

# Monthly Energy Bulletin

TSKB Economic Research

November 2021 #42

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## COP26 Framework Convention on Climate Change

One of the goals of the 26<sup>th</sup> United Nations Framework Convention on Climate Change (COP26), organized in Glasgow, Scotland was to evaluate the policies and guarantees directed to achieve the goal of limiting global warming to 1.5°C above their pre-industrial levels. In the closing speech, the COP26 President, Alok Sharma, highlighted that the goal was still achievable while warning that “the pulse is weak”.

While the “to phase out coal” statement was included in the draft text, which was prepared at the end of the two week-long event, it was later amended “to phase down coal” with India’s intervention. This is the first time such a statement regarding coal has been included a United Nations (UN) document, again proving the importance of the COP26. Countries have accepted strengthening their emission reduction goals for 2030 in the next year’s COP meeting.

In the closing speech of the COP26, the General Secretary of the UN, Antonio Guterres, stated that participants made important steps in the climate change subject, and USD 100 Billion climate finance commitment for phase out coal and support developing countries should be fulfilled. He also added that these goals haven’t been achieved yet in COP26.

**27.05  
TWh**

November Gross  
Generation

**830.96 TL/  
MWh**

Average  
MCP

**5.3%**

Daily average licensed electricity generation increased by 6.1% MoM and 5.3% YoY in November.

[Click](#) for details.

**24.0%**

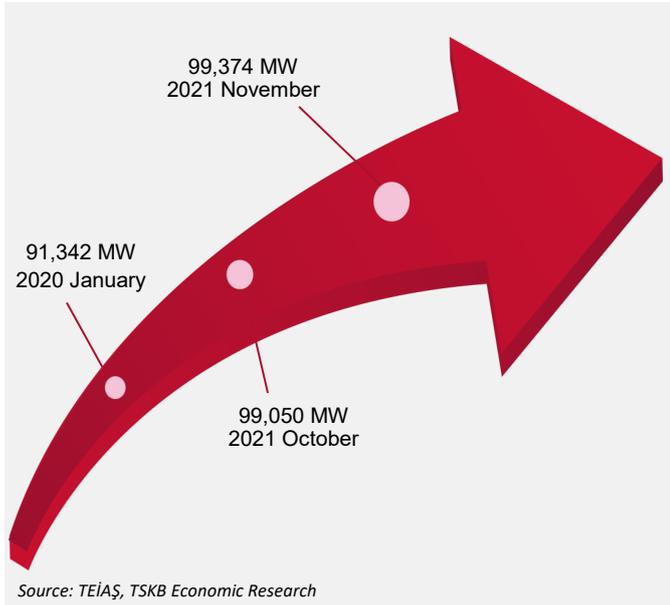
Market Clearing Price (MCP) increased by 181.2% YoY and 24.0% MoM in November.

[Click](#) for details.

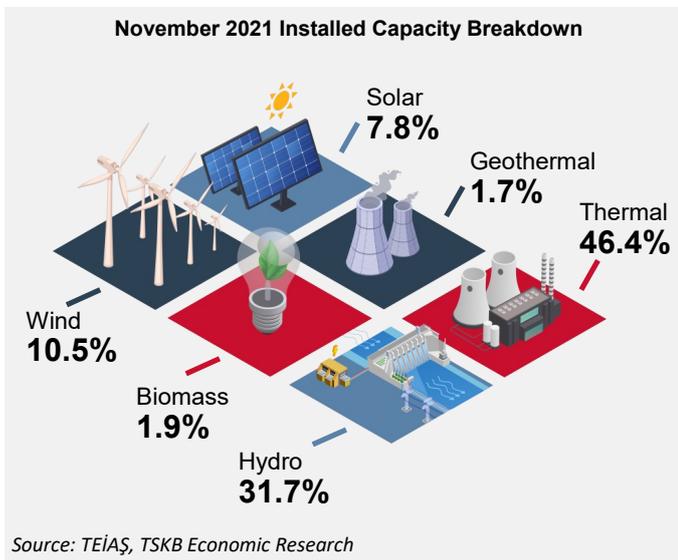


# Installed Capacity Analysis

Turkey's total installed capacity, which reached 99,050 MW at the end of October, increased to 99,374 MW at the end of November. In November, solar power plants with a total net installed capacity of 87.0 MW was commissioned. In the same period, the total net installed capacity of wind and renewable waste power plants increased by 175.9 MW and 31.3 MW, respectively.

