

# Monthly Energy Bulletin

TSKB Economic Research

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## YEKA candidate fields for YEKA GES-3 bids are announced

The Ministry for Energy and Natural Resources (MENR) announced the candidate Renewable Energy Resources Fields (YEKA) for the bids for the Renewable Energy Resources Solar Power Plants-3 (YEKA GES-3).

In the announcement, the Ministry recalled that agreements had been signed on July 1 with the winning bidders of the contests which were conducted on April 26-29 and May 24-27 within the scope of YEKA Regulation and the "Announcement of the Contest for Solar Power Renewable Energy Resource Fields and Assignment of Connection Capacities". It was also stated in the announcement that as a result of the work carried out with these companies, detailed work had been carried out in announcing candidate YEKAs as a solar power-based renewable energy resource field, with determined fields announced for 35 cities.

In addition, the YEKA GES-5 contest announcement has been published. According to the YEKA GES-5 contest announcement which was published in Official Gazette, the YEKA GES-5 contest will be organized for 1,500 megawatts (MW) of capacity access in 76 different regions in 23 different cities. The capacity size to be provided for the projects will be revised to 10 MW, 20 MW and 30 MW.

The maximum opening price of each contest has been determined as 40 kurus per kilowatthour (kWh). Companies with the winning projects will have a right to sell 23 gigawatthours (GWh) of generation for each 1 MW part of their connection capacities. Applications for the contests will be accepted on January 12, 2022.

<b>28.06 TWh</b>	<b>520.86 TL/ MWh</b>
September Gross Generation	Average MCP

**1.5%**

Daily average licensed electricity generation decreased by 11.6% MoM and increased by 1.5% YoY in September.

[Click](#) for details.

**-6.5%**

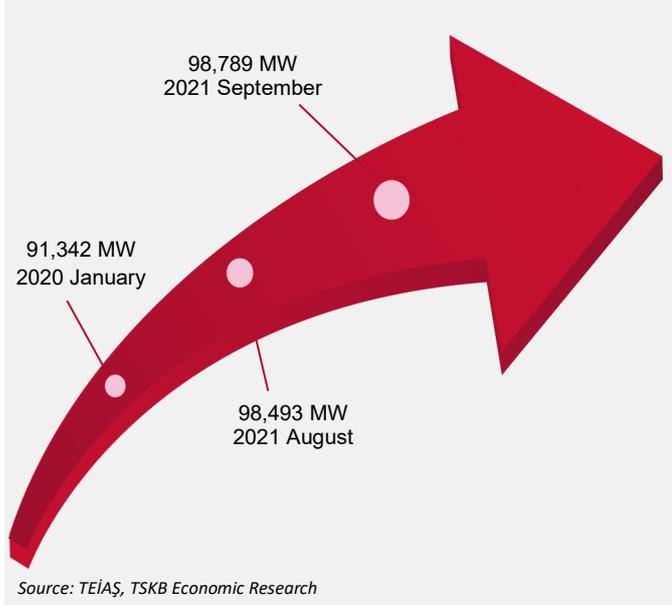
Market Clearing Price (MCP) increased by 69.0% YoY and decreased by 6.5% MoM in September.

[Click](#) for details.

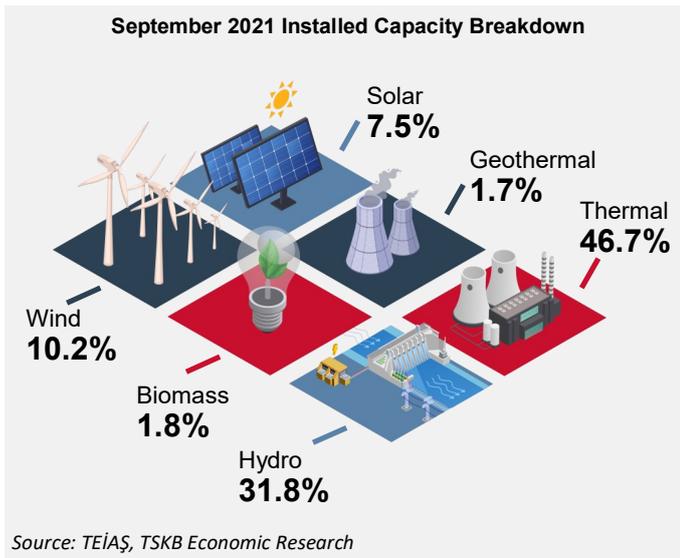


# Installed Capacity Analysis

Turkey's total installed capacity, which reached 98,493 MW at the end of August, increased to 98,789 MW at the end of September. In September, wind power plants with a total net installed capacity of 153.4 MW was commissioned. In the same period, the total net installed capacity of solar and renewable waste power plants increased by 99.1 MW and 56.8 MW, respectively.

