

Monthly Energy Bulletin

TSKB Economic Research

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The change in the base price in the Natural Gas Futures Market (VGP) has been opened to discussion

The draft to change the procedures and principles of the VGP, which was opened to simulation by Enerji Piyasaları İşletme A.Ş. (EPIAŞ) on June 30th, was made available for discussion by the Energy Market Regulatory Authority (EMRA) on August 13.

The aim of this draft is to make changes in the pricing formula which will be based on monthly contracts. This change includes fixing the weight of the Natural Gas prices of Brent Petrol, Henry Hub, and TTF (a virtual trading point for natural gas in the Netherlands) which are the components of the price formula.

In the base price which has been opened for discussion, the weight of Brent Crude oil has been determined as 70%, with a 20% weighting to TTF and 10% to the Henry Hub price.

The Natural Gas Futures Market will start operating on October 1st.

32.81
TWh
August Gross
Generation

518.37
TL/MWh
Average
MCP

13.4%

Daily average licensed electricity generation increased by 5.7% MoM and 13.4% YoY in August.

[Click](#) for details.

90.8%

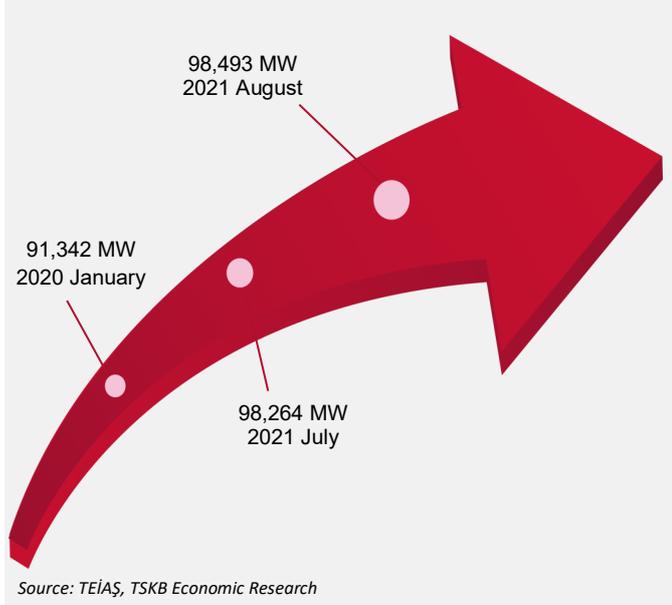
Market Clearing Price (MCP) increased by 90.8% YoY and by 9.9% MoM in July.

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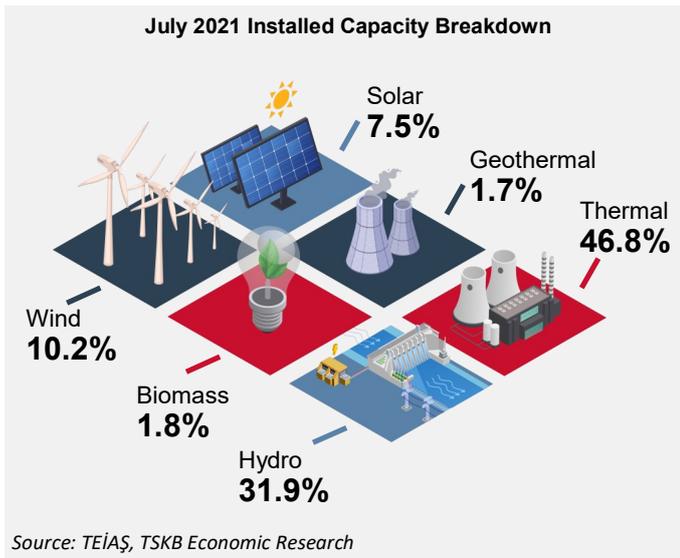


Installed Capacity Analysis

Turkey's total installed capacity, which reached 98,264 MW at the end of July, increased to 98,493 MW at the end of August. In August, wind power plants with a total net installed capacity of 84.8 MW was commissioned. In the same period, the total net installed capacity of solar and renewable waste power plants increased by 111.1 MW and 14.3 MW, respectively.

