

Energy Tidbits

August 8, 2021

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Supplemental Documents

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Second Quarter Highlights and Increased Financial Guidance

Consolidated Adjusted EBITDA



Net Income



Distributable Cash Flow



Revised Financial Guidance

(\$ billions)

	Prior 2021			Revised 2021		
Consolidated Adjusted EBITDA	\$4.3	-	\$4.6	\$4.6	-	\$4.9
Distributable Cash Flow	\$1.6	-	\$1.9	\$1.8	-	\$2.1



Corpus Christi Stage 3 IPM Agreement with Tourmaline

140,000 MMBtu/d (~0.85 mtpa) Integrated Production Marketing (IPM) agreement signed with Tourmaline for approximately 15 years starting in 2023



Executing Portfolio Contracting Strategy

Year to date, entered into fixed-fee LNG sales agreements with multiple counterparties for portfolio volumes aggregating ~12 million tonnes for 2021-2032 delivery



Commenced Early Commissioning Activities at Sabine Pass Train 6

Sabine Pass Train 6 early commissioning activities commenced with first fuel gas introduced in July

Project completion 89.6%¹ with forecast Substantial Completion in 1H 2022



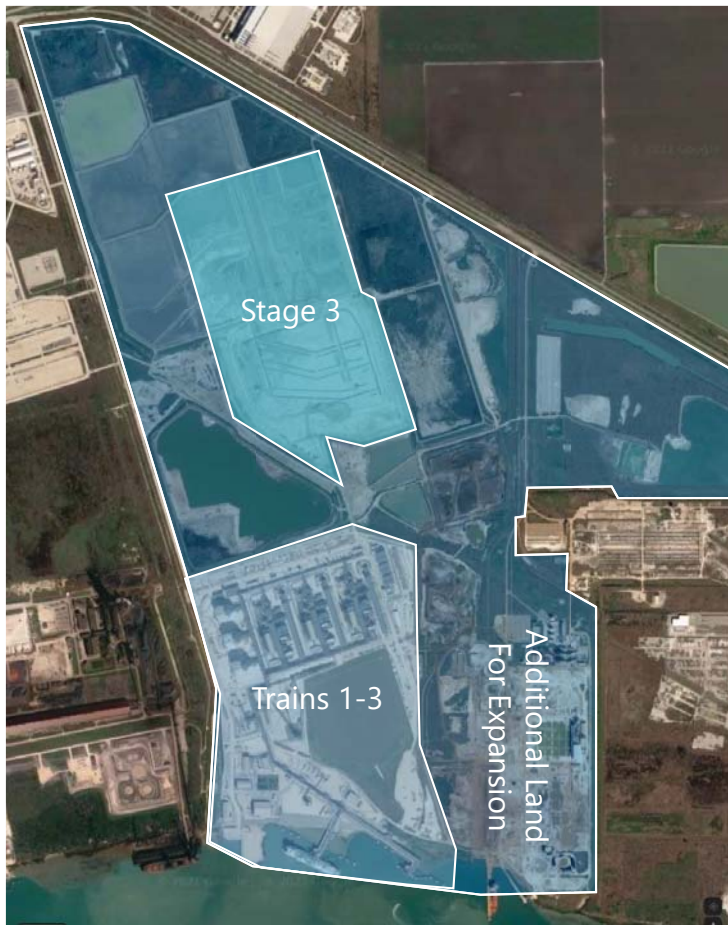
139 Cargoes Exported

Exported record number of cargoes during the second quarter from our liquefaction platform

Note: \$ in millions unless otherwise noted. Net income as used herein refers to Net income attributable to common stockholders on our Statement of Operations. Consolidated Adjusted EBITDA and Distributable Cash Flow are non-GAAP measures. A definition of these non-GAAP measures and a reconciliation to Net income attributable to common stockholders, the most comparable U.S. GAAP measure, is included in the appendix.

1. Project completion percentage as of June 30, 2021.

Stage 3 and Growth Strategy



Corpus Christi Stage 3

- Fully permitted incremental ~10+ mtpa of liquefaction capacity
- Designed to leverage shared infrastructure to deliver world class, cost competitive LNG growth
- Final Investment Decision (FID) dependent upon securing sufficient required commercial support and achieving capital investment parameters



