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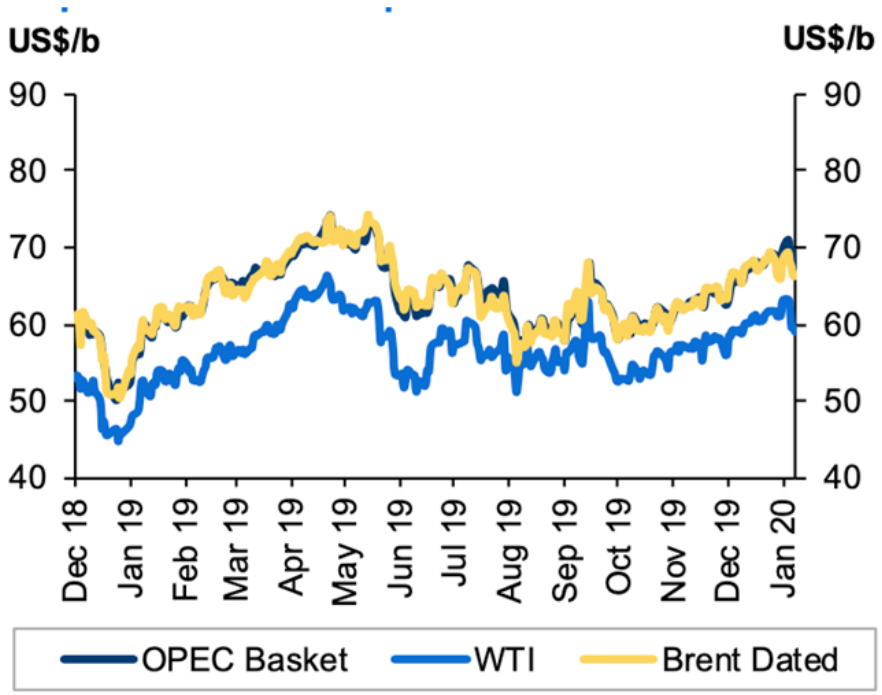
As Geopolitical Tension Eases, Oil Prices Back to Basics

Oil prices rose over $70 a barrel for the first time since May 2019 on the first days of 2020, as rhetoric from the United States, Iran and Iraq fueled the tension in the Middle East after a U.S. air strike in Iraq killed Iranian military commander Qassem Soleimani on January 3. While no oil facilities or production were affected, targeting Iran's most powerful general triggered a new crisis between Washington and Tehran, heightening fears of an armed confrontation that could pull in other countries.

Concerns in the region, home to five of OPEC's biggest oil producers, have persisted over the past year as Saudi Arabia's key oil facilities and some oil tankers in the Persian Gulf have been attacked. The region accounts for nearly half of the world's oil production, while a fifth of the world's oil shipments passes through the Strait of Hormuz. Iran and Iraq combined pumped more than 6.7 million barrels a day of oil in December, more than one-fifth of OPEC output. Exports from both countries rely on the Strait of Hormuz, the narrow and crucial oil shipping chokepoint.

Upon Baghdad's call to the U.S. and other foreign troops to leave the country, U.S. President Donald Trump, on January 5, threatened to impose sanctions on Iraq. Trump added that the U.S. would retaliate against Iran if Tehran were to strike back after the assassination.

Although oil prices hit a seven-month high, these high price levels are unlikely to persist for a long time if global oil supplies are not disrupted, Goldman Sachs said in a note on January 6. "It is not a given that any potential retaliation by Iran would target oil producing assets. The precedent set by the Abqaiq attack (on Saudi oil facilities in September 2019) showed that the global oil market has significant supply flexibility starting when Brent is at $70 a barrel, even before shale production needs to ramp up, suggesting only moderate upside from here, should an attack on oil assets actually occur," Goldman Sachs claimed.[1] While prices initially increased after the attack on Saudi Arabia's Abqaiq facility in September, crude then retreated in another sign that the market is concerned more with a surplus than supply shortages.



Crude Oil Price Movement (December 2018 – Jan 2020)[2]

OPEC is sitting on vast amounts of spare capacity after reducing supplies for most of the past three years. Consuming countries from the U.S. to China control millions of barrels stored in strategic petroleum reserves that can be deployed to offset any shortage.

On January 6, Reuters reported that OPEC oil output fell in December as Nigeria and Iraq adhered more closely to pledged reductions, and Saudi Arabia made further cuts ahead of a possible new production-limiting deal to be discussed in OPEC's next meeting on March 5-6. According to a Reuters survey, OPEC members pumped 29.5 million barrels per day (bpd) in December, down 50,000 bpd from November's revised figure.[3]

[1] CNBC, (January 6, 2020) Oil hits $70 a barrel as Iran, Trump trade threats
[2] Organization of the Petroleum Exporting Countries (OPEC), (January 15, 2020) OPEC Monthly Oil Market Report - January 2020
[3] Reuters, (January 6, 2020) OPEC December oil output slips as Nigeria, Iraq comply more

In December, OPEC+ agreed to deepen the cuts in the first quarter of 2020 to prevent another glut on the market when demand is typically lower. Saudi Arabia and Iraq, top two OPEC-member producers, reduced their crude oil production by 50,000 bpd in December.

