

IEA Executive Director Fatih Birol met with President Ilham Aliyev



Executive Director of International Energy Agency (IEA) Fatih Birol met with President of the Republic of Azerbaijan Ilham Aliyev in Munich. Fatih Birol hailed President Ilham Aliyev’s speech at the Energy Security round table held as part of the Munich Security Conference. [4](#)

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Viewpoint



Zaur Gahramanov, CEO, SOCAR Turkey

The Southern Gas Corridor to Europe is Almost Ready

The first time a major gas field was developed in Azerbaijan's Caspian Sea region, it was the early 2000's, and the consortium of energy companies that developed it were already looking 20 years into the future. This was the Shah Deniz field, literally meaning "The King of the Sea", and the first phase of development had just started. Shah Deniz, one of the world's most prolific gas fields, with over 1.2 trillion cubic meters of reserves, is almost ready to deliver gas to European markets, over 3,500 km away.

The first phase of Shah Deniz (Stage 1) began operations in 2006. It can produce around 10 billion cubic meters of gas annually (bcma) and nearly 50,000 barrels a day of gas condensate. Despite the many challenges of drilling the wells, building a platform, constructing an onshore terminal and laying a 700 km South Caucasus pipeline (SCP) through Azerbaijan and Georgia to the Turkish border, Shah Deniz Stage 1 was developed in only seven years. Since 2007, Shah Deniz has proved to be a reliable supplier of gas to Azerbaijan, Georgia and Turkey.

With the discovery of further gas resources in Shah Deniz, known as Shah Deniz Stage 2, the Southern Gas Corridor project has come to the forefront. The Southern Gas Corridor (SGC) is a term used to describe infrastructure projects aimed at improving the security and diversity of the EU's energy supply by bringing natural gas from the Caspian region to Europe.

The Southern Gas Corridor is one of the most complex gas value chains ever developed in the World, stretching over 3,500 kilometers, crossing seven countries and involving more than a dozen major energy companies. The SGC is made up of several separate major projects representing a total investment of approximately US \$40 billion. These projects are the Shah Deniz 2 development in Azerbaijan's Caspian Sea, the expansion of the South Caucasus Pipeline, which runs through Azerbaijan and Georgia, the TANAP pipeline, which runs from Turkey's eastern to western borders, and the TAP pipeline, which runs from the Turkey-Greece border through Greece, Albania, and Italy. When completed, this massive value chain of production and pipelines will carry 6 billion cubic meters of gas from Azerbaijan to Turkey, and 10 billion cubic meters of gas annually all the way from Azerbaijan to Italy, and through Italy to other European markets.

The Southern Gas Corridor is important to the EU, because it brings a totally new source of gas to Europe's supply picture. Indigenous sources of gas in Europe, such as the North Sea, have been declining. Europe receives most of its imported gas from Russia in the north, and some from North Africa via pipelines. The rest comes through LNG imports, where the U.S. is now increasing its market share. With the Southern Gas Corridor, Europe will receive an additional 10 billion cubic meters per year from a brand new source, boosting energy supply security through supply diversification. It is important to note that the 10 billion cubic meters can be increased in the future; for example the TANAP pipeline through Turkey can be expanded to nearly double its capacity through new investments. There are further gas resources in Azerbaijan which have not yet been developed, and additional transport capacity that can be used in the future.

Turkey is already receiving Shah Deniz Stage 2 gas from the TANAP pipeline, since 1 July 2018. It received about 2 bcm in 2018, around 4 bcm in 2019, and in 2020 the supplies should be about 6 bcm. This is in addition to the 6.6 bcma which Shah Deniz supplies to Turkey from the Stage 1 development.

The Southern Gas Corridor is almost ready. Onshore work is 100% complete in Azerbaijan and in Georgia. TANAP in Turkey is also 100% complete and on 30 November of 2019, the readiness for supplies to Europe was inaugurated in Turkey in the presence of the Presidents of Azerbaijan and Turkey. The TAP pipeline is almost finished, with %91 completion, and the entire SGC project is thus near completion.

