

Monthly Energy Bulletin

TSKB Economic Research

July 2020 #26

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Green Electricity Tariff published in the Official Gazette

The Energy Market Regulatory Authority (EMRA) determined the “Green Energy Tariff” as 69.9749 kuruş per kilowatt-hour (kWh). The Green Electricity Tariff, known as tariff of electricity generated from renewable energy resources, will apply with effect from August 1, 2020.

The Minister of Energy and Natural Resources, Fatih Dönmez, stated that Green Electricity Tariff (YETA) would enable consumers to shape policies through their preferences and demands. “As consumers demand more renewable energy and the YETA tariff, investments will also increase accordingly.” said Dönmez.

Applications to switch to the YETA will be submitted to related supply companies. Subscribers are permitted to apply twice to switch to YETA. Households and offices which are subscribed to the YETA will be certified and bills to these subscribers will bear a special mark.

In addition, amendments to the Legislation on Renewable Energy Resources Support Mechanism (YEKDEM) were carried out in line with the Green Electricity Tariff. The amendment was published in the Official Gazette on July 28,

28.9
TWh

July Gross
Generation

296.36
TRY/MWh

Average
MCP

20.6%

Electricity generation increased 20.6% in July 2020, when compared to the previous month, and by 0.3% compared to the same month of the previous year.

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1.7%

The MCP increased by 1.7% compared to the previous month in July 2020, while decreasing by 2.7% compared to the same month of the previous year.

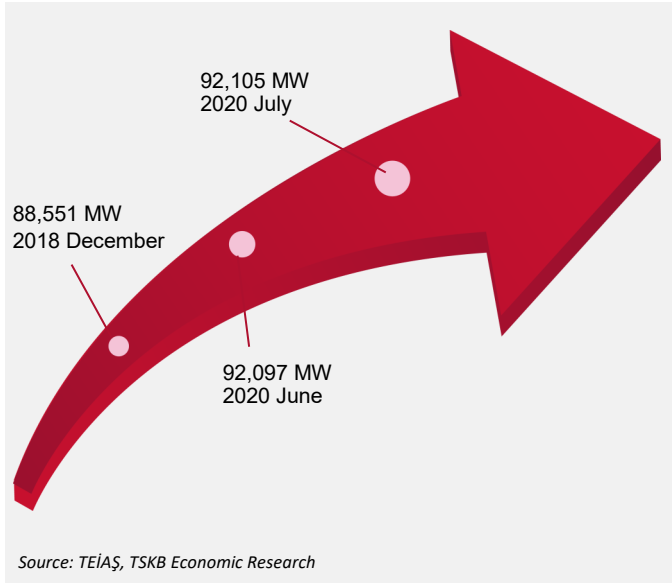
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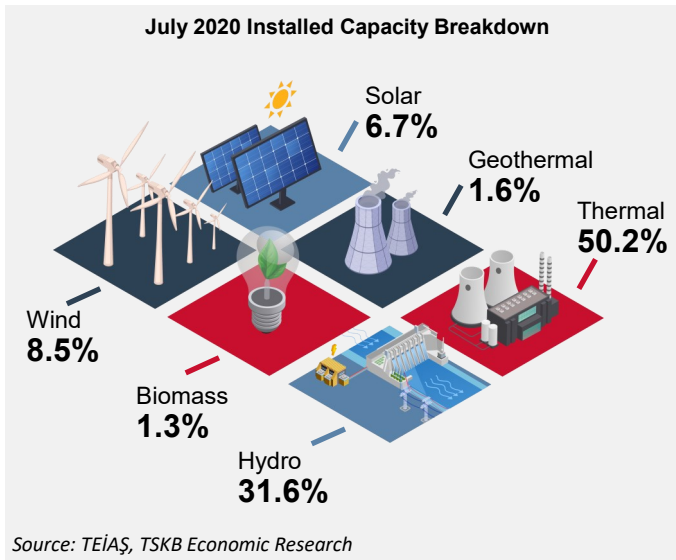
Installed Capacity Analysis

Turkey's total installed capacity, which had reached 91,267 megawatts (MW) at the end of 2019, edged up to 92,105 MW by the end of July 2020. During this period, hydroelectric power plants with a total installed capacity of 4.6 MW were commissioned.

The total installed capacity of natural gas power plants increased by 17.6 MW, with the total installed capacity of wind farms decreasing by 11.1 MW.

