

# Monthly Energy Bulletin

TSKB Economic Research

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## Amendment to Energy Law passed by parliament.

The legislative proposal with 47 articles involved amendments to 6 codes. Under the amendment, two options were introduced for the procedures regarding the sale of electricity by unlicensed electricity generation plants which had sold electricity for 10 years under the Renewable Energy Resources Support Mechanism (YEKDEM). The first option enables these plants to switch to licensed electricity generation upon termination of the 10-year period under YEKDEM. These plants will have to pay 15% of the income they receive from the sale of electricity to YEKDEM as a contribution fee. The other option involves the sale of surplus electricity. The fees for surplus sales will be decided by the President and will be below the market clearing price (MCP).

According to the amendment, the YEKDEM sales prices for electricity generation plants which will operate after June 30<sup>th</sup>, 2021, will be decided by the President. The local contribution fees for unlicensed plants operating after June 30<sup>th</sup>, 2021, the updates and the duration of these prices will be determined by the President.

<b>25.92</b> TWh	<b>295.51</b> TRY/MWh
November Gross Generation	Average MCP

**8.23%**

Licensed electricity generation increases by 1.76% MoM in November, while rising by 8.23% YoY.

[Click](#) for details.

**7.28%**

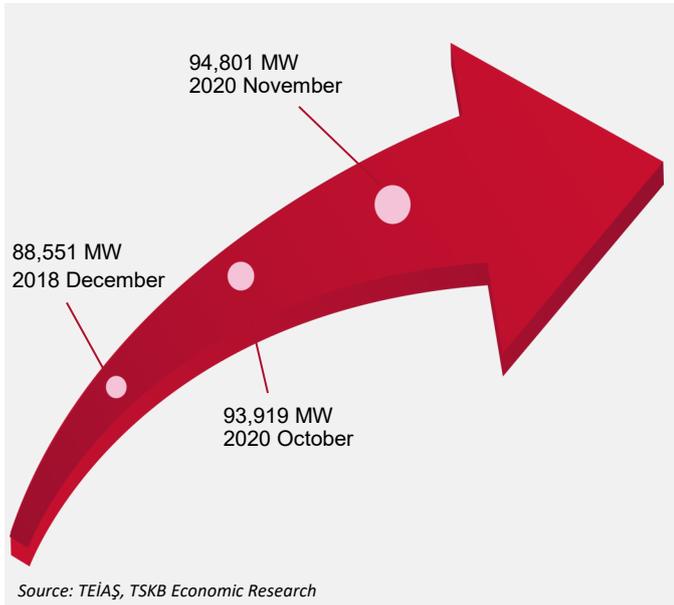
Market Clearing Price (MCP) falls by 7.28% MoM in November, and by 0.79% YoY.

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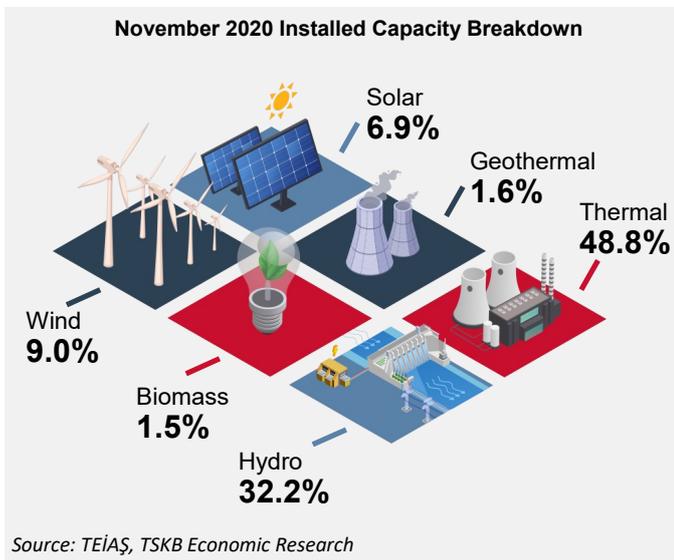


# Installed Capacity Analysis

Turkey's total installed capacity, which had reached 91,267 megawatts (MW) at the end of 2019, reached to 94,801 MW by the end of November 2020. During this period, hydroelectric power plants with a total installed capacity of 631.9 MW were commissioned. The total installed capacity of wind farms increased by 176.8 MW, with the total installed capacity of solar power plants increasing by 58.6 MW.

