

Monthly Energy Bulletin

TSKB Economic Research

June 2021 #37

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YEKA RES-3 specifications published

The Wind Power Based Renewable Energy Resource Fields (YEKA RES-3) contest specifications have been published on Official Gazette by the Ministry of Energy and Natural Resources.

According to the specifications that have been published; the contest, which will be organized via auction by the underbidding method in 42 separate areas for a total allowance of 2,000 megawatts (MW) in capacity, will have a ceiling price will of 45 kurus per kilowatthour (kr/kWh). An electricity generation license, valid for 49 years, will be awarded to the winning projects in the contest.

In the projects, the “unit electricity purchase price” will be applied in accordance with the price acquired in the contest but limited to 35 gigawatthours (GWh) per MW in the generation that will begin when the first turbine is activated. That price will be updated each quarter in January, April, July and October. The first update will be completed at the beginning of the second 3-month period that will follow contest date. The pre-license period of the projects will be for a maximum 24 months, and the construction period will be a maximum of 36 months starting from the license date.

YEKA RES-3 contest applications will be received between 10.00 AM - 2.00 PM, on October 12, 2021.

26.89
TWh

May Gross
Generation

402.03 TL/
MWh

Average
MCP

17.61%

Daily average licensed electricity generation decreased by 10.01% MoM, while rising 17.61% YoY in June.

[Click](#) for details.

38.01%

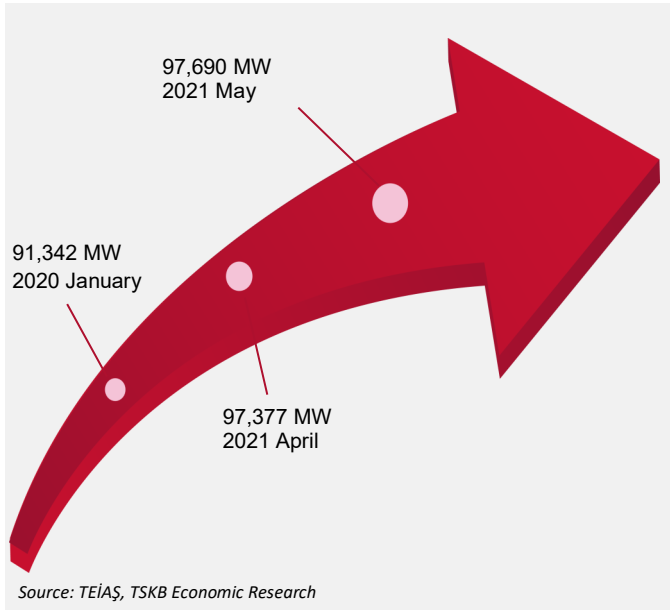
Market Clearing Price (MCP) increased by 38.01% YoY and and by 11.49% MoM in June.

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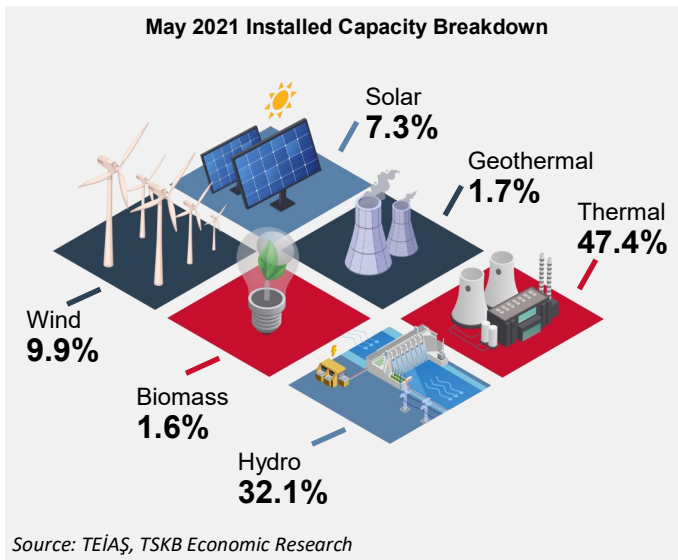


Installed Capacity Analysis

Turkey's total installed capacity, which reached 97,377 MW at the end of April, increased to 97,690 MW at the end of May. In May, wind power plants with a total net installed capacity of 175.7 MW was commissioned. In the same period, the total net installed capacity of solar power plants increased by 88.6 MW.