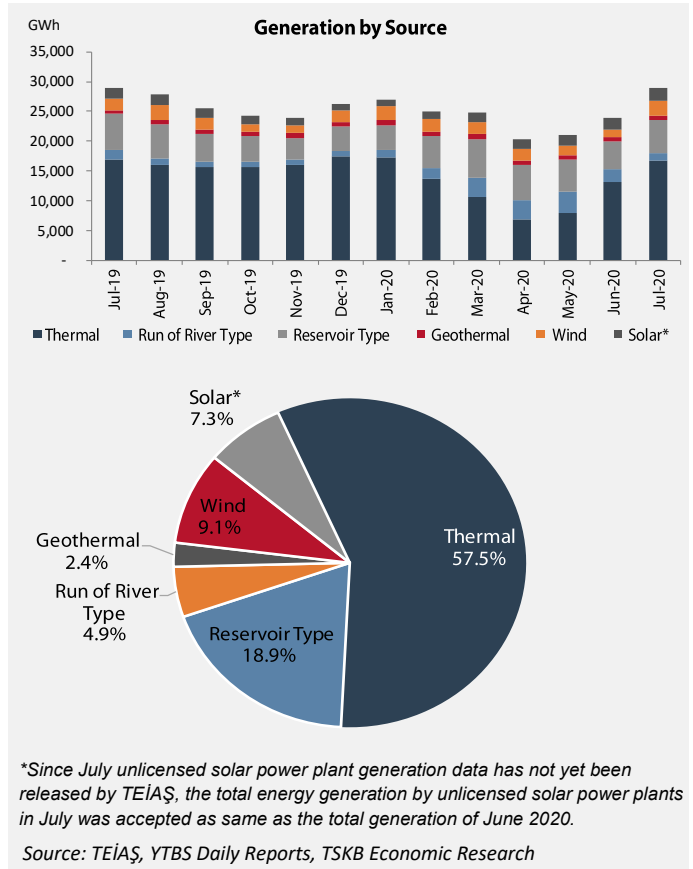


Of all the power plants in operation during July, 49.8% were generating electricity from renewable resources. Thus, the share of renewable power plants remained above 49%. Since hydroelectric power plants accounted for 31.6% of Turkey's total installed capacity in July, the combined share of wind and solar power plants amounted to 15.2%.



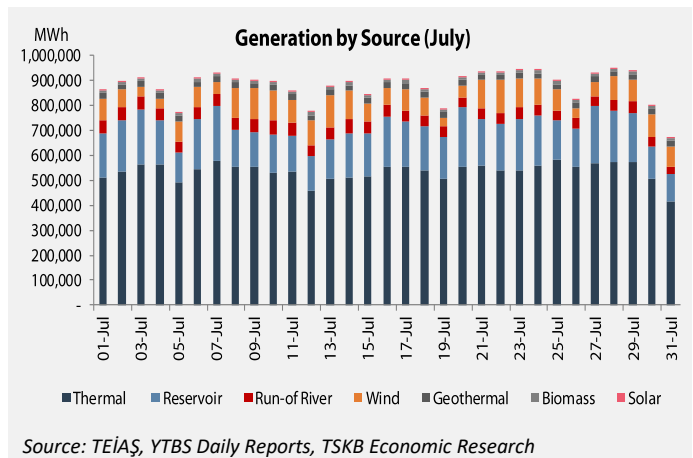
Electricity Generation Analysis

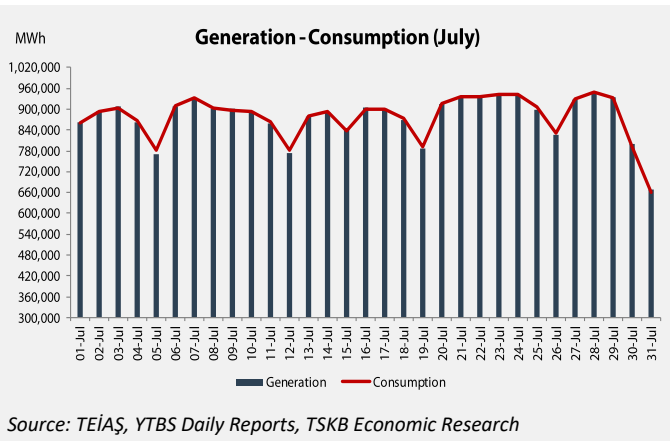
Approximately 24 terawatt-hours (TWh) of electricity was generated in June 2020, while total electricity generation in July 2020 increased to 28.9TWh, marking an increase of 20.6% in average daily electricity generation when compared to the previous month. Moreover, in July 2020, electricity generation increased by 0.3% when compared to the same month of the previous year.