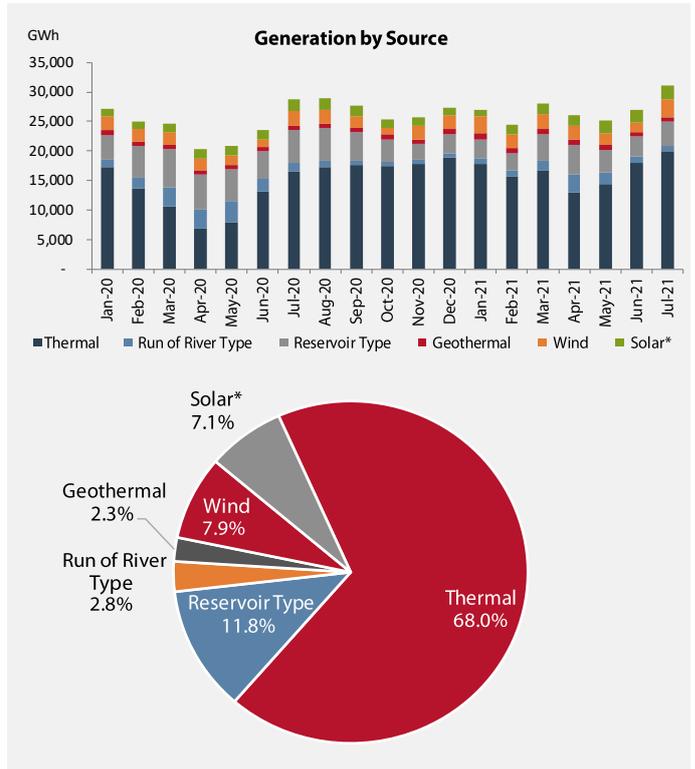


Of all the power plants in operation during August, 53.2% of the capacity consisted of power plants generating electricity from renewable resources. Thus, the share of renewable power plants in total installed capacity continued to stay above 53% levels. Hydroelectric power plants (HEPP) accounted for 31.9% of Turkey's total installed capacity in July, while the combined share of wind and solar power plants amounted to 17.7%.



Electricity Generation Analysis

Total electricity generation, which stood at 31.04 terawatt-hours (TWh) in July, increased to 32.81 TWh in August, with a 5.7% increase in daily average electricity generation when compared to July's daily average and a 13.4% increase when compared to the same month of the previous year.