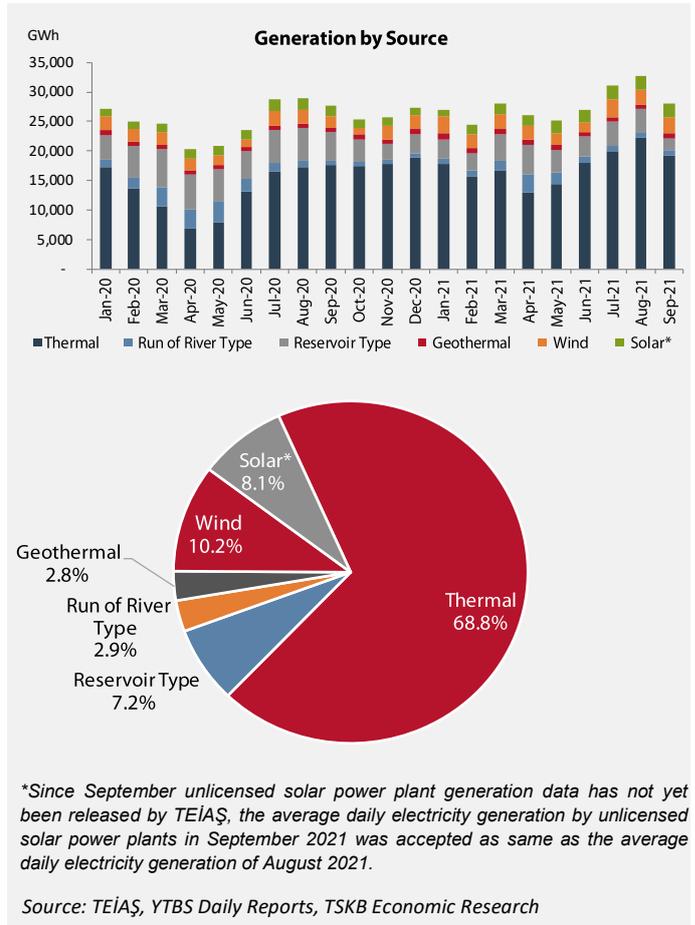


Of all the power plants in operation during September, 53.3% of the capacity consisted of power plants generating electricity from renewable resources. Thus, the share of renewable power plants in total installed capacity continued to stay above 53% levels. Hydroelectric power plants (HEPP) accounted for 31.8% of Turkey's total installed capacity in September, while the combined share of wind and solar power plants amounted to 17.9%.



# Electricity Generation Analysis

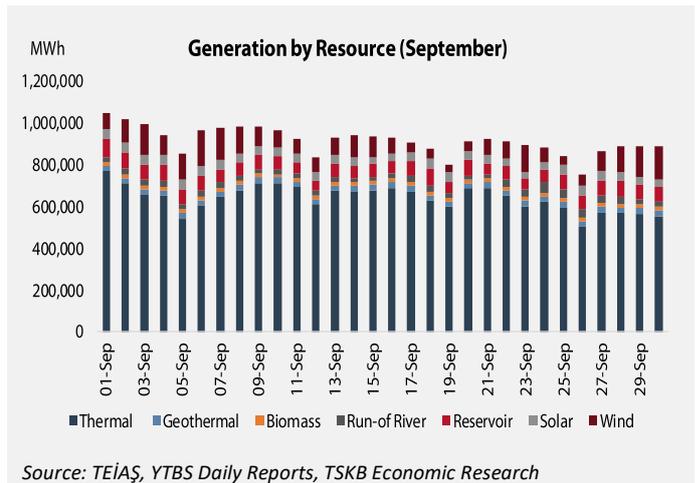
Total electricity generation, which stood at 28.06 terawatt-hours (TWh) in September, compared to 32.81 TWh in August, representing an 11.6% fall compared to the daily average electricity production compared to August but a 1.5% increase when compared with the same month of the previous year.

