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TURKEY'S RENEWABLES GENERATED 43% IN 2019

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IEA Executive Director Dr. Fatih Birol Meets with Japanese Prime Minister Abe to Discuss The G20 Osaka Summit

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Monthly Highlights

IEA'S 'OPEN DOOR STRATEGY' DEEPENS ENGAGEMENT WITH EMERGING ECONOMIES

IEA Executive Director Dr Fatih Birol with Prime Minister Shinzō Abe

The IEA Executive Director, Dr. Fatih Birol, is leading a comprehensive IEA modernization program by opening the doors of the organization to include major emerging countries such as Brazil, China, India, Indonesia, Mexico and South Africa. They have recently joined the IEA as the Association Countries. Consequently, the share of global energy demand represented by countries participating in the IEA has increased from 38% to almost 75%. In line with this inclusiveness strategy, Dr. Fatih Birol, who is also IICEC's Honorary Board Chairman, has been visiting countries world-wide, including the top energy consumers represented within the IEA as well as OPEC countries that continue to supply about one third of world oil supply.

As usual, Dr. Birol has had a busy travel schedule paying a visit to Japan on April 12 to meet with Prime Minister Shinzō Abe. Afterwards, Dr. Birol visited Iraq and met with Iraqi President Barham Salih in Baghdad. Then, Dr. Birol visited Beijing on May 16 where he met with senior government officials and launched a major new report on China's natural gas market.

JAPAN

Dr. Fatih Birol with Mr Tarō Kōno, Foreign Minister of Japan

In his meeting with Japanese PM Abe, their discussions focused on upcoming IEA contributions to the G20 Osaka Summit, particularly a major IEA new report on hydrogen energy. Japan has become a leader in broadening the role of hydrogen, particularly within the transport sector. Hydrogen is already an important part of energy systems, mainly for its use in the refining industry and as a feedstock for chemicals production. But its future potential is much larger. Japan is not the only country with a strong interest in hydrogen so it is beginning to enjoy worldwide support and interest. The opportunities for investing in hydrogen is rising[1].

Dr. Birol also had a bilateral meeting with Foreign Minister Mr. Tarō Kōno to discuss the IEA inputs to Japan's G20 Presidency, work on clean energy investment and progress with the IEA's 'open door strategy' to deepen engagement with emerging economies.

[1] International Energy Agency, (March 19, 2019) Tracking hydrogen energy progress.

IRAQ

Dr. Fatih Birol, the IEA's Executive Director met with Iraqi President Barham Salih in Baghdad and presented the study's findings and recommendations.

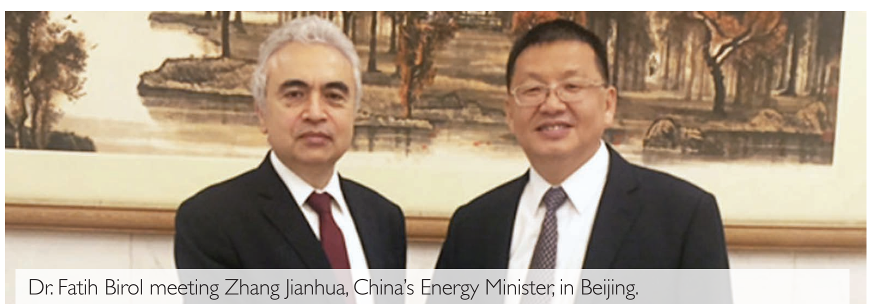
In late April, Dr. Fatih Birol, IEA's Executive Director, met with Iraqi President Barham Salih in Baghdad and presented the findings and recommendations of the organization's latest study on Iraq's energy sector. He then met with Prime Minister Adil Abdul-Mahdi to discuss ways forward for the electricity sector, including making best use of Iraq's significant natural gas and solar resources.