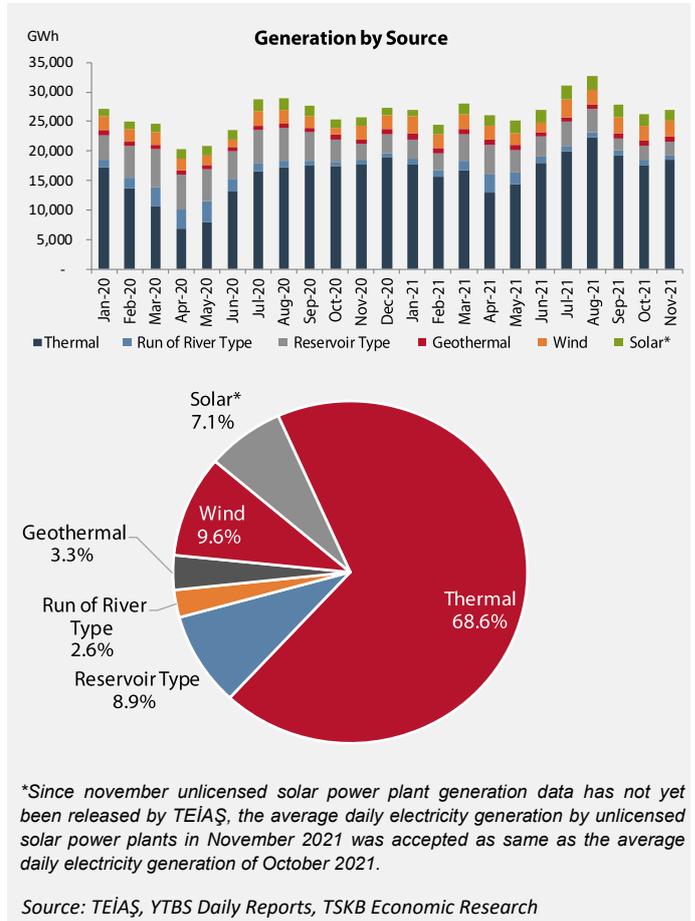


Of all the power plants in operation during November, 53.6% of the capacity consisted of power plants generating electricity from renewable resources. Thus, the share of renewable power plants in total installed capacity continued to stay above 53% levels. Hydroelectric power plants (HEPP) accounted for 31.7% of Turkey's total installed capacity in September, while the combined share of wind and solar power plants amounted to 18.3%.



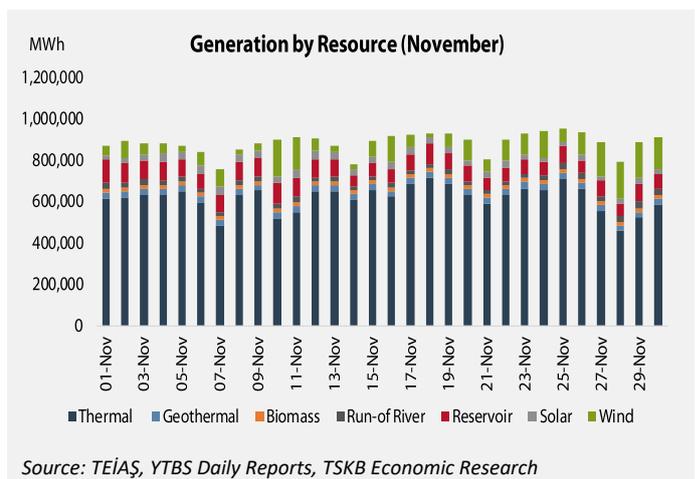
# Electricity Generation Analysis

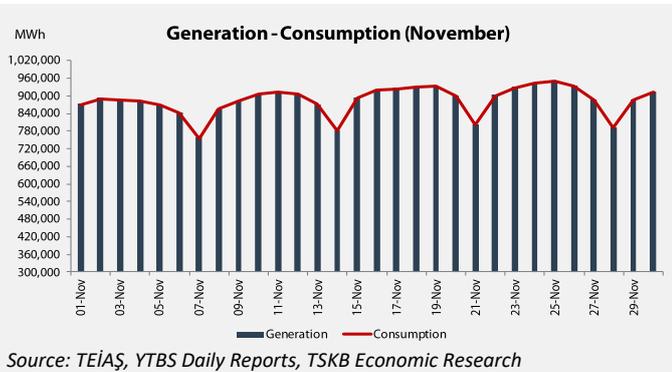
Turkey's total electricity generation capacity stood at approximately 26.34 terawatt-hours (TWh) in October and it has been 27.05 TWh in November. When compared with the average daily electricity generation in October, there is an increase observed at a 6.1% rate in the daily average electricity generation, while there was a 5.3% increase when compared with the same month of the previous year.



