

# Monthly Energy Bulletin

TSKB Economic Research

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## Earthquakes accepted as a "force majeure" by EMRA

The Energy Market Regulatory Authority (EMRA) decided to accept the earthquakes, whose epicenter was in Kahramanmaraş, as "force majeure". According to the decision published in the Official Gazette, EMRA has decided to accept the earthquakes, which had their epicenter near Kahramanmaraş, as a "force majeure" in respect to certain term obligations of legal entities holding pre-license or generation licenses in the electricity market, as well as real and legal entities holding licenses and certificates in the natural gas market. The progress report presenting the obligations for the facilities planned to be built in the OHAL (state of emergency) region will be removed within this scope, excluding applications for electricity production facilities with storage. During this time, distribution companies will not accept new unlicensed electricity applications for the provinces within the OHAL region, and the commission meetings for the existing applications will be postponed until the state of emergency period ends.

In the statement issued following the earthquakes on February 6th which affected 11 provinces, the Minister for Energy and Natural Resources, Fatih Dönmez, stated that the earthquakes had caused damage to electricity transmission lines and natural gas transmission and distribution lines. In his statement, Fatih Dönmez said that the earthquake had seriously damaged the energy infrastructure, adding that 300 transformers belonging to Türkiye Elektrik İletim A.Ş. (TEİAŞ) had been damaged. He also stated that there had been breaks in the main transmission lines that supply natural gas to Kahramanmaraş, Gaziantep, Hatay, and Kilis regions. In his statement on February 23, Minister Dönmez stated that natural gas supply was provided in the earthquake region and electricity was started to be supplied to undamaged or slightly damaged buildings.

23.97  
TWh

February Gross  
Generation

2,802.7  
TL/MWh

Average  
MCP

**-7.1%**

Daily average licensed electricity generation decreased by 1.9% MoM and 7.1% YoY in February.

[Click](#) for details.

**-18.3%**

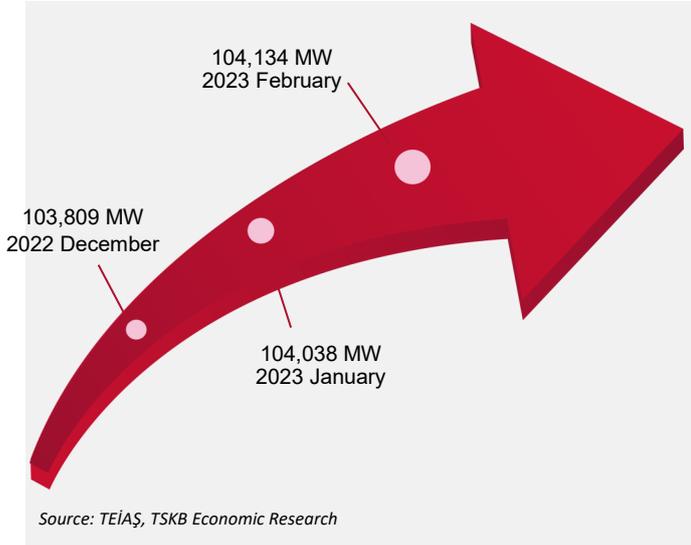
Market Clearing Price (MCP) decreased by 18.3% MoM with an increase of 99.6% YoY in February.

[Click](#) for details.

