

# Monthly Energy Bulletin

TSKB Economic Research

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## Details of the Turkish Lira based YEKDEM were published in the Official Gazette.

According to the Presidential Decree published in the Official Gazette, the unit price to be applied under the Renewable Energy Resources Support Mechanism (YEKDEM) for generation facilities holding the Renewable Energy Resources (YEK) document, which will enter operation from 1 July 2021 to 31 December 2025, was determined as TL 0.40 per kilowatthour (/kWh) for electricity generated by hydroelectric power plants, TL 0.32 /kWh for electricity generated by wind farms and solar power plants, TL 0.54 /kWh for electricity generated from geothermal power plants and TL 0.32 /kWh for electricity generated from resources obtained from by-products of refuse gas or waste tires in biomass power plants, TL 0.54 /kWh for electricity generated in bio-energy plants and TL 0.50 /kWh for generation from thermal disposal.

The domestic contribution price was set at TL 0.08 /kWh and the domestic contribution margin application period was set at 5 years for these plants, where the YEKDEM implementation period will extend for 10 years.

These prices determined will be updated according to the methods determined on a resource basis in January, April, July and October each year in quarterly periods starting from 1 January 2021. Prices will be adjusted each quarter, based on an index in which the Consumer Price Index (CPI) will have a 26% weighting, the Producer Price Index (PPI) will also have a 26% weighting, the USD exchange rate will have a 24% weighting and in which the Euro exchange rate will have a 24% weighting.

An upper limit which is set in dollar terms will be applied when updating YEKDEM prices. This upper limit was determined as USD-cent 6.4 /kWh for the electricity generated from hydroelectric production facilities, USD-cent 5.1 /kWh for the electricity generated from wind and solar power production facilities, USD-cent 8.6 /kWh for electricity generated from on geothermal energy facilities, USD-cent 5.1 /kWh for electricity generated from by-products resulting from the processing of gas refuse or waste tires in biomass based production facilities, USD-cents 8.6 /kWh for electricity generated from biofuels, and USD-cent 8.0 /kWh for electricity generated from thermal disposal.

26.73  
TWh

January Gross  
Generation

297.72  
TL/MWh

Average  
MCP

**-1.22%**

Daily average licensed electricity generation decreased by 1.22% MoM in January, while rising by 0.92% YoY.

[Click](#) for details.

**1.49%**

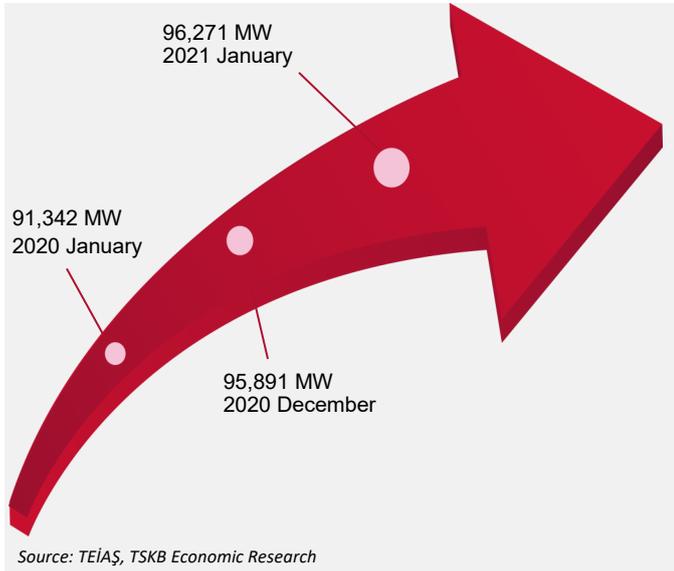
Market Clearing Price (MCP) increased by 1.49% MoM in January, and fell by 5.37% YoY.

[Click](#) for details.

