

# Monthly Energy Bulletin

TSKB Economic Research

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## International Energy Agency (IEA) publishes “World Energy Outlook 2022” report

The report emphasizes that the global energy crisis could serve as a historical turning point towards a cleaner and safer future. In the “Stated Policy Scenarios” based on the latest policies being applied in the world, more than USD 2 trillion will be invested in global clean energy investments by 2030, an increase of more than 50% from their current levels. The report highlights that achieving the Net Zero Emission Scenario will require new investors in the energy sector, with global clean energy investments to exceed USD 4 trillion by 2050. The report states that there is an urgent need for considerable international efforts to narrow the distinction in the clean energy investment stages between developed and developing economies. The president of the IEA, Fatih Birol, who issued a statement about the report and added that the IEA was of the view that the golden age of natural gas had ended after the rapid increase in natural gas consumption in the last 10 years, with fossil fuel consumption, including natural gas as well as coal and oil, expecting to peak by 2030 as demand for natural gas is added to demand for coal and oil.

The president of the International Energy Agency (IEA), Fatih Birol, warned that a real global energy crisis was being experienced for the first time. In his statement, Mr. Birol highlighted concerns that global supply of liquefied natural gas (LNG) would not meet demand, adding that the restrictions on the production by primary oil producers had caused “the first energy crisis” in the world. He said that he found the decision taken by the Organization of Petroleum Exporting Countries (OPEC) and OPEC+ group, which includes Russia, to reduce crude oil production by 2 million barrels per day to be risky, given that the IEA expects global demand for oil to increase by 2 million barrels per day this year.

25.50  
TWh

October Gross  
Generation

3,470.0  
TL/MWh

Average  
MCP

**-9.4%**

Daily average licensed electricity generation decreased by 9.4% MoM and 3.3% YoY in October.

[Click](#) for details.

**-9.9%**

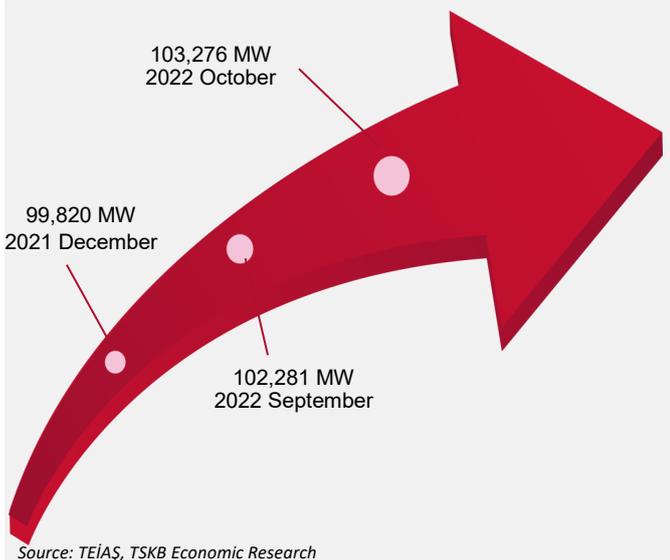
Market Clearing Price (MCP) decreased by 9.9% MoM with a decline of 418.0% YoY in October.

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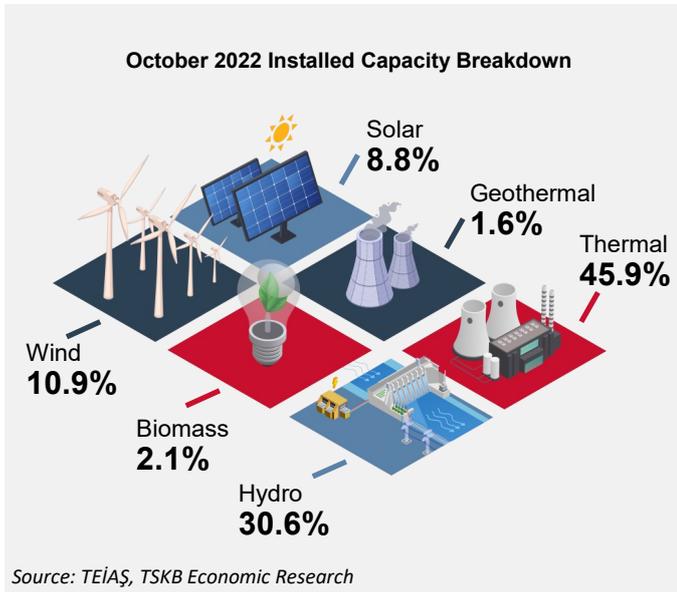