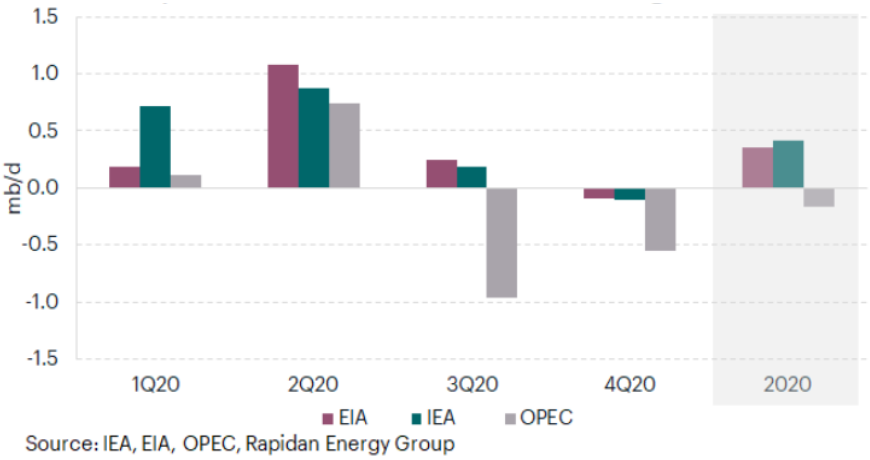
On January 8, oil prices suddenly dropped after U.S. President Trump said, "Iran appears to be standing down" and that Washington would impose sanctions on Tehran instead of another military strike. Trump's comments came after Iran's rocket attack on American forces in Iraq failed to destroy major energy infrastructure that could have disrupted global crude supply. Oil traders interpreted Iran's responsive attack as a signal of having no intention of provoking a direct military confrontation with the U.S. Though Trump promised the U.S. would respond to Iran's attack with "punishing economic sanctions," traders took the news as more dovish and a move toward de-escalation.

As of January 10, Brent crude price slipped towards $65 a barrel, the price level where it was before the U.S. air strike to Soleimani on January 3, as tensions in the Middle East over Iran eased for now and investors focused on rising U.S. inventories and other signs of ample supply.

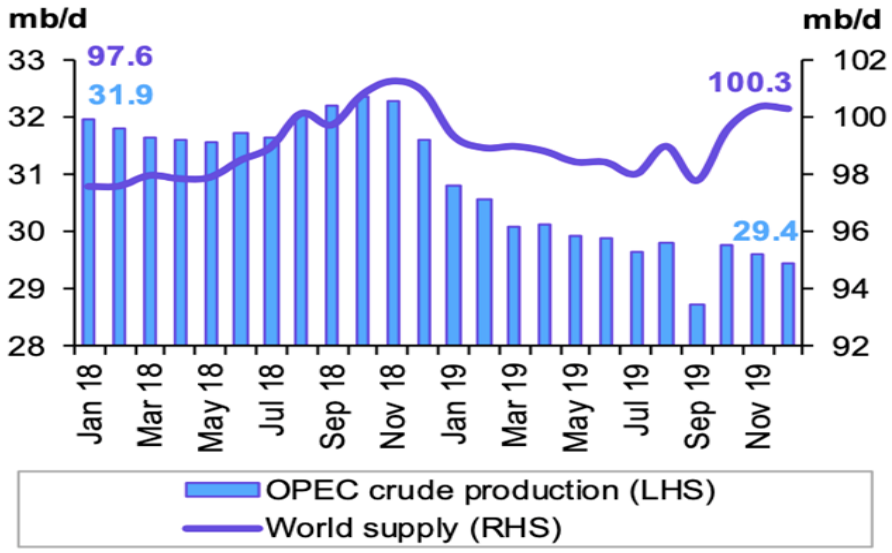
On the same day, Dr, Fatih Birol, Executive Director of the International Energy Agency (IEA) and IICEC's Honorary Board Chairman, told Reuters that oil prices will remain at $65 a barrel thanks to well-supplied global oil market. "We are expecting a demand growth of slightly higher than 1 million bpd. Non-OPEC production is very strong. We still expect production coming from, not just United

States, but also Norway, Canada, Guyana, among other countries," said Birol, adding that growth could remain weak, compared with historical levels. "Therefore, I can tell you that the markets are, in my view, very well supplied with oil, and as a result of that, we see prices remain at $65 a barrel," he added.[4]

On January 14, the U.S. Energy Information Administration (EIA) published its latest Short-Term Energy Outlook, which anticipates a marginal global supply deficit (0.15 mb/d) in 2021 assuming that OPEC+ extends current cuts through end-2021. EIA's 2021 balance sees strong demand growth (1.4 mb/d) and a substan-



Implied Global Supply Surpluses Assuming Full OPEC Compliance and Extension of Current Cuts Through End-Year [5]



OPEC & World Oil Supply (January 2018 - December 2019)[6]

