

Monthly Energy Bulletin

TSKB Economic Research

January 2022 #44

Can Hakyemez

hakyemez@tskb.com.tr

22 February 2022

Restrictions on electricity and natural gas use in January

Boru Hatları ile Petrol Taşıma A.Ş. (BOTAŞ) announced that Iran would not be able to provide natural gas for a period of 10 days due to a malfunction which took place on January 20. In addition, BOTAŞ announced that there would be restrictions on natural gas consumption to protect the system balance of electricity and natural gas, limited to industrial facilities and electric power plants with a high level of consumption rate, and that they would inform beforehand.

Türkiye Elektrik İletim A.Ş. (TEİAŞ), meanwhile, announced on January 23 that there would be a power cut for 72 hours in Organized Industrial Zones (OIZ). After the decision for the power cut, an online meeting was held attended by Fatih Dönmez, the Minister for Energy and Natural Resources, Mustafa Yanık, the Minister of Industry and Technology, the OIZ Presidents, Sector Chairpersons of The Union of Chambers and Commodity Exchanges of Turkey, presidents of the chambers, sector representatives and the senior managers of BOTAŞ and TEİAŞ. In the meeting, Minister Dönmez stated that the discussions for the delivery of natural gas were in progress with Iran, and they believe the problem can overcome by a 40% cut in natural gas supplies in the first 10 days, while planning for a full cut in supplies for a couple of days in industrial zones before fully restoring capacity thereafter.

On January 30, the Ministry of Energy and Natural Resources (MENR) announced that the cut in electricity to industrial facilities had ended on January 29. In the MENR's announcement on its official social media account, it stated that the cut to natural gas supply would be scaled back from 40% to 20% with effect from January 31.

28.55
TWh

January Gross
Generation

1,177.99
TL/MWh

Average
MCP

-1.6%

Daily average licensed electricity generation decreased by 1.6% MoM and increased by 5.7% YoY in January.

[Click](#) for details.

16.8%

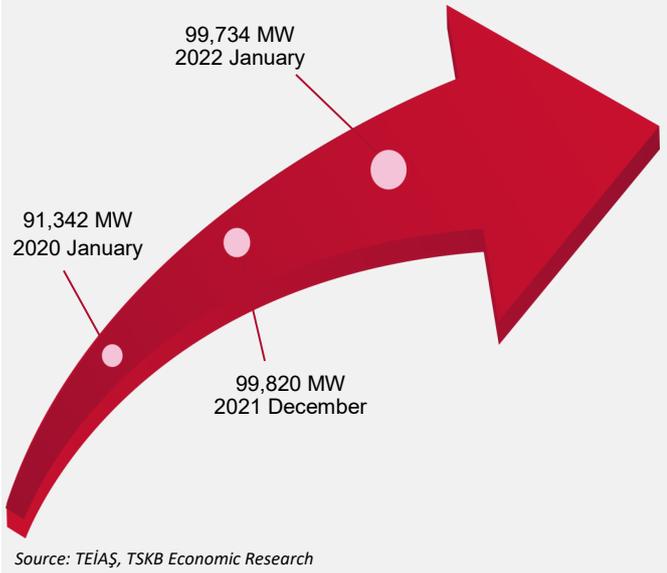
Market Clearing Price (MCP) increased by 295.7% YoY and 16.8% MoM in January.

[Click](#) for details.