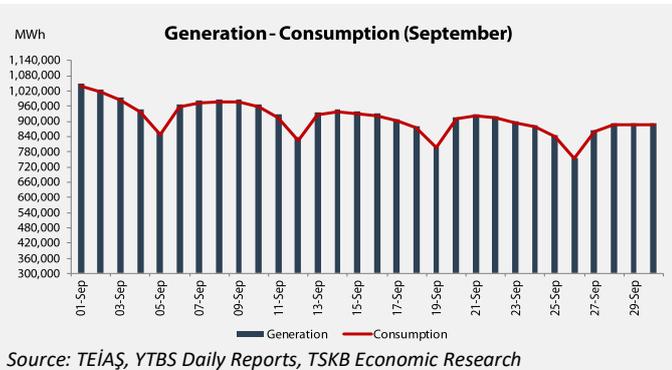


\*Since September unlicensed solar power plant generation data has not yet been released by TEİAŞ, the average daily electricity generation by unlicensed solar power plants in September 2021 was accepted as same as the average daily electricity generation of August 2021.

Thermal power plants, which had provided 68% of the total electricity generation in August, generated 68.8% of Turkey's total electricity in September. The proportion of electricity generated by hydroelectric power plants declined by 14.6% in August to 10.2% in September, which was the lowest monthly rate recorded since 2018.

In 2020, renewable energy power plants accounted for 42.5% of electricity generation; this proportion stood at just 31.2% in September 2021. In the same period, while dam-type hydroelectric power plants contributed 7.2% to total production, with wind farms providing 10.2% of total production. The share of natural gas power plants in total production, which stood at 38.4% in August, reached 38.8% in September.





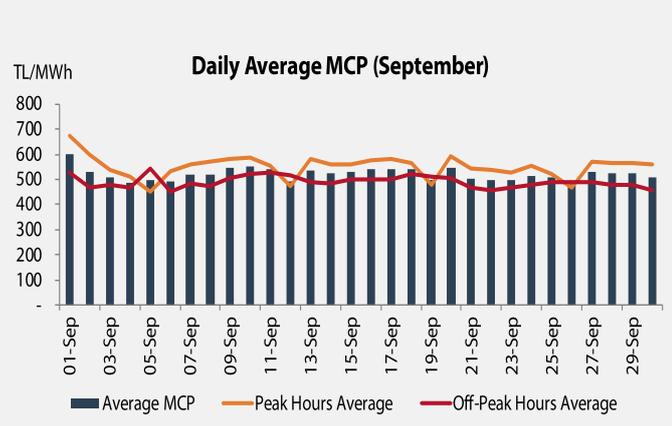
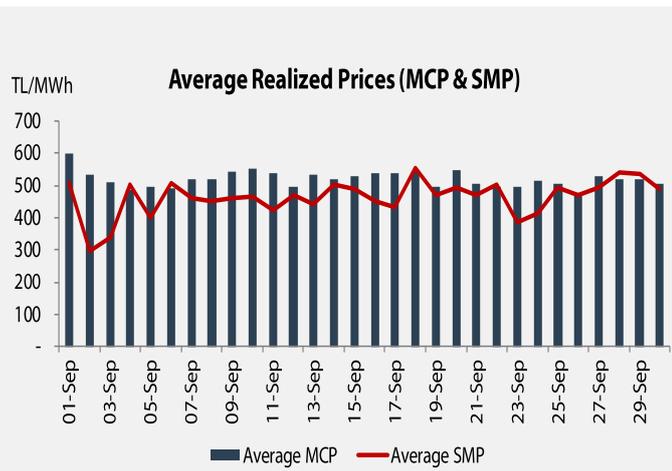
In September, the average daily electricity production amount of licensed power plants stood at 919,213 MWh. The highest amount of electricity generated from licensed power plants in September was recorded as 1,049,366 MWh on Wednesday, September 1. In the same period, the minimum production of licensed power plants was recorded as 757,711 MWh on Sunday, September 26.

The daily average electricity consumption stood at 910,921 MWh in September. The highest consumption during the month was 1,039,132 MWh, recorded on Wednesday, September 1, while the lowest, of 752,146 MWh, was recorded on Sunday, September 26.

## Electricity Price Analysis

The daily average market clearing price (MCP) and system marginal price (SMP) varied between TL 295-601 /MWh in September. September's average MCP stood at TL 520.86 /MWh while the SMP averaged TL 464.35 /MWh in the same period. The lowest average MCP stood at TL 478.71 /MWh, as recorded on Sunday, September 26, with the minimum average of TL 295.25 /MWh on Thursday, September 2.