# Installed Capacity Analysis

Turkey's total installed generation capacity, which had reached 99,820 megawatts (MW) at the end of December 2021, reached 103,276 MW by the end of October 2022. A net total of 995 MW in installed capacity came onstream in October, with solar power plants accounting for 159 MW of this installed capacity. In the same period, there was an increase of 108 MW in the total net installed capacity of wind farms, while the increase was 4 MW for renewable waste energy power plants. In addition to these capacities, an imported coal power plant with a net capacity of 660 MW was commissioned in October.

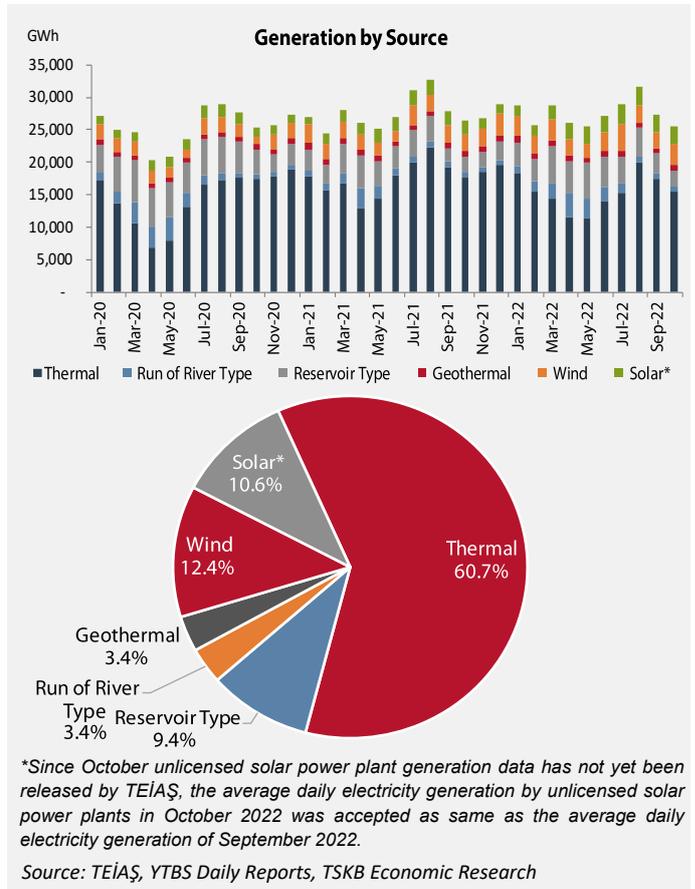


In October, 54.1% of the capacity of the power plants in operation consisted of renewable energy. Thus, the share of renewable resources remained above 54%. Hydroelectric power plants accounted for a 30.6% share of Turkey's total installed electricity power, followed by wind and solar power plants with a 19.8% share.