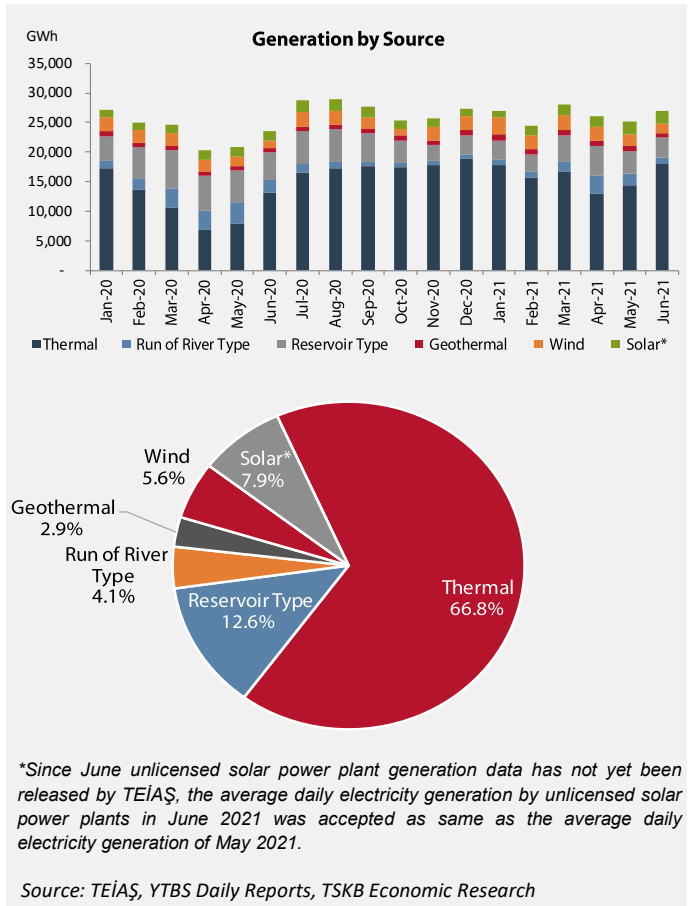


Of all the power plants in operation during May, 52.6% of the capacity consisted of power plants generating electricity from renewable resources. Thus, the share of renewable power plants in total installed capacity continued to stay above 52%. Hydroelectric power plants (HEPP) accounted for 32.1% of Turkey's total installed capacity in May, while the combined share of wind and solar power plants amounted to 17.2%.



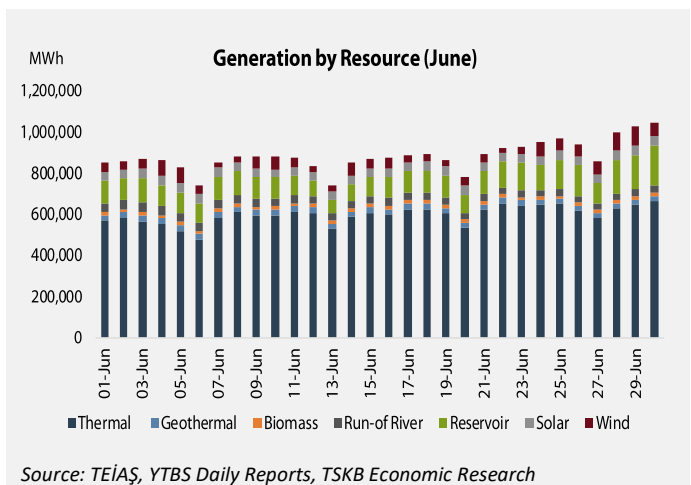
Electricity Generation Analysis

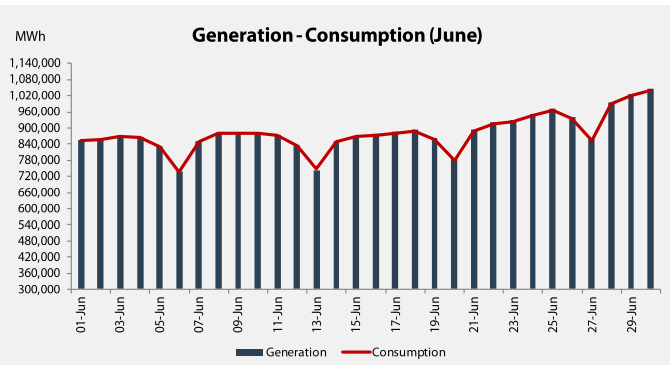
Turkey's total electricity generation increased from approximately 25.26 TWh in May to 26.89 TWh in June. Average daily electricity generation in June decreased by 10.01% compared to May. On the other hand, average daily electricity generation inclined by 17.61% compared to the same month in the previous year.