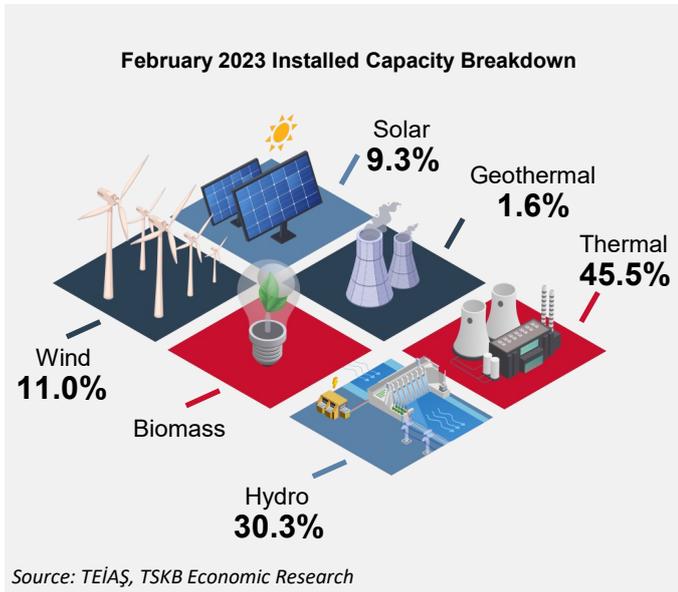


# Installed Capacity Analysis

Turkey's total installed power capacity, which had reached at 103,809 megawatts (MW) at the end of December 2022, reached 104,134 MW by the end of February 2023. A total net addition of 96 MW of installed capacity came onstream in February, of which 94.5 MW was provided by solar power plants. In the same period, the increase in the total net installed power of wind farms was 1.5 MW, with no change was observed for other resources.

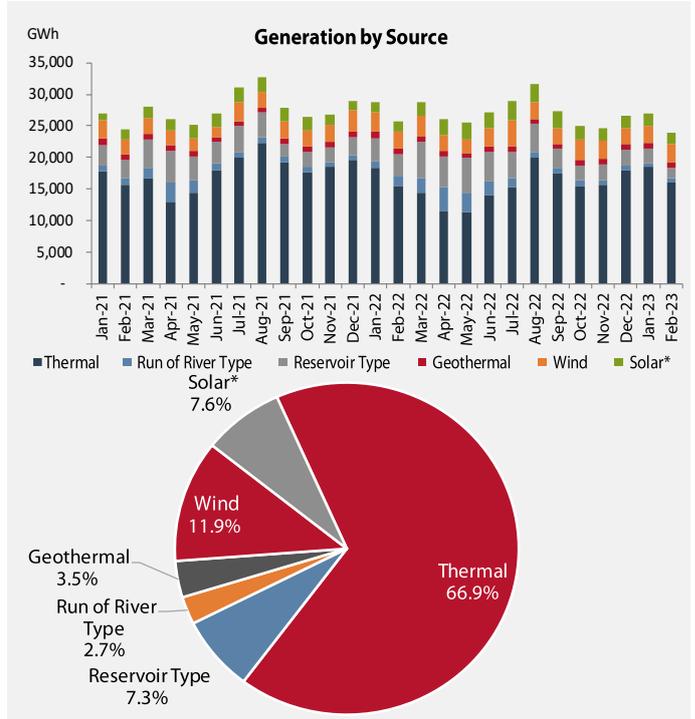


In February, 54.5% of active power plants (in terms of capacity) were generating electricity using renewable resources. As a result, the proportion of capacity generating electricity from renewable resources has continued to rise and remained above 54%. Hydroelectric power plants accounted for 30.3% of total installed generation capacity in Turkey, with wind and solar power plants accounting for 20.3% of total installed capacity.



# Generation-Consumption Analysis

A total of 27.06 terawatt-hours (TWh) in electricity was generated in January, declining to 23.97 TWh in the second month of the year. Daily average electricity consumption in February decreased by 7.1% compared to the same period the previous year, and by 1.9% compared to the previous month.

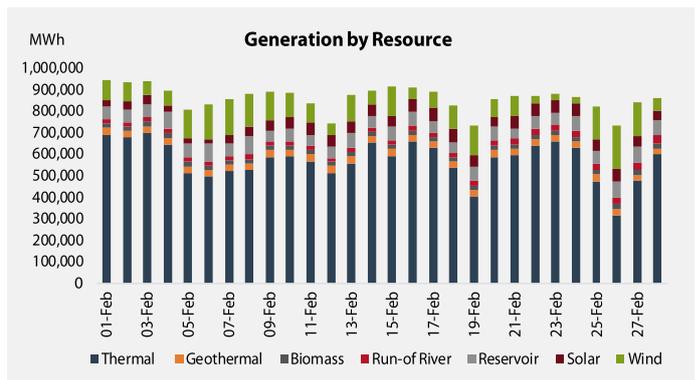


\*Since February unlicensed solar power plant generation data has not yet been released by TEİAŞ, the average daily electricity generation by unlicensed solar power plants in February was accepted as same as the average daily electricity generation of January.