Iraq, one of the world's biggest energy producers, can address its current electricity shortfall and growing power needs through immediate action to relieve pressure on the system, according to the new IEA report, *Iraq's Energy Sector: A Roadmap to a Brighter Future*. The report maps out immediate practical actions and medium-term measures to tackle the most pressing problems in Iraq's electricity sector. Iraq's electricity demand is set to double between now and 2030, and its shortfall in electricity supply will widen, as the country's population grows by more than 1 million people each year.

The report also takes a detailed look at the country's oil and gas sector, providing a medium-term strategy that makes the best use of the country's abundant oil and natural gas resources. It projects that Iraq's oil production will grow by 1.3 million barrels a day by 2030, accounting for the third-largest increase globally over the period, and soon becoming the world's fourth-largest oil producer behind the United States, Saudi Arabia and Russia.

IEA's comprehensive report also emphasizes Iraq's abundant renewable energy potential, that took a back seat to oil and gas, so far. "In addition to oil, Iraq is blessed with some of the richest solar and gas resources in the world but it is yet to take advantage of them." Dr. Birol said. "Turning that potential into fuel for its own economy and for export would help bring about a more sustainable, reliable and affordable energy future." The analysis shows that expanding the share of solar PV and wind to 30% of electricity supply by 2030 would bring benefits both to the Iraqi consumer, in the form of reduced electricity bills, and to the environment.

CHINA



Dr. Fatih Birol meeting Zhang Jianhua, China's Energy Minister, in Beijing.

Dr. Fatih Birol visited Beijing on May 16-17 as well, where he met with senior government officials, gave a keynote speech and launched the Gas Market Liberalization Reform Report.[2] The report examines the key points for natural gas liberalization and regulatory reform in Europe and the U.S. over the past decades and then looks at the current situation of natural gas liberalization in China, highlighting the importance of designing a suitable framework for the natural gas market by using best-policy tools.

During his visit to Beijing, Dr. Birol met with Zhang Jianhua, China's Energy Minister, with whom he discussed cooperation with the IEA, including on gas market design, oil security and the integration of renewables. In a separate meeting with Wang Zhigang, China's Minister of Science and Technology, Dr. Birol discussed support for research on hydrogen and carbon capture, utilization and storage, as well as the importance of investment in innovation.

"Few countries have as much impact on global energy markets as China," Dr. Birol said. "The IEA has a longstanding and constructive relationship with many partners who are working to bring about a cleaner, more efficient and secure energy system," he added.

[2] International Energy Agency, (May 16, 2019) Gas Market Liberalisation Reform

RENEWABLE CAPACITY GROWTH WORLDWIDE STALLED AFTER TWO DECADES OF STRONG EXPANSION

After nearly two decades of strong annual growth, renewables around the world added as much net capacity in 2018 as they did in 2017, an unexpected flattening of growth trends that raises concerns about meeting long-term climate goals. Last year was the first time since 2001 that growth in renewable power capacity failed to increase year on year, according to the IEA's latest analysis on renewable capacity growth rate[3].

New net capacity from solar PV, wind, hydro, bioenergy, and other renewable power sources increased by about 180 GW in 2018, the same as the previous year, according to the International Energy Agency's latest data. That's only around 60% of the net additions needed each year to meet long-term climate goals. Renewable capacity additions need to grow by over 300 GW on average each year between 2018 and 2030 to reach the goals of the Paris Agreement, according to the IEA's Sustainable Development Scenario (SDS).

Capacity additions in the EU, the second-largest market for renewables, saw a slight decline. Solar PV grew compared with the previous year, while wind additions slowed down. In the United States, the third-largest market, renewable capacity additions increased slightly in 2018, mainly driven by faster onshore wind expansion while solar PV growth was flat. Renewable capacity expansion accelerated in many emerging economies and developing countries in the Middle East, North Africa and parts of Asia, led by wind and solar PV as a result of rapid cost declines.