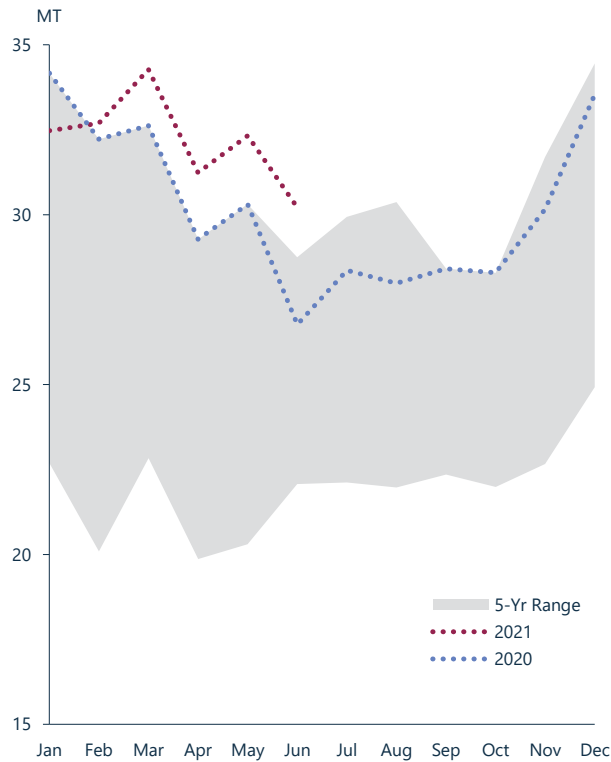
Growth Strategy

- Leverage scale and infrastructure platform to offer flexible and tailored solutions for customers on a short, medium, and/or long-term basis
- Strategically focused on terming out portfolio volumes to enhance cash flow profile on existing assets before moving forward with accretive growth projects including Corpus Christi Stage 3
- Significant land position in Corpus Christi provides opportunities for further liquefaction capacity expansion beyond Stage 3 at a strategically advantaged location with proximity to pipeline infrastructure and resources

Fundamentally Tight Market Aiding Global LNG Recovery

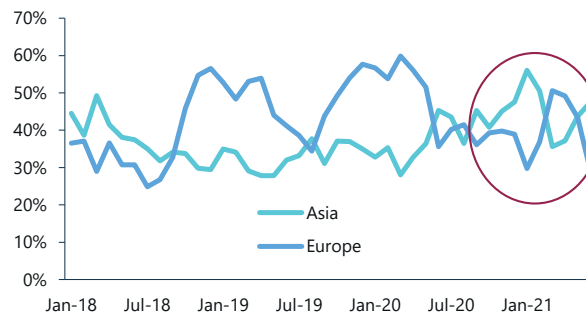
Global LNG Demand

Record high second quarter LNG imports due to enduring economic recovery



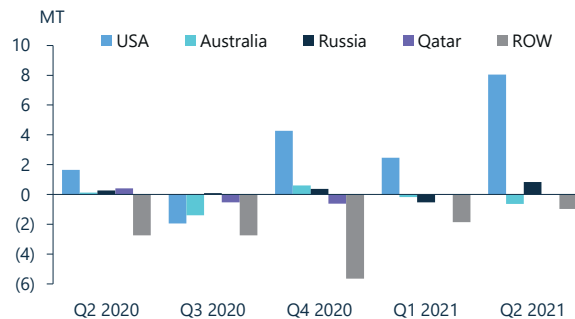
Atlantic Basin LNG Supply Flows

Asia and Europe competing for Atlantic supplies through 2Q 2021



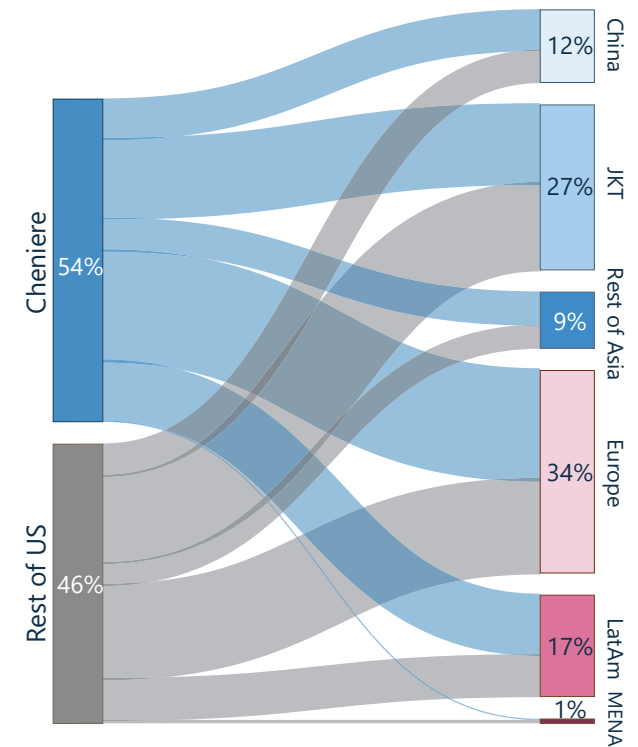
LNG Exports by Major Producing Region

LNG Supply output rebounds YoY although some production still lagging



US LNG Flows by Destination – 1H 2021

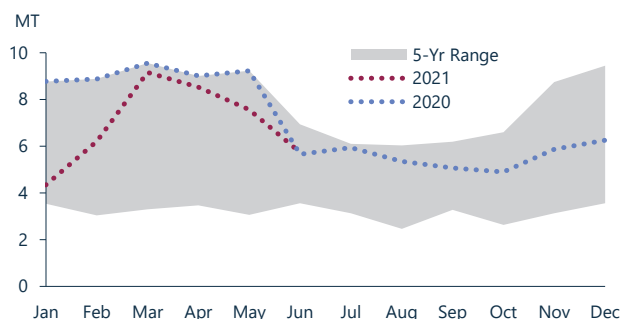
Strong pull from Asia, Europe and Latin America support US LNG exports