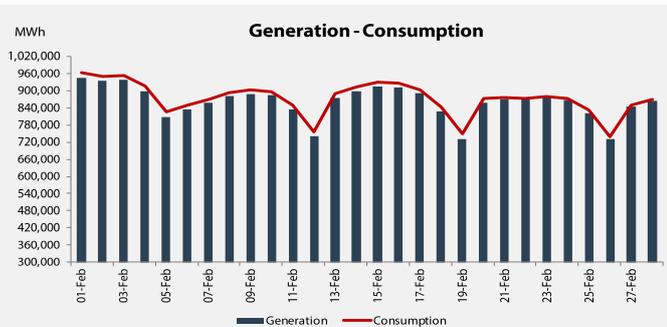
Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Thermal power plants accounted for 68.3% of the electricity produced in January and 66.9% in February. A breakdown of the resources finds that hydroelectric power plants, which had a 10.9% share of total electricity generation in January, generated a slightly lower 10% share of the total electricity in February. During the same time period, the share of electricity generated by wind farms increased by 2.0 percentage points to 11.9%. Geothermal energy power plants generated 3.5% of total electricity production.

In February 2023, the share of renewable energy plants in electricity production declined from 42.7% in 2022 to 33.1%. During the same time period, dam-type hydroelectric power plants contributed 7.3% of total production, while river-type hydroelectric power plants contributed 2.7%. The share of the dam-type hydroelectric power plants in February was the lowest since September 2021. In addition, the share of the electricity generated by wind and solar power plants came in at 19.5%.



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

The average daily electricity generation from licensed power plants in February stood at 861,235 MWh; the highest generation from licensed power plants in February was 945,646 MWh, recorded on Wednesday, February 1<sup>st</sup>, while the lowest generation from licensed power plants in the same period was 731,611 MWh, recorded on Sunday, February 19<sup>th</sup>.

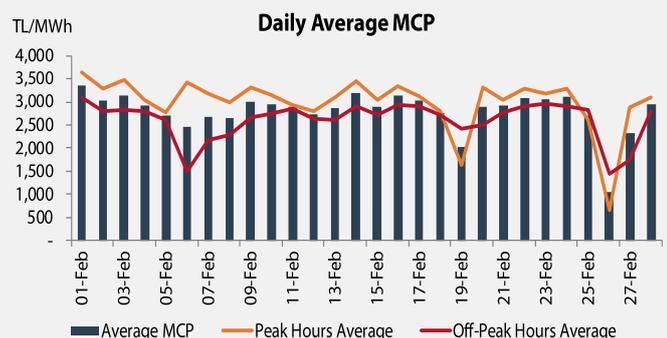
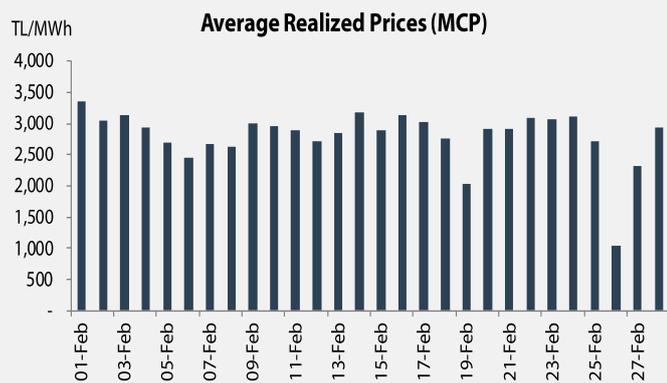
Average daily electricity consumption during the same period stood at 873,629 MWh. The highest consumption in the second month of the year was recorded on Wednesday, February 1<sup>st</sup> at 964,467 MWh, with the lowest consumption recorded on Sunday, February 26<sup>th</sup>, at 739,336 MWh.

## Electricity Price Analysis

The daily average market clearing price (MCP) in February ranged between TL 1,025 and TL 3,375 /MWh. In February, the daily MCP averaged TL 2,802.70 /MWh. The highest daily average MCP of TL 3,361.60 /MWh was recorded on Wednesday, February 1<sup>st</sup>, while the lowest daily average MCP of TL 1,048.10 /MWh was recorded on Sunday, February 26<sup>th</sup>.