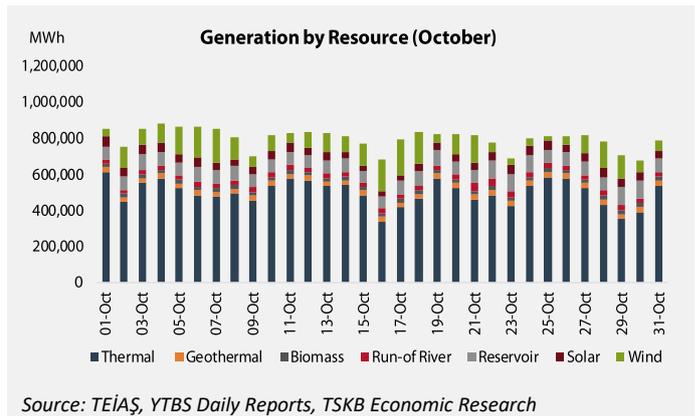
# Electricity Generation Analysis

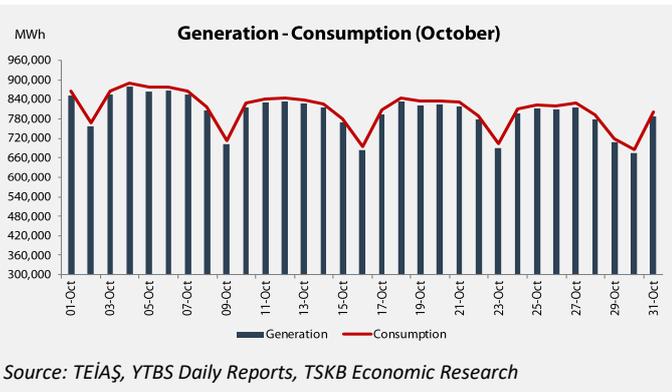
Total electricity generation, which had stood at approximately 27.25 terawatt-hours (TWh) in September was realized at 25.50 TWh in October. Daily average electricity consumption decreased 3.3% in comparison with the same period of the previous year and by 9.4% when compared with the previous month.



Thermal power plants, which had provided 64.1% of the electricity generated in September, provided 60.7% of the total electricity generated in October. When resource-based breakdown of energy power plants is observed, hydroelectric power plants, which had 14.4% share in the previous year, produced 12.9% of the total electricity in October. In the same period, the proportion of electricity generated by wind farms increased by 3.4 percentage points in comparison with the previous month to reach 12.4%. Geothermal energy power plants, on the other hand, provided 3.4% of the total electricity generated.

The share of the renewable energy power plants in total generation, which had averaged 36.0% in 2021, was realized at 39.3% in the tenth month of 2022. In the same period, while dam-type hydroelectric power plants contributed 9.4% to total generation, run-of-the-river hydroelectric power plants provided 3.4% of Turkey's total electricity. The decline in the share of dam-type hydroelectric power plants has continued since May. The total proportion of electricity generated by wind and solar power plants stood at 23%.





Licensed power plants generated an average of 799,286 MWh of electricity per day in October. The maximum generation realized by licensed power plants in October was 879,875 MWh, on Tuesday, October 4<sup>th</sup>, with a minimum of 674,397 MWh on Sunday, October 30<sup>th</sup>.

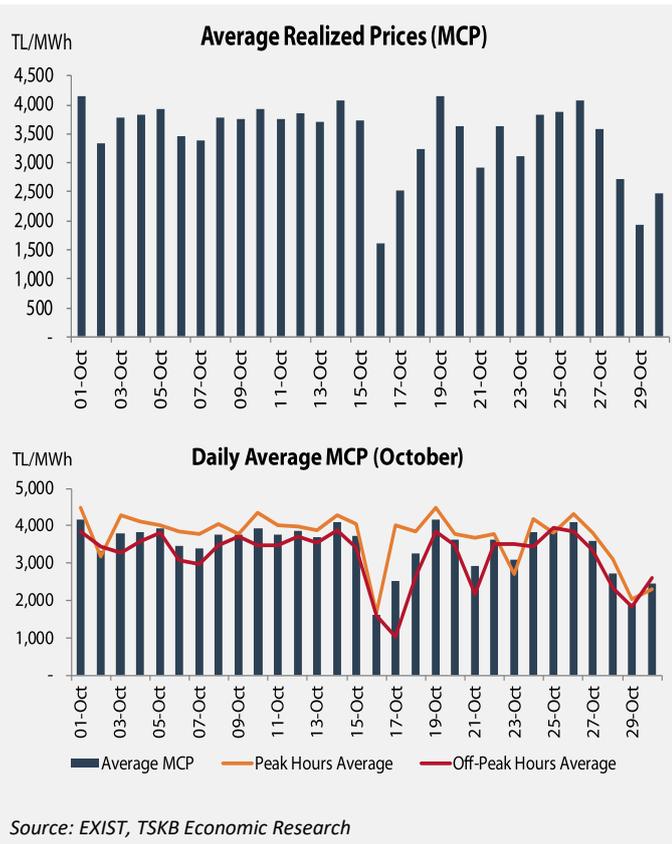
In the same period, electricity consumption averaged 810,866 MWh per day, with a maximum of 891,475 MWh being actualized on Tuesday, October 4<sup>th</sup> and a minimum of 685,997 MWh on Sunday, October 30<sup>th</sup>.