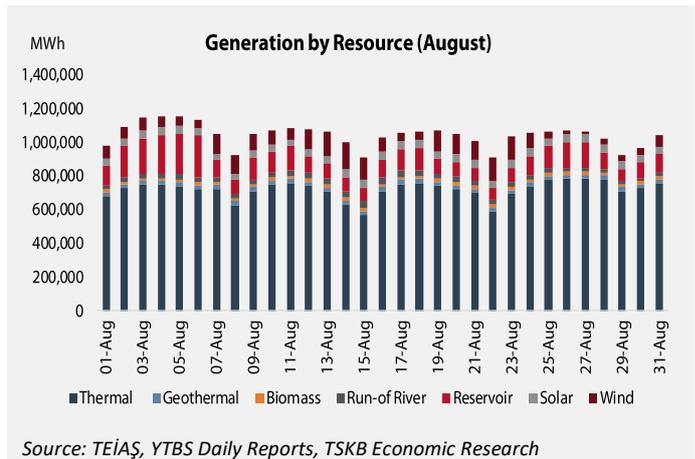


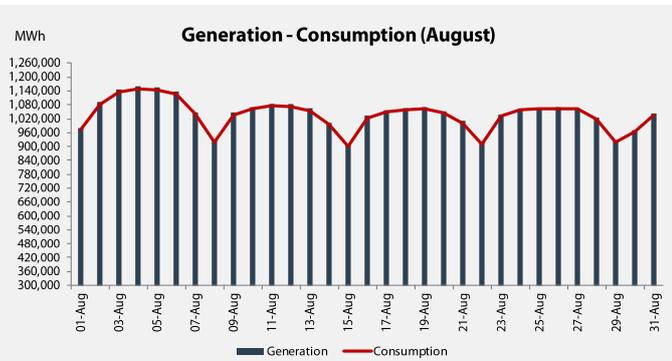
*Since August unlicensed solar power plant generation data has not yet been released by TEİAŞ, the average daily electricity generation by unlicensed solar power plants in August 2021 was accepted as same as the average daily electricity generation of July 2021.

Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Thermal power plants, which had provided 64.1% of the electricity generated in July, generated 68.0% of the total electricity in August. Hydroelectric power plants, which had comprised 16.2% of generation in the previous month, provided 14.6% of the total electricity generated in August.

The share of renewable energy power plants in electricity generation, which stood at 42.5% in 2020, stood at 32.0% in August 2021. In the same period, while dam-type hydroelectric power plants contributed 11.8% of the total generation, wind farms provided 7.9% of the total electricity generation. Natural gas power plants stood out with their share of total electricity generation in August, with their share in the total increasing from 35.13% in July to 37.9% in August. This rate had stood at just 25.12% in August 2020.





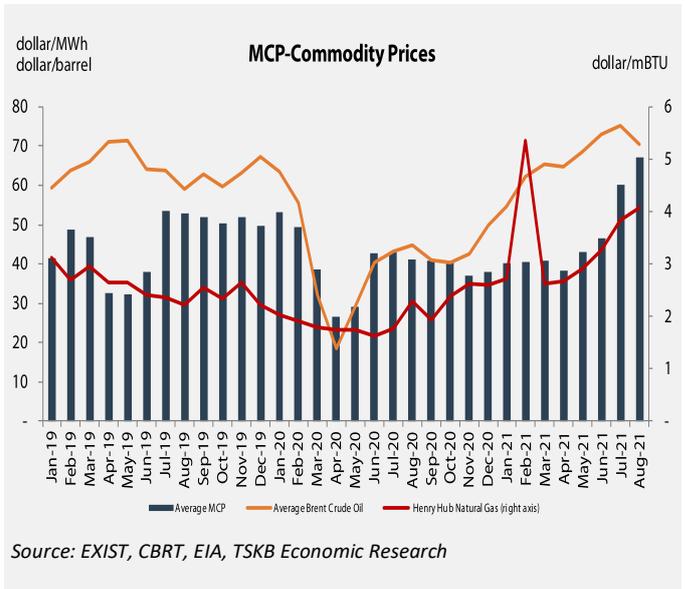
Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

The daily average electricity generation from licensed power plants was 1,044,214 MWh in August. The highest level of generation from licensed power plants in August stood at 1,158,252 MWh on Wednesday, August 4, while the lowest generation from licensed power plants was 910,361 MWh on Sunday, August 15.

Daily electricity consumption averaged 1,036,372 MWh in August with the month's highest consumption recorded on Wednesday, August 4 at as 1,148,468 MWh and the lowest on Sunday, August 15, of 901,797 MWh.

Analysing the MCP for August, we find that the average for peak hours (between 8AM and 8PM) was 4.9% higher than the daily average value, to come in at TL 584.92 /MWh. The highest average for the peak hours was TL 636.00 /MWh, as recorded for 13 days in August. The lowest peak hour average was TL 437.41 /MWh, recorded on Friday, August 13.

In the same period, the off-peak average (between 8PM and 8AM) was TL 530.94 /MWh. The highest off-peak average was realized on Friday, August 6, at TL 636.00 /MWh and the lowest average for off peak hours was TL 443.60 /MWh on Monday, August 23.



Source: EXIST, CBRT, EIA, TSKB Economic Research

The MCP, which averaged USD 60.08 /MWh in July, reached USD 67.11 /MWh on average in August – marking an increase of 63.2% when compared with the same period of the previous year.