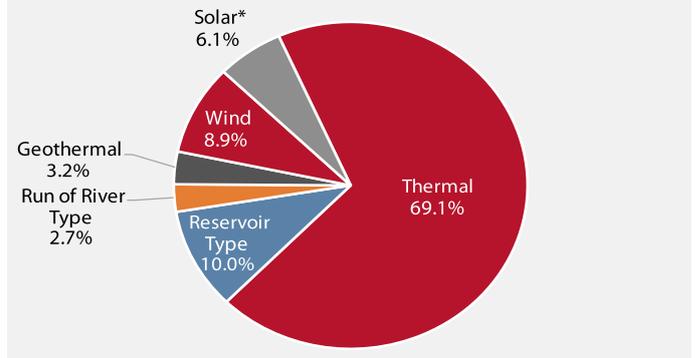
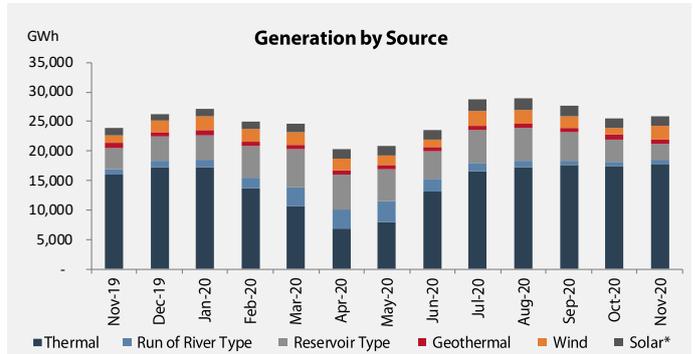


Of all the power plants in operation during November, 51.2% of the capacity consisted of power plants generating electricity from renewable resources. Thus, the share of renewable power plants in total installed capacity reached 51%. Hydroelectric power plants accounted for 32.2% of Turkey's total installed capacity in November, while the combined share of wind and solar power plants amounted to 15.8%.



# Electricity Generation Analysis

Approximately 25.47 terawatt-hours (TWh) of electricity was generated in October 2020, while total electricity generation in November 2020 increased to 25.92 TWh. Average daily electricity generation in November increased by 5.2% compared to October. On the other hand, electricity generation in November increased by 8.2% compared to the same month in the last year.

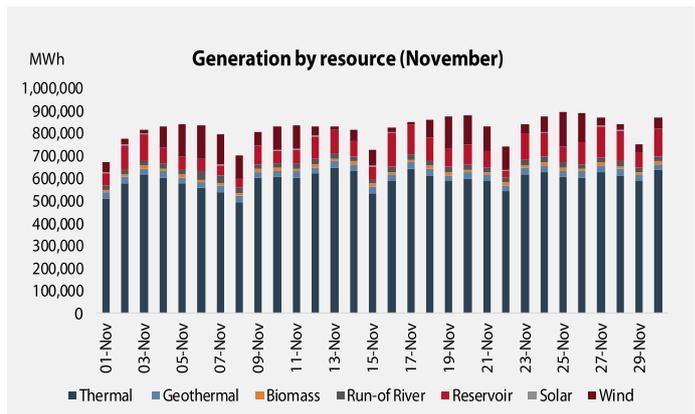


\*Since November unlicensed solar power plant generation data has not yet been released by TEİAŞ, the total energy generation by unlicensed solar power plants in November was accepted as same as the total generation of October 2020.