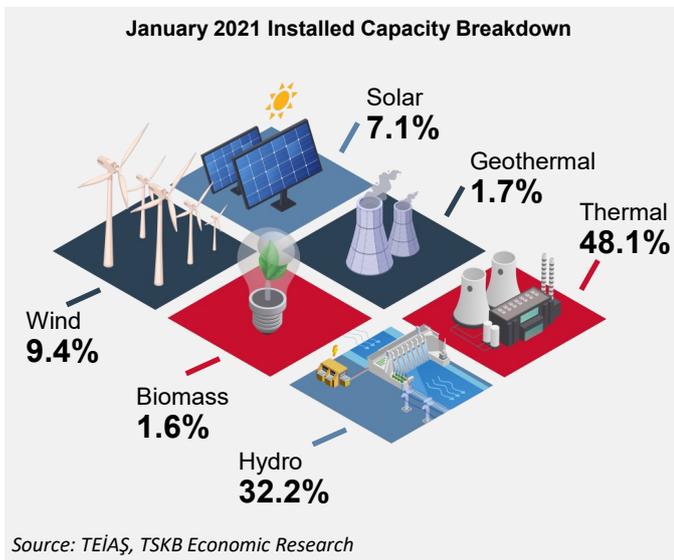


# Installed Capacity Analysis

Turkey's total installed capacity, which reached 91,342 megawatts (MW) at the end of January 2020, stood at 96,271 MW at the end of January 2021. In January, wind power plants with a total net installed capacity of 175 MW was commissioned. In January, the total net installed capacity of solar power plants increased by 138.4 MW and the total net installed capacity of hydroelectric power plants increased by 9.9 MW.

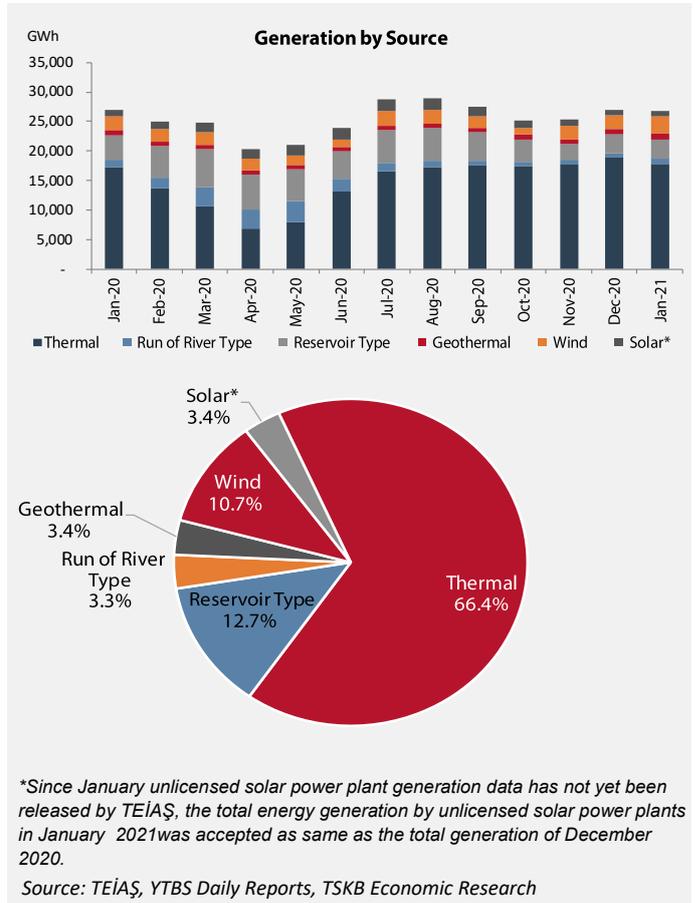


Of all the power plants in operation during January, 51.9% of the capacity consisted of power plants generating electricity from renewable resources. Thus, the share of renewable power plants in total installed capacity continued to stay above 51%. Hydroelectric power plants accounted for 32.2% of Turkey's total installed capacity in January, while the combined share of wind and solar power plants amounted to 16.4%.