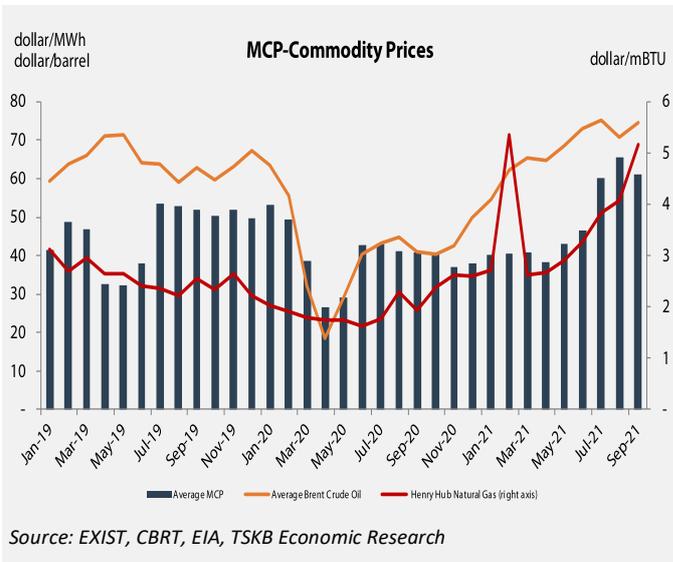
On the basis of hourly data, the highest MCP was TL 674.00 /MWh for 68 hours in September.



Source: EXIST, TSKB Economic Research

An analysis of the MCP for September finds that the average for peak hours (between 8AM and 8PM) was 5.8% higher than the daily average value, at TL 551.15 /MWh. The highest average for peak hours was TL 672.42 /MWh, realized on Wednesday, September 1<sup>st</sup>. The lowest average of peak hours was 449,47 TL/MWh and it is recorded on Sunday, September 5.

In the same period, the average off-peak price (between 8PM and 8AM) was TL 490.57 /MWh. The highest off-peak price was realized at TL 544.52 /MWh on Sunday, September 5 and the lowest off-peak price was recorded as TL 452.54 /MWh on Monday, September 6.



The MCP averaged USD 65.64 /MWh in August while the average MCP increased to USD 61.08 /MWh, marking a 49.1% increase when compared with the same period of the previous year.

### Average Commodity Prices

Brent Oil prices, having averaged USD 70.75 per barrel in August, increased by 5.3% to USD 74.49 per barrel in September – some 82.1% higher than in the same period of 2020.

The average price for Henry Hub natural gas, which was USD 4.07 / mBTU in August 2021, continued to increase, reaching USD 5.16 / mBTU on average in September – a surge of 168.8% compared to September 2020. We attribute this increase in natural gas prices to the natural gas supply problems which have been faced in Europe.





## Sector News

### Local News

- **The European Bank for Reconstruction and Development (EBRD) has set up a EUR 500 million green fund for Turkey.** This financing program is aimed at supporting energy efficiency, renewable energy and climate change projects in addition to green energy investments. In the announcement, it was stated that the funds would be used through private banks and/or leasing companies. The EBRD is expected to issue the final approval for the project which will pass the concept review on October 27. (September 30, 2021)

- **Turkey approves Kigali Amendment.** Turkey has ratified the Kigali Amendment made to the 2016 Montreal Protocol, and this decision was published in the Official Gazette dated September 28, 2021. Accordingly, Turkey guarantees to reduce the generation and consumption of hydrofluorocarbons by 80% within 30 years. These gasses have considerably more negative effects on climate change than carbon dioxide. The Kigali Amendment will ensure the prevention of 80 billion tonnes in CO<sub>2</sub> equivalent in emissions by 2050. Turkey is the 127<sup>th</sup> country to ratify the Kigali Amendment. (September 29, 2021)

- **51% of Tuz Gölü (Salt Lake) Gas Storage Facility completed.** Fatih Dönmez, the Minister of Energy and Natural Resources, announced that 51% of the Tuz Gölü Gas Underground Storage Facility, which is the biggest such facility built on a salt structure, has been completed. The facility is expected to provide half of Turkey's natural gas storage capacity and it is aimed to be completed in 2023. (September 29, 2021)

- **Capacity mechanism applications received for 2022.** According to the announcement made by TEİAŞ, legal entities seeking to use the capacity mechanism are required to deliver the related documents to TEİAŞ by October 15. With reference

to the 2021 list published by TEİAŞ, there are 51 power plants (including 23 coal power plants, 18 natural gas power plants and 10 hydroelectric power plants) using the support provided within the scope of the capacity mechanism application. (September 28, 2021)