## Electricity Price Analysis

The daily average market clearing price (MCP) varied between TL 1,600 /MWh and TL 4,175 /MWh in October with the daily MCP averaging TL 3,470 /MWh in October. The maximum daily average MCP value was recorded on Saturday, October 1<sup>st</sup> at TL 4,157.70 /MWh and the minimum daily average MCP, recorded on Sunday, October 16<sup>th</sup>, being TL 1,618.70 /MWh.

In terms of hourly data, the maximum price limit, of TL 4,800 /MWh, was reached for a total of 89 hours in October with the electricity price having a TL 1 /MWh value for three hours on Monday, October 17<sup>th</sup>.

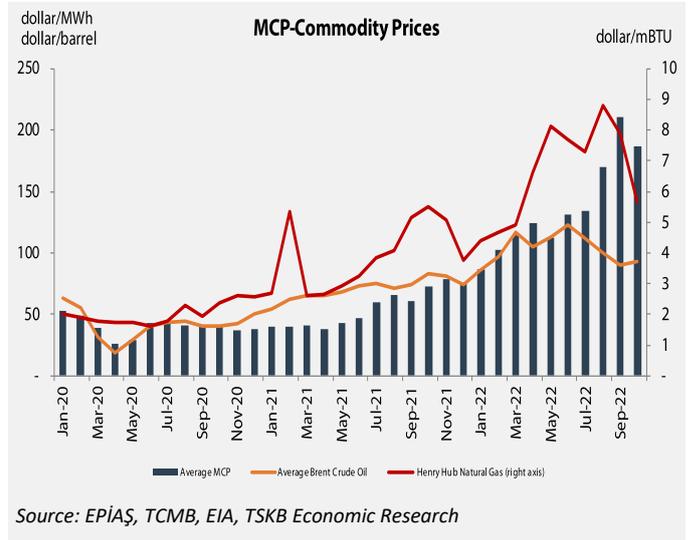
Looking at the MCP for October, the average of peak hours (between 8AM-8PM) rate was 7.8% higher than the overall average, being recorded at TL 3,740.60 /MWh. The minimum price limit TL 4,800 /MWh, was recorded for 71 hours, with the minimum price for the peak hours,



of TL 250 /MWh, realized both on Sunday, October 16<sup>th</sup> and October 30<sup>th</sup>.

In the same period, the average off-peak hours (between 8PM-8AM) rate stood at TL 3,199.50 /MWh. The maximum price limit, of TL 4,800 /MWh, was actualized for 18 hours during off-peak hours, while the minimum price for off-peak hours, at TL 1 /MWh, was recorded on Monday, October 17<sup>th</sup>.

The average MCP, which was USD 210.25 /MWh in September, decreased to USD 186.58 /MWh in October, though remaining 155.3% higher than in the same period of the previous year.



### Average Commodity Prices

The average price of Brent crude oil, which was USD 89.76 per barrel in September, increased by 4.1% to USD 93.40 per barrel in October, bringing the oil price 11.8% higher than in the same period of the previous year.

The average contract price for Henry Hub natural gas, which was USD 7.90 /mbtu in September, decreased by 28.2% on a monthly basis to USD 5.70 /mbtu in October, leaving the price just 2.7% higher than in the same period of the previous year.





## Sector News

### Local News

- **Up to 63 billion cubic meters (bcm) of natural gas can be exported to Europe via Turkey.** Russian Deputy Prime Minister Aleksandr Novak said in his statement that the South Stream had been planned as four lines with a capacity of approximately 63 bcm and could be used to deliver gas to European consumers via the Black Sea and Turkey if there was demand. The Deputy Prime Minister stated that the establishment of a hub for Russian natural gas in Turkey was a subject that needed to be evaluated, while underlining that high natural gas prices were not something which Russia desired. (17 October 2022)