Thermal power plants, which generated 66.8% of electricity in Turkey in October, accounted for 68.6% of total electricity generation in November. Hydroelectric power plants, which comprised a 12.4% share in the previous year, generated 11.4% of the total electricity in November – the second lowest proportion recorded during 2021, after September.

The share of renewable energy power plants in electricity generation, which averaged 42.5% in 2020, was realized at 31.4% in November 2021. In the same period, dam-type hydroelectric power plants contributed 8.9% of the total generation and wind farms accounted for 9.6% of total generation.



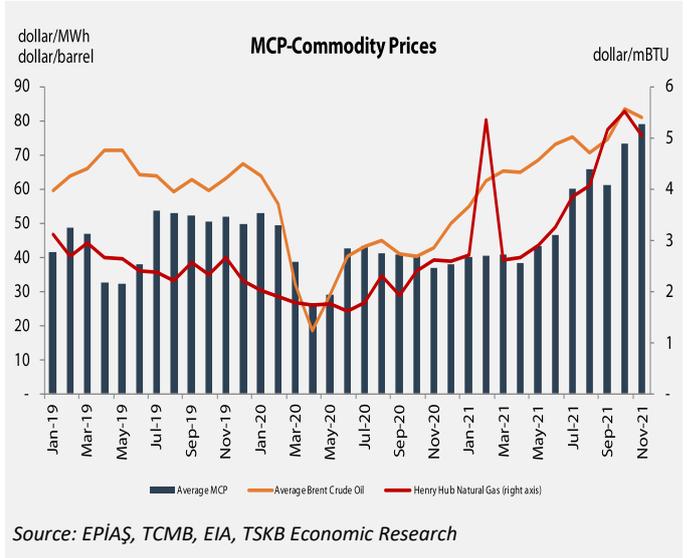


The daily average electricity generation of licensed power plants stood at 886,411-megawatt-hours (MWh) in November. The maximum production generated from licensed power plants was recorded as 952,627 MWh on Thursday, November 25 with the lowest generation in the same period being 758,926 MWh on Sunday, November 7.

Electricity consumption during November averaged 884,529 MWh with the maximum consumption recorded on Thursday, November 25 (950,607MWh) and the minimum on Sunday, November 5 (754,012 MWh).

A daily MCP analysis for November found that the average peak hours (between 8AM and 8PM) was 8.6% higher than the daily average value to reach TL 902.74 /MWh. The highest peak hours average was realized on Wednesday, November 3 at TL 1,128.42 /MWh. The lowest peak hours average was TL 687.96 /MWh, recorded on Sunday, November 7.

In the same period, the average off-peak MCP (between 8PM and 8AM) was TL 759.17 /MWh. The highest off-peak average MCP was recorded on Friday, November 12 at TL 866.17 /MWh; the lowest average off-peak MCP was recorded on Monday, November 1 at TL 553.48 /MWh.



The MCP, which averaged USD 73.16 /MWh in October, reached USD 78.82 /MWh in November – a 113.9% increase when compared to the same period of the previous year.

**Average Commodity Prices**

The price of a barrel of Brent crude oil, having averaged USD 83.54 in October, decreased by a monthly rate of 3.0% to average USD 81.05 in November – an increase of 89.9% from the same period of the previous year.