Average Commodity Prices

The price of a barrel of Brent crude oil, which had reached USD 75.17 in July, fell back to USD 70.61 in August, marking a fall of 6.1% on the month. However, the price of a barrel of Brent crude remained 57.8% higher than in August of the previous year.

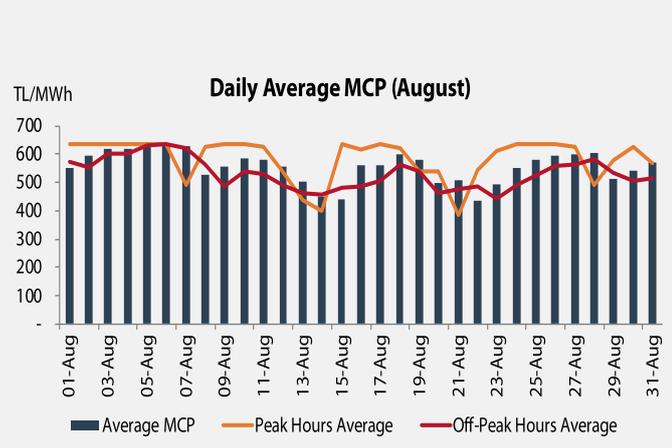
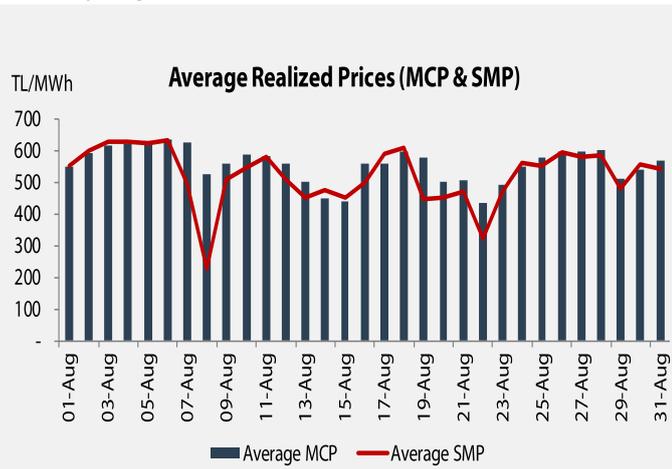
The price of Henry Hub natural gas, which averaged USD 3.84 /mBTU in July 2021, continued rising and reached an average of USD 4.07 /mBTU in August, a level 77% higher than in the same month of the previous year. Despite the decrease in oil prices, the increase in natural gas prices is deemed to be the result of problems in the global natural gas supply .



Electricity Price Analysis

The daily average market clearing price (MCP) and system marginal price (SMP) ranged between TL 255 /MWh and TL 605 /MWh during July. The MCP averaged TL 518.37 /MWh in July while the SMP averaged TL 504.99 /MWh in the same period. The lowest average MCP value was TL 411.23 /MWh on Thursday, July 22 while the lowest average SMP was TL 257.90 /MWh on Saturday, July 24.

On the basis of hourly data, the highest MCP was TL 636.00 /MWh for 358 hours in August. The MCP stood at TL 636.00 /MWh at all times on Friday, August 6.



Source: EXIST, TSKB Economic Research



Sector News

Local News

- **EMRA published its sector market reports for June.** According to the "Electricity Market Sector Report", licensed electricity generation increased by 15.1% in June 2021 when compared to the same month of the previous year to reach 25.64 TWh, with 38.6% of the licensed electricity generated by natural gas power plants, 29.4% by power plants running on imported and domestic coal, and 11.1% provided by hydroelectric power plants. Billed electricity consumption increased by approximately 11.1% to reach 20.94 TWh, with industry accounting for 45.2% of the consumption, business organizations accounting for 23.4% of the total consumption and residential customers accounting for 21.5% of the total. According to the "Natural Gas Market Sector Report", Turkey's natural gas imports increased by 104% compared to the same period of the previous year to reach 3.83 billion cubic meters (bcm) in June. Russia accounted for the highest share of natural gas imports (2.40 bcm) followed by Iran (0.867 bcm) and Azerbaijan (0.522 bcm). According to the "Oil Market Sector Report", Turkey's total crude oil imports increased by 73% compared with the same month of the previous year to reach 2.86 million tonnes in June. (August 31, 2021)

