representing a monthly increase of 6.3%. This average price was 6.1% lower when compared to the same period of the previous year.

The TTF natural gas contract price, which averaged $34.7 /MWh in January, decreased by 7.1% monthly to reach USD 34.2/MWh in February, marking a 36% decrease when compared to the same period of the previous year.

Hydroelectric Capacity Factors

The capacity factors for dam-type and run-of-river hydroelectric power plants stood at 35.4% and 44.6%, respectively in February 2026. When compared to February 2025, this marks an increase of 14.2 percentage points in capacity factors for dam-type plants and 31.1 percentage points for run-of-river plants in the February 2026.

Comparing these figures with the months of February for the last 5 years, run-of-river plants reached their highest capacity factor in 2026, while for dam-type hydroelectric plants, the highest capacity factor was recorded in February 2024, at 35.7%.



Source: TEIAS, EPIAS, TSKB Economic Research

Cost of Electricity in 2025

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In 2025, the Levelized Cost of Electricity (LCOE) for storage projects decreased by 27% compared to the previous year, to USD 78 per MWh). According to BloombergNEF's (BNEF) "Levelized Cost of Electricity Update" report, increasing competition, advanced design and price declines played a role in this drop.

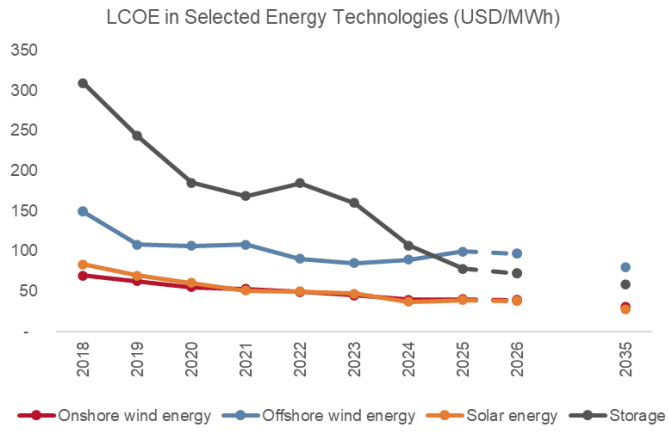
The report emphasizes that the declining costs of storage support the effective use of renewable energy sources, noting that 85 GW of storage-integrated solar plants were commissioned in 2025. It can therefore be concluded that hybrid renewable energy plants will gain increasing importance as costs fall.

BNEF notes that there was an increase in the cost of non-storage technologies due to supply chain constraints, limited access to resources and the impact of market changes in China. Accordingly, the LCOE for solar energy plants increased by 6% to $39 /MWh, while the LCOE for onshore wind energy plants increased by 2% to $40 /MWh. Offshore wind farms stand out with an increase of 11.7% in their LCOE, rising to $100 /MWh. However, it should be stressed that although the LCOE levels for solar and onshore wind energy plants increased, they remained below storage costs.

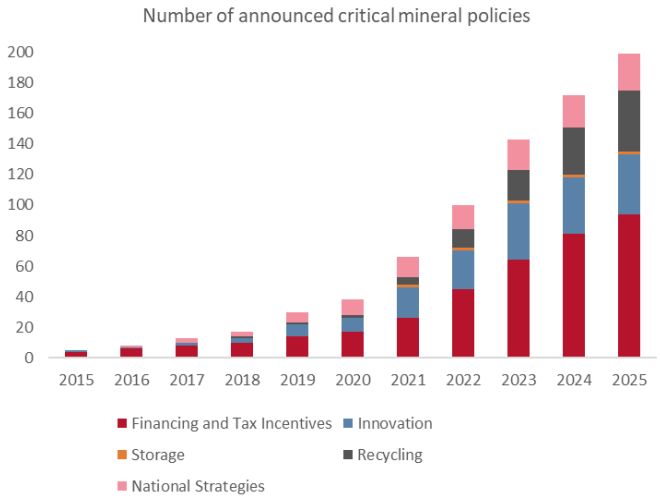
The decline in the cost of storage projects, which was quite considerable in 2025, is projected to slow down in 2026 to around 2% due to the effects of rising metal prices, geopolitical tensions and tariffs. Given the expected decline in costs of electricity generated from clean energy technologies in the coming period, the roles of these sources in electricity production will continue to increase.