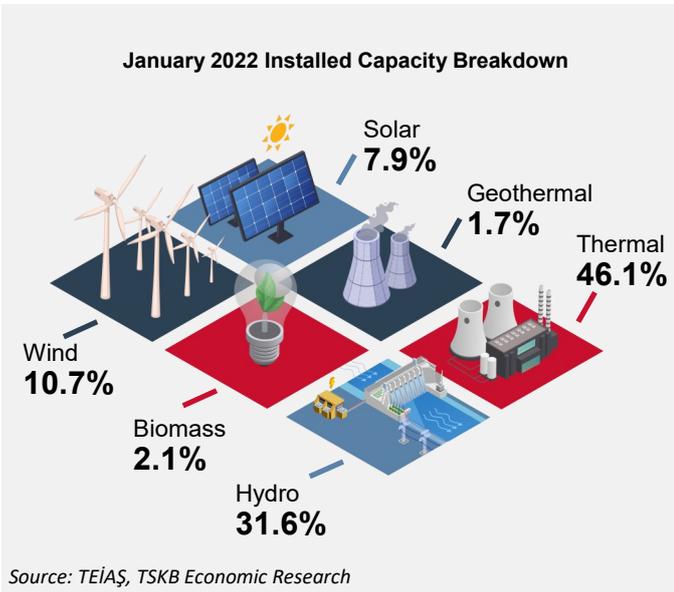


Installed Capacity Analysis

Turkey's total installed capacity, which stood at 96,271 megawatts (MW) at the end of January 2021, realized at 99,734 MW by the end of January 2022. Due to the decrease of 268.3 MW in the total installed power of natural gas and multi-fuel power plants in January, there was a decrease in the total installed power of Turkey compared to the previous month. In January, there was an increase of 75.8 MW in the net total installed capacity of wind power plants, and 65.5 MW in the net total installed power of solar power plants.

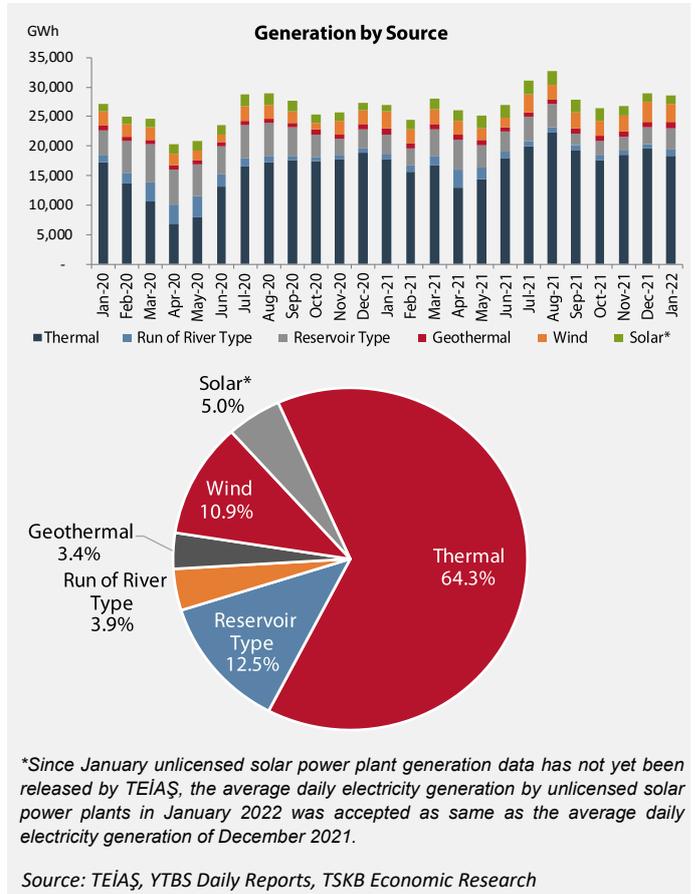


In terms of installed capacity, 53.9% of the capacity consisted of power plants operating from renewable power. Therefore, the proportion of renewables increased and remained over 53%. Hydroelectric power plants account for 31.6%, while wind and solar power plants account for 18.6% of Turkey's total installed capacity.