Azerbaijan has a mature oil and gas sector and has produced hydrocarbons for almost 150 years. One of the oldest oil-producing countries in the world, Azerbaijan is a key supplier of oil and natural gas from the Caspian Sea region, to world markets. Although traditionally it has been a prolific oil producer, Azerbaijan's importance as a natural gas supplier is increasing because of field development and new export infrastructure. As projects like the Southern Gas Corridor expand, both Turkey and European countries will receive more natural gas from Azerbaijan in the future. SOCAR, the State Oil Company of the Azerbaijan Republic, has an important share in each part of the massive Southern Gas Corridor project, and will continue to be a major player in gas and oil from the Caspian Sea region.

IEA Executive Director Fatih Birol met with President Ilham Aliyev

Executive Director of International Energy Agency (IEA) Fatih Birol met with President of the Republic of Azerbaijan Ilham Aliyev in Munich. Fatih Birol hailed President Ilham Aliyev's speech at the Energy Security round table held as part of the Munich Security Conference.

The Executive Director noted that Azerbaijan is known as a very reliable partner in the global energy market, describing this as a result of the poli-



cy pursued by President Ilham Aliyev, and emphasized the importance of the steps taken by Azerbaijan in recent years towards the development of alternative energy sources. "Azerbaijan is well-known as a reliable partner in the energy market. It is a

result of President Ilham Aliyev's successful policy." Birol said.

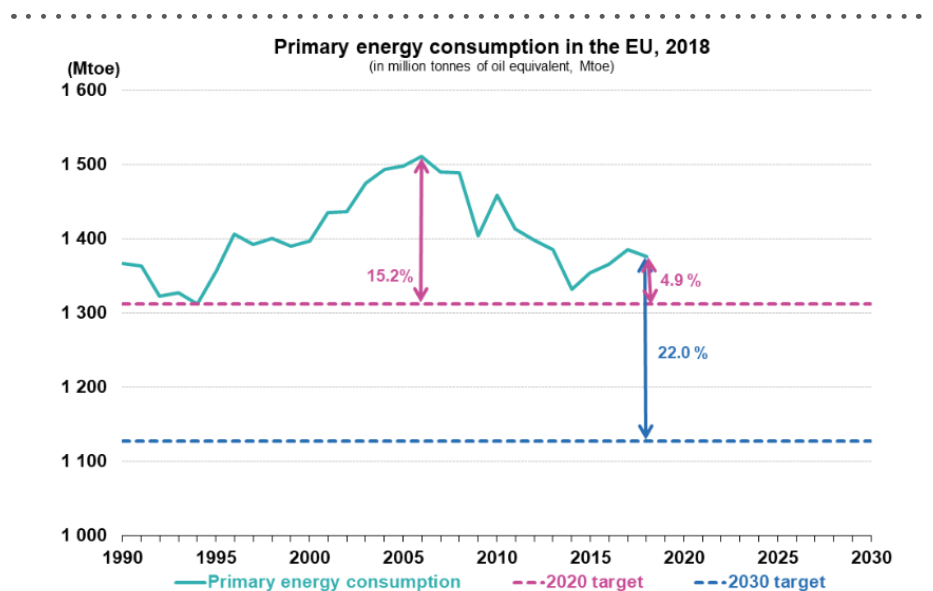
Azerbaijan initiatives within OPEC+ format was hailed at the meeting. The sides also exchanged views on the current state of the global energy market.

EU Still Far Away from Its 2020 and 2030 Energy Efficiency Targets

According to the new figures published by Eurostat, the statistical office of the European Union (EU), 27 member states in total missed the bloc's 2020 energy efficiency objective by a margin of up to 5%.