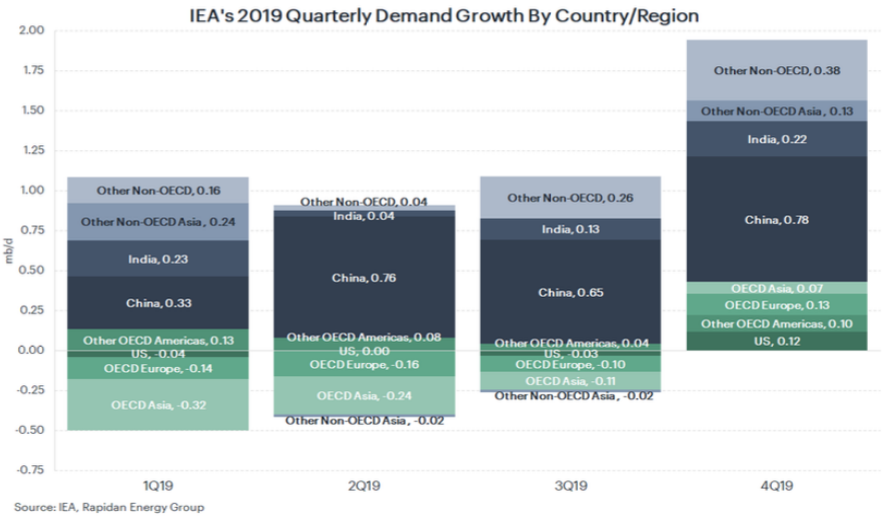
[4] Reuters, (January 10, 2020) Ample supplies, weak global demand growth to cap oil prices in 2020: IEA
[5] Rapidan Energy Group, (January 16, 2020) Global Oil Service
[6] Organization of the Petroleum Exporting Countries (OPEC), (January 15, 2020) OPEC Monthly Oil Market Report - January 2020

tial slowdown in non-OPEC supply growth (to 0.9 mb/d from 2.6 mb/d in 2020), but Brent is expected to rise just from $65 in 2020 to $68 in 2021. According to the report's forecast, global oil demand growth will recover from 2019's 0.8 mb/d (weakest growth since 2011) to average 1.3 mb/d in 2020 and 1.4 mb/d in 2021.

On the following day, OPEC released its Monthly Oil Market Report. While OPEC expects a global supply surplus in the first half of this year (0.4 mb/d) if member countries fully comply with their newly agreed quotas, it also sees the balance tightening in the second half. OPEC revised up 2020 global demand growth by 0.14 mb/d (to 1.2 mb/d) on improved U.S.-China trade sentiment and a stronger economic outlook (global GDP revised up to 3.1% in 2020).

And on January 16, IEA launched its Oil Market Report forecasting a global supply surplus in the first half of this year (0.8 mb/d) as OPEC expects as well. According to the agency, balances tighten in the second half, but there will be a marginal supply surplus (<0.1 mb/d) if OPEC maintains the current quotas.

IEA held its global demand and non-OPEC supply growth forecasts for 2020 unchanged at 1.2 mb/d and 2.1 mb/d, respectively. According to the report, OPEC+ production fell by 0.15 mb/d in December (driven by Saudi Arabia), but must drop an additional 0.25 mb/d in January to be fully compliant with its new lower target.



2019 Quarterly Demand Growth by Country/Region[7]

Shell & Turcas launched Turkey's First LNG Filling Station for Trucks

Turkey's first LNG filling station for truck fleets is launched on Trans-European Motorway (TEM) in the Sapanca district of Sakarya by Turkey's fuel retailer Shell & Turcas. The Sapanca LNG station became Shell's 14th LNG station in Europe, and Turkey is listed as the fourth country in Europe where shell launched an LNG filling station for vehicles.

"LNG is now an alternative fuel for the logistics industry in many countries. The usage of more economical and environmentally friendly alternative fuels is encouraged in our country by the National Energy Efficiency Action Plan of the Ministry of Energy and Natural Resources and the Regulation on Increasing Energy Efficiency in Transportation of the Ministry of Transport and Infrastructure. We would like to thank all public and private sector organizations that have prepared our country for innovations in this sense. We anticipate that LNG will save up to 25% in fuel costs. LNG is also a cleaner energy source, with carbon emissions up to 22% lower." said

Ahmet Erdem, the Country Head of Shell Turkey.

LNG is also used in Turkey as an alternative fuel by where natural gas is not available by pipelines. The annual market size between 2016 – 2018 reached 604 million cubic meters, according to EMRA's annual natural gas market reports.

[7] International Energy Agency (IEA), (January 16, 2020) Oil Market Report & Rapidan Energy Group, (January 17, 2020) Global Oil Service

Energy Efficiency Investments to Reach $10 Billion in Next Decade

Turkey aims to invest $10 billion in energy efficiency by its public and private sectors in the next 10 years, according to the statement of Energy and Natural Resources Minister Fatih Dönmez.

The $10 billion investment in energy efficiency is expected to generate $30 billion savings until 2033, Fatih Donmez said during the 10th Istanbul Finance Summit, held in Istanbul.

Turkey's energy efficiency investments reached $837 million in 2017 and $518 million in 2018, according to minister Dönmez. He also emphasized that Turkey saw renewable energy investments of around $16 billion in the last five years.

"In the last five years, $4.8 billion investment was made in solar power, $4.3 billion in wind farms, $6 billion in hydroelectric power plants, $1 billion in geothermal, and $430 million in biomass." the minister stressed.