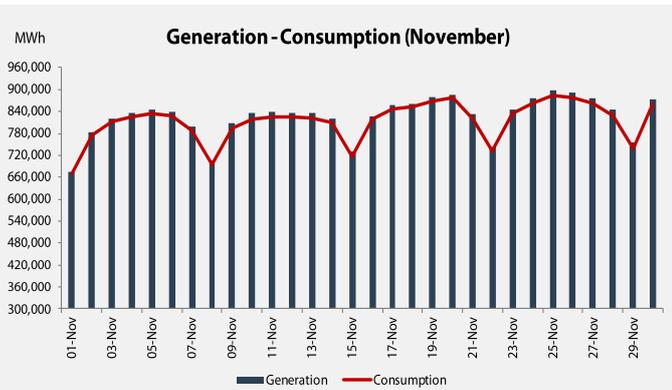
Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Thermal power plants, which had supplied 68.9% of all of the electricity generated in October, accounted for 69.1% of the total electricity generated in November 2020. This 1.2 percentage point increase can be attributed to the decline in electricity generated from hydro-electric power plants.

After accounting for 17.5% of electricity generated in October, hydro-electric power plants provided 12.7% of the total monthly electricity generated in November 2020. Renewable power plants, which comprised an average share of 44.5% in electricity generation throughout 2019, accounted for 30.9% of all electricity generated in November 2020, a fall of 1.9 percentage points compared to the same period of 2019. In the same period, hydro-electric power derived from dam-type power plants provided a 10% contribution to total generation, with wind farms accounting for 8.9% of total generation.



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research



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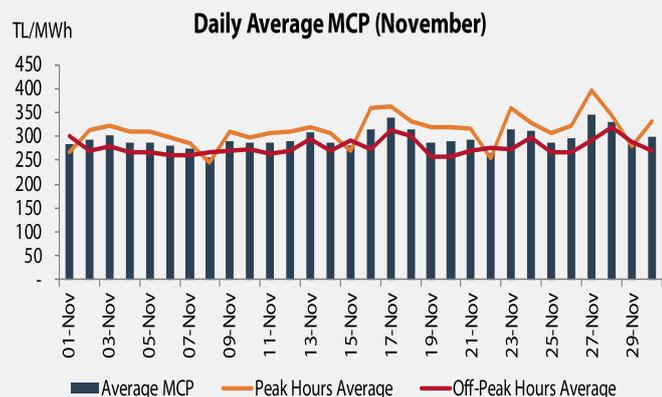
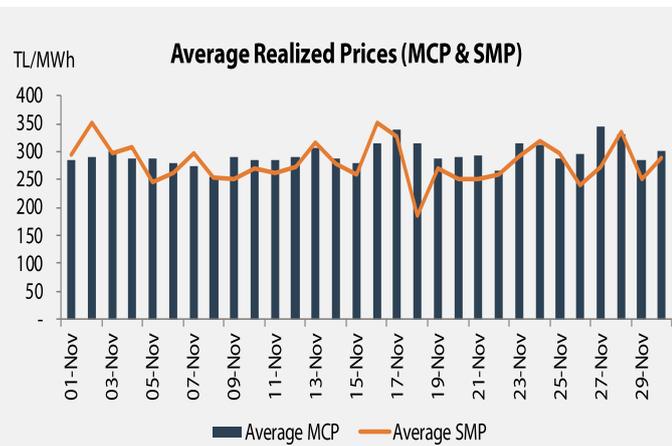
The average daily generation of licensed plants in November 2020 stood at 824,896 MWh. The highest level of electricity generation from licensed power plants was realized on Wednesday, November 25<sup>th</sup>, at 897,263 MWh, with the lowest being on Sunday, November 1<sup>st</sup>, at 673,904 MWh.

Daily consumption averaged 813,513 MWh in November 2020, peaking at 883,446 MWh on Wednesday, November 25<sup>th</sup>, while the lowest level of electricity consumption, of 670,564 MWh, was recorded on Sunday, November 1<sup>st</sup>.

## Electricity Price Analysis

Average market-clearing prices (MCP) and system marginal prices (SMP) fluctuated between TL 185 /MWh and TL 352 /MWh in November 2020. In the same period, the average MCP stood at TL 295.5 /MWh, while the SMP averaged TL 280.4 /MWh. The lowest average MCP, of TL 256.2 /MWh was recorded on Sunday, November 8<sup>th</sup>, and the lowest average SMP, of TL 186.0 /MWh was recorded on Wednesday, November 18<sup>th</sup>.