Eurostat reported that the EU's energy consumption remained pretty stable in 2018. While primary energy consumption reached 1,376 million tons of oil equivalent (Mtoe), 0.71% less than 2017, final energy consumption reached 990 Mtoe, 0.02% more than 2017.

The EU has an energy efficiency target of reducing energy consumption by 20% by 2020. The primary energy consumption should amount to no more than 1,312 Mtoe and final energy consumption to no more than 959 Mtoe in 2020. The EU energy efficiency target for 2030 also aims at a primary energy consumption of no more



Graphic 1 – Primary energy consumption in the EU in 2018¹

than 1,128 Mtoe and final energy consumption of no more than 846 Mtoe. So, the latest figures released by Eurostat reveals the fact that the bloc in 2018 was 4.9% above the efficiency

target in primary energy consumption for 2020 and 22% away from the 2030 target, while final energy consumption was 3.2% above the 2020 target and 17% away from the 2030 target.

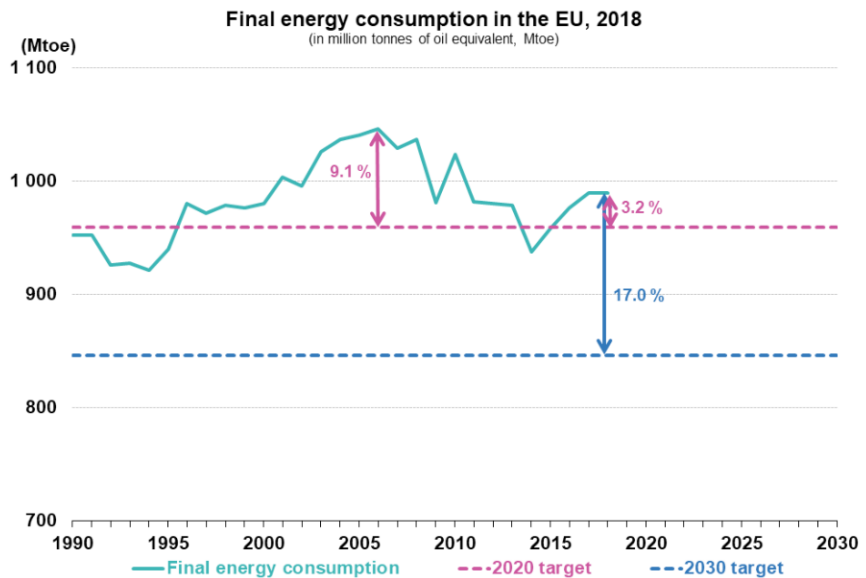
¹ Eurostat News Release 26/2020, (February 4, 2020) Primary and final energy consumption still 5% and 3% away from 2020 targets

Primary energy consumption increased in 12 of the 27 member states, remained stable in 4, and decreased in 11 in 2018 compared with 2017. The highest increase was recorded in Estonia by 9%, while the largest fall was registered in Belgium by 5%.

As for the final energy consumption, it increased in 15 of the 27 member states, remained stable in 6, and decreased in 6 others. The statistical office reported that it increased most in Malta and decreased most in Greece.

The European Environment Agency (EEA) earlier warned the EU was at risk of not meeting its 2020 targets on energy efficiency. “The worrying overall trend is most prevalent in buildings and transport, where final energy consumption increased by 8.3 % in 2014-2017 and 5.8 % respectively. With these trends, meeting the 2020 energy efficiency target appears increasingly difficult,” the EEA stressed in October 2019.

According to the European Commission’s projections, energy efficiency



Graphic 2 – Final energy consumption in the EU in 2018²

measures currently planned by the member states risk leaving a gap of 6.2% versus a 32.5% energy saving benchmark for 2030.