According to Turkey's National Energy Efficiency Action Plan for 2017 – 2023, the primary energy intensity of the country is 0.12 tons of oil equivalent (toe) per 1,000 USD at 2010 prices (USD). "This number is lower than the world average of 0.18; however, it is higher than the OECD average of 0.11 and EU average (28 members) of 0.09. Therefore, there exists a significant potential for energy efficiency improvement in our country." says the action plan.

SOCAR Turkey Received the 'Most Reputable Energy Company' Award

SOCAR Turkey received the 'most reputable energy company' award at the 6th ONE Awards, organized by Marketing Turkey and Akademetre Research & Strategic Planning. SOCAR's External Communications Group Coordinator Özlem Kaya and Marketing Communications Group Coordinator Zara Ibrahimzade participated in the award ceremony, held in Istanbul.

"Our investments in Turkey reached $16 billion as of now, and the total investments are expected to reach $19.5 billion after the completion of ongoing projects. Receiving the reputation award is very precious for us as a company investing in petrochemicals, refinery, natural gas trade, and distribution." said Murat LeCompte, the Head of SOCAR's External Communications.

Trillion-euro 'Green Deal' Financial Plan of the EU Unveiled

Brussels has unveiled its financial plan for moving to a green economy and making the EU climate neutral. The European Commission (EC) proposed on 14 January how the EU can pay for shifting the region's economy to net-zero CO2 emissions by 2050, ambitiously fighting climate change aimed at mobilizing investment of ğ1 trillion over the next 10 years.

The "Sustainable Europe Investment Plan" will be financed from public and private funds, and will rework Europe's economy, transport and energy sectors aimed at turning the EU into a global leader on the clean technologies that will shape the coming decades. The long-awaited Just Transition Mechanism (JTM) will be a part of the Sustainable Europe Investment Plan, which will cover the social dimension of the "Green Deal", supporting fossil fuel-dependent regions - especially those depending on coal, lignite, peat or oil shale.

The JTM, announced by the Europe-

an Commission President Ursula von der Leyen is composed of 3 pillars: (1) A Just Transition Fund established under the EU's regional policy budget, (2) A dedicated investment scheme, and (3) A new public loan facility managed by the European Investment Bank (EIB).

A main issue regarding the JTM is how to transform coal-dependent EU regions, such as Poland, the Czech Republic, or parts of Germany, on the path of renewable energy. For example, Poland had refused to sign on to Europe's carbon-neutrality goal for 2050. In addition to Poland, according to figures from the European Parliament, Bulgaria, Czech Republic, Germany, Greece, and Romania are the countries with the highest number of jobs in the coal sector (mines and power plants).

Nuclear energy is another problematic topic since the Commission document excludes transition fund money to finance the construction of nuclear power plants. However, some countries such as France, Czech Republic, and Hungary defend nuclear as part of their energy mix. On the other hand, member states, such as Luxembourg and Austria, are opposed to nuclear energy being painted as "green". Adding to the controversy, the national energy plans of especially Central and Eastern Europe have been criticized for lacking ambition or having insufficient provisions to reach the 2050 emissions-neutrality goal.

Global Solar Installations will Continue Double-Digit Growth Rates into The New Decade

According to IHS Markit, 142 GW of solar PV energy will be installed worldwide this year. This projection is in line with IEA's recent 2019 World Energy Outlook that projects, by 2025, an additional 814 GW[8] of solar PV capacity.

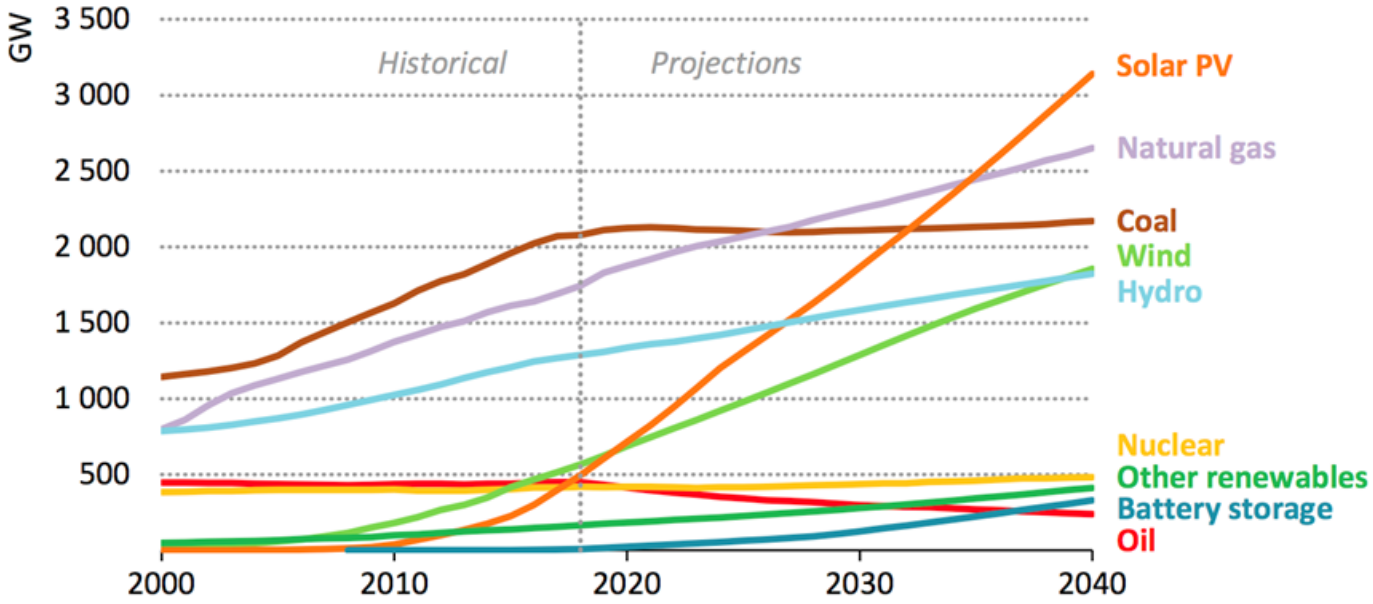
IHS Markit 2020 Global Photovoltaic Demand Forecast - Regional highlights:

- China is expected to remain in the preeminent position as the solar installation leader. China accounted for almost half of 2018's solar PV capacity (44 GW out of almost 100 GW)[9]. IHS Markit mentions, however, that solar in China is unsubsidized, and competition with other forms of generation is stalling growth[10].
- In the United States, installations are expected to grow 20% in 2020, that would make the United States the world's second largest solar PV market. Europe is expected to continue growing in 2020, adding more than 24 GW; a 5% increase over 2019.
- In 2010, there were only 7 countries (mostly in Europe) with more than 1GW installed capacity in 2010, whereas it is expected that more than 43 countries to pass the 1 GW threshold by the end of 2020. New market areas are also emerging in South East Asia, Latin America, and the Middle East.

These developments show that the installations are spread to the whole globe. The dominant role that solar PV is expected to play in tomorrow's power sector is shown in this figure from the IEA World Energy Outlook[11] (Stated Policies Scenario). Solar PV becomes the largest source of installed capacity around 2035, surpassing coal and gas.

[8] Compared to 2018.
[9] WEO2019, pg.305
[10] WEO2019, pg.257.
[11] WEO2019, pg.26.

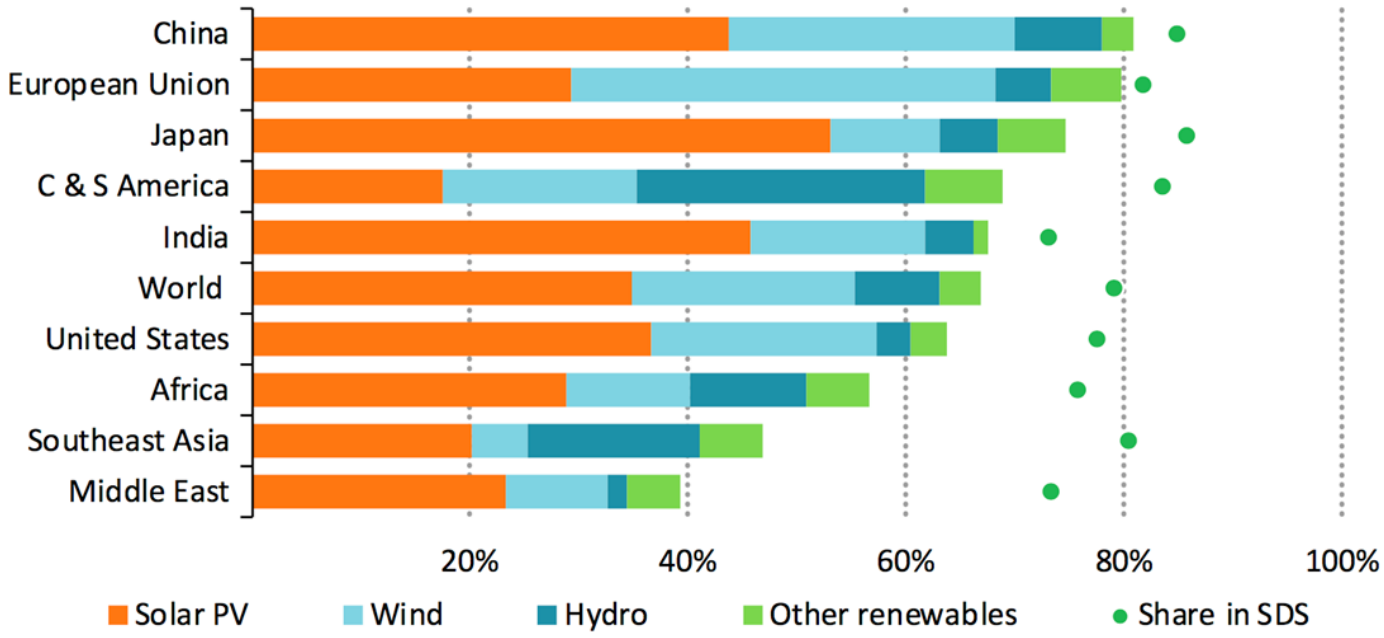
Global Power Capacity by Source in The Stated Policies Scenario (2000-2040)



Source: WEO2019

In many regions, solar PV will constitute over half of all power capacity additions by 2040. Regions with unexploited hydro capacity will tend to have lower solar PV percentages, and the European Union, which has relatively poor solar resources in northern European countries, will see more reliance on wind energy.