- **673 incentive certificates for investment issued in July.** According to the list of incentive certificates for investment in July, published by the Ministry of Industry and Technology in the Official Gazette, the investment amount for 672 projects which obtained certification stood at TL 14.95 billion. The largest investment project to obtain certification was a glass bottle production facility, which will be realized by Ciner Glass Maden Kimya Sanayi Ticaret A.Ş. in Ankara, with an amount of TL 1.905 billion. A total of 53 energy investments received an incentive certificate in this period with 21 projects obtaining an incentive certificate in mining. In the energy sector, the largest

project among other projects to obtain an incentive certificate was the gas distribution services project (TL 323.36 million), which Akmercan Adıyaman Doğal Gaz Dağıtım Sanayi ve Ticaret A.Ş. will realize in Adıyaman. (August 31, 2021)

- **Highest production and delivery of solid fuels realized in lignite coal.** According to solid fuel statistics that are announced by TÜİK, the total saleable production volume of solid fuels in June was 6.52 million tonnes of lignite, 370,000 tonnes of hard coal coke and 100,000 tonnes of hard coal. On the basis of delivery point, 49.2% of hard coal was delivered to thermal power plants, 17.9% to coke facilities and 17.2% to industries other than iron and steel. In addition, 80.7% of the lignite deliveries were made to thermal power plants and 11.4% to industry other than iron and steel. (August 25, 2021)

- **Turkey "should determine its emission reduction goal".** In an interview with the Dünya Newspaper, Dr. Fatih Birol, the Director of the International Energy Agency (IEA), remarked that there was an urgency to cut emissions in the global energy sector to net-zero by 2050 as set out in the latest published Intergovernmental Climate Change Panel's (IPCC) report. While Birol stated that the energy sector was at the heart of the climate change problem, he underlined that Turkey must therefore set goals for middle and long-term emission reduction. He added that Turkey had moved forward in the transformation to renewable energy and the country's focus should therefore be on the decarbonization of transportation and buildings where emission reductions are more difficult to achieve. (August 24, 2021)

- **Entek Elektrik purchases Süloğlu Wind Power Plant.** With the purchase of Süloğlu wind farm, which has an installed power capacity of 60 MW, the total installed power capacity of Koç Group's energy company, Enter Elektrik, has reached 437 MW. (August 20, 2020)

- **SOCAR Turkey obtains USD 1.3 billion in refinancing.** SOCAR Turkey has obtained finance equivalent to USD 1.3 billion to refinance its previous obligations, in a transaction led by Citibank and JP Morgan. The refinancing, which will not present additional liabilities for SOCAR, was realized with SOCAR's guarantee with a 5 years term and an interest rate of EURIBOR /LIBOR +345 basis points. (August 18, 2021)

- **Equivalent reserves of 30 million barrels of oil discovered in 2021.** According to the declaration made by the Turkish Petroleum Corporation (TPAO), with the 13 new onshore discoveries in 2021, approximately 30 million barrel oil equivalent has been added to Turkey's reserves. (August 18, 2021)

- **Deadline for YEKDEM applications extended to November 30.** EMRA has extended the deadline for applications for the Renewable Energy Resources Supporting Mechanism (YEKDEM) from October 31 to November 30. With this extension, the date of announcing the final list of licensed electricity production facilities which are eligible to benefit from YEKDEM was revised to December 31. (August 16, 2021)

- **European Bank For Reconstruction and Development (EBRD) announces USD 75 million investment in Aydem Renewable Energy's USD 750 million green Eurobond issue.** The company announced its Eurobond issue with an amount of USD 750 Million, a 5.5-year maturity and a 7.75% yield at the end of July. (August 10, 2021)