Durable LNG Demand in Short and Long Term

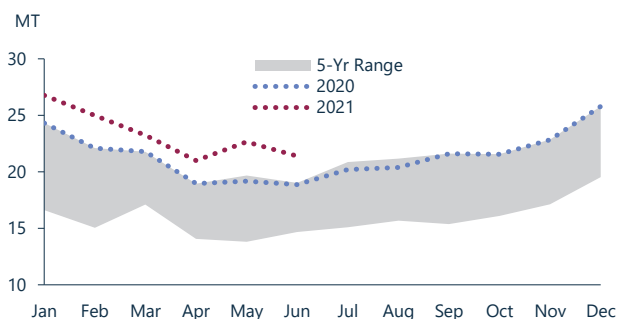
Europe LNG Imports

2Q LNG imports are 9% lower YoY due to a strong demand pull from Asia and flat YoY in June against a low 2020 base



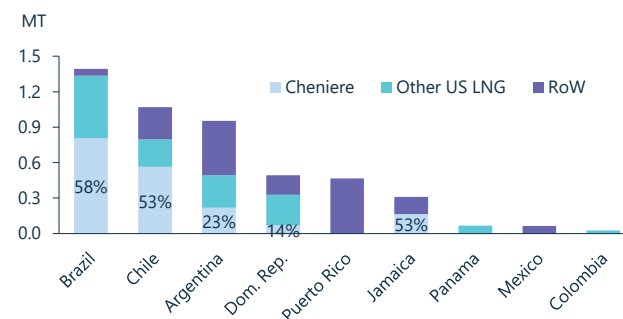
Asia LNG Imports

Near record growth in 2Q driven by China's industrial demand and increased gas burn in NE Asia



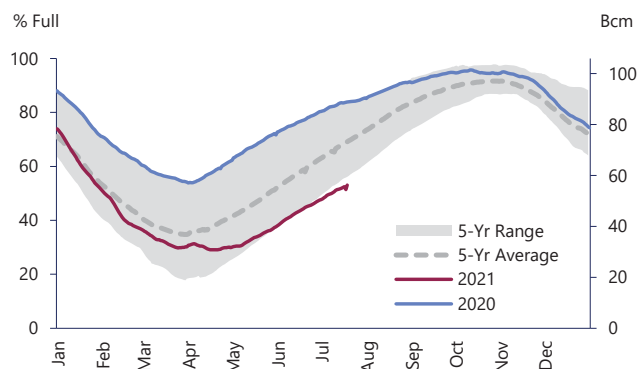
Latin America 2Q 2021 LNG Imports

LNG imports increased by 2 MT, or +70% YoY. 38% of overall imports were exported from Cheniere terminals



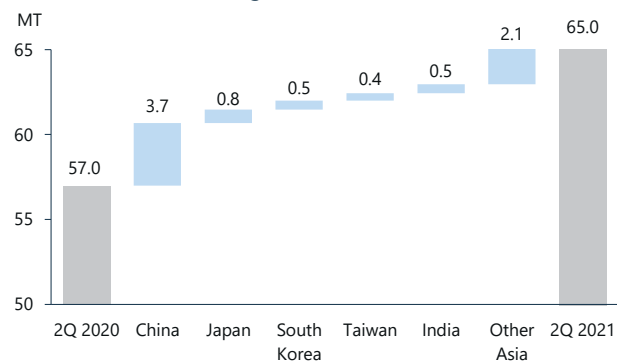
European Gas Storage Levels

July inventory levels fall below the 5-year range



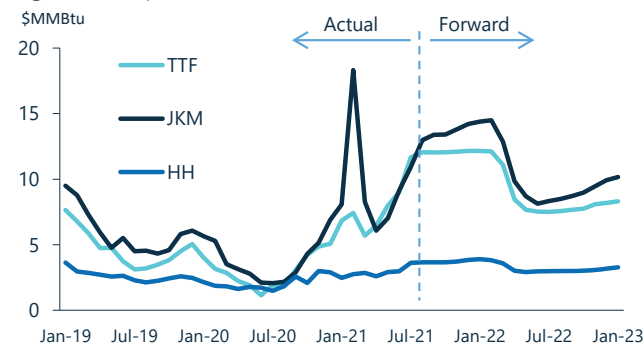
Asia LNG Imports 2Q 2021 vs. 2Q 2020

Near record growth in 2Q driven by China's industrial demand and increased gas burn in NE Asia