The average MCP for November 2020 declined by 7.3% when compared to the October average. The increase in the share of wind power in total electricity generation was thought to have been the main reasons for this decrease.

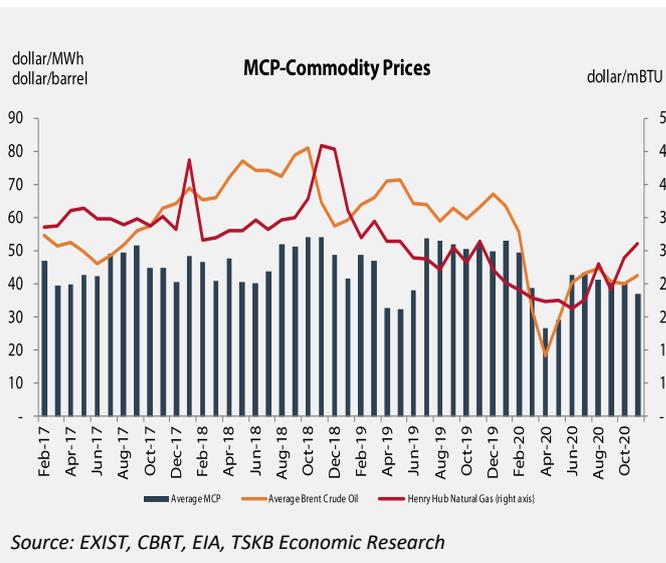


Source: EXIST, TSKB Economic Research

The daily average MCP for November stood at TL 313.4 /MWh for peak hours (from 8AM to 8PM), 6.1% higher than the daily average value. The highest peak-hour average recorded was TL 396.9 /MWh on Friday, November 27<sup>th</sup>, while the lowest peak-hour average was TL 245.2 /MWh, recorded on Sunday, November 8<sup>th</sup>.

Average pricing in off-peak hours (from 8PM to 8AM) for the same period stood at TL 277.6 /MWh. The highest off-peak hour average was TL 318.1 /MWh, recorded on Friday, November 28<sup>th</sup>, with the lowest off-peak-hour average, of TL 258 /MWh, recorded on Thursday, November 20<sup>th</sup>.

While the annual average MCP was USD 45.98 /MWh in 2019, the average MCP in the first eleven months of 2020 was realized as USD 40.26 /MWh. The average MCP in November was USD 36.92 /MWh. MCP prices declined by approximately 8.8% in dollar terms in November compared their October level. MCP prices in dollar terms were 29% lower when compared to the same period of last year.



Source: EXIST, CBRT, EIA, TSKB Economic Research

Brent crude oil prices, which had averaged USD 64.36 per barrel in 2019, averaged USD 42.69 per barrel in November, remaining below their pre-COVID-19 levels. Brent crude oil prices were also up by 6.2% in November when compared to the previous month, while also 32.5% lower than their level at the same period of the previous year.

The average price of Henry Hub natural gas was USD 2.61 /mBTU in November, 9.2% above the USD 2.39 /mBTU average for October 2020. Average natural gas prices declined by 1.5% in November 2020 compared to the same month a year ago.





## Sector News

### Local News

- **Turkish Wind Energy Association (TÜREB) holds first meeting of Turkey Wind Energy Congress.** The Minister of Energy and Natural Resources, Fatih Dönmez, spoke at the meeting where he stated that the wind power sector in Turkey would demonstrate success with the advancements in local technologies. Dönmez pointed to improvements in infrastructure resulting from the requirements of local technology, R&D and innovation in Renewable Energy Resource Zones competitions. Attending the panel, the Minister for Industry and Technology, Mustafa Varank, stated that the government sought to place emphasis on renewable energy resources, therefore minimizing reliance on oil and natural gas. Varank also announced that an industrial base for wind power companies may be established near the Çandarlı Port in İzmir. (November 26, 2020)