The 2020 Package of the bloc, widely known as '20-20-20 Targets', which were set by EU leaders in 2007 and enacted in legislation in 2009, is a set of binding legislation to ensure the EU meets its climate and energy targets

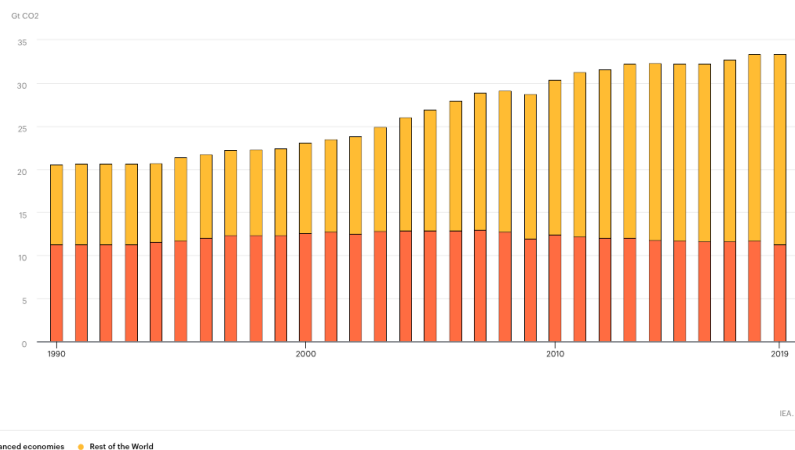
for 2020. The package sets three key targets: 20% cut in greenhouse gas emissions from 1990 levels, 20% of energy from renewables, and 20% improvement in energy efficiency.

The European Commission still has lofty ambitions as part of its 'European Green Deal', which aims to make Europe “the first climate-neutral continent in the world” by 2050.

Global Energy-Related CO2 Emissions Fattened in 2019

Global energy-related CO2 emissions flattened in 2019 at around 33 gigatons (Gt), following two years of increases, the International Energy Agency (IEA) reported on February 11.

While emissions in advanced economies declined by over 370 million tons (Mt) (3.2%) thanks to the energy transition based on increasing capacity of wind and solar PV as well as fuel switching from coal to natural gas and higher nuclear power output, slower economic growth in major emerging economies and milder weather conditions globally also limited the potential increases.



Graphic 3 – Energy-related CO2 emissions (1990-2019)³

² Eurostat News Release 26/2020, (February 4, 2020) Primary and final energy consumption still 5% and 3% away from 2020 targets

³ International Energy Agency (IEA), (February 11, 2020) Global CO2 emissions in 2019

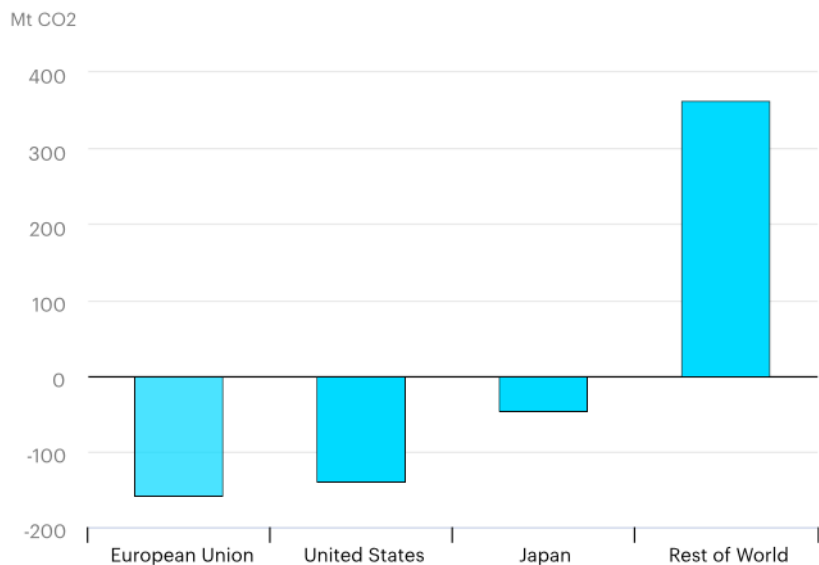
Global power sector emissions declined by 170 Mt (1.2%), with the biggest falls taking place in advanced economies where CO₂ emissions are now at levels not seen since the late 1980s. The IEA pointed out that energy-related CO₂ emissions in advanced economies fell by 3.2% in 2019, although these countries could reach an average 1.7% GDP growth.