Share of Renewables in Total Capacity Additions by Region and Scenario, 2019-2040



Source: WEO2019.

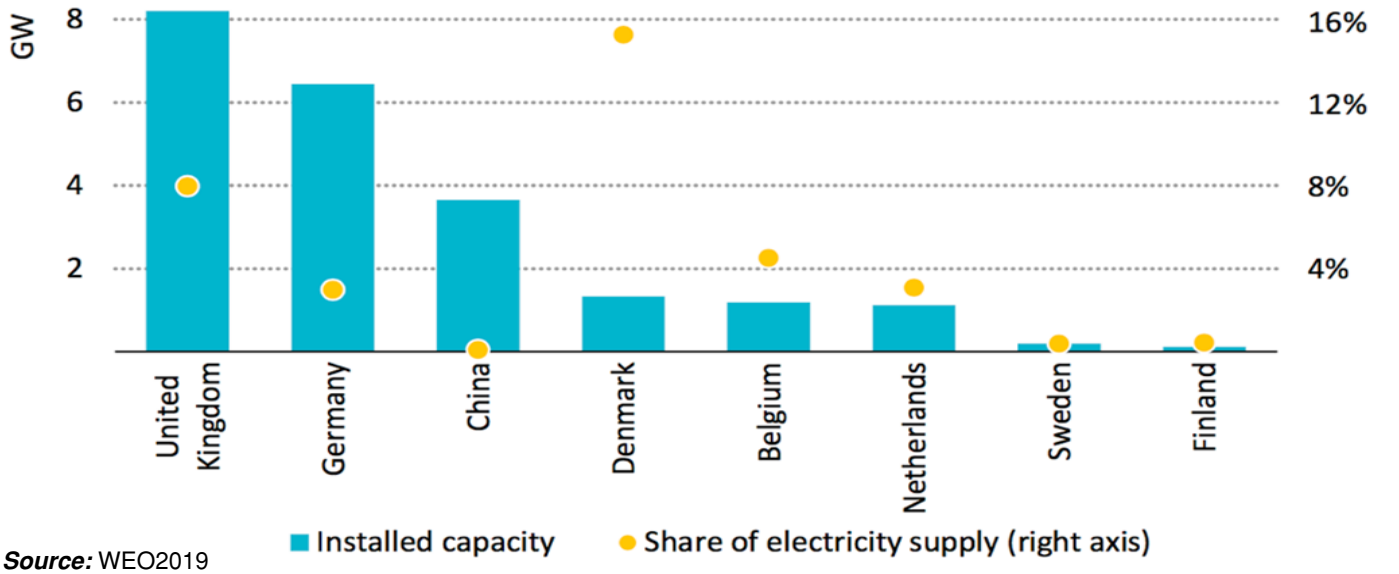
Notes: C&SAmerica = Central and South America; SDS = Sustainable Development Scenario. Other renewables include geothermal, concentrating solar power, bioenergy and marine.

Offshore Wind Can Accelerate Clean Energy Transitions

The global offshore wind market is set to grow at a compound annual growth rate of 16% between 2019 and 2030, reaching a cumulative capacity of 142 gigawatts (GW) by 2030, compared to 23.2GW at the end of 2018[12]. While current installed offshore wind capacity provides just 0.3% of global electricity supply today, it is expected to play a much stronger role in the future, particularly in Europe and China.

The global offshore wind market grew nearly 30% per year between 2010 and 2018. In 2018, more than 80% of global installed offshore wind capacity was located in Europe. Representing almost 93% of the installed offshore wind capacity; the largest markets are the UK, Germany, China, Denmark, and Belgium. Around 8 GW of installed capacity is in the United Kingdom, 6.5 GW is in Germany, 3.6 is GW in China, then, Denmark, Netherlands, and Belgium account for 3.6 GW[13].

Offshore Wind Installed Capacity and Share of Electricity Supply by Country (2018)



Source: WEO2019

Looking into future projects; the UK represents the lion's share in the near-term offshore projects list. Among the top ten largest offshore projects, seven are located in the UK, representing over 74% of the total capacity. The Netherlands, China, and Germany, each also have one project in the Top Ten list, as seen in the table below:

Top Ten Active Offshore Wind Projects in the World (2019)

Wind Offshore Project	Country	Capacity (MW)
Hornsea Project One	United Kingdom	1,029
Walney Extension	United Kingdom	659
London Array	United Kingdom	630
Project Gemini	Netherlands	600
Beatrice	United Kingdom	588
Gwynt y Mor	United Kingdom	576
Race Bank	United Kingdom	573
Greater Gabbard	United Kingdom	504
Binhai Beiqu Offshore Wind	China	500
Borkum - Riffgrund II	Germany	465

Source: GlobalData Power Intelligence Center

Looking further out, IEA analysis portrays that increasingly cost-competitive offshore wind projects are on course to attract a trillion dollars of investment to 2040, with installed capacity increasing fifteen-fold. Offshore wind is set to be competitive with fossil fuels within the next decade, as well as other renewables, including solar photovoltaics (PV). It offers considerably higher capacity factors than solar PV and onshore wind; as ever-larger turbines tap higher and more reliable wind speeds farther away from shore; hence outlines a path to meeting global climate, air quality, and universal energy access goals.