An analysis of hourly data finds the maximum MCP of TL 3,650 /MWh in February, which was the maximum limit recorded for 105 hours. The hourly minimum electricity price was recorded on Sunday, February 26<sup>th</sup>, at TL 0 /MWh for a period of 4 hours.

An analysis of the daily MCP for February finds an average peak-hours (between 8AM-8PM) value of TL 2,995.8 /MWh, which was 6.9% higher than the average for all hours. The maximum limit price of 3,650 TL/MWh was recorded during 95 hours in peak hours, the lowest price during the peak hours was TL 0 /MWh, which was realized on

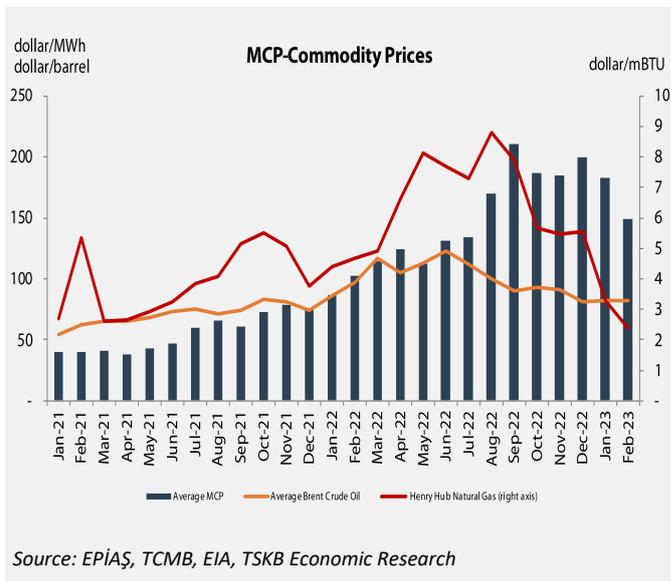


Source: EXIST, TSKB Economic Research

Sunday, February 26<sup>th</sup>.

During the same time period, the average off-peak (between 8PM-8AM) pricing was TL 2,609.60 /MWh. The highest limit price of TL 3,650.00 /MWh was recorded for 10 hours during off-peak hours while the lowest price of TL 549.99 /MWh was recorded on Sunday, February 26<sup>th</sup>.

The MCP, which had averaged USD 182.61/MWh in January, fell to USD 148.63/MWh in February. The MCP was 44.4% higher in dollar terms than in the same period the previous year.



Source: EPİAŞ, TCMB, EIA, TSKB Economic Research

## Average Commodity Prices

The Brent crude oil price, which had averaged USD 82.50/bbl in January, increased by 0.1% on a monthly basis to USD 82.59/bbl in February. This actualized average price was 15.0% lower than in the same period of the previous year.

The Henry Hub natural gas contract price fell 27.2% on a monthly basis from USD 3.27/mbtu to USD 2.38/mbtu in January, recording a 49.3% decrease when compared to the same period of the previous year.





## Sector News

### Local News

- **Turkish Petroleum Corporation (TPAO) will be permitted to carry out operations in offshore fields.** According to the Presidential Decree published in the Official Gazette, TPAO will be able to perform seismic, drilling, well completion, workover and all other service activities required by marine exploration, production, transportation and storage. TPAO will also be permitted to generate electricity from the oil and natural gas it extracts from its own fields, as well as engage in electricity generation activities. (23 February 2023)

- **Where conditions are favorable, licensed solar power plants will be permitted to be built in forested regions.** The provision stating that licensed solar power-based electricity generation facilities would not be permitted in forest areas has been revoked according to the Regulation Amending the Regulation on the Implementation of the Third Paragraph of Article 17 of the Forestry Law. As a result, licensed solar energy-based electricity generation facilities may be established in stony, rocky, and unproductive forest areas with no trees and shrubs, where it is technically impossible to establish forests and forestry activities. (16 February 2023)