- **Russian President Vladimir Putin proposes establishment large natural gas hub in Turkey to supply Europe.** President Putin stated that Russia could carry natural gas that cannot be used in Nord Stream lines from the Baltic Sea to the Black Sea and could transmit natural gas to Europe via Turkey. President Putin said that Russia could deliver natural gas to Europe through the remaining intact line in Nord Stream-2, while adding that Russia was ready for energy shipments to Europe. After his speech, President Putin, in a statement issued by Gazprom, said the maintenance work on the Nord Stream pipelines could take up to a year, and that Russia could establish a natural gas commerce center on the Turkey-EU border. In parallel with the statement from President Putin, according to the News Agency, Tass, Russian Vice President Alexander Novak said that he was considering the possibility of constructing additional connections to Russia's TurkStream natural gas pipeline. (13 October 2022)

- **Supply and energy security issues no longer an urgent issue after Turkey's investments, according to Minister of Energy and Natural Resources Fatih Dönmez.** In a speech within the scope of "Russian Energy Week", Minister Dönmez

stated that both piped gas and liquified natural gas were being imported, adding that they do not expect pressing issues from their largest suppliers this year. Stating that the number of underground gas storage units had increased and capacities had improved, Minister Dönmez said that Turkey was in a much more comfortable position than its neighboring countries, remarking that Russian President Vladimir Putin's offer to provide the main route via Turkey for the delivery of Russia's energy resources was technically possible, while the technical, commercial and legal evaluations and feasibility work would need to be done. (13 October 2022)

- **Boru Hatları ile Petrol Taşıma A.Ş. (BOTAŞ) announces that its underground natural gas tanks are 100% full.** In the statement, it was stated that there are 4.6 bcm of gas stored in the reservoirs of the Silivri Underground Natural Gas Storage Facility, and that the warehouse capacity rate had reached 100% in both the Tuz Gölü and Silivri Facilities. (10 October 2022)

- **Enerjisa and Enercon sign USD 1.2 billion investment contract.** Within the scope of Enerjisa Üretim Renewable Energy Resource Area-2 (YEKA-2) tender, Rüzgâr Enerji Santrali Kurulum Hizmetleri Ltd. Şti. signed a contract with the Germany based Enercon Global GmbH and Enercon to undertake the investment and operation of wind farms with a capacity of 1,000 MW. According to the contract, wind farms with a capacity of 1,000 MW will gradually be brought into operation in 2026 with an investment of USD 1.2 billion. (10 October 2022)

- **Capacity to be doubled in the Trans Anatolian Natural Gas Pipeline (TANAP).** In a statement, the Minister for Energy and Natural Resources, Fatih Dönmez, stated that TANAP's natural gas carrying capacity would double from 16 billion cubic meters to 32 bcm per year and that Turkey would also benefit from the increased capacity. Azerbaijan's Energy Minister Perviz Şahbazov stated that exports of natural gas to Turkey

would reach 9.3 bcm by 2023 and added that Azerbaijan aimed to expand the TANAP and Trans Adriatic Pipeline (TAP). Mr. Şahbazov said that Azerbaijan would double the natural gas supply to Europe by 2027. (7 October 2022)

**- Minister for Energy and Natural Resources Fatih Dönmez stated that the work to produce hydrogen using local coal was continuing.** In a speech, Fatih Dönmez said that Turkey had completed the first energy transition by renewing infrastructure and that the second phase was moving forward within the scope of "green development goals". Adding that the use of hydrogen as a fuel was one of the main goals, Mr. Dönmez added that Turkey aimed to establish a local hydrogen ecosystem and hydrogen industry. (6 October 2022)

## News From Abroad

**- Poland announces agreement over nuclear power plant with the USA.** According to a statement from the Polish Prime Minister, Mateusz Morawiecki, the construction of the nuclear power plant project is expected to bring in USD 40 billion of investment by 2026 in what is expected to be the first reactor to be activated by 2033. (31 October 2022)

**- European Union (EU) members have different opinions on natural gas ceiling price mechanism.** In a statement after the meeting of the energy ministers of 27 EU member states, Jozef Sikela, the Minister of Industry and Trade of the Czech Republic, stated that they had different opinions on the ceiling price for natural gas and the correction mechanism in the TTF. He added that they had agreed to focus on joint natural gas purchases, adding that there was broad-based support for the introduction of a dynamic maximum price limit on electricity and natural gas prices. The EU Commissioner for Energy, Kadri Simson, also said in a statement that he was expecting the final energy package to be ready for approval by the next ministerial meeting. (26 October 2022)