- **Aksa Enerji enters cooperation agreement for new combined-cycle electricity plant project in Ukraine.** In the press release on the Public Disclosure Platform (PDP), it was announced that a new cooperation agreement had been signed for the combined cycle electricity plant project, which is planned to be built in the Izmail province of Ukraine with the Izmail Municipality Council. (August 10, 2021)

News From Abroad

- **Rise in electricity demand outpacing growth in clean energy.** According to the "Global Electricity Sector Review" report published by Ember, global electricity demand in the first half of this year was 5% higher than its pre-pandemic level. With coal power plants accounting for 43% of this growth, emissions caused by the electricity sector increased 5%. 57% of the increase in the electricity demand was provided by wind and solar energy, while there was a small decrease in electricity generation from hydroelectric and nuclear power. According to the report, the share of wind and solar energy in Turkey's total electricity generation reached 13% in the first half of this year. (August 26, 2021)

- **80% of all newly registered vehicles in Germany expected to be electric vehicles.** Peter Altmaier, Germany's Economy and Energy Minister, remarked that he was expecting an important leap in electric mobility in the next few years in Germany, stating that he expected 80% of newly registered vehicles to be electric vehicles by 2030, will be electric vehicles, adding "This is a big step for the future". The country's energy consumption is also now expected to increase to 645-665 TWh in 2030, 15% higher than previous assumptions. (August 26, 2021)

- **10% of Europe's energy provided by the sun.** According to the report published by Ember, solar energy supply reached an all-time record in the European Union (EU) in June and July 2021, providing 10% of the total electricity generated in the region. According to figures, the total solar power generation of the EU-27 reached 39 TWh in June and July, marking an in-

crease of 10.9 TWh in comparison with 2018. (August 20, 2020)

- **China approves green hydrogen project planned to be developed in Mongolia.** The facility which is using renewable energy will produce 66,900 tonnes of green hydrogen in addition to 1.85 gigawatts (GW) of solar power and 370 MW of wind energy. Work on the project is planned to start in September with the project entering operation by the middle of 2023. The facility needs a 465 MW electrolyzer to be able to produce the stated amount of hydrogen. The global electrolyzer trade, which amounted to 200 MW in 2020, is expected to reach 400 MW in 2021. (August 19, 2021)

- **OPEC raises production by 637,000 barrels per day in comparison with previous month.** According to the monthly "Oil Market" report prepared by the Organization of Petroleum Exporting Countries (OPEC), the daily crude oil production of member countries has reached 26.66 million barrels/day, an increase of 637,000 barrels/day in July 2021 when compared to the previous month. In non-OPEC countries, daily oil production increased by 300,000 barrels per day in the same period to reach 68.03 million barrels per day. (August 13, 2021)

- **IEA lowers its estimate for oil demand in 2021 by 300,000 bbl/day.** In its June report, the IEA had estimated that oil demand would be 96.45 million barrels per day. It lowered this estimate to 96.15 million barrels per day in its July report. It is also estimated that demand would rise by 3.2 million barrels per day in 2022 when compared to 2021, to reach 99.31 million barrels per day. (August 13, 2021)

- **US Energy Information Authority (EIA) revises its oil price projection for this year downward.** In its "Short Term Energy Outlook Report" for August, the EIA projected an average Brent-crude price of USD 68.71/bbl for this year - a downward revision from the USD 68.78/bbl price which had projected in its July report. The report set out its projection that the Brent crude, which averaged USD 61.12/bbl in the 1st quarter of the year and USD 68.91/bbl in the 2nd quarter would average USD 73.07/bbl in the third quarter of the year and USD 71.29/bbl in the fourth quarter, while averaging approximately USD 66.04/bbl in 2022. The EIA estimates that global oil consumption will stand at 97.6 million barrels per day on average this year, an increase of 5.3 million barrels per day compared with the previous year, and go on to reach 101.2 million barrels per day in 2022. (August 12, 2021)





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