Thermal power plants, which had supplied 56.9% of the electricity generated in May, accounted for 66.8% of the total electricity generated in June. HEPPs, which had a share at the rate of 22.9% in May, provided 16.7% of the monthly based total electricity generation in June.

Renewable power plants, which comprised an average share of 42.5% in electricity generation throughout 2020, accounted for 33.2% of all electricity generated in June 2021. In the same period, electricity generation derived from dam-type HEPPs provided a 12.6% contribution to total generation, with wind power plants accounting for 5.6% of total generation.





Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

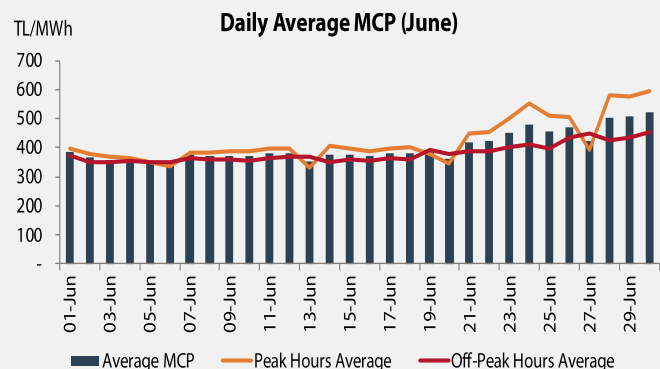
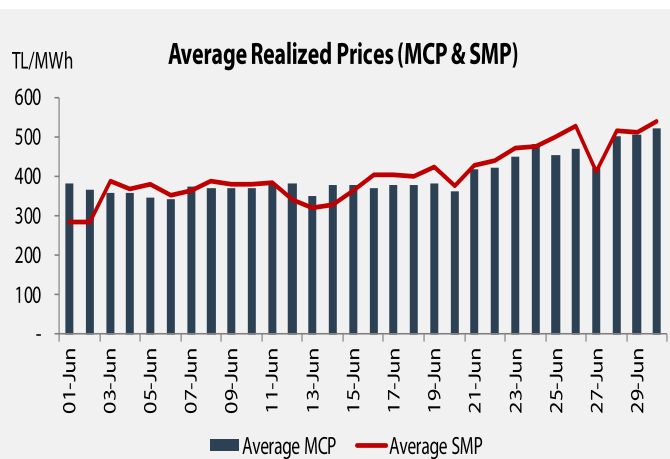
In June 2021, the average amount of electricity generated by licensed power plants was 884,562 MWh per day. The highest generation realized by licensed plants during June was 1,044,190 MWh, recorded on Wednesday, June 30th. The lowest volume of generation by licensed plants during the same period was 742,223 MWh, which was realized on Sunday, June 6th.

Daily electricity consumption averaged 881,251 MWh in June. The highest amount of consumption during the month was recorded on Wednesday, June 30th (1,038,473 MWh), while the lowest level of consumption was recorded on Sunday, June 6th (746,480 MWh).

Electricity Price Analysis

In June, the average daily market clearing price (MCP) and system marginal price (SMP) stood in a range of TL 280 /MWh to TL 545 /MWh. The average MCP for June 2021 was TL 402.03 /MWh, while the average SMP was TL 405.69 /MWh in the same period. The lowest average MCP value was recorded on Sunday, June 6th, at TL 343.71 /MWh, while the lowest average SMP was TL 283.70 /MWh on Tuesday, June 1st.

Compared to the average MCP in May, the June average was recorded 11.49% higher.