**- Australia joins Global Methane Commitment.** The Australian government has decided to sign the Global Methane Commitment to reduce global methane emissions by at least 30% below 2020 levels by 2030. In a statement, the Australian Minister of Climate Change and Energy Chris Bowen stated that methane accounted for 24% of the Australian emissions and the country was the 11<sup>th</sup> largest emitter of methane in the world. The Global Methane Commitment was announced by US President Joe Biden in November 2021 ahead of the COP26, and more than 120 countries were included in this commitment. Australia had refused to sign the Global Methane Commitment in 2021. (25 October 2022)

**- European Commission President Ursula von der Leyen states that there is a solid roadmap for continued work on energy prices.** In a statement following the meetings of the EU Leaders Summit, realized with the heads of EU member states, Ursula von der Leyen said that the EU would develop a complementary new index to better reflect prices in liquefied natural gas (LNG) and create a market correction mechanism to limit excessive natural gas prices. Stating that the leaders would support joint natural gas purchases, President Ursula von der Leyen said 15% of the total natural gas demand would be carried out jointly and mandatorily. In the statement issued by leaders after the meeting, it was noted that establishing a potential mechanism to limit the impact of high natural gas prices on electricity costs had also been discussed. (21 October 2022)

**- US President Joe Biden announces USD 2.8 billion fund**

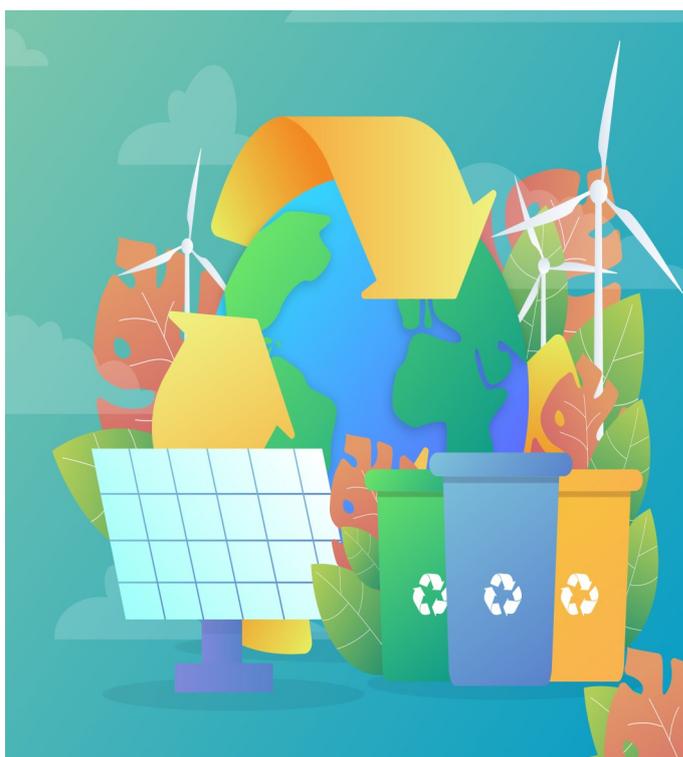
**for electricity vehicle batteries.** President Biden said in a statement that this grant would be used to increase the production of electric vehicle batteries in the USA and the minerals used to build them. In a statement on this issue, the White House stated that China already controlled the critical mineral supply chain and that insufficient mining, processing and recycling capacity in the US could prevent the development and adoption of electric vehicles. The announced grant program is a part of the law pledging USD 7 billion signed in November. (20 October 2022)

**- USA planning to make 15 million barrels available from its strategic oil reserves.** In the announcement made by the White House, it was stated that the Ministry of Energy would issue a sales statement on Wednesday for 15 million barrels of strategic oil reserves to be delivered in December. With this sale, the move to put more than 180 million barrels of oil on the market, announced in March, will be completed. (19 October 2022)

**- US Energy Information Authority (EIA) revises down its projections for Brent crude oil for 2022.** In the EIA's "Short-Term Energy Outlook Report October 2022", the projection for average Brent crude oil prices for 2022 was revised down from USD 104.21 to USD 102.09 per barrel. The report projects a price of USD 94.58 per barrel for Brent for 2023. Global oil demand is expected to increase by 2.1 million barrels per day this year to reach 99.55 million barrels, and rise by a further 1.5 million barrels per day next year to reach 101 million barrels per day in 2023. (14 October 2022)