Thermal power plants, which had supplied 55% of all of the electricity generated in June, accounted for 57.5% of the total electricity generated in July 2020. This 2.5 percentage point increase can be attributed to the decline in electricity generated from hydroelectric power plants and the decline in the share of electricity generated from renewable plants due to the increase in demand.

After accounting for 27.9% of electricity generated in June, hydroelectric power plants provided 23.8% of the total electricity generated in July 2020. Another noteworthy development was that renewable power plants, which had an average share of 44.5% in electricity generation throughout 2019, accounted for 42.5% of all electricity generated in July 2020, an increase of 1.1 percentage points over the share in the same period of 2019. In the same period, wind farms provided a 9.1% contribution to total generation.





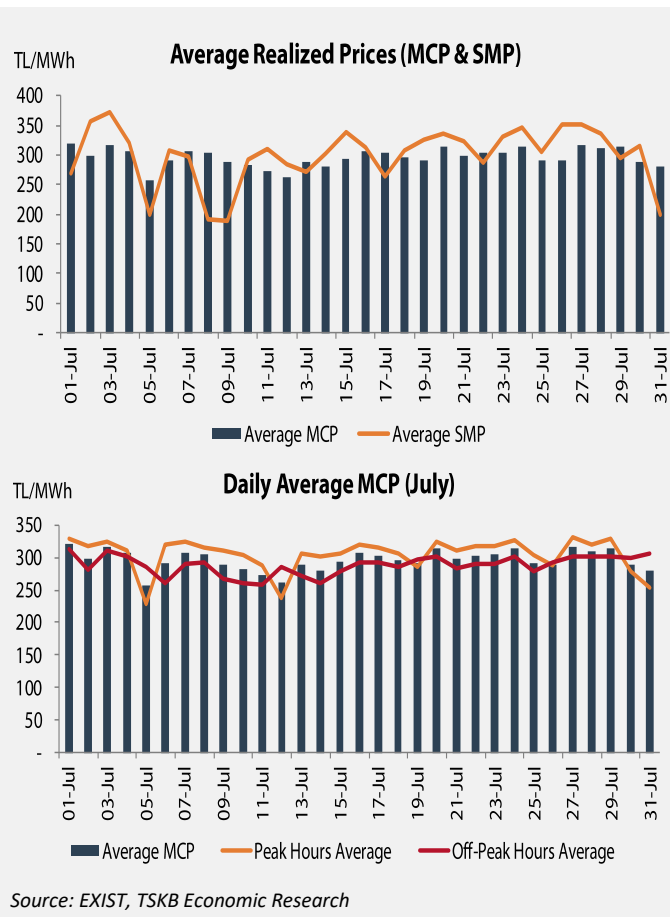
The average daily generation of licensed plants in July 2020 stood at 877,695 megawatt-hours (MWh). The highest level of electricity generation from licensed power plants was realized on Tuesday, July 28th, at 948,706 MWh, with the lowest being on Friday, July 31st, at 669,736 MWh.

Daily consumption averaged 878,744 MWh in July 2020, peaking at 948,337 MWh on Tuesday, July 28th, while the lowest level of electricity consumption, of 661,681 MWh, was recorded on Friday, July 31st.

Electricity Price Analysis

The average market-clearing prices (MCP) and system marginal price (SMP) fluctuated between TRY 185 /MWh and TRY 375 /MWh in July 2020. In the same period, the average MCP stood at TRY 296.36 per MWh, while the SMP averaged TRY 299.34 /MWh. The lowest average MCP, of TRY 257.53 /MWh was recorded on Sunday, July 5th, and the lowest average SMP, of TRY 188.86 /MWh was recorded on Thursday, July 9th.