- **Sabancı University Istanbul International Energy and Climate Center (IICEC) releases Turkey Energy Outlook report.** The report involves two scenarios for the evolution of Turkey's energy sector by 2040. According to the Director of Research at IICEC Bora Şekip Günay, the report consists of insights and policy recommendations towards strengthening energy security, increasing utilization of local resources, ensuring energy efficiency, establishing infrastructure for clean energy, supporting sustainable energy systems and competitive energy markets. Data from the report suggest that share of renewable energy and nuclear energy in total electricity generation could reach 58% under the reference scenario and 75% by 2040 under the alternative scenario. The share of wind and solar power in total electricity generation, which had stood at 11% in 2019, is expected to reach 36% by 2040 while the share of natural gas in total electricity generation is expected to

decline. However, local gas production is expected increase with the latest discoveries in the Black Sea region. The reference scenario suggests that 25% of natural gas supplies will be locally sourced. Under an alternative scenario, 51% of natural gas supply would be local. (November 24, 2020)

- **Opening of Forward Electricity Market (VEP) postponed.** According to a statement released on the website of Energy Markets Management Inc. (EPIAŞ), the opening date of the VEP was postponed until June 1st, 2021. Prior to adjournment, the opening of VEP had been scheduled to take place on December 1st, 2020. (November 23, 2020)

- **Turkey's "wind database" open for access.** The Turkish Wind Energy Association enabled access to its wind energy database which provides information of installed capacity and current wind energy projects under construction. The database also provides data on hourly, monthly and annual electricity generation, a map of the distribution of wind power plants across Turkey and electricity generation by firm, project and city. (November 18, 2020)

- **Gazprom Export held tender for Electronics Sale Platform (ESP) to make first spot pipeline gas import.** With these tenders, natural gas from Russia will be purchased at spot prices. The Energy Market Regulatory Authority (EMRA) had completed first capacity allocation tender through the electronic platform on September for the Malkoçlar entry point. After EMRA's tender, Gazprom Export held five tenders for the sale of natural gas to Turkey through ESP and signed a deal for the import of 700,000 cubic meters of natural gas. (November 18, 2020)

- **National Energy Balance Tables for 2019 released.** According to a table compiled by the Ministry of Energy and Natural Resources, total final energy consumption in 2019 reached 110.8 million tonnes of oil equivalent, marking a 1.5% increase compared to last year. Of the final energy consumption, 37.1% was oil and petroleum products, whereas natural gas accounted for 23.3% of the total with 19.8% being electricity. In 2018, the proportions were 38.2% for oil and petroleum products, 22.2% for natural gas and 19.9% for electricity.

- **Law on Renewable Energy Resource Zones Guarantee Document (YEK-G) published in the Official Gazette.** According to law, companies holding licenses for electricity generation and supply will be required to participate in the market which will be initiated by Energy Market Management Inc. (EPIAŞ). Hybrid plants may also participate on the condition of that their generation is solely based on renewable energy. Unlicensed electricity generation plants and others will not be permitted to participate in the market. The regulation will be effective with effect from June 1st, 2020. (November 16, 2020)

- **Energy Market Regulatory Authority (EMRA) releases Initial List of Renewable Energy Resources for 2021.** According to the list, a total of 908 plants applied to YEKDEM, with these plants having a total installed capacity of 24,185 megawatts. In 2020, 817 plants with a total installed capacity of 21,860 megawatts were included in YEKDEM. (November 11, 2020)

- **List of power plants to be included in capacity mechanism in 2021 is released.** According to the list which was released by Turkey Electricity Transmission Inc., 46 power plants will take part in the capacity mechanism in 2021. Among these plants, 22 are coal fired plants, 14 are natural gas fired power plants and 10 are hydro-electric power plants. The Lüleburgaz Cogeneration Power Plant, which had been included in the list in 2020, was removed from the list. On the other hand, the Cenal Coal-fired Power Plant and the Bekirli Coal-fired Power Plant were included in the list. (November 9, 2020)

- **Geothermal power plants required to obtain environmental permit and license.** According to the Amendment to Law on Environmental Permits and Licenses, geothermal energy generation plants with a total installed capacity of more than 5 megawatts have been included among in the List of Environmentally Pollutant Plants. Geothermal power plants on this list are required to acquire environmental permit or environmental permit and license documents by June 30, 2021 in order to continue their operations. (November 6, 2020)