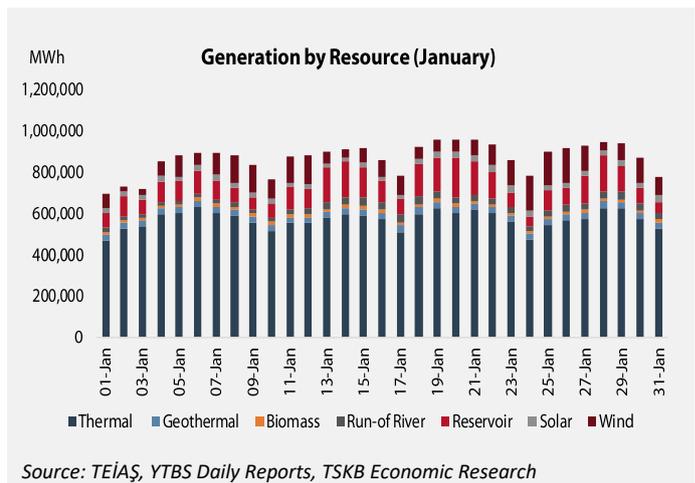
# Electricity Generation Analysis

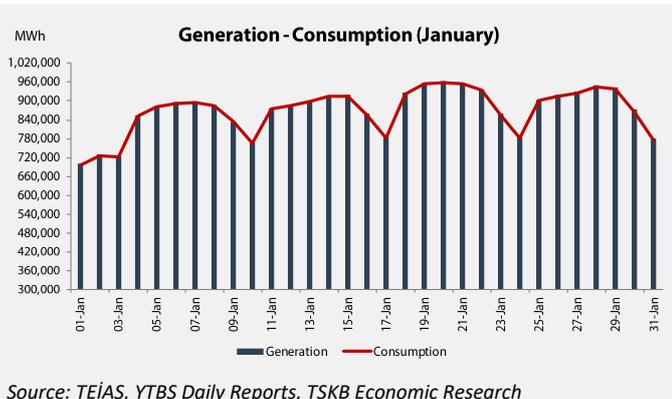
Turkey's total electricity generation stood at 26.73 terawatt-hours (TWh) in January, comparing with a figure of about 27.06 TWh in December 2020. Average daily electricity generation in January decreased by 1.2% compared to December. On the other hand, average daily electricity generation in January declined by 0.9% compared to the same month in the last year.



Thermal power plants, which had supplied 69.9% of the electricity generated in December, accounted for 66.4% of the total electricity generated in January.

After accounting for 11.9% of electricity generated in December, hydroelectric power plants provided 12.7% of the total monthly electricity generated in January 2021. Renewable power plants, which comprised an average share of 42.5% in electricity generation throughout 2020, accounted for 33.6% of all electricity generated in January 2021. In the same period, hydroelectric power derived from dam-type power plants provided a 12.7% contribution to total generation, with wind power plants accounting for 10.7% of total generation.





Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

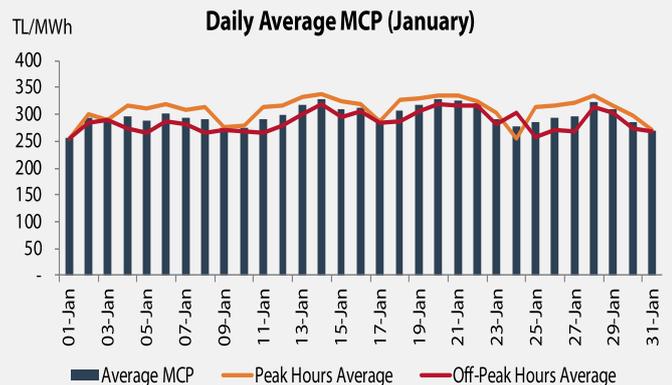
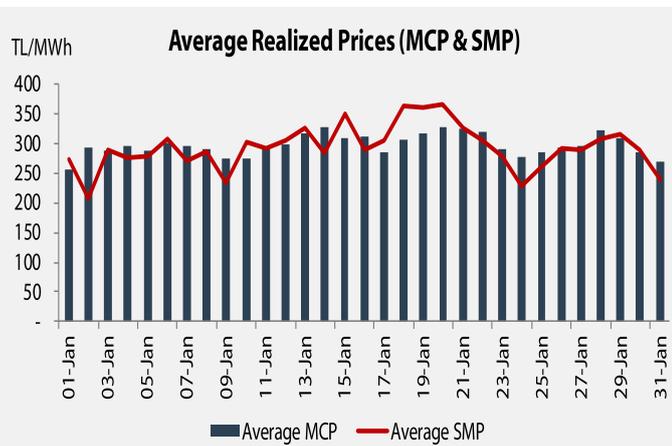
In January 2021, the average amount of electricity generated by licensed power plants was 870,753 MWh per day. The highest generation realized by licensed plants during January was 962,169 MWh, recorded on Wednesday, 20<sup>th</sup> January. The lowest volume of generation by licensed plants during the same period was 699,290 MWh, which was realized on Friday, 1<sup>st</sup> January.

Daily electricity consumption averaged 867,571 MWh in January. The highest amount of consumption during the month was recorded on Wednesday, 20<sup>th</sup> January (959,045 MWh), while the lowest level of consumption was recorded on Friday, 1<sup>st</sup> January (695,964 MWh).