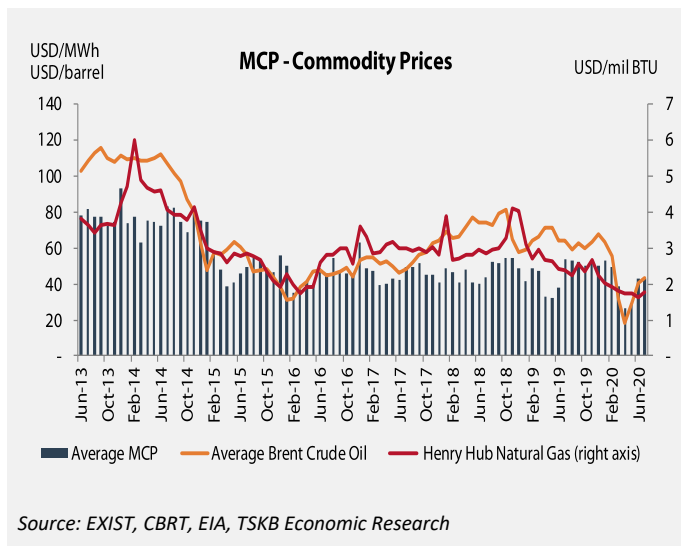
The average MCP for July 2020 increased by 1.7% when compared to the June average. The increase in electricity demand and decrease in the share of renewable power plants in total electricity generation are thought to have been the main reasons for this decline.



The daily average MCP for July stood at TRY 304.75 /MWh for peak hours (from 8AM to 8PM), 2.8% higher than the daily average value. The highest peak-hour average recorded was TRY 331.05 /MWh on Monday, July 27th, while the lowest peak-hour average was TRY 229.28 /MWh, recorded on Sunday, July 5th.

Average pricing in off-peak hours (from 8PM to 8AM) for the same period stood at TRY 287.97 /MWh. The highest off-peak hour average was TRY 311.78 /MWh, recorded on Wednesday, July 1st, with the lowest off-peak-hour average of TRY 259.19 /MWh recorded on Saturday, July 11th.

The annual average MCP in 2018 was USD 47.39 /MWh while the annual average MCP was USD 45.98 /MWh in 2019. The average MCP in July edged down to USD 43.26 /MWh, while the average MCP in first half was USD 40 /MWh, marking an end to the downward trend in the MCP seen earlier in 2020. PTF prices increased by approximately 1.1% value in dollar terms in July when compared to their June level.



Brent crude oil prices averaged USD 43.25 per barrel in July, compared to USD 64.36 per barrel in 2019, the level which oil prices converged to before the COVID-19 outbreak. Brent crude oil prices increased by 7.4% in July when compared to the previous month, while also being 32.3% lower than their level at the same period of the previous year. The average price of Henry Hub natural gas was USD 1.76 per mBTU in July, 8.1% higher than the USD 1.63 per mBTU average for June 2020.





Sector News

Local News

- **Turkish Electricity Transmission Inc. (TEİAŞ) announced its capacity mechanism payments for June 2020.** Payments to 36 electricity power plants totalled TRY 236 million. The highest payments, of TRY 15 million, will be paid to Soma Thermal Power Plant. (July 30, 2020)

- **The European Investment Bank (EIB) provided USD 270 million of credit to the Petroleum Pipeline Company (BOTAŞ).** According to a report in Habertürk, BOTAŞ will invest the credit disbursed from the European Investment Bank (EIB) to the Trans-Anatolian Natural Gas Pipeline Project (TANAP). The period of the credit is reported to be 18 years in total, including a 5 year period with no repayments. (July 29, 2020)

- **Geothermal power plants will be required to have an air pollution measurement vehicle.** According to a statement from the Minister of the Environment and Urbanization, Murat Kurum, all geothermal power plants will be required to have air pollution measurement vehicles installed by the end of this year. (July 27, 2020)

- **The total volume of crude oil transferred through pipelines passing through Turkey declined by 8.9% in June.** According to data released by BOTAŞ, the four pipelines passing through Turkey transferred a total of 36,947,000 barrels of oil in June 2020. (July 23, 2020)

The Competition Authority approved the establishment of a petrochemical company which would be established in cooperation between SOCAR and British Petroleum (BP). According to the statement from the Competition Authority, SOCAR and BP received permission to establish a joint com-

pany in Turkey which will operate in the petrochemicals sector. (July 22, 2020)

- **Turkey plans to utilize hydrogen in heating.** According to a report in Habertürk, natural gas distribution companies designed an R&D project in which hydrogen was utilized as an alternative resource of heating. The project, which is supported by EMRA and is expected to be wound up by the end of 2021, aims to generate 6% of distributed natural gas from hydrogen. (July 22, 2020)