Asian and European Gas Prices

Global LNG price benchmarks continued to rise in 2Q on global competition for LNG volumes



Sabine Pass Update

Liquefaction Operations

5 Trains in operation

Increased production via maintenance optimization and debottlenecking

~1,350 cargoes produced and exported

Growth

Train 6 early commissioning activities commenced

- Expected completion 1H 2022
- Project completion 89.6%

3rd berth construction underway



Sabine Pass Train 5 and 6

Corpus Christi Update

Liquefaction Operations

3 Trains in operation

Increased production via maintenance optimization and debottlenecking

~325 cargoes produced and exported

Growth

~10+ mtpa Stage 3 expansion project fully permitted



Power failure hits PNG LNG
2021-08-03 01:08:57.488 GMT

By Angela Macdonald-Smith

Aug. 3 (Financial Review) -- Production at the prized PNG LNG venture that stands at the heart of the mooted \$21 billion merger between Santos and Oil Search has been disrupted by a power failure, with the venture scrambling to resume operations to avoid missed shipments.

A power outage at Oil Search's central processing plant in Kutubu in PNG's Southern Highlands region triggered a curtailment in production at the Hides gas plant and the LNG plant near Port Moresby, ExxonMobil said.

"We understand that the power outage has been restored as of 26 July and are working to resume production over the coming days," a spokesman for the US giant that runs the PNG LNG venture told The Australian Financial Review.

"We are working on mitigating actions to minimise impacts to PNG LNG production and marketing commitments."

Oil Search, which would feel the biggest impact from any disruption to output, has not issued a statement on the problem, signalling it does not expect its guidance for production to be impacted.

A spokesman said Oil Search "does not comment on the day-to-day operations of any assets we have".

"The company will continue to keep the market informed in respect of the parameters that we provide guidance on, in line with our continuous disclosure responsibilities," the spokesman said.

While the power failure occurred at an Oil Search plant at a different site, it has a knock-on impact on gas and LNG production at the Exxon-run facilities where production will only get back to normal once condensates production is restored.

Asset sales likely

The news came as analysts suggested a merged Santos-Oil Search would likely embark on asset sales involving Oil Search's Alaskan oil interests and could slim down its beefed-up portfolio in Papua New Guinea.

The two agreed over the weekend on terms for a scrip-based merger that would result in Oil Search shareholders owning 38.5 per cent of the combined company, which would be the largest ASX-listed oil and gas producer and one of the 20 biggest worldwide.

Oil Search's board said on Monday it would unanimously recommend Santos' improved merger proposal to shareholders in the absence of a higher offer and subject to due diligence, to be carried out over the next four weeks.

UBS energy analyst Tom Allen said he expects a merged Santos-Oil Search to focus its integration efforts in Asia and

would consider divesting Oil Search's undeveloped Pikka oil project in Alaska.

He also suggested the combined company may consider selling a 10 per cent stake in PNG LNG from the merged company's 42.5 per cent stake. Mr Allen said that at least 40 per cent of the merged company's pro forma gross earnings in 2020 were generated in PNG, "which could attract country concentration risk from ratings agencies".

'All about PNG'

RBC Capital Markets analyst Gordon Ramsay said he saw the merger deal being "all about PNG".

He noted that at 42.5 per cent, the stake of the merged company in the PNG LNG project would be larger than Exxon's 33 per cent holding, opening up the door for potential further consolidation there, and for closer alignment with the Papua LNG venture in which Oil Search has a stake but Santos does not.

"With Oil Search already operating the PNG oil-producing assets, this would place MergeCo in a position for it to possibly move to operatorship, should ExxonMobil possibly exit in the future," Mr Ramsay said.

"Santos is also not in the Papua LNG expansion project, and by merging with Oil Search it would gain early-stage entry into this LNG expansion project with TotalEnergies as the upstream developer."

In Alaska, Oil Search already has a process underway to sell part of its 51 per cent stake in the proposed \$US3 billion Pikka oil project, which Santos is understood to support. However, it remains uncertain whether Santos would look to retain any stake in that venture, which some analysts say does not fit with the company's portfolio.

Mr Ramsay said he saw the diversification into oil in Alaska as "a good counter-balance" to Oil Search's over-reliance on gas and LNG in PNG and suggested Santos may retain it.

"We view Alaska as a ground floor opportunity for Santos to become involved in a potentially very material asset with a substantial and growing reserve base," he told clients.

Click here to see the story as it appeared on Financial Review web site.

Financial Review

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-0- Aug/03/2021 01:08 GMT

To view this story in Bloomberg click here:

<https://blinks.bloomberg.com/news/stories/QX8OIX33O5C0>

ASX Announcement

Wednesday, 4 August 2021

ASX: WPL
OTC: WOPEY

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SCARBOROUGH PROJECT UPDATE AND LINE ITEM GUIDANCE

Scarborough project update

In the lead up to the targeted final investment decision (FID) later this year, Woodside has finalised technical work to support execution readiness and completed an update of the capital expenditure requirements for the Scarborough development.