## Electricity Price Analysis

In January, the average daily market clearing price (MCP) and system marginal price (SMP) stood in a range of TL 200 /MWh to TL 370 /MWh. The average MCP for January 2021 was TL 297.7 /MWh, while the average SMP was TL 293.6 /MWh in the same period. The lowest average MCP value was recorded on Friday, 1<sup>st</sup> January, at TL 255.9 /MWh, while the lowest average SMP was TL 208.6 /MWh on Saturday, 2<sup>nd</sup> January.

Compared to the average MCP in December, the January average was recorded 1.5% higher. It is thought that the increase in electricity consumption was behind this increase.

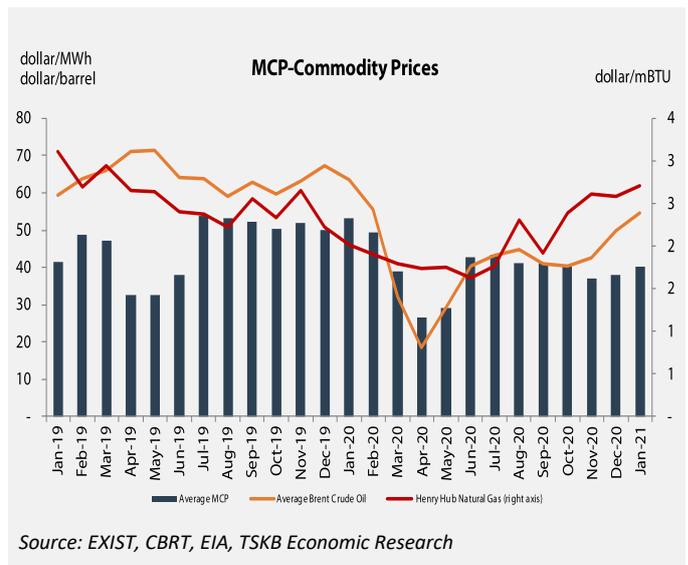


Source: EXIST, TSKB Economic Research

The daily average MCP for January stood at TL 309.1 /MWh for peak hours (from 8AM to 8PM), 3.8% higher than the daily average value. The highest peak-hour average recorded was TL 336.8 /MWh on Thursday, January 14<sup>th</sup>, while the lowest peak-hour average was TL 254.2 /MWh, recorded on Sunday, January 24<sup>th</sup>.

Average pricing in off-peak hours (from 8PM to 8AM) for the same period stood at TL 286.3 /MWh. The highest off-peak hour average was TL 318.6 /MWh, recorded on Wednesday, January 20<sup>th</sup>, with the lowest off-peak-hour average, of TL 256.3 /MWh, recorded on Friday, January 1<sup>st</sup>.

While the annual average MCP was USD 40.07 /MWh in 2020, the average MCP in January 2021 was realized as USD 40.26 /MWh. MCP prices increased by approximately 6.0% in dollar terms in January compared their December 2020 level. MCP prices in dollar terms were 24.3% 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 41.76 /barrel in 2020, averaged USD 54.77 /barrel in January 2021, remaining below their pre-COVID-19 levels. Brent crude oil prices were also up by 9.6% in January when compared to the previous month, while 14.0% lower than their level at the same period of the previous year.

The average price of Henry Hub natural gas was USD 2.71 /mBTU in January 2021, 4.6% higher than the USD 2.59 /mBTU average for December 2020. Average natural gas prices increased by 34.2% in January 2021 compared to the same month a year ago.





## Sector News

### Local News

- **The Energy Market Regulatory Authority (EMRA) published its sector market reports for November 2020.** According to the "Electricity Market Sector Report", published in November 2020, licensed electricity production increased by 7.3% compared to November of the previous year, to stand at 24.96 TWh. Coal plants accounted for 36.4% of the licensed electricity production, with natural gas plants accounting for 33.2% of the total and hydroelectric power plants accounting for 13.3%. The rise of industrial production and consumption due to lighting were behind the increase in electricity generation. According to the "Natural Gas Market Sector Report", Turkey's natural gas imports increased by 32.1% YoY to reach 5.15 billion cubic meters (bcm) in November 2020. Approximately 4.29 bcm of the natural gas was imported through pipelines while 0.86 bcm came through liquefied natural gas plants. Natural gas consumption also increased by 33% YoY in November to reach 4.61 bcm. Natural gas consumption in power plants increased by 59% to 1.46 bcm, while domestic consumption of natural gas in homes increased by 49% to 1.15 bcm. According to the "Oil Market Sector Report", Turkey's total crude oil imports decreased by 3.8% YoY to 2.57 million tonnes in November 2020. During this period, Russia accounted for the highest level of imports of crude oil (890,460 tonnes), followed by Iraq (746,810 tonnes) and Kazakhstan (518,090 tonnes). (29 January 2021)