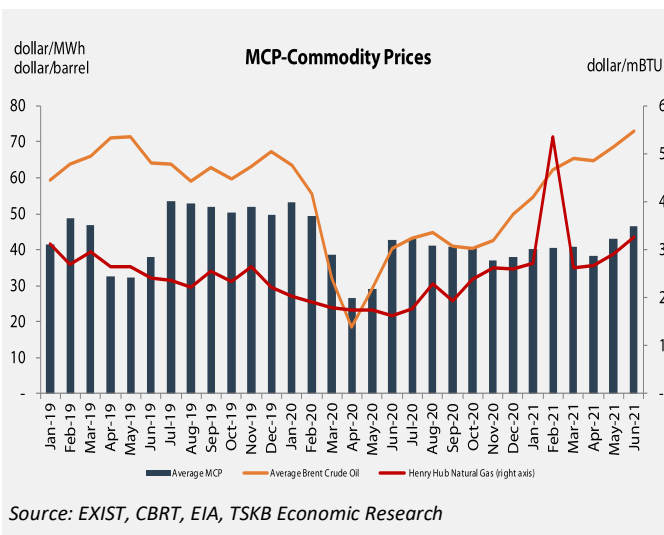


Source: EXIST, TSKB Economic Research

The daily average MCP for June stood at TL 423.46 /MWh for peak hours (from 8AM to 8PM), 5.3% higher than the daily average value. The highest peak-hour average recorded was TL 595.00 /MWh on Wednesday, June 30th, while the lowest peak-hour average was TL 332.91 /MWh, recorded on Sunday, June 13th.

Average pricing in off-peak hours (from 8PM to 8AM) for the same period stood at TL 380.60 /MWh. The highest off-peak hour average was TL 452.71 /MWh, recorded on Sunday, June 30th, with the lowest off-peak-hour average, of TL 348.12 /MWh, recorded on Saturday, June 5th.

While the average MCP in May 2021 was realized as USD 43.15 /MWh, the average MCP in June was recorded as USD 46.68 /MWh. MCP prices in dollar terms were 9.31% higher 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 and USD 68.53 /barrel in May 2021, increased to USD 73.16 /barrel in June. In June, the price per barrel of Brent oil was 6.76% higher than in the previous month and 81.67% higher than in the same period of the previous year.

The average price of Henry Hub natural gas, which had averaged USD 2.03 /mBtu and USD 2.91 /mBTU in May, increased at the rate of 12.03% compared to the previous month and went up to USD 3.26 /mBTU in June. When compared to the same period of the previous year, an increase of 100.53% was observed in June 2021.





Sector News

Local News

- Energy Market Regulatory Authority (EMRA) published its sector market reports for April. According to "Electricity Market Report", licensed electricity production increased by 29.54% to reach 25.01 TWh in April, 2021 in comparison with the same month of previous year. HEPPs accounted for 32.4% of licensed electricity production, with imported and local coal power plants comprising a 29.4% share and natural gas power plants a 22.6% share. The share of the electricity produced by HEPPs was 47.3% in April, 2020. According to "Natural Gas Market Report", the natural gas importation of Turkey increased at the rate of 79.4% and reached up to 4.73 billion cubic meter (bcm) in April, in comparison with the same month of the previous year. Approximately 95.8% of the imports (4.25 bcm) are realised by Boru Hatları ile Petrol Taşıma A.Ş. (BOTAŞ) with 4.2% carried out by private companies. BOTAŞ had an 89.3% share of imports in April, 2020 when natural gas consumption increased by 51.9% to reach 4.90 bcm. According to the "Oil Market Report", Turkey's total crude oil imports increased by 11.04% in comparison with the same month of the previous year to reach 2.61 million tonnes in April. The share of crude oil in total petroleum product imports was realized at 73.13%. (June 30, 2021)

- The investment incentive which has been provided to Kalyon Enerji's solar panel production facility has been revised. In addition to the Photovoltaic Solar Panel with 500 MW_p capacity line, which is included in the first version of the regulation, the revised statement includes the "Photovoltaic Solar Panel" (starting with silicium ingot production, production of wafer, cell and photovoltaic solar panel production), again with 500 MW_p of capacity in a year. Thus, the number of the product groups which will be produced in the facility has increased to two. Besides, with Presidential Decision, the esti-

mated investment amount of the projects, which stood at TL 1.99 billion, has been revised to TL 2.1 billion. (June 29, 2021)

- Underground natural gas storage capacity to increase to 11 bcm by 2023. In a speech given at the Economic Cooperation Organization (EİT) Energy Ministers' Meeting, the Minister for Energy and Natural Resources, Fatih Dönmez drew attention to Turkey's position as the 4th largest natural gas market in Europe, stating that Turkey's regasification capacity was increasing. He remarked that Turkey's underground natural gas storage capacity stood at 4.5 bcm. He went on to discuss the YEKA model, stating that with the YEKA model, the Government was planning to add 10 GW of solar and 10 GW of wind energy capacity in the next 10 years. (June 25, 2021)