**- Organization of Petroleum Exporting Countries (OPEC) lowers its projection for oil demand.** According to OPEC's monthly oil market report, global oil demand is on course to increase by 2.64 million barrels per day this year in comparison with the previous year to reach approximately 102.02 million barrels per day, an increase of 2.34 million barrels per day. The previous projection was for an increase of 2.7 million barrels per day. (13 October 2022)

**- Spain accepts package of measures to decrease natural gas consumption.** According to the announcement, Spain aims to reduce natural gas consumption by between 5.1% and



13.5% by March 2023. The measures to be taken include tax reductions for households investing in measures to encourage energy transition, assistance in new projects which encourage self-consumption, public financing for SMEs implementing savings and efficiency measures, increasing renewable energy resources and improving infrastructure to maximize energy export capacity to other European countries. (12 October 2022)

**- EU looking at alternative ways to bring natural gas down.** European Commission President Ursula von der Leyen remarked that at the beginning of the war, Russian gas accounted for 41% of the gas being brought into the EU but that this proportion had decreased to 7.5%, and she said that it was very important for the EU countries to start joint gas purchases in the spring. In response to a question about the fall in natural gas prices, she suggested that discounts could be applied in a couple of different ways for natural gas prices and underlined that an agreed pricing corridor can be determined with reliable suppliers. (10 October 2022)

**- OPEC's 2 million barrel per day cut to start in November.** OPEC and allies (OPEC+) agreed to cut oil production by 2 million barrels per day. The cut, determined with the agreement of Russia and Saudi Arabia, is the biggest cut in oil production from the OPEC+. In response, White House spokesperson Karine Jean-Pierre stated that the decision by OPEC+ demonstrated that OPEC was on the same side as Russia. Of the overall production cut, Saudi Arabia will cut production by 2 million barrels per day in total, followed by the United Arab Emirates which will cut production by 160,000 barrels per day. (6 October 2022)

**- Renewable energy resources meet all of the increase in global demand.** According to the "Global Electricity Half-Year Findings" report published by the think-tank Ember, while global electricity demand increased by 389 terawatt-hours (an increase of 3%) in the first half of 2022, electricity generation by wind, solar, and hydroelectric power increased by 416 TWh, exceeding the rise in global electricity demand. Electricity generation from wind and solar energy increased by 300 TWh in the first six months compared to the same period of the last year, meeting 77% of the increase in global electricity demand. Electricity generation from coal decreased by 36TWh and generation from natural gas decreased 1 TWh. (6 October 2022)

**- RWE, Germany's largest producer of electricity, announces that it will end coal usage by 2030 within the scope of climate change goals.** (6 October 2022)

**- IEA publishes its "4<sup>th</sup> Quarter of 2022 Gas Market Report".** According to the report, the high prices of natural gas in Europe and LNG in Asia in the third quarter of the year led to a decrease in demand for natural gas and encouraged the use of alternative fossil fuels in electricity generation. According to the data in the report, demand for natural gas in Europe decreased by 10% in the first eight months of the year in comparison with the same period in 2021, while industrial demand decreased by 15%. Demand for LNG in Europe surged by 65% in the first 8 months of this year when compared with the same period of the previous year, resulting in a contraction in LNG supply in the Asia-Pacific Region. While demand for natural gas is on course to grow at a rate of 0.4% in 2023, Europe's LNG imports are projected to increase by 60 billion cubic meters in 2022. (4 October 2022)

**- European Commission agrees on the emergency measures to lower energy prices.** The agreed measures

include a voluntary 10% reduction of gross electricity consumption and a mandatory 5% reduction of electricity consumption during peak hours. The Commission also decided to set a maximum limit of EUR 180 per megawatt hour for the market income of enterprises which generate electricity from lignite, nuclear power and renewable sources. Additionally, the European Commission approved the determination of a mandatory temporary solidarity contribution from the profits of companies operating in the crude oil, natural gas, coal and refinery sectors. These planned measures will be in place between 1 December 2022 and 31 December 2023. (3 October 2022)





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