- **A plant with an annual capacity of 10 tonnes of lithium will come on stream.** The Minister for Energy and Natural Resources, Fatih Dönmez, said that the installation of plant, which will offer new technology to recycle lithium stored in the liquid waste of boron producing mines, would begin in July. The plant will start operating by the end of 2020. (July 20, 2020)

- **The Competition Authority issued permit for the acquisition of Kalyon-Türkerler.** The Competition Authority approved the acquisition of part of Kalyon Energy Investments Inc. and Türkerler Construction Tourism Mining Energy Production Trade and Industry Inc. to Efa Group Energy Production Consultancy and Industry Trade Inc. and Metgün Energy Investment Inc. (July 20, 2020)

- **The Petroleum Industry Association (PETDER) released the 2019 Waste Motor Oil Management Project Activity Report.** According to data in the report, the amount of waste oil collected by PETDER and submitted to licensed plants in 2019 totalled 20,946 tonnes, which polluted 20.8 billion m³ of water. (July 14, 2020)

- **Electricity Generation Inc. (EÜAŞ) will sell electricity at the wholesale price to independent consumers in public institutions and designated supply companies.** An amendment to the Legislation on Electrical Power and Capacity Sale of EÜAŞ was published in the Official Gazette. According to the amendment, TEİAŞ may purchase electricity through bilateral agreements for losses in distribution systems. As part of the legislation, EÜAŞ may hold tenders of capacity sales. EÜAŞ may also participate in tenders for capacity increases held by TEİAŞ. (July 14, 2020)

- **Steag will sell the Süloğlu Wind Farm. According to a report in the Habertürk newspaper article, the German company Steag will sell the Süloğlu wind farm located in the Thracian region.** The wind farm has a total installed capacity of 66 MW and 222 million kWh of annual electricity generation. Steag also holds 51% of the shares in the İskenSugözü Power Plant with 1,320 MW of total installed capacity. (July 13, 2020)

- **EMRA issued 13 licenses in June.** According to a statement issued in the Official Gazette, eight new production licences and two new Organized Industrial Zone distribution licenses were issued by the Law of Licensing Electrical Market. A production licence and two supply licences were terminated in June. (July 13, 2020)

- **The Karapınar Solar Power Plant, which will produce Turkey's first integrated solar panels, is expected to operate in August.** The Minister of Energy and Natural Resources, Fatih Dönmez, announced in his statement that a total of USD 1.4 billion would be invested in the solar power plant and the factory. The factory will have the capacity to produce 500 MW of solar panels per year. Mr. Dönmez stated that the solar power plant would contribute USD 400 million towards reducing the current account deficit, adding that once the plant is activated, the share of solar power in electricity generation would increase by 20% according to Dönmez. (July 10, 2020)

- **TÜPRAŞ released its Sustainability Report for 2019.** According to the report, TRY 43.5 million was invested in R&D, with TRY 268 million invested in environmental management and expenses. Processes in which waste water is reused are reported to reduce water consumption in the refineries. Hence, the share of usage of recycled water raised to 41% and water consumption per tonne of refined crude oil declined to 0.6 m³. (July 9, 2020)

- **A liquefied natural gas plant will be built in İzmir.** According to a report in the Habertürk newspaper, ENKA applied to EMRA for installation of a floating storage regasification unit (FSRU) in Aliağa, İzmir. EMRA announced that companies willing to operate in the plant should apply by July 17, 2020. (July 8, 2020)

- **The İstanbul Mineral and Metals Exporters' Association (İMMİB) received European Union (EU) support for its sustainability project, Coralıs.** The project aims to ensure economic sustainability through effective management of industrial waste. Tahsin Öztiryaki, the coordinator of İMMİB, stated that Coralıs was one of eight projects being undertaken by 11 Turkish institutions to have received EUR 4.4 million of support from the EU as part of Horizon 2020. Öztiryaki commented that efforts to promote industrial symbiosis solutions would continue for the next 4 years with support from the EU and EU Commission. (July 8, 2020)