The global trend towards clean energy transition seemed to play a major role in decrease emissions radically in 2019. While increasing renewable capacity could reduce emissions by 130 Mt in advanced economies, coal-to-gas fuel switching decreased 100 Mt and higher nuclear power generation, particularly in Japan and South Korea, avoided over 50 Mt of CO₂, the global energy watchdog said.

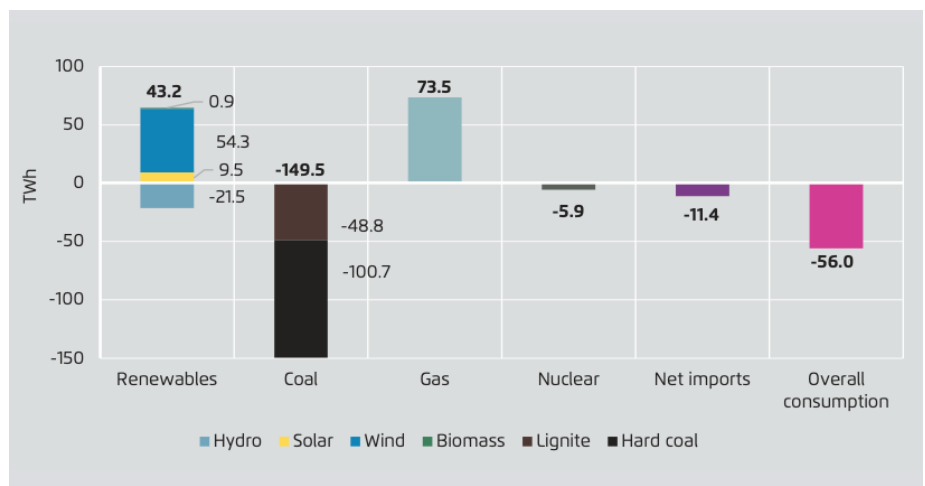
The largest decline in energy-related CO₂ emissions on a country basis was in the United States by 140 Mt (2.9%). U.S. emissions are now down almost 1 Gt from their peak in 2000, the largest absolute decline by any country over that period, mostly thanks to the increasing share of natural gas in power generation due to its competitive price against coal.

Energy-related CO₂ emissions in the EU, including the United Kingdom, also decreased by 160 Mt (5%) in 2019, while 75% of this drop (120 Mt) resulted from renewables and coal-to-gas switching. Emissions from coal-fired power plants dropped by more than 25% in 2019, while gas-fired generation increased by 15% to overtake coal for the first time. Renewables in Germany, on the other hand, for the very first time generated more electricity in 2019 than the coal-fired power plants in the country.

But emissions outside advanced economies grew by 400 Mt, with almost



Graphic 4 – Change in energy-related CO₂ emissions by region (2018-2019)⁴



Graphic 5 – Changes in EU 28 electricity generation from 2018 to 2019⁵

80% of the increase coming from Asia. Coal demand continued to expand, accounting for over 50% of energy use and about 10 Gt of emissions. Emissions in China last year rose but were tempered by slower economic growth and higher output from renewables and seven newly built large scale nuclear reactors.

“We now need to work hard to make sure that 2019 is remembered as a definitive peak in global emissions, not just another pause in growth. We have the energy technologies to do this, and we have to make use of them

all,” said Fatih Birol, the IEA’s Executive Director.