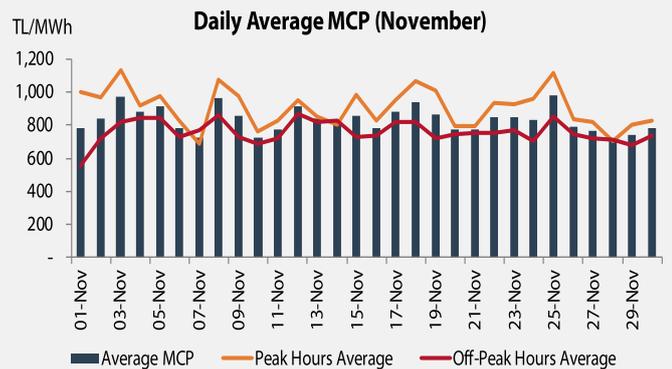
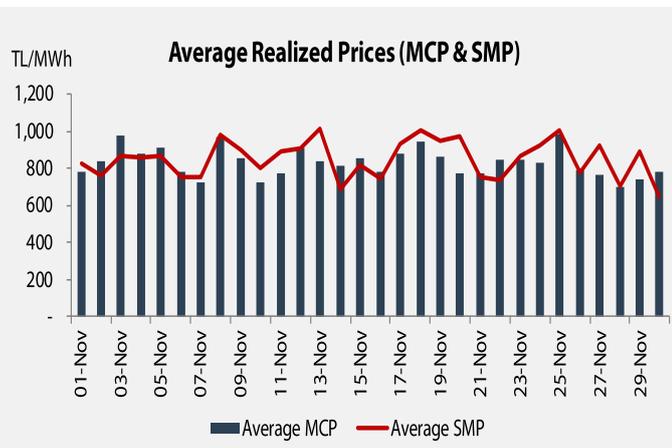
The average contract price of Henry Hub natural gas decreased from an average of USD 5.51 /mBTU in October to USD 5.05 /mBTU in November. When compared with the same period of the previous year, this level marks an increase of 93.5%.



**Electricity Price Analysis**

During November, daily average market clearing price (MCP) and system marginal price (SMP) ranged between TL 645-1,020/MWh. The MCP averaged TL 830.96 /MWh, while the SMP averaged TL 852.01 /MWh over the same period. The lowest average MCP of TL 703.83 /MWh was realized on Sunday, November 28 and the lowest average SMP of TL 650.17 /MWh was realized on Tuesday, November 30.

The data evaluated MCP was realized at TL 1.131 /MWh in November, the highest determining price, in 127 hours.



Source: EXIST, TSKB Economic Research



## Sector News

### Local News

#### - Turkey will import piped gas from Iran in the spot market.

Turkey announced its order for 5.5 million cubic meters (mcm) of gas per day and a total of 170 mcm of pipeline gas for December, from the Gürbulak natural gas pipeline entry point. According to a statement issued by the Energy Market Regulatory Authority (EMRA), Turkey announced that it would order 5.5 mcm of piped gas for December from the Gürbulak natural gas pipeline entry point which is on the border between Turkey and Iran. (November 29, 2021)

#### - Turkish Petroleum Refineries Corporation (TÜPRAŞ) aims to become carbon-neutral by 2050.

The company is committed to reducing the carbon emissions arising from its actions by 27% by 2030 when compared to its 2017 level, becoming carbon-neutral by 2050 as set out in the Strategical Transformation Plan. According to the plan, TÜPRAŞ will allocate a significant proportion of its investment to new energy resources such as sustainable aviation fuels, green hydrogen and zero-carbon electricity. TÜPRAŞ is aiming to invest an average of USD 350 million per year - approximately USD 5 billion by 2035 - and a total of USD 10 billion by 2050. (November 25, 2021)

#### - Fatih Dönmez, Minister of Energy and Natural Resources, indicates government plan to adopt graded tariff application to support low-income groups in electricity and natural gas prices.

Mr. Dönmez announced that the preparation for the transition to graded tariff application, which will subsidize a certain amount of natural gas and electricity consumption, with higher prices for higher amount will be added to the council's agenda. Mr. Dönmez also announced that Turkey had reached an agreement in principle with Russia in their meetings to discuss natural gas purchases, adding that a written agreement

would be made in the near future and that the contracts expiring at the end of the year would be renewed. The period of this contract will be between 3-10 years. Mr Dönmez remarked that prices and the shares held by the private sector and Petroleum Pipeline Corporation (BOTAŞ) in the contracts will remain the same, and there would also be an opportunity to increase these shares significantly as required. (November 24, 2021)

- **Çal HEPP privatization tender actualized.** In the Çal HEP-P's privatization tender which is recorded on behalf of Electricity Generation Company (EÜAŞ), the highest offer was submitted by Erk İnşaat at TL 9.37 Million. The power plant, which has an installed capacity of 2.2 MW and an annual average production capacity of 12 million kilowatthour (kWh) is located in Denizli. (November 12, 2021)