- Ertuğrul Gazi Floating Storage and Regasification Unit (FSRU) facility being activated. The Ertuğrul Gazi FSRU will be the first FSRU facility to be operated by BOTAŞ, and will be able to pump 28 million cubic meters (mcm) of natural gas to the natural gas network per day. This capacity represents 8.2% of the total daily natural gas capacity which can be provided to the system in Turkey. The total natural gas storage capacity of the FSRU, located in Hatay, is 108 mcm. (June 25, 2021)

- The first green electricity certificate operations will be realized in the Organized Renewable Energy Resource Guarantee (YEK-G) Market. In the review, the Minister for Energy and Natural Resources, Fatih Dönmez, stated that hydroelectric, solar, wind, geothermal and biomass-based contracts will be traded in the market which is being created with the aim of increasing mobility in renewable energy market and the level of participation. Mr. Dönmez added that YEK-G certificates were being developed within the body of Enerji Piyasaları İşletme A.Ş. (EPIAŞ) by blockchain technology, and that firms can use this document in sustainability reports to certify their carbon foot print. (June 21, 2021)

- **Surplus of determined maximum annual generation to be accepted as actual generation in HEPPs.** According to the decision taken by the EMRA, which was published in the Official Gazette, in hydroelectric facilities the annual maximum generation amount as notified by the General Directorate of State Hydraulic Works (DSİ) had been considered; but under the revision, where the actual generation exceeds this amount, the actualized generation will be considered. Previously, when the actual generation had exceeded the annual maximum generation in hydroelectric facilities, the generation amount corresponding to the capacity factor in the measurement results was accepted as a condition of certifying their feasibility by an accredited institution. (June 21, 2021)

- **Akköprü HEPP to be privatized.** The Privatization Administration of the The Ministry of Treasury and Finance will hold a tender to privatize the Akköprü HEPP, which has an installed capacity of 115 MW and belongs to Electricity Generation Company (EÜAŞ), and the fixed assets being used by this power plant, through the award of operating rights. The deadline for the submission of bids is the close of business on September 14, 2021. (June 16, 2021)

- **Sufficient natural gas to heat houses for 25 years.** In a statement, the Minister for Energy and Natural Resources, Fatih Dönmez, declared that a maximum of 15-20 bcm of natural gas could be produced from a total reserve of 540 bcm, and that this amount could cover residential natural gas consumption for a minimum 25 years. Mr. Dönmez also spoke about the green tariff, adding that "We will pursue environmentally conscious energy models again as well as pursuing renewable resources. Industrial consumers will receive YEK-G certificate to avoid tariffs on the products they sell to Europe. By paying the a slightly higher price, they would then be able to benefit from the green tariff. As a result, they will sell products to the European Union countries without facing any difficulties." The Green tariff is a determined tariff for the electricity generated from renewable energy resources. (June 8, 2021)

- **TL 222.7 million offer made for Tortum HEPP.** According to a statement issued by the Privatization Administration, Mile Enerji A.Ş. submitted the highest offer in the privatization tender final negotiation meetings, with a bid of TL 222,710,000. This power plant, which is in the portfolio of EÜAŞ, has an installed power capacity of 26.2 MW. (June 8, 2021)

- **Additional 135 bcm of natural gas discovered in the Black Sea.** President Recep Tayyip Erdoğan remarked that 135 bcm of new natural gas reserves had been found in the Amasra-1 Well in the Sakarya gas field, thus taking the total volume of discovered natural gas to 540 bcm in the Black Sea. President Erdoğan added that the government was aiming to start extracting the discovered natural by 2023. (June 7, 2021)

- **Gebze Natural Gas Combined Cycle Power Plant (NGCCPP) resumes generation.** The Gebze NGCCPP, which belongs to Enka and had paused its generation, has an installed capacity of 1,540 MW. (June 3, 2021)

- **Electricity Futures Market (VEP) enters operation.** The VEP, which will serve within the body of EPIAŞ, aims to protect market participants from price risk by taking their price expectations into account. In this scope, data related to the daily indicative price in the VEP, the matching amount, the trading volume, the contract price summary and open positions will be available through the Transparency Platform. (June 1, 2021)