However, it should be stressed that the role of clean energy technologies can only become permanent by considering all supply chains of these technologies. The first prominent point in this vein is the need for critical minerals, which are the vital raw materials for related technologies and electricity grids.

However, the geographical concentration in the supply of critical minerals, geopolitical tensions and export controls raise problems in meeting demand. This places critical minerals at the heart of national policies regarding energy security. The increase in announced policies regarding critical minerals during the 2015-2025 period is striking, with the number of policies related to financing and tax incentives rising from 4 to 94. There has also been an increase in recycling and innovation policies during the same period.



Source: BNEF, TSKB Economic Research
Values for 2026 and 2035 represent BNEF's projections



Source: IEA, TSKB Economic Research

It is emphasized that the trend of a limited increase will not continue in 2026, with costs of all clean energy technologies expected to decrease. This trend is expected to continue after 2026 despite protectionist tendencies, risks to the supply chain and high financial costs.

Accordingly, the LCOE is expected to decrease by 30% for solar projects, 25% for storage projects and 23% for onshore wind energy projects by 2035.

Stepping up policies in this area helps the supply chain of critical minerals become more diverse and resilient. The resulting reduction of risks related to supply security may contribute to a reduction in electricity costs associated with clean energy technologies.

Sector News

Local News

- Minister of Energy and Natural Resources Alparslan Bayraktar announces two new Floating Storage and Regasification Units (FSRU). One of the FSRUs is planned to be built next to the existing Dörtyol FSRU in Hatay and to have a regasification capacity of 28 million cubic meters (mcm). For the other facility, a new location between Gazipaşa and Anamur in the Mediterranean is being considered. While Türkiye currently has two terminals - the Dörtyol FSRU and the Saros FSRU - these two terminals have a total daily regasification capacity of 56 mcm. Mr Bayraktar emphasized that the target was to procure 200 mcm of gas via ships over the next 2 years.

- Türkiye and Saudi Arabia sign a USD 2 billion agreement for 2 GW solar power plant. According to the agreement, the foundations of the plants will be laid in 2027 and the solar power plants, each with a capacity of 1 GW, will be established in Sivas and Karaman, bringing electricity to 2.1 million households. According to statements from the Minister of Energy and Natural Resources, Alparslan Bayraktar, the agreement constitutes the first phase of a 5 GW project, with electricity will be purchased at EUR 19.95 /MWh from the plant to be built in Karaman and at EUR 23.415 /MWh from the plants to be built in Sivas. Mr. Alparslan Bayraktar emphasized that with these prices, the plants would have the lowest electricity prices among renewable energy plants to be built in Türkiye, adding that a 50% localization rate would be followed at the plants.

- European Investment Bank (EIB) reportedly plans to invest in two EUR 100 million renewable energy projects in Türkiye. According to statements by Marta Kos, the European Union Commissioner for Enlargement, the European Bank for Reconstruction and Development (EBRD) and the World Bank will also play a significant role in this agenda alongside the EIB.

- Türkiye İş Bankası and Industrial Development Bank of Türkiye (TSKB) provide EUR 100 million in financing to Schmid Pekintaş. The funds will be used for Schmid Pekintaş's 5 GW capacity solar cell investment to be implemented under the HIT-30 Program. With the financing shared equally between Türkiye İş Bankası and TSKB, the first local cell production is on course to commence in March 2026.

- 208 MW of capacity comes on stream in 23 projects following award of "Super Permit". According to statements by Mustafa Yılmaz, the Chairman of the Energy Market Regulation Authority (EMRA), regulations drafted under the "Super Permit Law" will ensure the implementation of projects by accelerating licensing processes. Highlighting the importance of grid security, Mr. Yılmaz emphasized that storage systems are one of the most strategic elements of the balancing mechanism in this regard.