- **Two new YEKAs based on wind energy have been announced.** Renewable Energy Resource Areas (YEKA) based on wind energy are located in Karabük, Çankırı and Van, according to an announcement published in the Official Gazette by the Ministry of Energy and Natural Resources. The YEKA in Karabük and Çankırı measures 19.92 square kilometers (km<sup>2</sup>), while the YEKA in Van measures 27.76 km<sup>2</sup>. (10 February 2023)

- **Fuel supply restrictions to the earthquake zone have**

**been lifted.** The President of EMRA, Mustafa Yılmaz, stated that necessary steps had been taken to accelerate fuel supply to the region from the beginning of the earthquake, and that legislative restrictions had been lifted. (7 February 2023)

- **On the South Gas Corridor, new steps are expected to be taken.** Fatih Sönmez, the Minister of Energy and Natural Resources, stated that work would be carried out in the South Gas Corridor to ensure Turkey is a natural gas commerce center. Fatih Dönmez stated that the government was discussing capacity increases with Azerbaijan, Algeria, Qatar and Nigeria and would engage in intense natural gas commerce via liquified natural gas transportation. (03 February 2023)

- **At least 500 tons of green hydrogen to be produced each year under the scope of the "South Marmara Hydrogen Coast" Valley Project.** According to the statement, the European Union (EU) project has been approved, with a EUR 36.8 million fund and 16 domestic and foreign shareholders, including EnerjiSA Üretim, with the South Marmara Development Agency serving as the coordinator. Within the scope of the project, EnerjiSA Üretim Bandırma Enerji Üssü will produce at least 500 tons of green hydrogen per year. The European Commission will direct EUR 8 million of funding to the "South Marmara Hydrogen Coast" Valley Project, which will run for five years. (02 February 2023)

- **Korea Electric Power Corporation (KEPCO) presents preliminary proposal for construction of four nuclear reactors in Türkiye.** According to KEPCO's declaration, the KEPCO's president Cheong Seung-il proposed an offer to the Minister of Energy and Natural Resources, Fatih Dönmez, for the construction of four reactors with a combined capacity of 1,400 megawatts. The investment cost for the nuclear power plant in Sinop is estimated as USD 32.5 billion. (01 February 2023)

## Foreign News

- **In 2022, the global energy sector was responsible for 135 million tons of methane emissions.** According to the International Energy Agency's (IEA) "Global Methane Monitoring 2023" report, the amount of methane released by the energy sector in 2022 reached 135 million tons, remaining below the record levels seen in 2019. According to the report, the energy sector is responsible for approximately 40% of human-caused methane emissions, with methane emissions responsible for approximately 30% of global warming since the Industrial Revolution. According to the report, USD100 billion of investment in existing technologies could reduce methane emissions from oil and natural gas by 75%. (23 February 2023)

- **41.4 GW of new solar power capacity installed in European Union countries in 2022.** According to Solar Power Europe's "EU Solar Energy Market Outlook 2022-2026" report, solar energy capacity in the EU increased by 47% YoY to reach 41.4 GW. Solar energy capacity is expected to exceed 50 GW in 2023 and 85 GW by 2026. According to the report, the EU's total solar power capacity increased from 167.5 GW in 2021 to 208.9 GW in 2022. When this broken down by country, Germany ranked first with 7.9 GW of new capacity, followed by Spain (7.5 GW) and Poland (4.9 GW). (23 February 2023)

- **Subsidies for fossil fuel consumption expected to have exceeded USD 1 trillion in 2022.** According to the IEA's "Fossil Fuel Consumption Subsidy 2022" report, of the estimated USD 1 trillion invested in fossil fuel consumption subsidies in 2022, USD 399 billion was allocated to electricity, USD 346 billion to natural gas, and USD 343 billion for oil. According to the report, natural gas and electricity consumption subsidies more than doubled when compared to the previous year, while oil subsidies increased by around 85%. In addition, it was pointed out that subsidies were primarily concentrated in developing economies. (17 February 2023)