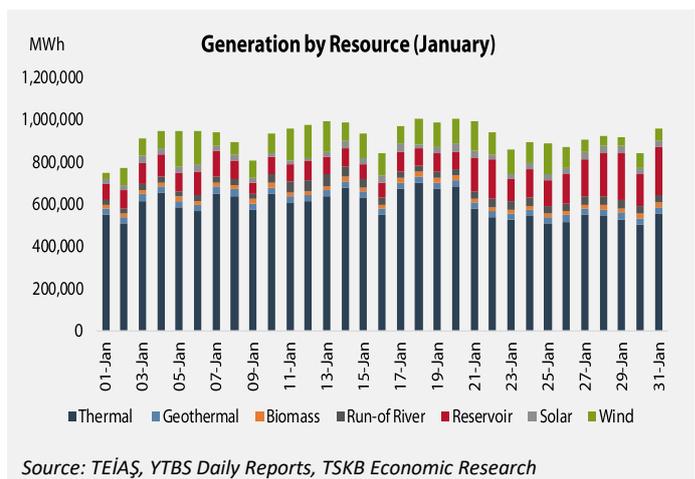
Electricity Generation Analysis

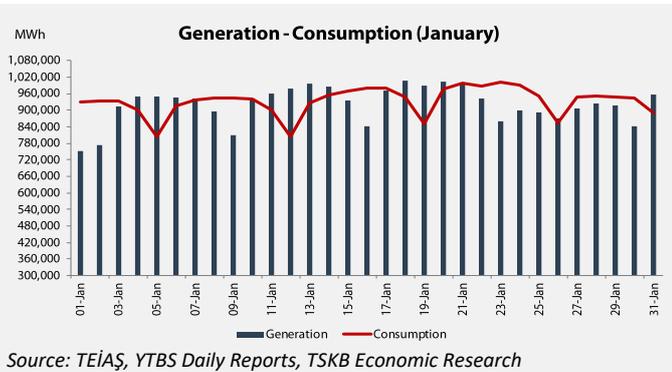
Total electricity generation stood at approximately 28.55 terawatt-hours (TWh) in January, down from 29.01 TWh in December, marking a fall of 1.6% in the daily average generation. When compared with the same month of the previous year, daily average electricity generation was up by 5.7%.



Thermal power plants, which had generated 67.3% of electricity in December, provided 64.3% of electricity in January. Hydroelectric power plants, which had a 12.6% share of electricity generation in the previous month, generated 16.5% of the total electricity in January. The share of the electricity generated by wind declined by 1 percentage point in comparison with the previous month to 10.9%.

The share of renewable energy power plants in electricity generation averaged 36.0% in 2021 and stood at 35.7% in the first month of 2022. In the same period, dam-type hydroelectric power plants accounted for 12.5% of total generation and solar power plants contributed 5.0%.





Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

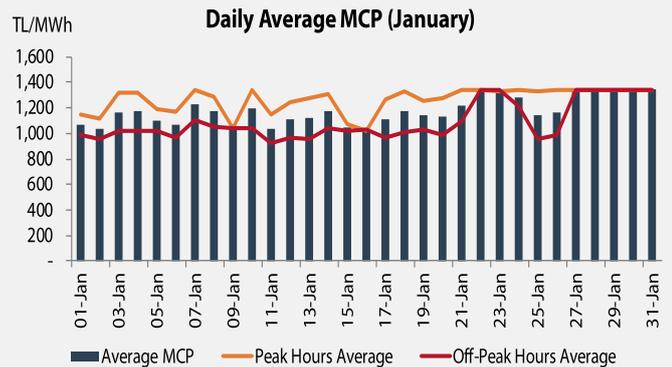
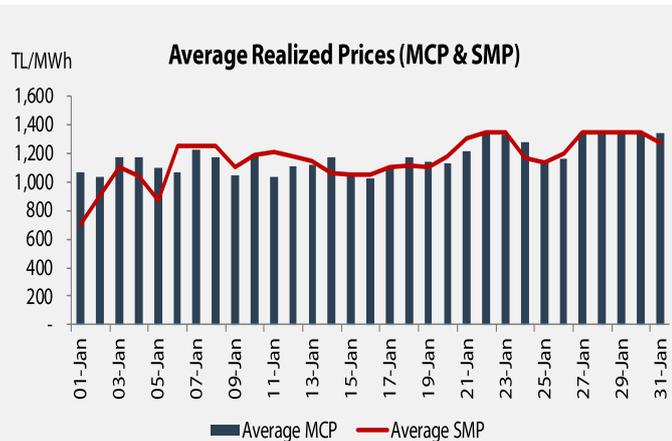
Licensed power plants generated an average of 921,216 megawatt-hours (MWh) of electricity per day in January. The highest generation actualized by licensed power plants in January was recorded on Tuesday, January 18 at 1,009,356 MWh; the lowest generation was recorded on Saturday, January 1st, at 751.875 MWh.

The daily average electricity consumption stood at 922,712 MWh in January. In January, the highest consumption was realized on Tuesday, January 18, at 1,011,172 MWh; the lowest electricity consumption was recorded on Saturday, January 1st, at 755,089 MWh.

Electricity Price Analysis

The daily average market clearing price (MCP) and system marginal price (SMP) fluctuated between TL 700-1,345 /MWh, in January. The MCP averaged TL 1,177.99 /MWh in January, while the SMP averaged TL 1,163.35 /MWh during the month. The minimum average MCP was realized on Sunday, January 16, at TL 1,021.86 /MWh with the minimum average SMP realized on Saturday, January 1, at TL 701.21 TL/MWh.