Refreshed pricing from major contractors underpins the updated cost estimate, and reflects Woodside's work with them since 2020 to maximise the value of the project by optimising design and execution planning, and increasing offshore processing capacity.

The updated cost estimate is US\$12.0 billion (100% project, nominal), comprising \$5.7 billion for the offshore component and \$6.3 billion for the onshore component.

The cost estimate is approximately 5% higher than the previous cost estimate announced in November 2019 and incorporates:

- An approximately 3% cost increase in the onshore component, including modifications to Pluto Train 1 to enable processing of Scarborough gas
- An approximately 8% increase in the offshore component, including an increase in offshore production capacity from 6.5 Mtpa to 8.0 Mtpa of LNG and an additional well.

The expected internal rate of return (IRR) of the integrated Scarborough and Pluto Train 2 development is greater than 12%. It has a globally competitive cost of supply of approximately \$6.8/MMBtu to north Asia and is targeted to deliver the first cargo in 2026 into a market with anticipated robust demand for LNG.¹

Woodside Acting CEO Meg O'Neill reaffirmed that the Scarborough development is a transformational project that will deliver enduring shareholder value.

"Significant progress has been made towards our targeted final investment decision on Scarborough and Pluto Train 2 this year.

"The cost update includes value-accretive scope changes to deliver an approximately 20% increase in offshore processing capacity and to modify Pluto Train 1 to allow increased Scarborough gas processing. It also reflects the work undertaken with our contractors to optimise the execution schedule and manage costs in preparation for FID.

"Woodside's contracting strategy for Scarborough reduces cost risk, with approximately 90% of total project contractor spend structured as lump-sum and fixed rate agreements.

"We have commenced the formal processes for selling down our interest in Pluto Train 2 and Scarborough as we target the investment decision later this year and these processes are supported by the updated cost estimate," she said.

1. Cost of supply based on integrated LNG DES North Asia. At 10% discount rate.

Half-year 2021 line item guidance

Woodside reiterates the half-year 2021 line item guidance provided in the second quarter 2021 report on 15 July 2021 for “Other expenses – other” of \$135 – 165 million.

“Other expenses – other” comprises Kitimat expenditure (including exit costs), gains and losses on hedging activities, contractual cancellation costs and other expenses not associated with the ongoing operations of the business.

“Other expenses – other” does not include line items within costs of production, other costs of sales or general and administrative costs.

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This ASX announcement was approved and authorised for release by Woodside's Disclosure Committee.

Costs Jump to \$12 Billion for Woodside's Australia LNG Plan (1)
2021-08-04 02:44:27.265 GMT

By James Thornhill

(Bloomberg) -- Woodside Petroleum Ltd. raised the forecast cost to \$12 billion for its flagship Scarborough liquefied natural gas development, a key project to retain Australia's position as a top exporter of the fuel.

Scarborough, off the coast of northwestern Australia, will cost 5% more than a previous estimate, reflecting plans for higher annual production capacity of 8 million tons and modifications to onshore infrastructure.

The Perth-based company remains on track to make a final investment decision later this year and will target first shipments in 2026, Woodside said Wednesday in a statement. The company's shares rose as much as 1.4% in Sydney following the announcement.

The increase was "smaller than feared and does not jeopardize the project's viability," Saul Kavonic, resources analyst at Credit Suisse Group AG, said in a note. "Market concerns that costs could have increased closer to \$13 billion, or threatened Scarborough viability, have kept some investors away from Woodside."

Scarborough is among Australia's largest planned resources projects and seen as key to support further growth in exports of the fuel as competitors in both Qatar and the U.S. add more projects. Australia and Qatar currently each account for about 22% of seaborne trade, according to Australian government forecasts.

Read more: King of LNG Undercuts Rivals to Keep Dominating World Market

The revised cost estimate will assist Woodside as it attempts to sell down stakes in Scarborough and its onshore processing facility, Chief Executive Officer Meg O'Neill said in the statement. O'Neill said in April the producer was fielding interest from potential buyers and opening a data room.

BHP Group, which holds a 26.5% stake in Scarborough, is exploring a sale of its oil and gas business and may also be looking to exit the Woodside project, people familiar with the details said last month. For Woodside, "a deal with BHP re joint venture alignment remains a key hurdle presenting delay and value leakage risk," Credit Suisse's Kavonic said.

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<https://clubofmozambique.com/news/mozambique-edm-says-awasse-substation-needs-to-be-rebuilt-from-scratch-mediafax-198286/>

Mozambique: EDM says Awasse substation needs to be rebuilt from scratch –

MediaFax

6:07 CAT | 04 Aug 2021



Image: TVM

With Mozambican and Rwandan forces expelling terrorists and recovering three important regions of Mocimboa da Praia district, General Commander of the Police of the Republic of Mozambique, Bernardino Rafael, was, on Tuesday, able to visit the headquarters village of Awasse administrative post.