News From Abroad

- **Renewable energy costs to continue to decline.** According to the "Renewable Power Generation Costs 2020" report published by the International renewable Energy Agency (IRENA), if coal power plants with 800 GW of capacity around the world are replaced by wind or solar projects with the same capacities, it is estimated that generation costs could decrease by USD 32 billion per year. While costs per unit energy of generation have declined by 80% for solar energy power plants in the last 10 years, there has been a decline of 68% for solar power plants not using photovoltaic technology, a fall of 56% in costs for on-shore and a fall of 48% for off-shore wind power plants. According to the report, it is estimated that the tendency for lower cost in solar and wind projects will continue regardless of regional variations. (June 24, 2021)

- **Solar power now required to be installed on rooftops of all new buildings in Berlin.** According to a statement issued by the Berlin Senate and reported on the Green Economy website, all rooftops of new buildings with at least 50 square meters of available space will be required to have solar panels installed for generation of electricity with effect from January 1, 2023. In the existing buildings, the installation of solar energy installation will be a requirement if significant renovations are to be carried out. (June 21, 2021)

- **A total of 256 GW of renewable energy capacity was brought onstream globally in 2020.** According to the "2021 Renewable Energy Global Situation Report" prepared by the Renewable Energy Policy Network for the 21st Century (REN21), nearly all of the new electricity capacity which was activated in 2020 operated with renewable resources. A total of 256 GW of new renewable energy capacity came on stream in this period, a 30% increase in comparison with the previous year. The share of fossil fuels in global energy consumption stood at 80% during the year. (June 16, 2021)

- **The International Energy Agency (IEA) has not made any adjustments to its global oil demand forecast for 2021.** According to the IEA's "Oil Market Report" for May, global oil demand is forecasted to rise by 6% in 2021 in comparison with the previous year, to average 96.4 million barrels per day. (June 14, 2021)

- **Global oil demand to average 96.58 million barrels per day in 2021.** According to the May "Oil Market Report" prepared by The Organisation of Petroleum Exporting Countries (OPEC), oil demand will reach 96.58 million barrels per day on average in 2021, with an increase of 6.6% over its 2020 level.



Thus, in this report, OPEC raised its projection for oil demand in 2021 by 120,000 barrels per day on average in comparison with the projection set out in its previous month's report. According to the report, global oil supply increased by 630,000 barrels per day in May in comparison with the previous month to reach approximately 93.67 million barrels per day. (June 11, 2021)

- USD 1 trillion of investment needed each year in developing countries to reach zero emission target by 2050. The report, entitled "Financing Clean Energy Transitions in Emerging and Developing Economies", prepared jointly by the IEA, World Bank, and World Economic Forum stated that while current investments in clean energy in developing economies are around USD 150 billion per year, this amount needs to reach USD 1 trillion per year, a seven-fold increase, if the zero-emission goal is to be achieved by 2050. Unless stronger actions are taken in these countries, especially in Asia, Africa and Latin America, an increase in 5 billion tonnes in emissions per year can be expected over the next 20 years. (June 10, 2021)

- Average oil production expected to reach 96.86 million barrels per day in 2021. The USA Energy Information Authority (EIA) published its "Short Term Energy Outlook" report for May. The EIA foresees that production will increase by 2.64 million barrels per day compared to 2020, to reach 96.86 million barrels per day. In April's report, the 2021 projection had stood at 96.72 million barrels per day. The EIA forecasts that production will rise by a further 4.96 million barrels per day to reach 101.82 million barrels per day in 2022. Meanwhile the EIA projects daily average oil consumption of 97.67 million barrels per day in 2021, with an average Brent oil price of USD 65.19 per barrel in 2021 and USD 60.49 per barrel in 2022. (June 9, 2021)

- German enterprises invest EUR 25 billion in the Turkish energy sector. The Minister for Energy and Natural Resources, Fatih Sönmez, stated that German energy firms and finance institutions had invested EUR 25 billion in the energy

sector in Turkey over the last 18 years, creating more than 15,000 jobs. In the speech delivered by Mr. Dönmez in the Turkish-German Energy Forum, he remarked that Germany had undertaken over USD 13 billion in investments in Turkey since 2019. (June 3, 2021)

- Global energy investments to reach USD 1.9 trillion this year. According to the IEA's "Global Energy Investments 2021" report, global energy investments will reach USD 1.9 trillion in 2021, a 10% increase from last year and marking a return to pre-pandemic levels. Investments in the global electricity sector will constitute USD 820 billion of this amount. Renewable energy investments are expected to comprise 70% of the USD 530 billion in investment earmarked for electricity generation capacity with USD 293 billion to be invested in the electricity network and batteries. (June 3, 2021)





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