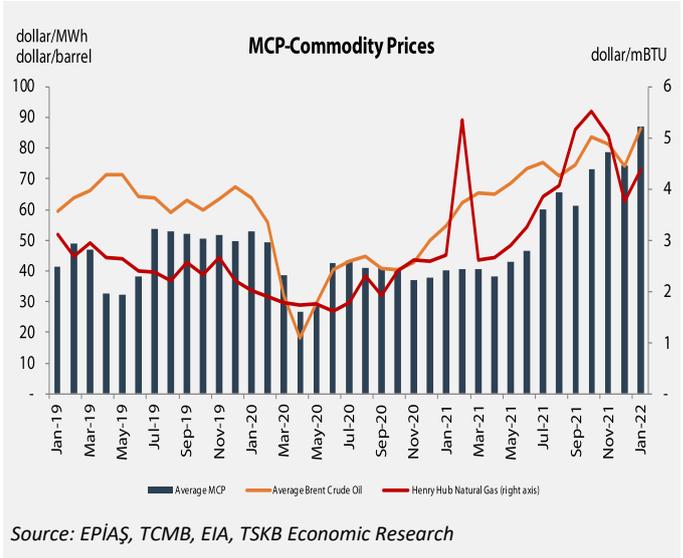
In terms of the hourly data, the MCP was realized at TL 1,345 /MWh, the highest determined price over 287 hours, in January.



Source: EXIST, TSKB Economic Research

The average peak MCP (between 8AM and 8PM) for January was 7.5% higher than the daily average, reaching TL 1,265.81 /MWh. The highest average peak figure was recorded for 9 days within the month, at TL 1,345.00 /MWh; the lowest peak hours average was realized on Sunday, January 16, at TL 1,018.28/MWh.

In the same period, the average off-peak hours (between 20.00-08.00) was 1.090,16 TL/MWh. The highest peak hours average was recorded for 6 days within the month at TL 1,345.00 /MWh; the lowest peak hours average was realized on Tuesday, January 11, at TL 919.44 /MWh.



Source: EPIAŞ, TCMB, EIA, TSKB Economic Research

The MCP averaged USD 74.42 /MWh in December, rising to USD 86.92 /MWh in January. The USD-based MCP was 116.4% higher when compared to the same period of the previous year.

Average Commodity Prices

The price of a barrel of Brent crude oil averaged USD 74.17 in December, before increasing by 16.6% in January to USD 86.51 per barrel. This average price was 58.0% higher than in the same period of the previous year.

The average contract price of Henry Hub natural gas was USD 3.76 / mBTU in December, increasing at a rate of 16.5% to reach USD 4.38 / mBTU on average. This marks an increase of 61.6% when compared with the same period of the previous year in January 2022.





Sector News

Local News

- **Energy Market Regulatory Authority (EMRA) projects 60.06 billion cubic meters (bcm) of natural gas consumption for this year.** According to the decision published in the Official Gazette, where natural gas with a gross calorific value of 9.155 kcal/cubic meter is taken as the basis, the projection for consumption this year stands at 60.04 bcm. EMRA had set out a projection for natural gas consumption to reach 50.86 bcm in 2021, but the realized amount was approximately 61.6 bcm. In addition, EMRA announced the transmission network's minimum amount of stock as 360.3 million cubic meters (mcm). The transmission network's minimum amount of stock is defined as the natural gas amount within the transmission network at the beginning of each day. (January 31, 2022)

- **Additional natural gas to be delivered to Turkey from Azerbaijan.** According to a report on BloombergHT, İbrahim Ahmedov, the company spokesperson of Azerbaijan Gas Supply Co., Azerbaijan's publicly-owned corporation, stated that natural gas deliveries to Turkey would be stepped up to meet increased demand from Turkey. SOCAR Enerji Ticaret A.Ş. had acquired the import right for 4 mcm of piped gas at the spot-price from the Energy Market Regulatory Authority (EMRA) in February. The amount is expected to increase to 5 mcm per day due to the demand from Turkey. (January 27, 2022)

- **Electricity generation increases 3.7% YoY in November.** According to EMRA's "Electricity Market Sector Report", natural gas power plants accounted for 33.7% of licensed electricity generation, coal-fired power plants running on imported coal accounted for a 21.1% share, lignite power plants accounted for 15.1% of electricity generation, with hydroelectric power plants having a 12% share and wind farms a 10% share. Indus-

trial subscribers accounted for 46.1% of consumption, followed by commercial buildings (23.6% share) and residential subscribers (22.3%). (January 27, 2022)