The U.S. Energy Information Administration (EIA) also released another report on February 11 claiming that energy-related CO₂ emissions in the country are estimated to decrease up to 2031, but then slowly increase in the following years to reach 4.9 billion metric tons in 2050. Energy-related CO₂ emissions in the U.S. could be 4% lower by 2050 compared to 2019 levels, the EIA underlined. In line with the IEA’s projections, the EIA expects the radical drop in the power sector’s

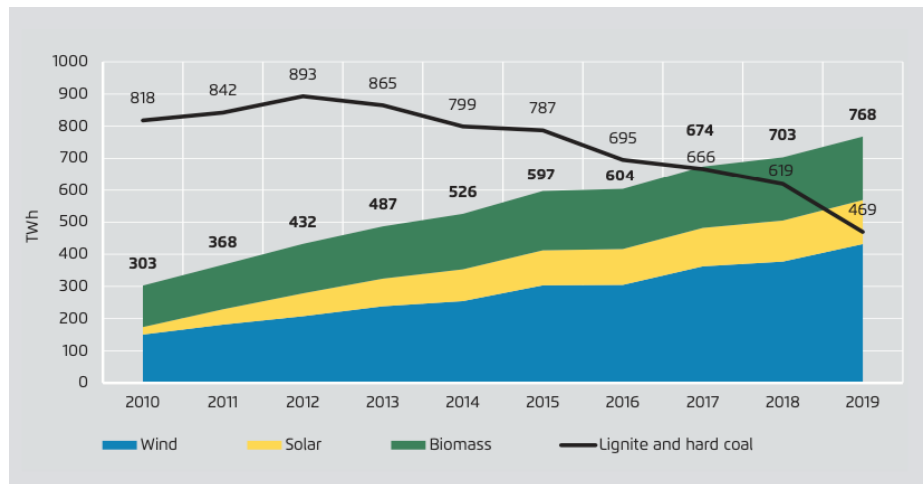
⁴ International Energy Agency (IEA), (February 11, 2020) Global CO₂ emissions in 2019

⁵ Agora Energiewende & Sandbag, (February 5, 2020) The European Power Sector in 2019 – Up-to-Date Analysis on the Electricity Transition

emissions will be based on coal-to-gas switching and increasing renewable capacity. The Administration anticipates total energy-related CO2 emissions to resume growth by 2031 due to transportation and industrial sectors, while residential and commercial energy sector emissions are expected to remain stable until 2050.

According to a recent study co-authored by German policy institute Agora Energiewende and British climate think-tank Sandbag, greenhouse gas emissions in EU's power sector decreased by 12% in 2019, the sharpest drop since 1990. Emissions fell by 120 Mt last year, largely due to a sharp decrease in generation from hard coal and lignite-fired power plants, which fell by 24% across the EU.

“To a large extent, this collapse was



Graphic 6 – EU 28 generation from lignite+hard coal vs. wind+solar+biomass⁶

triggered by an increase in the price of CO2 emissions to around 25 euros per ton, making carbon-intensive coal electricity more expensive than electricity from natural gas, nuclear power,

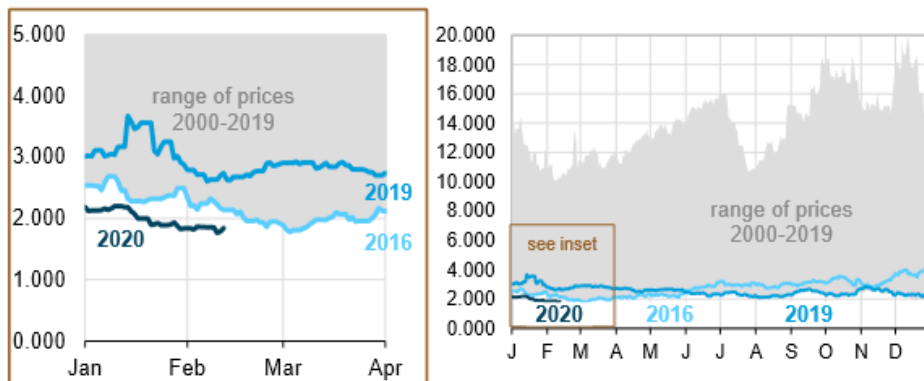
and renewable energy,” the report said. As 21 member states announced their phase-out plans for coal, the downward trend in coal generation is expected to continue in 2020.