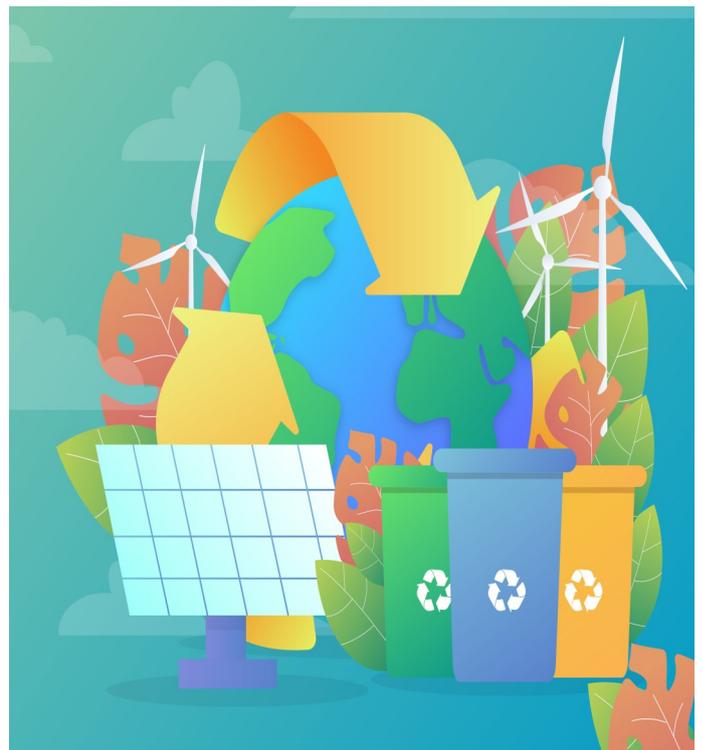
- **Imports Liquefied Natural Gas to Europe increase by 60% in 2022.** According to Shell's "Liquefied Natural Gas (LNG) Outlook 2023" report, the total amount of LNG imported by European countries in 2022 increased by 60% over the previous year, to reach 121 million tons. According to the report, global LNG trade reached 397 million tons in 2022, with global LNG demand expected to reach 650 million tons by 2040. (17 February 2023)

- **IEA raises its forecast for global oil demand.** According to the IEA's February "Oil Market Report", global oil demand is expected to reach 101.92 million barrels per day in 2023, an increase of 1.96 million barrels per day compared to the previous year. Global oil demand forecasted to be 101.72 million barrels per day in the January report. (16 February 2023)

- **OPEC raises its forecast for 2023 oil demand.** According to the Organization of Petroleum Exporting Countries' (OPEC) "Monthly Oil Market Report" for February, global oil demand in 2023 is expected to reach 101.87 million barrels per day, up 2.32 million barrels per day compared to the previous year. As a result, OPEC increased its forecast for the previous month by 100,000 barrels per day. However, according to the report, global oil supply increased to 101.70 million barrels per day in January, up 600,000 barrels a day compared to the previous month and 3.3 million barrels higher than last year's level. (15 February 2023)

- **Renewable energy and nuclear power to account for vast majority of increase in global electricity demand by 2025.** According to the IEA's "Electricity Market Report 2023," global electricity demand will rise by 3% per year on average over the next three years. According to the report, low-emission sources such as renewable energy and nuclear power could meet the majority of the increase in demand for global electricity demand. According to the report, China's share of global electricity consumption will rise from a quarter in 2015 to a record one-third by 2025, with more than 70% of demand growth coming from China, India, and South East Asia. (9 February 2023)

- **Wind and solar energy generation exceeded generation from natural gas for the first time in Europe.** According to the "European Electricity Outlook 2023" report prepared by Ember, electricity generation from wind and solar sources in European Union countries amounted to 22.3% of total electricity production in 2022. In the previous year, natural gas provided 19.9% of total electricity generation, while coal provided 16%. The report links the increase in the share of coal in 2022 with the decrease in the share of hydroelectric power plants, which generated a lower than expected amount of electricity as a result of drought and interruptions in electricity generation from nuclear power plants. It was stated that due to the drought in Europe in 2022, the share of electricity generated from hydroelectric power plants dipped to its lowest levels since 2000. According to the report, record increases in wind and solar power generation helped close the gap in electricity generation from hydroelectric power and nuclear power. However, the report reflected that coal generation in Europe had been declining for four months since the beginning of the winter. (1 February 2023)





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