- **The Akıncı Hydroelectric Power Plant (HEPP) started to operate with 99 MW of installed capacity.** In his speech at the opening ceremony of the Akıncı HEPP, the Minister of Energy and Natural Resources Fatih Dönmez stated that Turkey ranked first among the Organisation for Economic Co-operation and Development (OECD) members with an average growth rate of over 6% in installed capacity, adding "Hydraulic power capacity increased from 11,000 MW in 2002 to 29,000 MW in May 2020. In other words, the installed capacity in hydraulic power today is almost equal to the total installed capacity in 2002. We now rank 2nd in Europe in terms of hydraulic power.". In addition, Dönmez pointed out that the Akıncı HEPP would generate 448 million kWh of electricity, thereby providing electricity to 231,000 households and reducing carbon dioxide emissions by more than 230,000 tonnes per year. (July 6, 2020)

- **Applications for 74 different competitions for the Renewable Energy Resource Zones Solar Power Plant-3 (YEKA GES-3) will be received between October 19th – 23rd.** The Ministry of Energy and Natural Resources will hold 74 competitions to place 1,000 MW of total installed capacity in 36 distinct regions. Each competition will be for solar power with differing capacities between 10 MW, 15 MW and 20 MW. The initial price ceiling for electricity energy purchase will be set at 30 kuruş per kWh for each competition with electricity purchases to continue for 15 years. (July 3, 2020)

- **Distribution system utilization and management fees were updated by TEİAŞ.** According to the tariff table released in the Official Gazette, production plants will pay TRY 8.59 per kWh as a system utilization fee, while consumption plants will pay TRY 7.57 per kWh. System utilization fees per megawatt were determined to be between TRY 42,000 and TRY 82,000. System management fees were set TRY 0.73 per MWh for production plants and TRY 0.72 per MWh for consumption plants. (July 3, 2020)

- **Natural gas exports to Turkey have resumed.** The spokesman for the National Iranian Gas Company, Mohammad Asgari, announced that natural gas exports to Turkey had resumed. Iran's natural gas exports to Turkey had been halted due to an attack on pipelines on March 31, 2020. (July 2, 2020)



- **EMRA announced the electricity sale prices effective for the three months starting from July 1, 2020.** Fees for users of distribution systems and total tariffs excluding power fees have been unchanged according to the announced tariffs. Retail one-off energy fees have been raised by rates varying between 0.32% and 8%. (July 2, 2020)

- **EMRA released a draft document for green electricity.** EMRA released two draft legislation documents on the Renewable Energy Resources Guarantee Document (YEK-G) in the Electrical Market and Amendment to Legislation on Certification and Support of Renewable Energy Resources. YEK-G legislation aims to facilitate the renewable energy resource guarantee system which will certify that electricity supplied to consumers is generated from renewable energy resources. (July 2, 2020)

- **BOTAŞ announced 12.5% reduction in the price of natural gas sold to power plants.** According to the Natural Gas Wholesale Price Tariff for July 2020, which was released on the BOTAŞ website, the price of natural gas for household consumption remains unchanged. On the other hand, the price of natural gas sold to power plants has been reduced by 12.5%. Hence the price of natural gas has been set at TRY 1,400 per 1,000 m³. Tariffs for industrial and commercial subscribers were cut by 9.7%. The reduction entered effect from July 1, 2020. (July 1, 2020)

- **EMRA released a statement for investors seeking to install power plants with multiple sources.** According to the statement, investors wishing to install a power plant with multiple sources are required to submit applications in writing between July 1 - August 4, 2020. (July 1, 2020)

- **EMRA released tariff tables in the Official Gazette.** According to the table, EMRA reduced distribution fees on unlicensed electricity generation plants; with effect from July 1, 2020, the distribution fees will be set at 4.51 kuruş per kWh for plants activated before December 31, 2017, and 18.0399 ku-

ruş per kWh for those activated after July 1, 2020. (July 1, 2020)

- **TürkAkım resumed transfers of natural gas.** According to a statement from TürkAkım's project company, the pipeline started to transfer natural gas on June 29 from Anapa in Russia to Turkey, upon completion of maintenance. (July 1, 2020)

News From Abroad

- **Chevron reached an agreement to purchase Noble Energy.** Chevron will buy Noble Energy, a petroleum and gas producer based in Houston, for USD 5 billion. The acquisition amounts to USD 13 billion including the total debt. (July 21, 2020)

- **France will allocate EUR 20 billion for climate investments.** The French Prime Minister, Jean Castex, announced a new rescue package for the French economy worth EUR 100 billion. The package consists of climate focused investments including promoting widespread usage of electric bicycles, supporting local food supplies, urban transformation and renewal of old buildings. (July 17, 2020)