- **Turkey's third floating liquified natural gas (LNG) storage and regasification unit facility (FSRU) to enter operation in 2022.** Fatih Dönmez, the Minister of Energy and Natural Resources remarked that there are two LNG terminals and two FSRUs in Turkey and the third FSRU will enter operation in 2022. He stated that underground natural gas storage capacity has reached 4.5 billion cubic meters (bcm) by 2021 and they are aiming to increase the aforementioned capacity to 11 bcm by 2023. In addition to that, Mr. Dönmez marked that the LNG agreement which has been continuing for more than 30 years, between Turkey and Algeria, will end in 2024, and added that the meetings for extending the existing contract and increasing the capacity is going positively. (November 11, 2021)

- **Target set of an additional 10 MW of wind and solar energy capacity each year until 2027.** In a speech, President Recep Tayyip Erdoğan, stated that the government aimed to constantly and properly fulfill local and national energy needs to a high level of quality. He added that the government aimed to increased installed capacity of wind and solar power by 10 MW

per year (for each) up to 2027, while emphasizing that work on the Akkuyu Nuclear Power Plant was continuing. He said that when the Akkuyu Nuclear Power Plant entered operation, it would provide an important contribution towards combatting climate change, with work on the 2nd and 3rd power plants to start when the Akkuyu power plant was completed. (November 10, 2021).

**- TRT share and energy fund allocation in electricity bills to be removed.** In a statement made after the cabinet meeting, President Recep Tayyip Erdoğan remarked that the TRT share and energy fund allocation in electricity bills would be removed. In addition, President Erdoğan said natural gas prices in Europe had increased from USD 115 at the beginning of 2020 to USD 1,500 in the daily market, but that the sales price in Turkey for residential use was just USD 150. (November 9, 2021)

**- Ilisu Prof. Dr. Veyisel Eroğlu Dam and HEPP (Ilisu HEPP) opened.** Speaking at the opening ceremony, President Erdoğan said the Ilisu HEPP with its 1,200 MW installed capacity and capacity to hold approximately 11 bcm would provide TL 3 billion in benefits to Turkey. President Erdoğan remarked that opening this facility was even more important and meaningful in a period in which the world and Turkey were facing an increasing threat of drought. (November 8, 2021)

**- 40 mcm of natural gas per day to be extracted in the Western Black Sea.** In an evaluation, the Minister for Energy and Natural Resources, Fatih Dönmez, stated that approximately 40 wells would be opened on the seafloor and a network would be established to collect natural gas which emerges from the wells and transmit it to the pipeline. Mr. Dönmez stated that the first phase would be implemented in 2023, with the aim of transmitting approximately 10 mcm of natural gas per day from around 10 gassers which are planned to be opened for the first phase, with the volume of natural gas extracted to 40 mcm per day in the second phase. (November 8, 2021)

**- Turkey became party to the Paris Agreement.** According to the announcement published in the Official Gazette, the exercise date of the Paris Agreement was declared as November 10, 2021. According to the depositary announcement published by the United Nations (UN)'s General Secretary, Turkey's approval for Paris Agreement was announced on October 11. (November 4, 2021)

**- EMRA revised 3-month Renewable Energy Resources Support Mechanism (YEKDEM) costs.** According to the board decision published in the Official Gazette, the YEKDEM cost, which is the predicted per unit supplied energy amount for the last quarter of 2021, was revised to TL 63.33 per MWh for October, TL 22.21 for November and TL 1.57 for December. At the end of July, EMRA had announced a YEKDEM cost of TL 86.14 /MWh for October, TL 87.38 /MWh for November and TL 81.42 /MWh for December. In addition, Turkey's average electricity wholesale price was determined as 28.56 kurus per kWh for 2020. (November 3, 2021)

**- Government expecting an 8% increase in electricity generation in 2021, according to Minister for Energy and Natural Resources, Fatih Dönmez.** In the Ministry's presentation for the 2022 budget in the Turkish Parliament's Committee on Planning and the Budget, it was stated said that electricity consumption had reached 306.1 TWh in 2020 and that the Government was expecting an 8% increase in 2021. Mr. Dönmez said that approximately 37% of electricity generated in the first 9 months in 2021 has been generated from renewable energy

resources, 31% from coal, 32% from natural gas and the rest from other resources, while the share of local and renewable resources stood at 52%. Mr. Dönmez announced that 2,000 MW of wind farms and 2,500 MW of solar power plants would be included in new Renewable Energy Resources Field (YEKA) contests, with a total capacity of 4,500 MW to be conducted within the context of YEKA projects. Speaking about Turkish Electricity Transmission Company (TEİAŞ)'s public offering and the division of BOTAŞ, TEİAŞ would go public as its property, supervision, and governance would be in government, and the number here will be maximum 10%. (November 2, 2021)