As Production Growth Outpaces Demand, U.S. Gas Prices Hits Historical Low

Natural gas prices in the United States in mid-February have hit their lowest level since 2016, the U.S. Energy Information Administration (EIA) reported. While the near-month natural gas futures price at the New York Mercantile Exchange (NYMEX) on February 10 closed at \$1.77 per million British thermal units (MMBtu), the lowest level in real terms since 2001, spot price at the Henry Hub was \$1.81 per MMBtu on the same day, also the lowest in Henry Hub since 2016.

As Henry Hub spot prices have fluctuated within the range of \$1.81 and \$2.84/MMBtu between November and February, the EIA underlined that such historical low prices were just originated from relatively warm weather conditions as well as oversupply in the market.

According to IHS Markit data, while dry natural gas production in the U.S. in January averaged about 95 billion cubic feet per day (Bcf/d, approximate-



Graphic 7 – Near-month NYMEX natural gas futures prices, USD per MMBtu (2000-2020)⁷

ly 2.69 billion cubic meter -bcm- per day), the third-highest monthly production on record, gas consumption by residential, commercial, industrial, and electric power sectors averaged 96 Bcf/d (2.71 bcm/d), about 4.4 Bcf/d (125 mcm/d) less than the average for January 2019 due to warmer temperatures.

According to the EIA's data on natural gas inventories for the Lower 48 states

(all U.S. states excluding Hawaii and Alaska), higher supply growth as against lower demand created a surplus of 215 Bcf (6.1 bcm) to the five-year average on February 7.

As for the weather conditions, the EIA quoted the latest figures released by the U.S. National Oceanic and Atmospheric Administration (NOAA), showing that January 2020 was the fifth warmest in its 126-year climate record.

⁶ Iqora Energiewende & Sandbag, (February 5, 2020) The European Power Sector in 2019 – Up-to-Date Analysis on the Electricity Transition

⁷ Energy Information Administration (EIA), (February 14, 2020) Today in Energy

EMRA Forecasts 52.02 bcm Natural Gas Consumption in 2020

Energy Market Regulatory Authority (EMRA) estimates 52.02 billion standard cubic meters (bcm) of natural gas consumption in Turkey during 2020, according to Authority's Board Resolution published on the Official Gazette.

EMRA's natural gas consumption forecast for 2019 was 52.13 bcm; however, the total gas consumption of the country reached around 45 bcm due to the decreasing demand of the natural gas-fired power plants. But the natural gas consumption pattern recorded in the first two months

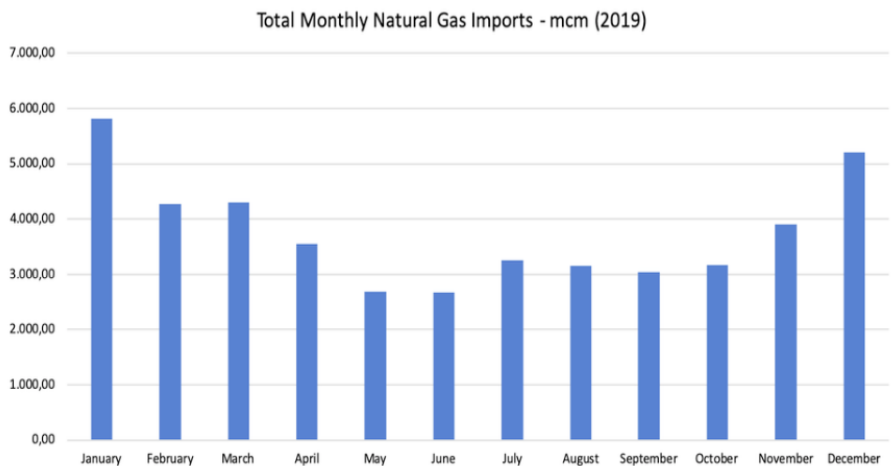
Evolving Global LNG Demand to Double by 2040