- **There was a 6% YoY decrease in the amount of oil passing through pipelines in 2020.** According to data released by Boru Hatları ile Petrol Taşıma A.Ş. (BOTAŞ), the amount of crude oil transported by pipeline over Turkey decreased by 6%

and stood at 456.44 million barrels in 2020. In 2019, 485.81 million barrels of oil were transported by the same pipelines. (27 January 2021)

- **The natural gas forecast for 2021 was announced.** The EMRA projection, published in the Official Gazette, was for natural gas consumption of 50.86 bcm in 2021. It was estimated that Turkey's natural gas consumption stood at approximately 52.02 bcm in 2020. (25 January 2021)

- **The Competition Board gave the go-ahead to Ahlatcı Holding's takeover of the sole control of Enerji Yatırım Holding A.Ş. (Energy Investment Holding).** With the partnership of the Partners Group, Enerya Enerji A.Ş. holds a 30-year natural gas distribution license in 10 cities, including Konya, Karaman, Aksaray, Ereğli, Erzincan, Antalya, Denizli, Aydın, Nevşehir and Niğde. This partnership currently serves more than 1.4 million subscribers with an annual natural gas sales volume of 4 bcm and a network length of 15,000 km. (22 January 2021)

- **An addendum for the price escalation of the Mini Renewable Energy Resource Area (Mini YEKA) competitions was published.** The addendum issued by the Ministry of Energy and Natural Resources (MENR) states that the mini YEKA unit prices will be updated quarterly based on movements in the CPI and PPI, and the dollar and euro exchange rates. The price determined at the end of the competition will be updated quarterly with a formula with a weighting of 26% to the CPI, 26% to the PPI, 24% to the dollar exchange rate and 24% to the euro exchange rate.

- **Aksa Energy will double the capacity of the natural gas plant in the Congo.** According to a statement issued to the Public Disclosure Platform, a concession agreement was signed between Aksa Energy Company Congo, a subsidiary 100% owned by Aksa Enerji Üretim A.Ş., and the Democratic Republic of the Congo, for the right to operate the 50 MW capacity natural gas plant in the city of Pointe-Noire for a period of 30 years. Under the agreement, the installed power of 50 MW will be increased to 100 MW by Aksa Energy Company Congo which will invest in the capacity increase. (22 January 2021)

- **Aksa Energy signed an agreement to build an additional natural gas plant in Uzbekistan.** In addition to the natural gas combined cycle plant with an installed capacity of 240 MW, Aksa Energy announced that it would build a natural gas combined cycle plant with an installed capacity of 230 MW in Tashkent, the capital of Uzbekistan. However, it also reported that it had signed a new agreement to build a natural gas combined cycle plant with an installed capacity of 270 MW in Bukhara. According to the statement issued on the Public Disclosure Platform, the amended agreement includes the sale of electricity generated at both of the plants to be built in Tashkent, for a period of 25 years for a guaranteed capacity fee. All three plants are planned to be commissioned in the last quarter of 2021. (21 January 2021)

- **Four power plants were commissioned in Manisa.** In the opening ceremony, attended by the President Recep Tayyip Erdoğan, one domestic coal power plant and three geothermal power plants with a total installed capacity of 594.5 MW were commissioned. President Erdoğan said, "Our geothermal installed capacity, which was just 18 MW in 2002, has now reached 1,613 MW. With this figure, Turkey has risen to first ranking in Europe and fourth in the world in terms of geothermal energy." The Minister of MENR, Fatih Dönmez, said that the four power plants, realized with a total investment of USD 1.37 billion, would save the need to import USD 180 million worth of natural gas. The commissioned plants include the 510 MW capacity Soma Kolin Thermal Power Plant, the 2nd and 3rd units of the Salihli Geothermal plant, which have a total installed power of 54.5 MW, and the 30 MW capacity ALA 2 Geothermal plant. (18 January 2021)