His three main objectives were to publicly demonstrate the troop's progress, boost their morale, and assess and envisage mechanisms for the rehabilitation of infrastructure considered key to restoring life in that part of the country and in the entire northern region of Cabo Delgado.

Bernardino Rafael was therefore accompanied by the Cabo Delgado director of Mozambique Electricity (EDM), Gildo Marques, and also by the provincial technical director of Movitel, Mohamed Hassin.

On the ground, the two witnessed a situation of total destruction. Little or nothing remains to be salvaged; the terrorists destroyed everything with the express intention of preventing any return to normality in the region.

After what could be considered only a preliminary assessment, the EDM director was categorical: the only way to restore electricity to the northern region is to build a new substation. What once existed cannot be recovered – it is beyond rehabilitation.

“As you can see, the substation is practically destroyed. The transformers, the reactors ... everything. Almost nothing can be salvaged. Even the building is destroyed. What can be said is that, in terms of investment, to build a new substation is not cheap,” Marques told the few journalists who had managed to join the entourage.

A similar approach was taken by the Movitel technician; essential communications support infrastructure for Awasse and many other northern parts of Cabo Delgado had been destroyed.

“We had some vandalism inside our station. We had a total of six damaged batteries, and the main transmission equipment was also vandalised. Right now, we are going to sit down and assess the damage so that we can restore communications as soon as possible, not only in Awasse, but also for the entire northern area of the province,” he said.

Northern Cabo Delgado has been without electricity since the occupation of the town of Mocímboa da Praia roughly a year ago. Districts such as Palma, Nangade, Muidumbe, Mueda and Mocímboa da Praia have had no electricity supply.

‘Live’ DUC well inventory fell to lowest since 2013 as the US continues to frack more than it drills

August 3, 2021

US tight oil operators have for several months been depleting their inventory of drilled but uncompleted wells (DUCs) and, amid a slower drilling response, the number of ‘live’ DUCs in the country’s major oil regions slumped to 2,381 wells in June 2021, the lowest level since 2013, a Rystad Energy analysis reveals.

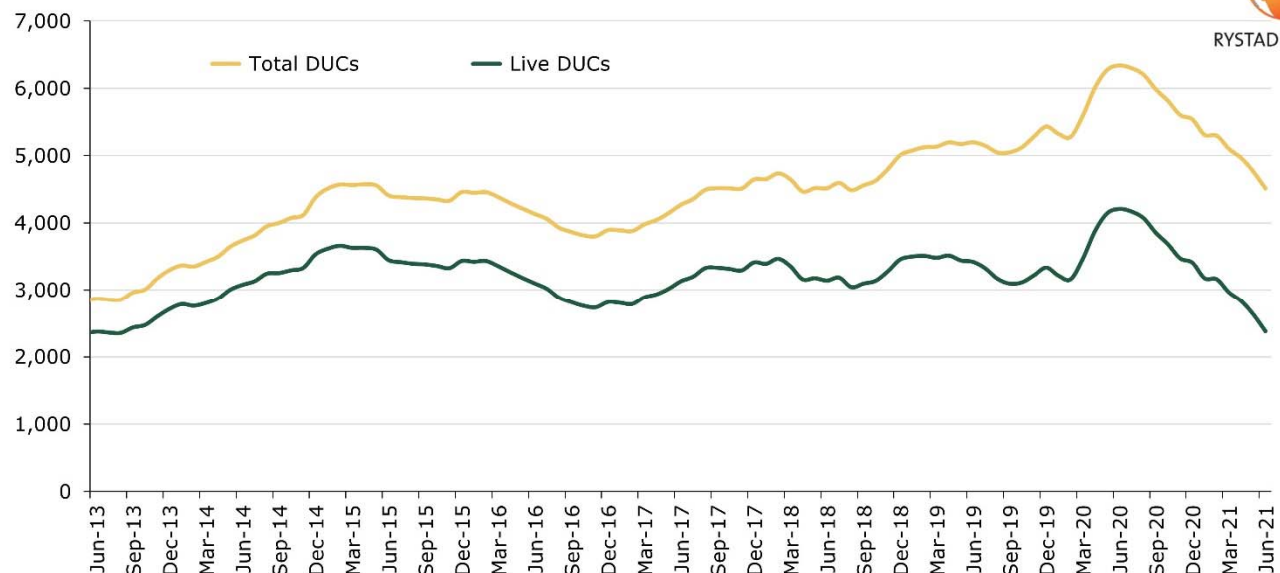
The total number of horizontal DUCs in the Permian, Eagle Ford, Bakken, Niobrara and Anadarko regions combined fell to 4,510 wells by the end of June. That implies a reduction of 1,800 wells from the peak of 6,340 in June 2020 and an average depletion of 150 wells per month over the past 12 months. The last time the size of the inventory was at this level was in the second half of 2018.