TURKEY'S RENEWABLES GENERATED 43% IN 2019

Turkey, prioritizing renewable and domestic resources in electricity generation by the energy policies, increased its production from renewables tremendously in 2019. According to the ex-post generation data revealed by the Transparency Platform of the Energy Exchange Istanbul (EXIST), Turkey's electricity generation from renewable resources in the first four months of 2019 reached 43% of the total production.[4]

The share of hydroelectric power plants increased to 30% as of May 1, 2019, from its average level of 19.8% in 2018. The water inflow volumes to the dammed hydroelectric plants in the first quarter of 2019 have almost doubled the last year's capacities for the same period, according to the water inflow statistics of Turkey's transmission system operator TEIAS.[5]

Wind plants electricity generation has also increased to 8% for the same period from 6.6% of 2018. Turkey's geothermal power plants contributed to the electricity generation by %3.2 with its total installed capacity of 1.3 GW.

Turkey's growing solar power plants generated 2.6% of the country's electricity in 2018. With the new regulations, implemented to promote solar investments, the share of solar plants is expected to increase in the next decade significantly.

The increase in the utilization of renewable resources, particularly the hydroelectric power plants, surpassed the share of natural gas plants in electricity generation. The percentage of natural gas used in electricity generation decreased to 18% in 2019 from 29.8% in 2018. As a result of overall decrease in gas demand, Turkey's gas imports from Russia decreased by 43% to 4.5 billion cubic meters in the first quarter of 2019, compared to the same period of 2018.[6]

[3] International Energy Agency, (May 6, 2019) Renewable capacity growth worldwide stalled in 2018 after two decades of strong expansion.
[4] Energy Exchange Istanbul (EXIST) Transparency Platform, (May 2019)
[5] https://www.teias.gov.tr/tr
[6] Anadolu Agency, (May 16, 2019) Turkey's gas imports from Russia down 43% in 1Q19.

DURING IRAQI PM'S VISIT TO TURKEY, ENERGY WAS ONE OF THE TOPICS ON THE TABLE

Iraqi Prime Minister Adel Abdul-Mahdi paid an official visit to Ankara and met with Turkish President Recep Tayyip Erdoğan to discuss various bilateral issues including energy. In a joint news conference, two leaders declared that the delegations discussed the fight against terrorism, reconstruction works in Iraq and steps to be taken to enhance cooperation between two countries, especially in the areas of trade and energy.

Relations between the two neighboring countries have recently gained new momentum with high-level visits. Turkish Foreign Minister Mevlüt Cavuşoğlu paid a visit to Baghdad, Irbil and Basra on April 28-29 to meet with the top officials from both the central government in Baghdad and the Iraqi Kurdistan Regional Government (KRG) in Irbil.

Regarding the energy, both leaders highlighted the importance of reopening the Kirkuk-Ceyhan oil pipeline which has been vandalized by the Daesh terror group[7]. Water management was also among the agenda items of the official meetings. Both countries recently agreed to cooperate on water management to prevent any possible water scarcity in the region. There's also an ongoing arbitration case between two countries on KRG's oil shipments through Ceyhan oil terminal in Turkey.

TÜPRAŞ REDUCES OIL IMPORTS FROM IRAN, FULLY COMPLIES WITH U.S. OIL SANCTIONS

Turkey's largest oil refiner Tüpras, Turkish Petroleum Refineries Corporation, reduced oil imports from Iran in order to comply fully with U.S. sanctions.

While Iran had been the leading source country until the effective date of the U.S. sanctions by November 2018, Tüpras radically decreased its imports from Iran within the 6-month waiver period and eventually ended by early May right after the White House officially announced on April 22 that it will no longer grant waivers to eight countries including Turkey[8]. Six-month waivers were granted to the eight main buyers of Iranian crude -China, Greece, India, Italy, Japan, South Korea, Taiwan and Turkey- to give them time to find alternative sources and avoid causing a shock to global oil markets.