- **Tenures signed for Wind Power Renewable Energy Resource Zones and Allocation of Conjunction Capacities Competition, which had been held on May 30<sup>th</sup>, 2019.** According to a statement from the Ministry of Energy and Natural Resources, the work on renewable energy resource zones in the designated regions is set to continue. The competitions were held as a Dutch auction for four distinct regions each with capacities of 250 megawatts. Enercon, which won the auction for the Muğla and Balıkesir regions, had offered USD 0.04 / kWh for Muğla's capacity rights and USD 0.0353 / kWh for Balıkesir's capacity rights. In addition, EnerjiSA, which won the rights for the Aydın and Çanakkale regions, acquired capacity rights for USD 0.0456 / kWh and USD 0.0367 / kWh for the two areas respectively. (November 6, 2020)

- **Turkey Electricity Transmission Inc. releases Capacity**

**Mechanism Payment List for September 2020.** According to the list, 39 electricity generation plants will receive TRY 111.7 million in total. The total payment in the previous month stood at TRY 135.2 million. In September, 17 coal power plants, 14 natural gas plants and 8 hydropower plants will receive capacity mechanism payments. The highest payment of TL 7.043 million will be made to the Soma Coal Power Plant, the Kemerköy Generation Plant and the Yatağan Coal Power Plant, all receiving TL 6.273 million. (November 5, 2020)

- **Aksa Energy applies to Energy Market Regulatory Authority (EMRA) to export electricity to Iraq.** Aksa Aksen Energy Trade Inc., an affiliate of Aksa Enerji, had signed agreement with the Iraqi importers, on the sale of electricity with up to 150 megawatts of capacity. (November 4, 2020)

## News From Abroad

- **Organization of Petroleum Exporting Countries (OPEC) and OPEC+ member to convene.** No agreement has yet been reached on postponing or ending the oil production cuts. In case an agreement is not revised, additional supplies of 1.9 million barrels per day will be activated. The OPEC+ members were expected to extend the production cut for at least another 3 months. (November 30, 2020)

- **International Energy Agency (IEA) releases Oil Market Report for October 2020.** According to the report, global oil demand is expected to stand at 91.3 million barrels per day this year, marking a decline of 8.8 million barrels per day compared to last year. Next year, oil demand is projected to reach 97.1 million barrels per day according to the IEA report, indicating an average increase of 5.8 million barrels per day. The previous month's report had set out projections for demand as 91.7 million barrels per day in 2020 and 97.2 million barrels per day in 2021. (November 13, 2020)

- **OPEC releases Oil Market Report for November 2020.** According to the report, global oil production stood at 91.17 million barrels per day in November, increasing by 580,000 barrels per day compared to the previous month but decreasing by 9.25 million barrels per day compared to the same month of the previous year. The report estimated that global oil demand would reach 90.01 million barrels per day, declining by 9.8 million barrels per day. The October 2020 report had



estimated global oil demand of 90.3 million barrels per day. (November 12, 2020)

- **US Energy Information Administration (EIA) releases “Short Term Energy Outlook” report.** According to the EIA report, global oil demand will decrease by 360,000 barrels per day in 2021. Furthermore, the report estimated that global oil consumption in 2020 stood at 92.9 million barrels per day, marking a decline of 8.6 million barrels per day compared to 2019. The EIA’s previous estimate for global oil consumption in 2020 was 92.8 million barrels per day. (November 12, 2020)

- **International Energy Agency (IEA) releases Renewable Energy 2020 report.** The report predicts that 90% of the in-

crease in global capacity will be due to renewable energy resources. According to report, renewable capacity will stand at 198,000 megawatts in 2020, marking an increase of 4% compared to 2019. In his presentation of the report, the Chairman of the IEA, Fatih Birol, stated that renewable energy would become the biggest source of energy in the world by 2050, eclipsing coal’s dominance for the last 50 years. He also claimed that renewable energy resources would supply one third of global electricity. (November 11, 2020)

- **USA withdraws from Paris Climate Agreement.** Upon the withdrawal of the USA, United Nations revised the list of countries included in the agreement, decreasing the number of participants to 194. (November 5, 2020)





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