However, the total includes so-called ‘dead’ DUCs – or wells that were drilled more than 24 months earlier and remain uncompleted. Empirical evidence shows that more than 95% of wells drilled are typically completed within the first two years, and hence the probability of those more than two years old getting completed now are low. Therefore, including ‘dead’ DUCs to gauge future activity or forecast production is often more speculative.

“Looking at the number of remaining ‘live’ DUCs, a significant oil supply response from the US onshore industry to the \$70-\$75 per barrel WTI market is practically impossible before the first half of 2022. Any further increases in fracking, and subsequently well completions, will now require producers to first expand drilling by adding more rigs,” says Artem Abramov, head of shale research at Rystad Energy.

Total and live* DUC inventory in major US oil regions** by month

Number of wells



RYSTAD ENERGY

*Includes all horizontal wells which are not classified as abandoned and viewed as good completion candidates in future

**Permian, Eagle Ford, Bakken, Niobrara and Anadarko

Source: Rystad Energy ShaleWellCube

Learn more in Rystad Energy's [ShaleWellCube](#).

Live DUCs have declined across all major oil basins, with the Anadarko region the only exception. In the Permian, only about 1,550 horizontal live DUCs remain as of end of June – a decline of 37% from the 2,470 wells in the same month last year. As rig activity in the Permian has remained more robust since the start of the Covid-19-induced downturn, the total live DUC inventory count has not returned to the 2013 level, as is the case for all other basins combined.

The Permian live DUC inventory level currently is comparable to the second and third quarters of 2019. The picture across other major oil basins is more dramatic. South Texas' Eagle Ford and the Bakken only have 300 live DUCs each left. Such a level in these two pioneering liquids plays has not been recorded since 2010. The inventory of live DUCs is down to 310 in the Niobrara region – the lowest since 2013.

A breakdown of the total tight oil DUC inventory by spud vintage, or the year the wells were spud, clearly shows that 2019-2020 vintages had a significant weightage on fracking activity as of June. While new wells are being drilled, the new inventory build-up in 2021 is insufficient to offset the depletion coming from pre-2021 vintages.

In previous months, we repeatedly highlighted vintages from the fourth quarter of 2019 and the first three months of 2020 as key contributors of the unusually high DUC inventory build-up in the beginning of the Covid-19-induced downturn. By June 2021, 84% of those wells were completed. While it is still somewhat lower the 14-month depletion rate of 92-93% recorded for 4Q16-1Q17 and 4Q17-1Q18 vintages, it is comparable to the 87% posted for the 4Q18-1Q19 vintage between April 2019 and June 2020. Hence, this part of the DUC inventory anomaly has been largely eliminated by now.

While some degree of abnormality is still present, the industry is not that far off from a complete normalization of the DUC inventory level. The number of horizontal live DUCs per rig has already declined to 6.4 wells in the Permian and 9.2 in other major oil regions as of June 2021. Prior to the Covid-19 downturn, the level was at 3.9 for the Permian and 6.4 across other oil regions. Given the current activity and depletion trend, the industry will likely see a complete normalization by the end of September in the Permian, and by September-October across other oil regions.

For more analysis, insights and reports, clients and non-clients can apply for access to

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<https://pm.gc.ca/en/news/readouts/2021/08/02/prime-minister-justin-trudeau-speaks-president-united-states-america-joe>

Prime Minister Justin Trudeau speaks with the President of the United States of America Joe Biden

August 2, 2021

Ottawa, Ontario

Today, Prime Minister Justin Trudeau spoke with the President of the United States of America, Joe Biden.

The Prime Minister and President discussed the importance of physical and human infrastructure investments being made to build back better from the COVID-19 pandemic and address its disproportionate impact on women, including by prioritizing supports for child care and education. They looked forward to working closely together for the benefit of people and jobs on both sides of the border. The Prime Minister highlighted the significant alignment between labour and environmental standards in both countries and the benefits to each country of open government procurement.

The Prime Minister highlighted the importance of Line 5 for Canada's energy security and reiterated Canada's support for a negotiated settlement between Enbridge and the State of Michigan.

The Prime Minister and President agreed to continue to monitor developments closely.

The Prime Minister and the President discussed China's arbitrary detention of Canadian citizens Michael Spavor and Michael Kovrig. The leaders agreed on the need for their immediate release.

The Prime Minister and President discussed COVID-19 and agreed to continue close collaboration in the management of the Canada-U.S. land border.

Canada and the U.S. will work together to further strengthen bilateral cooperation on wildfires, including by developing proposals to increase and share firefighting resources.