Before the sanctions, Iranian oil had been prefered by Tüpras due to its relatively discounted price as well as its compatibility to the technical characteristics of its refineries. Prior to May 2018, when the U.S. pulled out of the Iran nuclear accord, Turkey imported an average of 912,000 tonnes of oil a month from Iran, or 47% of its total imports, Reuters reported[9]. But after the announcement of the sanctions, oil imports from Iran started to decline.

According to the latest available monthly oil importation data released by the Energy Market Regulatory Authority (EPDK), Turkey imported an average of 209,000 tonnes of Iranian oil, or 12% of its total imports. Imports from Iran recorded a dramatic 54% fall in February, 349,837 tons compared to 643,294 tons in the same month of last year[10]. Iraq ranked first among Turkey's oil suppliers by exporting 528,983 tons of oil in February, followed by Russian Federation and Kazakhstan.

Having four refineries in Kocaeli, Batman, İzmir and Kırıkkale with a total crude oil processing capacity of 28.1 million tons per year, Tüpras is the largest industrial company in Turkey and 7th largest refiner in Europe.

[7] Anadolu Agency, (May 15, 2019) Turkey-Iraq mull signing military cooperation, trust agreement.
[8] EThe New York Times, (April 22, 2019) U.S. moves to stop all nations from buying Iranian oil, but China is defiant.
[9] Reuters, (May 21, 2019) Despite rhetoric, Turkey complies with U.S. oil sanctions on Iran.
[10] Energy Market Regulatory Authority, (2019) Oil Market Sector Report February 2019.

OIL PRICES RELATIVELY STABLE DESPITE MARKET TURMOIL, TRADE WAR AND MIDDLE EAST TENSIONS

Oil prices have been recently under pressure of various political and sectoral dynamics. While the oil futures had been negatively affected by the prospect of a long-term tariff war between the U.S. and China as well as declining global economic growth forecasts and oil demand predictions, oil prices were further pressurized by the growing tensions between the U.S. and Iran which could lead to supply disruptions.

On May 14, Saudi Arabia said armed drones struck two oil pumping stations in what it called a “cowardly act of terrorism” two days after Saudi oil tankers were sabotaged off the coast of the United Arab Emirates. Tehran immadiately rejected allegation of Iranian involvement. Houthi-run Masirah TV earlier said the group had carried out drone attacks on “vital Saudi installations in response to continued aggression and blockade on Yemen”. Saudi Aramco said it had temporarily shut down the East-West pipeline, known as Petroline, which transports crude from the eastern fields to the port of Yanbu which lies north of Bab al-Mandeb.

On Monday, U.S. President Donald Trump threatened Iran with “great force” if it attacked U.S. interests in the Middle East. Trump administration suspects that Iran-affiliated militia organized the latest rocket attack in Baghdad’s heavily fortified Green Zone on Sunday night, landing less than a mile from the U.S. Embassy. On Tuesday, Iran said it would resist U.S. pressure, declining further talks under current circumstances.

Upon these developments, Iraq’s Oil Minister Thamer Ghadhban said that the growing conflict in the Middle East poses a “challenge to the stability of crude oil markets” and said the Organization of the Petroleum Exporting Countries (OPEC) must pave the way for a “new agreement to help stability”.

Tensions have mounted during an already tight market as the OPEC, Russia and other producers have withheld supply to support prices. Saudi Arabia has signaled its willingness to continue curbing output until the end of the year. Saudi Energy Minister Khalid al-Falih said that there was consensus among OPEC and allied oil producers to drive down crude inventories “gently” but his country would remain responsive to the needs of what he called a “fragile market”[11]. “This second half, our preference is to maintain production management to keep inventories on their way declining gradually, softly but certainly declining towards normal levels,” he told a news conference.

OPEC, Russia and other non-member producers agreed to reduce output by 1.2 million barrels per day from January 1 for six months, a deal designed to stop inventories building up and weakening prices. Russian Energy Minister Alexander Novak also said the supply situation would be clearer in a month, including from countries under sanctions.