- **Demand for natural gas demand expected to increase in Turkey in 2021.** In the Gastech Conference held in the United Arab Emirates, Alparslan Bayraktar, the Deputy Minister of Energy and Natural Resources, stated that Turkey's natural gas demand would be very high and that new contracts had been discussed with Gazprom and other liquid natural gas companies. Mr. Bayraktar added that he expected Turkey's natural gas demand to be approximately 60 billion cubic meters (bcm) this year and an increase in natural gas prices tariffs was inevitable. (Eylül 22, 2021)

- **Natural gas that was discovered in the Black Sea able to meet a third of Turkey's demand.** Fatih Dönmez, the Minister of Energy and Natural Resources, stated that the natural gas reserves discovered in the Black Sea would be able to provide one-third of Turkey's domestic demand once the extraction reaches maximum capacity in 2027. Mr. Dönmez stated that extraction would start at 10 million cubic meters (mcm) per day and increase to 40 mcm per day, adding that the Ministry estimates that Turkey's annual demand for natural gas will be between 55-60 bcm this year, and that this could increase in parallel with the growth in the national economy. (September 27, 2021)

- **Price caps for distribution companies determined.** The Energy Market Regulation Authority (EPDK) determined the revenue cap and transmission and delivery control fees for Boru Hatları ile Petrol Taşıma A.Ş.'nin (BOTAŞ) for 2022. According to the decision published in the Official Gazette, the revenue cap for BOTAŞ in 2022 is set at TL 4.47 billion.

The upper limit for the transmission capacity fee for the starting points in 2022 has been determined as TL 0.000870 per cubic meter and TL 0.00008177 per kWh. For the exit point, it has been determined as TL 0.032641 per cubic meter and TL 0.00306776 per kWh. The upper limit for transmission service fee, on the other hand, has been set at TL 0.048372 per cubic meter and TL 0,00454624 per kWh. (September 20, 2021)

- **Aksa Enerji to import electricity from Georgia.** Within the context of the energy commerce activities with neighboring countries, Aksa Aksen Enerji Ticareti A.Ş, a wholly-owned subsidiary of Aksa Enerji Üretim A.Ş, an application has been submitted to EPDK and TEİAŞ, with the aim of importing up to 230 MW of capacity from Georgia between September 13, 2021 - September 30, 2021. The import of electricity started on September 13. (September 14, 2021)

- **Natural gas tariffs raised in September.** According to the September tariff schedule published on the BOTAŞ website, the tariff valid for industrial customers was set at TL 2,050 per 1,000 cubic meters of natural gas, marking a 15% increase from August. The tariff for generation power plants using natural gas increased by 15% to TL 2.369 per 1,000 cubic meters. No changes have been made for residential customers. (September 3, 2021)

## News From Abroad

- **Oil to continue to have the biggest share in the global energy portfolio until 2045.** According to the "2021 World's Petroleum Outlook" report of the Organization of Petroleum Exporting Countries (OPEC), global energy demand, which stood at 275.4 million barrels of oil equivalent, will reach 352 million barrels of oil equivalent in 2045. In the long term, daily global oil demand will reach 99 million barrels of oil equivalent in 2045, up from 82.5 million barrels of oil in 2020. Oil had a 30% share in global energy demand in the last year, and this proportion will gradually increase to over 31% by 2025 with the impact of the recovery in demand post-pandemic, before entering a decline to 28% by 2045. (September 29, 2021)

- **Hungary renews its natural gas agreement with Russia.** Gazprom signed a long-term natural gas contract in Budapest with the renewal of the natural gas agreement with Hungary. Within the framework of this agreement, Gazprom will provide 4.5 bcm of natural gas to Hungary per year. Two destinations will be used in the delivery with 3.5 bcm of natural gas to be piped through Serbia and 1 bcm through Austria. (September 28, 2021)

- **Global fossil fuel subventions reach approximately USD 6 trillion in 2020.** According to the Chair of the International Money Fund (IMF), Kristalina Georgieva, global fossil fuel subventions reached USD 6 trillion in 2020, and global carbon emission may decline at a rate of one-third in case of fossil fuel prices increase in a way that completely reflects environmental levies and supply costs. (September 27, 2021)