[12] GlobalData Power Intelligence Center.
[13] WEO2019.

IEA's 2019 report[14] also points out the offshore wind as a promising technology besides solar PV; and according to the report, it is observed that recent offshore wind growth (30%) is second only to solar PV growth. Offshore wind is likely to become particularly important in the European Union and China to help reduce energy-related GHG emissions, accounting for more than half of the expected investments in wind power up to 2040 (Stated Policies Scenario).

Projected successful uptake of the offshore wind requires policy action. This includes offshore grid development and governments' role in maritime planning. Policy support is on the way in an increasing number of regions. Several European North Seas countries -including the United Kingdom, Germany, the Netherlands, and Denmark- have policy targets supporting offshore wind.

The report also notes that offshore wind is geographically well oriented to support hydrogen production helping to provide a clean energy carrier that will further promote a clean energy transition. It is mentioned in the report that offshore wind projects dedicated to produce local renewable-based hydrogen could offer significant cost advantages over projects using electricity directly from the grid.

Turkey Started Receiving Natural Gas from TurkStream

Turkey started receiving natural gas from gas the TurkStream pipeline, following its official launch ceremony held in Istanbul on January 8, 2020.

TurkStream pipeline starts on the Russian coast near the town of Anapa and runs over 930 km through the Black Sea to come ashore in the Thrace region of Turkey.

The first string of the TurkStream pipeline is connected to the existing Turkish gas network at Luleburgaz for gas sales to the Turkish market.

The second string is connected to Bulgarian transmission system for gas deliveries to Bulgaria, Greece, and Northern Macedonia. The second string of the TurkStream pipeline is expected to supply gas to Serbia and Hungary after the completion of new pipelines and interconnectors.

TurkStream's first string, having an annual technical capacity of 15.75 billion cubic meters (bcm) replaced the gas deliveries from the Trans Balkan pipeline, which lays over Ukraine, Moldova, Romania, and Bulgaria through Turkey.

The annual volume of Turkey's long-term Gas Sales and Purchase Agreements (GSPA) with Gazprom Export is 30 bcm. 16 bcm/year is delivered from the Blue Stream pipeline, and the remaining 14 bcm is now received from TurkStream.

Turkey's gas contracts for Russian gas deliveries from TurkStream

Importer	Volume (bcm/year)	Date of Expiry	Price Base
BOTAS	4	2021	Oil indexed
Akfel Gaz	2.25	2043	Oil indexed
Avrasya Gaz	0.5	2021	Oil indexed
Batı Hattı	1	2043	Oil indexed
Bosphorus Gaz	0.75	2021	Oil indexed
Bosphorus Gaz	1.75	2043	Oil indexed
Enerco Enerji	2.5	2021	Oil indexed
Kibar Enerji	1	2043	Oil indexed
Shell Enerji	0.25	2021	Oil indexed

[14] IEA Offshore Wind Report 2019.

Israel's Leviathan Gas Field Began Production, Followed by Exports to Jordan And Egypt

Israel's offshore Leviathan natural gas field has begun production on December 31 after a series of regulatory delays. Although the production was delayed due to a temporary injunction granted over environmental concerns and the Environmental Protection Ministry's emission monitoring process, operating companies could narrowly meet their end-of-2019 timeline.

Leviathan gas field, 130 kilometers west of the port city of Haifa, was discovered in 2010. Israel's Delek Drilling holds 45.34% working interest in the project, while Texas-based Noble Energy holds 39.66%, and Israel's Ratio Oil Exploration has 15%. Total investment in the project's first phase reached $3.6 billion, $150 million less than projected in the original budget, Leviathan partners announced.

The gas from the field will be transported via a subsea pipeline connected to the country's transmission system and from there to consumers throughout the country. The amount of gas extracted from Leviathan is expected to reach 60 billion cubic meters (bcm) over 15 years, while the nearby Tamar field will export 25.3 bcm in the same period.

The production in the field immediately followed by exports to Jordan and Egypt. Firstly, Leviathan partners began pumping the first Israeli gas to Jordan on January 1. Exports have begun for an experimental 3-month period, according to the terms of a $10 billion deal between Jordan's National Electricity Company (NEPCO) and Noble Energy in 2016. Under the agreement, the consortium will supply Jordan gas for 15 years.

However, Jordan's parliament on January 19 approved a draft law to ban imports of Israeli gas. The motion was passed unanimously by the parliament and will be referred to the Cabinet to be made law. But the government claims that the gas supply agreement is a commercial deal between private companies rather than a political issue.

Secondly, Leviathan partners also began exporting gas to Egypt on January 15. Under the agreement, Dolphinus Holdings in Egypt will purchase 85 bcm of gas from Leviathan and Tamar fields over 15 years. Leviathan gas exports via a subsea pipeline to Egypt's Sinai Peninsula will start by 2.1 bcm annually this year and rise to 4.7 bcm in late 2022. Exports from Tamar field are expected to start later this year.

India's oil demand growth set to overtake China, making the country more dependent on Middle East

Currently, world's third-largest oil consumer, the fourth-largest oil refiner, and a net exporter of refined products, India's oil consumption growth is expected to surpass China's growth rates in the mid-2020s, according to the latest report published by the International Energy Agency (IEA).