Global LNG demand grew by 12.5% to 359 million tons in 2019, according to Shell's latest annual LNG Outlook . The report shows that European LNG imports increased by 74% in 2019, and the LNG demand is estimated to double by 2040.

The report highlights an increase in the diversity of contractual structures, providing a wider range of options to LNG buyers.

Shell LNG outlook assessed below demand drivers for its forecast:

- LNG demand supplements pipeline



Graphic 8 – Total Monthly Natural Gas Imports of Turkey⁸

of this year shows a significant increase in the country's gas demand. The overall electricity generation of the natural gas-fired power plants almost reached 10 TWh in mid-February, with an increase of 42% on year-on-year basis.

The share of local and renewable re-

sources in Turkey's electricity generation reached 62% last year, thanks to hydroelectric and wind power plants. Turkey aims to decrease its dependence on imported products while increasing the share of local and renewable sources in its energy mix.



gas and/or domestic production

- LNG demand due to declining domestic gas production
- Demand as LNG is the sole gas supply source
- LNG demand from bunker fuel

New spot-trading mechanisms and a wider variety of indices used for long-term contracts point towards LNG be-

coming an increasingly flexible commodity, according to the LNG outlook. "There was a modest rise in imports to Asia in 2019, compared to the previous two years, a result of mild weather and rising electricity generation from nuclear power in Japan and South Korea, two of the three largest global importers." the report shows.

⁸ Enerji IQ Weekly Market Report No: 138 (February 18, 2020)

⁹ Shell LNG Outlook 2020 (February 2020)

Turkey Ranks Sixth in Europe with 44.7 GW Renewable Installed Capacity

“In terms of renewable energy installed capacity, Turkey ranks sixth in Europe and thirteenth in the world,” said Energy and Natural Resources Minister Fatih Dönmez, during his opening remarks at the solar Conference, held in Kayseri.

Minister Dönmez emphasized the significant growth in solar capacity by highlighting the current installed capacity as 6.32 GW.

“We have completed our terms of references and the draft contracts for the mini solar YEKA (Renewable Energy Resource Areas) auctions. The relevant law will be amended by the Parliament soon, and we will officially start the tender process within the first half of this year,” said Fatih Dönmez.

Minister Dönmez stated that 62 percent of Turkey’s electricity



Fatih Dönmez

generation was met from the domestic and renewable sources, and renewable installed capacity reached 44,776 MW, comprising 49 percent of the total installed capacity, as of the end of 2019.

Mr. Mustafa Yılmaz reappointed as EMRA's President

Mr. Mustafa Yılmaz is reappointed as the President of the Energy Market Regulatory Authority’s (EMRA) by a Presidential Decree published on the Official Gazette on March 3, 2020. Mr. Yılmaz’s 4-year term expired on February 29, 2020.

Mr. Mustafa Yılmaz was appointed as EMRA’s Board Member in 2004, and appointed as EMRA’s Vice-President on January 28, 2010, at

the end of his six-year term.

Yılmaz was appointed as the President of EMRA on February 20, 2014, after his predecessor Mr. Hasan Köktaş’s term expired.

On March 1, 2016, Mr. Yılmaz was reappointed as the President and the Chairman of the Board of EMRA for another six years. In July 2018, the 6-year term was reduced to 4-years



Mustafa Yılmaz

by a Presidential Decree.

According to the Presidential Decree mentioned above, Mr. Yılmaz’s four- year term of office expired on February 29, 2020.

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