- **European Union (EU) working on offerings with flexible options for energy prices.** In the meeting conducted with the participation of energy ministers of EU member countries and Kadri Simson, the EU Commissioner for Energy, preparations are underway to establish a roadmap for intervening in increases in electricity prices without breaking market rules. Spain's minister Teresa Ribera issued a statement during the meeting and said the outline of the work would become clear in the following weeks. (September 23, 2021)

- **Problems with natural gas supply behind increase in oil price projections.** The tightness in the natural gas supply in Europe has led investment banks to review their oil price projections. According to Goldman Sachs, petroleum prices may reach levels as high as USD 90 /bbl if the winter months are colder than usual in 2021. The Bank's current year-end projection for oil prices is USD 80 /bbl. (September 23, 2021)

- **Russia may go to greater lengths to provide natural gas to Europe.** The IEA said the increase in the natural gas prices had not been caused by the transition to renewable energy, and that Russia may demonstrate more effort to provide natural gas to Europe. While the IEA remarked that Russia had to demonstrate that it was a reliable supplier, it highlighted that the natural gas market in Europe may face further pressure. (September 22, 2021)

- **Norwegian energy company Equinor to provide 2 bcm of additional natural gas supply to Europe per year.** Equinor and its partners have been given permission to increase natural gas exports from the two fields on the Norwegian continental shelf by 2 bcm per year. The production permit for the Oseberg and Troll has been revised upwards by 1 bcm for each, for the year starting October 1<sup>st</sup>. (September 21, 2021)

- **Planned coal-fired thermal power plant capacity cut by 76%.** In the new report published by the think tank organization, E3G, which is working on climate change, while 42 countries have pledged that no new coal-fired power plants will be built, 41 countries have canceled the planned construction of coal-fired power plants. On a global scale, 55% of the planned coal power plants are located in China, followed by India, Vietnam, Indonesia, Turkey and Bangladesh. According to the report, Turkey accounts for 73% of the coal-fired power plants in the pre-construction planning phase. The capacity of planned projects in Turkey declined by half in the last year, with a 79% decrease since 2015. (September 16, 2021)

- **The IEA maintains daily oil demand projections.** In the July report, the IEA forecasted oil demand of 96.1 million barrels per day, and maintained its projection in the August report. It forecasts demand of 99.4 million barrels per day in 2022, with an increase of 3.2 million barrels per day, or a rise of 3.4% in comparison with demand in 2021. This projection is approximately 100,000 barrels per day higher than the projection set out in the previous report. (September 15, 2021)



- **OPEC expecting an increase in oil demand in 2021 and 2022.** In its monthly “Petroleum Market Report”, the Organization of Petroleum Exporting Countries (OPEC) sets out its expectation that oil demand will increase this year and next year with the global rise in oil consumption, with production issues to continue. Demand for oil is projected to increase by 260,000 bbl/ day this year, and with an increase of 4.2 million bbl/ day in 2022 to 100.8 million barrels per day in 2022. (September 14, 2021)

- **The US Energy Information Agency (EIA) revises its oil price projection downward for this year.** In its “Short Term Energy Outlook Report” for September, the IEA projects an average Brent crude oil price of USD 68.41 /bbl – this compares with the USD 68.71 /bbl projected in August’s report. According to the report, the IEA projects Brent crude to average USD 72.66 /bbl in the third quarter of the year and USD 72.00 in the fourth quarter, with an average Brent crude price of USD 66.08 /bbl expected for 2022. (September 13, 2021)

- **Iraq and Total reach agreement on a USD 27 billion energy project.** Ihsan Abdul Jabbar, Iraq’s Minister for oil, announced that agreement had been reached on four massive energy projects in south Iraq within the framework of a USD 27 billion agreement. Patrick Pouvanne, the CEO of Total, announced that Total would take the first step with a USD 10 billion investment into the project and that the engineering work would start “immediately”. Mr. Jabbar also announced that Total would provide USD 2 Billion in funds for the natural gas processing facility which will be built in West Qurna 2, Majnoon, Artawi, Tuba and the south of Luhais. (September 6, 2021)

- **Google to invest EUR 1 billion in data centers and green energy.** Marc Oman, the manager of the energy and infrastructure of Google data centers, stated that the company would invest EUR 1 billion in data centers in Berlin and Frankfurt and in renewable energy by 2030. Oman remarked that Google would purchase than 140 MW of electricity from the French energy company Engie’s German subsidiaries in the coming years for its data centers in Germany, with a target of using 100% renewable energy in its data centers by 2030. (September 1, 2021)





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