- Turkish Petroleum Corporation (TPAO) and US energy company, Chevron, sign memorandum of understanding to explore and produce in potential oil and natural gas fields. The Minister for Energy and Natural Resources, Alparslan Bayraktar, noted that TPAO was pursuing a new growth strategy, adding that deals had been reached with two separate international companies in February and would be shared with the public.

- TPAO and BP sign memorandum of understanding aimed at strategic cooperation in the oil and natural gas sector. The MoU targets cooperation at international and regional levels on issues such as the development of oil and natural gas fields, the evaluation of areas with exploration potential, oil export capacity, and natural gas transportation infrastructure. According to the Minister of Energy and Natural Resources, Alparslan Bayraktar, the MoU will prioritize cooperation in Iraq and Libya.

- EMRA publishes "Electricity Market Sector Report" and "Natural Gas Market Sector Report" for December 2025. Accordingly, electricity consumption increased by 3.2% compared to December 2024, reaching 31.1 TWh. Electricity consumption stood at 27.6 TWh in November with Billed electricity consumption increasing by 0.9% year-on-year to reach

22.5 TWh. Meanwhile, natural gas consumption decreased by 8.3% compared to the same month of the previous year to total 6.5 billion cubic meters (bcm), with 28.6% of the consumed natural gas used by the transformation/conversion sector. Natural gas imports increased by 4.0% compared to December 2024, to reach 7.bcm.

- TL 777 billion of investment planned for electricity distribution infrastructure over the next five-year period. According to statements by Fakir Hüseyin Erdoğan, the General Secretary of the Electricity Distribution Services Association (ELDER), this investment will focus on grid modernization, capacity increase and reducing outage durations.

- Türkiye and Ethiopia sign cooperation agreement in the energy sector. Under the agreement, the two countries will develop joint projects in the fields of electricity, renewable energy and energy efficiency. Additionally, cooperation will be undertaken regarding the production and installation of hydroelectric power plant equipment and electric turbines. The agreement also encompasses support for investments in energy infrastructure projects by public institutions and private companies of both countries across the electricity production, transmission and distribution sectors.

- TPAO and Shell sign partnership agreement. According to the agreement, TPAO became a partner in oil and natural gas exploration activities in the Khan Tervel Field within Bulgaria's maritime zone. According to statements from the Ministry of Energy and Natural Resources, Alparslan Bayraktar, TPAO will hold a 5-year license for partnership in the field located in close proximity to the Sakarya Gas Field.

- Petroleum Pipeline Company (BOTAŞ) to invest TL 26.5 billion in natural gas transmission network in 2026. Within the scope of the investment program approved by EMRA, budgets allocated on a project basis will not exceed the limit, and investment budgets cannot be used for purposes other than investment.

- TPAO completes USD 1 billion 5-year sukuk issuance. According to statements issued by the Minister of Energy and Natural Resources Alparslan Bayraktar, the transaction, which attracted demand of USD 5.5 billion - 7.3 times the initial target - became the largest corporate sukuk issuance in Türkiye. It was also recorded as the first transaction conducted by a Public Economic Enterprise.

International News

- US President Donald Trump signs executive order stipulating that the US Department of Defence enters agreements with coal plants to provide energy for military operations.

- Organization of the Petroleum Exporting Countries (OPEC) leaves oil demand growth forecast for 2026 and 2027 unchanged. According to OPEC's February Monthly Oil Market Report, global oil demand is expected to increase by 1.4 million barrels per day in 2026 and 1.2 million barrels per day in 2027.

- Global oil demand projected to increase by 850,000 barrels per day in 2026. According to the IEA's February Oil Market Report, this figure indicates a decrease of 80,000 barrels per day compared to the IEA's previous projection. The IEA highlights the role of economic uncertainties and high oil prices as reasons behind the decline in consumption.

Meeting Electricity Demand in the Future

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The IEA published the "Electricity 2026" report in February. The released report contains assessments regarding trends in global electricity demand, the acceleration of electrification, data centres and the increase in renewable energy investments, drawing attention to the expected rise in electricity demand in the coming period and which sources will emerge to meet this demand.