- **The Trans Anatolian Natural Gas Pipeline Project (TANAP) is projected to provide more than USD 1.5 billion in annual transportation revenues.** The General Manager of TANAP, Mr. Saltuk Düzyol, said in a statement that the amount of natural gas bought by BOTAŞ from TANAP had amounted to 8.4 bcm as of the end of 2020 and that the total amount of natural gas entering Turkey through TANAP would increase to 12 bcm by 30 June 2021. Mr. Düzyol also stated that annual transportation revenue would exceed USD 1.5 billion once full capacity was reached in 2022. (15 January 2021)

- **Applications for the Mini YEKA will be received between 8th and 12th March 2021.** With the amendment decision published in the Official Gazette, the competition applications, which had been scheduled to take place between 18th and 22nd January, were postponed to between 8th and 12th March. With the same decision, the competition ceiling price set for the sale of electricity was updated from TL 0.30 to TL 0.35 /kWh. (12 January 2021)

- **Gold production broke a new record in 2020.** The Minister of MENR, Fatih Dönmez, stated that gold production had

reached 42 tonnes in 2020, contributing USD 2.4 billion to the economy. Mr. Dönmez added that a total of 18 gold mines, both domestic and foreign owned, were continuing to produce in Turkey. He said "20 new gold mine projects are counting down the days for investment. With the commissioning of these projects, we will be in a position to increase our annual gold production to 100 tonnes." (8 January 2021)

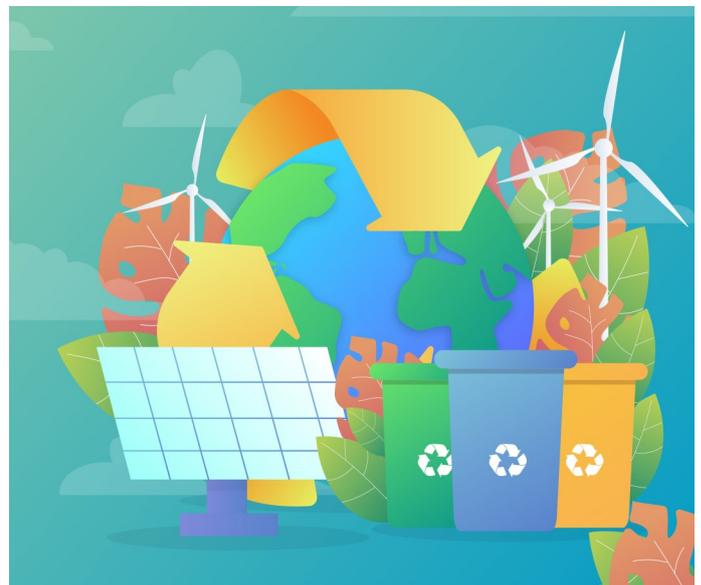
- **Distribution fees for unlicensed power production plants updated.** The decision taken by EMRA was published in the Official Gazette. According to the published decision, the distribution fees of the plants which entered operation before 31 December 2017, was set at TL 0.052874 /kWh. The distribution fees of the plants which entered operation after 31 December 2017 has been set at TL0.211497 /kWh. (4 January 2021)

- **The capacity mechanism payment list for November was published.** A total of TL 166.42 million capacity payments will be made to 39 power production plants for November, according to the data released by Türkiye Elektrik İletim A.Ş. (TEİAŞ). Within the scope of the capacity mechanism, the highest payment for November will be made to Soma Termik Santral Elektrik Üretim A.Ş. with TL 10.5 million. (4 January 2021)

- **The final YEK list for 2021 was updated.** The deadline for applications for the final YEK list for 2021 had been extended from 31 October 2020 to 21 December 2020. As a result of the applications made within this scope, 17 more production facilities were included in the final YEK list for 2021. Thus, in 2021, the number of licensed power plants which will benefit from YEKDEM increased to 927. (4 January 2021)

- **EMRA announced its YEKDEM cost forecast for 2021, setting out its expectation for an average cost of TL 125.15 /MWh.** YEKDEM unit cost estimates are announced monthly, with a January's estimate standing at TL 98.44 /MWh, while the May estimate was TL 155.47 /MWh. (4 January 2021)