Growing risks directed financial institutions to revise their oil price forecasts as well. Morgan Stanley said it expected Brent price to trade in a USD 75 – 80 per barrel range in the second half of this year, pushed up by tight supply and demand fundamentals. On the other hand, Bank of America Merrill Lynch (BofAML) warned that Brent could reach USD 90 per barrel stemming the new IMO rules regarding shipping fuels and a weaker dollar courtesy of a de-escalation in the US-China trade war[12]. BofAML claims that the IMO rules regarding the allowable sulphur content, to take effect in 2020, could cause a spike in middle distillate demand, pressuring prices upward.

Despite all these risks, there are also factors which pull the oil prices down. When the U.S. Energy Information Administration (EIA) reported that the U.S. crude inventories swelled by 4.7 million barrels in the week to May 17 to their highest in nearly two years, oil futures decreased more than 2% on May 22. Analysts polled by Reuters had forecast a decrease of 599,000 barrels[13]. Gasoline stocks posted a surprise build as well, rising by 3.7 million barrels compared with analysts’ expectations for an 816,000 barrel drop.

[11] Reuters, (May 19, 2019) Saudi Arabia says oil producers want to reduce inventories.
[12] Oil Price, (May 18, 2019) Bank Of America: $90 Brent may be around corner.
[13] Reuters, (May 22, 2019) Oil drops more than 2% on U.S. inventories build, demand worries.

GLOBAL ENERGY INVESTMENT STABILIZED AFTER 3 YEARS OF DECLINE

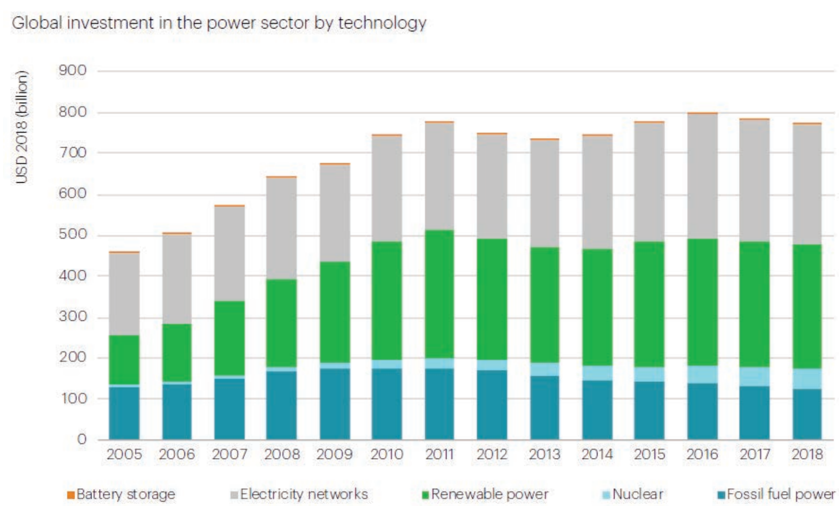
The annual rate of energy investments, promoted resources, and favored fields like efficiency and innovation are the major parameters for better analyzing the global energy trends. The level of investments not only give a clear idea about the global economy but also show the evolution of the global energy market.