The report published by the IEA indicates that global electricity demand will continue to grow at a rate exceeding economic growth in the coming few years. We heard a similar statement a few months ago in the speech given by IEA Executive Director Fatih Birol at the conference titled "The Present and Future of Energy Security in the World and in Türkiye: Risks and Solutions in Critical Minerals" organized by Sabancı University Istanbul International Energy and Climate Center (IICEC).

Stating that electricity demand would grow six times faster than energy demand globally in the next decade, Fatih Birol highlighted the role of data centers, the increased use of air conditioning due to climate change, and electric vehicles in the projected increase.

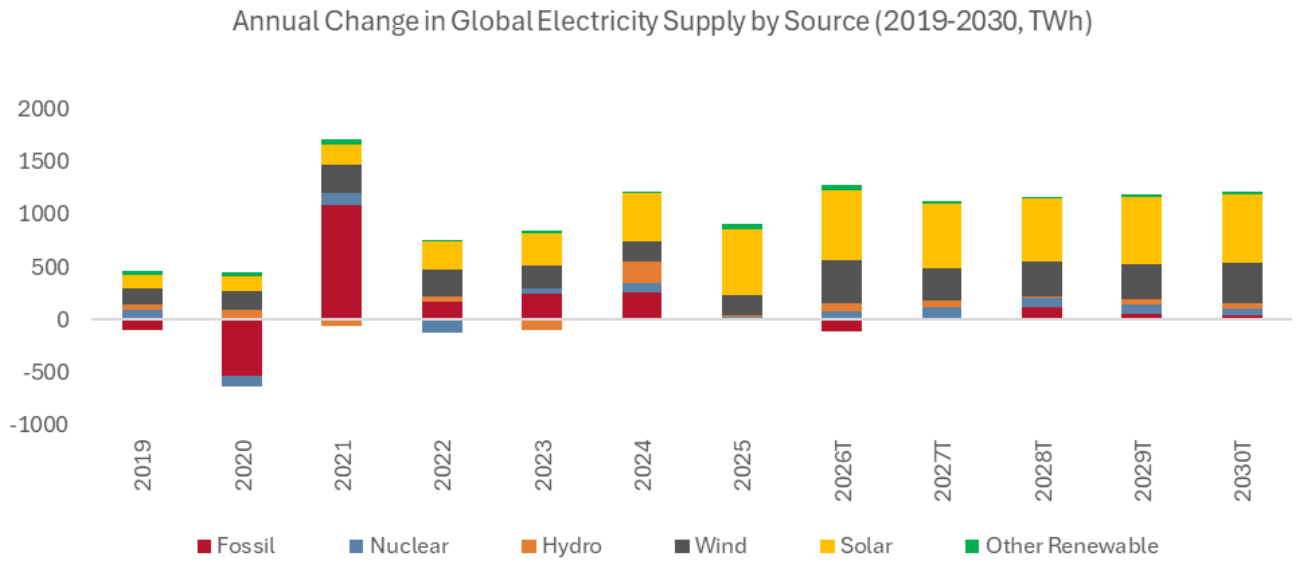
On the supply side, the report states that the amount of electricity provided from renewable sources of energy would remain in the forefront, emphasizing that a large proportion of the increase in global supply in the coming years will come from solar and wind energy.

Accordingly, it is indicated that on average, 83.8% of the electricity demand increase in the next five-year period will be met by solar and wind sources, and it is estimated that total renewable energy sources would provide 91% of the increase in electricity.

However, the generation of electricity from natural gas and nuclear energy will also grow in the next five-year period according to the report which highlights that solar energy will remain the most important source among renewable energy sources.

While the rise in electricity generated from renewable energy sources can be considered a positive development in driving the transformation in energy systems, there could be some difficulties with system integration from sources such as solar and wind energy. The greater presence of these sources in the system creates a need for flexibility which needs to be supported with items such as energy storage systems, demand-side management and strengthening transmission and distribution infrastructure.

In summary, the increase in demand for electricity and the amount of electricity produced from renewable energy sources make it necessary to make energy systems more flexible and resilient. This necessity underscores that electricity infrastructure investments need to be at the top of the agenda for policymakers, financial institutions and electricity companies.



Source: IEA, TSKB Economic Research

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