- **TEİAŞ's system usage revenue ceiling for 2021 was determined.** EMRA lowered TEİAŞ's revenue ceiling for 2021 by 6.45% compared to the revenue ceiling for 2020 and it was set at TL 12.35 billion. The Company's system operating revenue ceiling for 2021 stood at TL 3.26 billion. This figure was first reported as TL 1.56 billion for 2020 and reduced to TL 963.94 million in July. (4 January 2021)



## News From Abroad

- **Global demand for natural gas decreased by 2.5% YoY in 2020.** According to the International Energy Agency's (IEA) "Natural Gas Report" for the first quarter of 2021, global natural gas demand stood at 3.91 trillion m<sup>3</sup> last year, declining by 100 bcm compared to the previous year. This figure reflects a historic drop in natural gas demand. The report stated that global natural gas demand was expected to end the year 2021 at 4.02 trillion m<sup>3</sup>, marking an increase of 2.8% (110 bcm) from their 2020 level. (28 January 2021)

- **Siemens Gamesa and Siemens Energy will produce green hydrogen.** According to a joint statement made by Siemens Gamesa and Siemens Energy, within the framework of the Paris Agreement the two companies, which went to cooperation with the prediction that the world would need a significant amount of green hydrogen in the future and that most of the energy needed for green hydrogen production would be provided by wind, aim to invest approximately 120 million euros over 5 years. Siemens Gamesa plans to invest 80 million euros while Siemens Energy plans to invest 40 million euros in project development work. (21 January 2021)

- **IEA lowered its forecast for oil demand for 2021.** According to the IEA's "Oil Market Report" for December, global oil demand is set to reach 96.6 million barrels per day in 2021, an increase of around 5.5 million barrels per day compared to 2020. In the November 2020 report, the oil consumption forecast for 2021 had been 96.9 million. However, the report started that global oil supplies stood at around 92.77 million barrels per day in December 2020, an increase of 30,000 barrels/day compared to the previous month. (20 January 2021)

- **In 2020, around 70 million tonnes of methane was released into the atmosphere by the oil and gas sector.** According to the report entitled "Reducing Methane Leaks in the Oil and Gas Sector", prepared by the IEA, methane emissions arising from the oil and gas sector declined by 10% to 70 million tonnes in 2020. The IEA warned that the decrease did not occur as a result of the measures taken by companies within the scope of tackling climate change, and that methane emissions may rise again unless stronger action is taken. (19 January 2021)

- **Oil production from Organization of the Petroleum Exporting Countries (OPEC) increased.** According to OPEC's Monthly Oil Market Report for December 2020, global oil supplies increased by 580,000 barrels per day in December compared to the previous month to reach 92.93 million barrels. OPEC's daily crude oil production also increased by 278,000 barrels per day in December 2020 to approximately 25.36 million barrels. With this increase, OPEC's share in the global oil production increased to 27.3%. According to the report, demand for OPEC crude oil is expected to increase by 5 million barrels per day compared to 2020 and stand at 27.2 million barrels in 2021. Global oil demand is forecasted to increase by 5.9 million barrels per day to reach 95.91 million barrels per day in 2021, according to the report. (15 January 2021)

- **The USA Energy Information Administration (EIA) released its "Short-Term Energy Outlook" report for January 2021.** The EIA estimates that in 2020, the consumption of oil products averaged 92.2 million barrels per day. The report forecasts that the consumption of oil products in 2021 will increase by an average of 5.6 million barrels per day compared to 2020. However, the Brent oil barrel price for 2021 is projected to increase by 26.4% compared to 2020 to average USD 52.70 for the year, according to the report. (13 January 2021)

- **An unexpected decision to cut production was taken at the Ministerial Meeting of OPEC+.** Saudi Arabia's Energy Minister, Mr. Abdulaziz bin Selman, announced that Saudi Arabia would voluntarily cut oil production by an additional 1 million barrels per day in February and March to support the economies of OPEC+ members. However, following the meeting, OPEC announced that Russia and Kazakhstan would hike oil production for two months. According to the statement, Russia will increase its production by 65,000 barrels per day and Kazakhstan will increase its production by 10,000 barrels in February. The countries also plan to increase their production by the same amount in March. Taking this into account, given the additional cut announced by Saudi Arabia, the OPEC+ group's daily production cut amounts will be 8,125,000 barrels in February and 8,050,000 barrels in March. The OPEC+ group will discuss a production cut to be implemented from April, in the meeting to be held on 4th March. (6 January 2021)





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