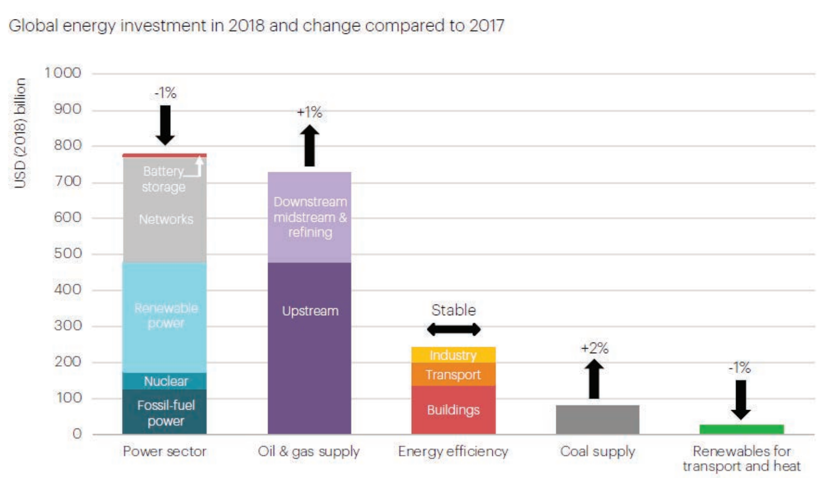
The world invested more than USD 1.8 trillion in energy last year, with spending on renewables stalling, while oil, gas and coal projects increased, according to the IEA's recently launched World Energy Investment 2019 report [15]. IEA released the report in a new digital format to convey key findings more effectively. The report also stressed that the global energy investment stabilized in 2018, ending three consecutive years of decline.

For the third year in a row, the power sector attracted more investment than the oil and gas industry, the report highlighted. The oil and gas prices far from the spikes may also have impact on the shrinking investments in oil and gas industry. The biggest jump in overall energy investment was in the United States, where it was boosted by higher spending in upstream supply, particularly shale, but also electricity networks. The increase narrowed the gap between the United States and China, which remained the world's largest investment destination.

"Current investment trends show the need for bolder decisions required to make the energy system more sustainable," Dr. Fatih Birol, IEA's Executive Director and IICEC's Honorary Board Chairman said. "Government leadership is critical to reduce risks for investors in the emerging sectors that urgently need more capital to get the world on the right track," he added.

Energy investment remained at USD 1.85 trillion in 2018 while a rise in fossil fuel supply investment offset lower power and stable efficiency spend. Despite the shift, power was the largest sector for the third year in a row.





[14] International Energy Agency, (May 14, 2019) Global energy investment stabilized above USD 1.8 trillion in 2018.

ANADARKO'S AFRICA ASSETS 'PERFECTLY FITTING' TO TOTAL, CEO SAYS

Speaking at an energy event in Washington D.C. on May 16, Chief Executive of French energy giant Total SA said that the planned acquisition of Anadarko's African assets is perfectly fitting with the company's overall strategy. Patrick Pouyanne said the company has been following Anadarko for more than a year. "What we tell to investors is we play to our strengths. What are the strengths of Total? It is the Middle East, Africa, North Sea, Deep Water. It is just fitting exactly and perfectly with what we announced," Pouyanne said[15].

Total agreed to buy all of Anadarko's assets outside the U.S. for USD 8.8 billion, while Occidental Petroleum had been negotiating with Anadarko a USD 38 billion takeover. This will be Total's biggest acquisition within the last two decades which will pave the way of a stronger presence in the global natural gas market thanks to Anadarko's multibillion-dollar LNG project in Mozambique.

KAZAKHSTAN AIMS TO RAISE USD 5 BLN FROM KAZMUNAYGAZ SHARE SALE

Kazakh sovereign wealth fund Samruk-Kazyna Managing Director Almasadam Satkaliyev told that the fund aims to raise 3 up to 5 billion USD from the sale of 25% in state-owned KazMunayGaz next year.

KazMunayGaz is the jewel in the crown of the government's privatization programme. The fund seems to plan to increase the investor interest by gradual privatization. Satkaliyev told reporters the fund would list smaller assets such as Air Astana, Kazatomptom and Kazakhtelecom before floating the energy company. The initial public offering (IPO) plans had been delayed until beyond 2019, partly due to tepid investor interest in IPOs.

[15] Reuters, (May 17, 2019) Total CEO says planned buy of Anadarko's Africa assets 'perfectly fitting'.

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