- **Investments in renewable energy increased by 4% globally in the first 6 months of 2020.** According to Bloomberg New Energy Finance, of the USD 137 billion invested in renewable energy, USD 72.5 billion was allocated to wind energy in the first half of 2020. Solar power plants received USD 54.7 billion. China ranked as the country undertaking the highest level of investment in clean energies with a total of USD 41.6 billion, followed by the EU, with USD 36.5 billion of investment. (July 16, 2020)

- **Organization of Petroleum Exporting Countries (OPEC) decided to reduce their daily crude oil production cut by 2 million barrels per day.** After the 20th Meeting of the Joint Ministerial Monitoring Committee which took place via videoconference, Saudi Arabia's Minister of Energy, Abdulaziz bin Selman, announced that members of OPEC+ had agreed to decrease their daily production of crude oil by 9.7 million barrels during May 1-July 31 period. Minister bin Selman stated that the daily reduction in crude oil production would be narrowed to 7.7 million barrels per day as of August 1st. (July 16, 2020)

- **OPEC released its 2020 Annual Statistical Bulletin.** According to the data in the bulletin, global daily crude oil production in 2019 declined by 560,000 barrels on average compared to the previous year, to 75,262,000 barrels. In this period, OPEC's daily crude oil production averaged 29,375,000 barrels per day, declining by 1,863,000 barrels. Hence, OPEC's share in total global crude oil production declined to 39% in 2019, from 41.2% in 2018. In 2019, the U.S. was the world's biggest oil producer, producing 12,232,000 barrels of oil per day. The U.S. was followed by Russia (10,625,000 barrels per day) and Saudi Arabia (9,808,000 barrels per day). (July 14, 2020)

- **The International Energy Agency (IEA) released its monthly oil report.** According to the report, global oil supply declined by 2.39 million barrels per day in June compared to previous month and by 13.4 million barrels compared to June 2019, to 88.86 million barrels per day. The report predicts that global oil demand will decline by 7.9 million barrels per day in 2020, but increase by 5.3 million barrels per day in 2021. (July 13, 2020)



- **The Managing Director of the International Monetary Fund (IMF), Kristalina Georgieva, called on political leaders to utilize policies being implemented to tackle the COVID-19 pandemic to fight climate change.** Georgieva suggested policy makers devised their policies against COVID-19 with consideration for social and environmental gains. (July 10, 2020)

- **The European Commission announced new strategies for the integration of energy systems and hydrogen power, which are considered to be the key investment areas of the European Green Deal.** These strategies aim to activate clean hydrogen potential thereby supporting the EU's goal of achieving net zero carbon emissions and climate neutrality by 2050. According to the new hydrogen strategy, the EU will support the installation of clean hydrogen electrolyzers with at least 46 GW of capacity and the generation of 10 million tonnes of renewable hydrogen by 2030. The Energy System Integration project has three pillars; these pillars involve a circular system in which waste from industrial plants, dataware houses or other sources is reused, an energy efficient framework in which energy is generated from biowaste or waste water management plants, the direct electrification of sectors which are final users of energy, and promoting renewable hydrogen, sustainable biofuels and biogas in sectors which are not appropriate for direct electrification. (July 10, 2020)

- **The President of the European Central Bank, Christine Lagarde, said that the ECB would focus on green goals in their EUR 2.8 billion asset purchase program.** (July 10, 2020)

- **Electricity consumption in the U.S. is expected to decline by 4.3% this year.** According to the EIA's Short-Term Energy Outlook report, energy consumption in the U.S. is expected to decrease from 3.896 billion kWh in 2019 to 3.730 billion kWh in 2020. Consumption is predicted to reach 3.785 billion kWh in 2021. The EIA predicts that the share of renewable energy in

total electricity generation will reach 20% in 2020, up from 17% in 2019, and rise further to 22% in 2021. The report also predicts a Brent crude oil price of USD 41 per barrel – USD 4 per barrel higher than its prediction in its June 2020 report. (July 9, 2020)

- **Seven European countries pledged to strengthen their cooperation on green hydrogen.** The Netherlands, Austria, Belgium, Germany, France, Luxembourg and Sweden, which are members of the Pentalateral Energy Forum, pledged to strengthen their cooperation on hydrogen generation from renewable resources and support hydrogen infrastructure, thereby contributing to efforts to reduce carbon emissions. (July 2, 2020)





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