- **Graduated tariff can be changed.** Fatih Dönmez, the Minister of Energy and Natural Resources remarked that the 150 kWh consumption limit could be revised if there was an actual need. Mr. Dönmez stated that the total consumption and number of subscribers across Turkey had been taken into consideration while preparing the graduated tariff in electricity, adding that the 150 kWh limit would be reevaluated within the year. In regard to the restrictions on natural gas supplied by Iran, Mr. Donmez stated that according to the correspondence and negotiations, the natural gas problem would be resolved within 10 days. He stated that natural gas storage facilities were full at the beginning of the winter season, but warned that there had been excessive use of natural gas in 73 of Turkey's 81 cities which had not been seen in recent years. (January 25, 2022)

- **Akköprü Hydroelectric Powerplant (Akköprü HES) tender canceled.** According to an announcement made by Aydem Yenilenebilir Enerji A.Ş., the privatization tender for the Akköprü HES, which belongs to Elektrik Üretim A.Ş (EÜAŞ) and which took place on 23 September 2021, has been canceled with the Presidential Decree dated 19 January 2022. Aydem Yenilenebilir Enerji A.Ş. had won the Akköprü HES tender, which was carried out by the Privatization Administration in September, with an offer of TL 605 million offer. (January 25, 2022)

- **Natural gas consumption beats daily record.** BOTAŞ announced on its Twitter account that 288 mcm of natural gas was consumed on 19 January 2022, setting a new record for Turkey, with 73 of Turkey's 81 cities setting new records for daily natural gas consumption. (January 21, 2022)

- **Natural gas has included in heating aid.** The Minister of Energy and Natural Resources, Fatih Dönmez, announced on his Twitter account that the scope of heating aid provided as social support had been expanded to include natural gas. According to the announcement made by the Minister of Family and Social Services, Derya Yanık, annual support of between TL 450-1,150 per household is planned to be provided within the context of heating aid and the payment of this support, which is estimated as TL 3 billion per year, will be made in March and October. (January 17, 2022)

- **Natural gas memorandum of understanding between Turkey and Azerbaijan approved.** Within the context of the agreement published in the Official Gazette, SOCAR Turkey Petrokimya A.Ş. will be able to purchase a proportion of the natural gas which Turkey has guaranteed to purchase from Azerbaijan, of an amount up to 1.7 bcm per year until the end of 2024. The purchased natural gas will only be used for the corporation's own needs. To realize this, a contract will be entered into between the SOCAR Turkey Petrokimya A.Ş. and BOTAŞ every year, and BOTAŞ's buy-or-pay obligations will be taken into consideration while determining the amount. (January 11, 2022)

- **Uniform distribution costs to apply to unlicensed electricity production facilities.** According to the latest Electricity Tariffs published by EMRA, this amount will be applied as 28.2765 kurus/kWh uniformly for all unlicensed electricity generation facilities with effect from 1 January 2021. Previously under this application, which started in 2018, different amounts had been applied for facilities depending on if they had entered operation before or after 31 December 2017. (January 3, 2022)

- **Publication of the list of facilities to provide purchase and local contribution support within Renewable Energy Resources Supporting Mechanism (YEKDEM) in 2022.** According to the list published by EMRA, a total of 1,034 electricity generation power plants with a combined capacity of 25,524 MW will benefit from YEKDEM's purchase and local contribution support in 2022. (January 3, 2022)

- **Announcement of unit costs for YEKDEM in 2022.** According to EMRA's projection, the cost figure will be TL 13.07 / MWh in January 2022, but will go back to a negative value after February. (January 3, 2022)

News From Abroad

- **Gazprom establishes corporation in Germany for registration of North Stream 2.** In the statement issued by the operator of the North Stream 2 natural gas pipeline project, Nord Stream 2 AG, the newly established corporation will be an independent transmission system operator, in accordance with German Energy Law. With the North Stream 2 project, which has a total cost of EUR 10 billion, 55 bcm of Russian natural gas is planned to be delivered to Germany via the Baltic Sea. (January 22, 2022)