**- Increase in natural gas tariffs for industry and power stations.** The November tariffs published by BOTAŞ set out in increase in tariffs for industry and electricity generation. In November, the tariff for 1,000 cubic meters of natural gas for use by free consumers with an annual consumption of over 300,000 cubic meters was raised by approximately 48% from its October level to reach TL 3,500. In the same month, the tariff for organized industrial or user association subscribers was also raised by 48% to TL 3,482 per 1,000 cubic meters. Meanwhile, tariffs for electricity generation power plants were raised by 46% to TL 4,000 per 1,000 cubic meters, with tariffs for residential subscribers and other subscribers consuming less than 300,000 cubic meters remained unchanged at TL 1,488 for 1,000 cubic meters. (November 1, 2021)

## News From Abroad

**- China to provide USD 31.4 billion in funding for clean coal projects.** China announced that it would create a 200 billion yuan (approximately USD 31.36 Billion) "re-loaning mechanism" to promote clean and effective usage of coal which China is highly dependent on for heating and electricity generation. The announcement stated that the mechanism would provide financial support to banks and credit institutions so they can provide credit for coal-related clean energy projects. (November 18, 2021)

**- International Energy Agency (IEA) maintains forecasts for growth in global oil demand.** In spite of COVID-19 cases being on the rise again in Europe, weekly industrial action and rising oil prices, the IEA has left its forecasts unchanged regarding its predicted increase in global oil demand because of consumption directed to oil after the rise in natural gas prices.



The agency projects an increase of 170,000 barrels per day this year and an increase of 210,000 barrels per day in 2022. (November 17, 2021)

**- Global oil supply reaches approximately 97.56 million barrels per day last month, up 1.74 million barrels per day from the previous month.** According to the monthly report published by the Organization for Petroleum Exporting Countries (OPEC), daily production increased by 110,000 barrels per in Saudi Arabia and by 57,000 barrels in Venezuela in comparison with the previous month. On the other hand, production decreased by 45,000 barrels per day in Nigeria and by 17,000 barrels per day in Gabon. OPEC announced that global oil demand had risen by 5.7 million barrels per day in comparison with the previous year to reach 96.44 million barrels per day. The projection for global oil demand consumption for 2021 had stood at 96.60 million barrels per day for the last month. Global oil demand is projected to reach 100.59 million barrels per day in 2022. According to the October report, global oil demand was projected to reach approximately 100.76 million barrels per day in 2022. (November 12, 2021)

**- Upward revision in US Energy Information Authority (EIA) crude oil price forecast for this year.** In the EIA's "November 2021 Short Term Energy Outlook Report", the average price of per barrel Brent type crude oil is estimated as USD 71.59 for this year (it had been estimated at USD 71.38 in October's report). The report estimates the price of Western Texas type crude oil (WTI) to be USD 69.02 per barrel on average for this year. WTI crude was projected to average USD 68.48 per barrel this year in the October report. According to the report, global oil demand is expected to reach 97.53 million barrels per day in 2021, an increase of approximately 5 million barrels per day over the previous year, reaching 100.88 million barrels per day in 2022.

**- Global carbon emissions caused by fossil fuels projected to rise by 5%.** The "Global Carbon Budget" report, prepared by the Global Carbon Project with researchers from Exeter University, the University of East Anglia, the CICERO Institute and Stanford University was announced during the United Nations Framework Convention on Climate Change (COP26). According to the report, fossil fuel-related carbon emissions exhibited a fall of 5.4% in the last year when compared to 2019, related to the restrictions applied because of the pandemic. It is estimated that fossil fuel caused emissions to be increased approximately at the rate of 5% and reach 36.4 billion tons at the end of this year compared to the last year, and get closer to its pre-pandemic level. (November 5, 2021)

**- More than 40 countries pledged to phase out coal.** According to the agreement, countries with a developed economy will phase out coal by 2030 while countries with a less developed economy will phase out coal by 2040. Countries such as Canada, Poland, Ukraine and Vietnam, where coal usage is common, are also among the signatories to the agreement. On the other hand, countries such as Australia, China, India and the USA, which are both dependent on coal and have developed economies, opted to remain outside of the contract. Turkey did not enter the agreement either. (November 5, 2021)





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