According to 'India 2020', the first review carried out for India which was prepared in partnership with the government think-tank National Institution for Transforming India (NITI Aayog), India's oil demand is expected to reach 6 million barrels per day (bpd)

by 2024 from 4.4 million bpd in 2017, but its domestic production is expected to rise marginally. This trend will make the country more dependent on crude imports and more vulnerable to supply disruptions in the Middle East, the report asserted.

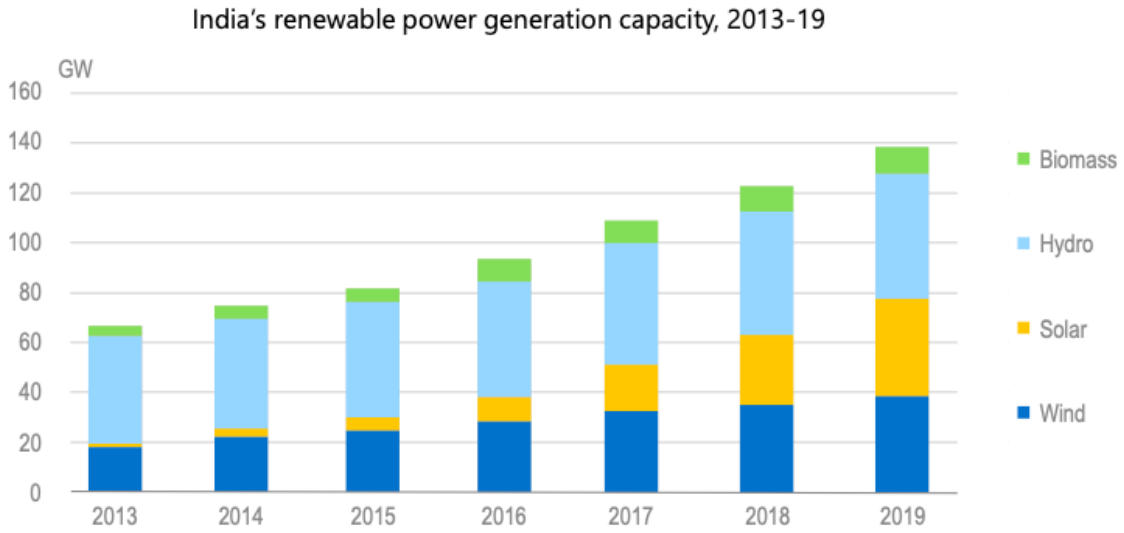
"The energy choices that India makes will be critical for Indian citizens as well as the future of the planet. This was demonstrated at the IEA's 2019 Ministerial Meeting, which mandated the Agency to start consultations with India for a strategic partnership that could serve as a path to eventual membership, a game-changer for international energy governance," Dr. Fatih Birol, Executive Director of the IEA, said at the launching meeting held on January 10 in New Delhi.

India, an association country of the IEA since March 2017, ranks third in terms of global oil consumption after China and the United States, ships in over 80% of its oil needs, of which 65% is from the Middle East through the Strait of Hormuz. Although the government

plans to increase the country's refining capacity to about 8 million bpd by 2025 from about 5 million bpd today, the agency forecasts the capacity to rise just to 5.7 million bpd by 2024 which will make India a very attractive for further refinery investments.

As for the natural gas sector, the IEA commended the government's policy aiming to increase the share of natural gas in the country's energy mix to 15% by 2030 from 6% today but also underlined the key importance of gas market's liberalization process as well as regulatory supervision of upstream, midstream and downstream activities.

The report also highlights the strong growth of renewables in India, which now accounts for almost 23% of the country's total installed capacity. Solar PV and onshore wind have seen strong growth, overtaking for the first-time investment in thermal power generation in 2018. To reach 175 GW by 2022, system integration becomes a priority, the report underlines.



India's Renewable Power Generation Capacity (2013-19)[15]

The country's energy demand is expected to double by 2040, and its electricity demand may triple, according to the report. IEA also praises India's success to give 750 million people access to electricity since 2000.

[15] International Energy Agency (IEA), (January 10, 2020) India 2020

China Opens Oil and Gas Exploration Industry to Foreign Firms

China will open its oil and gas exploration industry to foreign companies for the first time in its history. As a major reform aiming to boost the country's domestic oil and gas production, the Ministry of Natural Resources said that foreign firms registered in China with net assets more than 300 million yuan ($43 million) will be eligible to obtain oil and gas exploration license. The financial benchmark in the new legislation will be also applied to domestic companies.

Until this reform, which will take effect by May 1, foreign companies could obtain an exploration license only if they cooperated with a Chinese company under a Joint Venture structure. This policy resulted that state-owned energy companies, China National Petroleum Company (CNPC), and China Petrochemical Corporation (Sinopec), in particular, dominate the industry so far. China currently covers 30% of its crude oil and 50% of gas needs from domestic production.

According to the new legislation, all mineral resource licenses will be awarded by competitive tenders, except for specific rare earth and radioactive minerals, where licenses will still be strictly controlled. The licenses will be valid for 5 years with additional 5-year extension right. But when companies apply for a renewal, their license areas will be cut by 25%. This regulation was interpreted by market players that Beijing will force state-owned companies to relinquish some acreage.

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