- **International Energy Agency (IEA) raises its projection for global oil demand in 2022.** According to the IEA's "Oil Market Report" for December, daily global oil demand is expected to reach 99.71 million barrels for 2022, an increase of 3.33 million barrels per day (mbpd) compared to 2021. The Asian-Pacific Region is expected to rank first in terms of oil demand, with demand of 37.16 mbpd, followed by the Americas (31.05 mbpd) and Europe (14.36 mbpd). Thus, the IEA's revised projection for global oil demand for the year 2022 represents an increase of 200,000 barrels per day compared to

the previous report. (January 20, 2022)

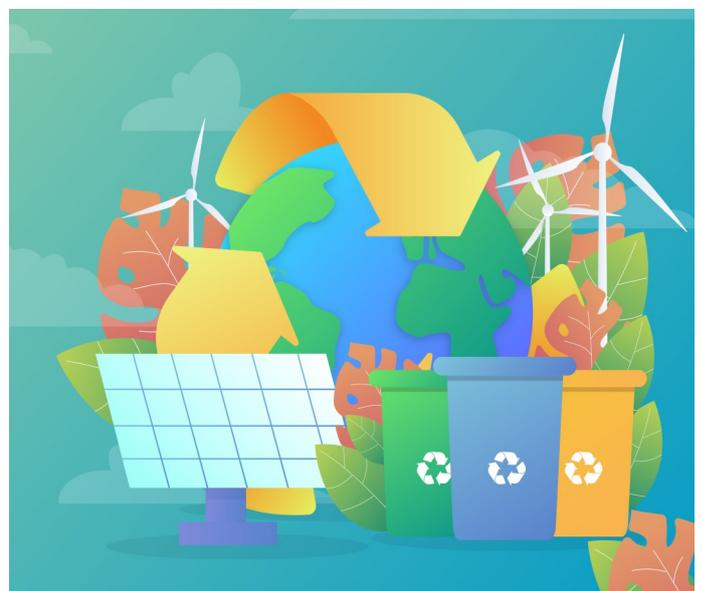
- **Organization of Petroleum Exporting Countries (OPEC) maintains oil demand projection for 2022.** In its monthly oil market report, OPEC estimated oil demand of 96.63 mbpd for 2021 and projected oil demand of 100.79 mbpd in 2022, thus maintaining its projections for daily oil demand in the report which it had published in the previous month. (January 19, 2022)

- **Hydrogen to account for 12% of final energy consumption by 2050.** According to the "Geopolitics of Energy Transformation: Hydrogen Factor" report prepared by the International Renewable Energy Agency (IRENA), the market potential for electrolyzing, which involves the hydrogen-producing process, is projected to reach USD 60 billion by 2050, with a market potential of USD 25 billion for fuel cell technology. According to the climate change scenario where global warming is limited to 1.5°C, hydrogen will be able to provide 12% of the final energy consumption by 2050. (January 19, 2022)

- **Greenhouse gas emissions up by 6.2% in the USA in 2021.** According to a study carried out by the Rhodium Group, while greenhouse emissions decreased in 2020, they increased again in 2021. In 2021, greenhouse emissions in the USA increased by 6.2% on the back of a 17% increase in electricity generation by coal. The study found that while one fifth of electricity was generated by renewable energy resources, the increase in greenhouse gas emissions in the USA is pulling the USA away from its climate goals for 2025 and 2030. (January 11, 2022)

- **2021 was the 5th hottest year on record in the world, according to Copernicus.** In the statement, it was underlined that the last 7 years were the hottest 7 years ever recorded across the world, as a result of increased methane and carbon-dioxide emissions. The measurements indicate that the average temperature in 2021 was 1.1-1.2°C higher than higher than the 1850-1900 average. (January 11, 2022)

- **OPEC+ countries abide by their previous decision on production increase.** OPEC and the OPEC+ group, which includes some oil producers outside of the OPEC grouping, have decided to continue with their plan to gradually increase oil production, with a further increase of 400,000 barrels per day in February according to the announcement made by OPEC, abiding by the decision taken in the 19th OPEC+ Inter-Ministerial Meeting conducted on 18 July 2021 to gradually increase daily oil production. (January 5, 2022)





Economic Research

ekonomikarastirmalar@tskb.com.tr

MECLİSİ MEBUSAN CAD.

NO:81 FİNDIKLI İSTANBUL 34427, TÜRKİYE

T: +90 (212) 334 50 50 F: +90 (212) 334 52 34

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