The two leaders also discussed the upcoming COP26 summit, and they looked forward to working closely together to strengthen bilateral trade and collaborating as friends and allies on global challenges such as fighting climate change and promoting international security.

The Prime Minister and President discussed the Olympic Games, including yesterday's win by the Canadian women's soccer team.

The two leaders agreed to stay in touch over the coming days and weeks.

Readout of President Joseph R. Biden, Jr. Call with Prime

Minister Justin Trudeau of Canada

AUGUST 02, 2021 • [STATEMENTS AND RELEASES](#)

President Joseph R. Biden, Jr. spoke today with Justin Trudeau, Prime Minister of Canada to thank him for the gift of Montreal smoked meats sent in congratulations for the Tampa Bay Lightning's victory over the Montreal Canadiens for the Stanley Cup trophy. The President underscored the close alignment and friendship between the United States and Canada, as they also discussed bilateral economic cooperation and their shared commitment to strengthening the resilience and competitiveness of the U.S. and Canadian economies. The President and Prime Minister then discussed the two Canadian citizens—Michael Kovrig and Michael Spavor—who are unjustly detained by the People's Republic of China. The President condemned their arbitrary detention and reiterated his commitment to stand strong with Canada to secure their release.

TRANSIT PIPELINES

**Agreement Between the
UNITED STATES OF AMERICA
and CANADA**

Signed at Washington January 28, 1977



AGREEMENT BETWEEN THE GOVERNMENT
OF THE UNITED STATES OF AMERICA AND
THE GOVERNMENT OF CANADA CONCERNING
TRANSIT PIPELINES

The Government of the United States of America and the
Government of Canada,

Believing that pipelines can be an efficient, economical
and safe means of transporting hydrocarbons from producing
areas to consumers, in both the United States and Canada;

Noting the number of hydrocarbon pipelines which now
connect the United States and Canada and the important service
which they render in transporting hydrocarbons to consumers in
both countries; and

Convinced that measures to ensure the uninterrupted
transmission by pipeline through the territory of one Party of
hydrocarbons not originating in the territory of that Party,
for delivery to the territory of the other Party, are the
proper subject of an agreement between the two Governments;

Have agreed as follows:

ARTICLE I

For the purpose of this Agreement:

- (a) "Transit Pipeline" means a pipeline or any part thereof, including pipe, valves and other appurtenances attached to pipe, compressor or pumping units, metering stations, regulator stations, delivery stations, loading and unloading facilities, storage facilities, tanks, fabricated assemblies, reservoirs, racks, and all real and personal property and works connected therewith, used for the transmission of hydrocarbons in transit. "Transit Pipeline" shall not include any portion of a pipeline system not used for the transmission of hydrocarbons in transit.
- (b) "Hydrocarbons" means any chemical compounds composed primarily of carbon and hydrogen which are recovered from a natural reservoir in a solid, semi-solid, liquid or gaseous state, including crude oil, natural gas, natural gas liquids and bitumen, and their derivative products resulting from their production, processing or refining. In addition, "hydrocarbons" includes coal and feedstocks derived from crude oil, natural gas, natural gas liquids or coal used for the production of petro-chemicals.
- (c) "Hydrocarbons in transit" means hydrocarbons transmitted in a "Transit Pipeline" located within the territory of one Party, which hydrocarbons do not originate in the territory of that Party, for delivery to, or for storage before delivery to, the territory of the other Party.

ARTICLE II

1. No public authority in the territory of either Party shall institute any measures, other than those provided for in Article V, which are intended to, or which would have the effect of, impeding, diverting, redirecting or interfering with in any way the transmission of hydrocarbons in transit.

2. The provisions of paragraph 1 of this Article apply:

(a) In the case of Transit Pipelines carrying exclusively hydrocarbons in transit, to such volumes as may be transmitted to the Party of destination in the Transit Pipeline;

(b) In the case of Transit Pipelines in operation at the time of entry into force of this Agreement not carrying exclusively hydrocarbons in transit, to the average daily volume of hydrocarbons in transit transmitted to the Party of destination during the 12 month period immediately prior to the imposition of any measures described in paragraph 1;

(c) In the case of Transit Pipelines which come into operation subsequent to the entry into force of this Agreement not carrying exclusively hydrocarbons in transit, to such volumes of hydrocarbons in transit as may be authorized by the appropriate regulatory bodies; or

(d) To such other volumes of hydrocarbons in transit as may be agreed upon subsequently by the Parties.

3. Each Party undertakes to facilitate the expeditious issuance of such permits, licenses, or other authorizations as may be required from time to time for the import into, or export from, its territory through a Transit Pipeline of hydrocarbons in transit.

ARTICLE III

1. No public authority in the territory of either Party shall impose any fee, duty, tax or other monetary charge, either directly or indirectly, on or for the use of any Transit Pipeline unless such fee, duty, tax or other monetary charge would also be applicable to or for the use of similar pipelines located within the jurisdiction of that public authority.

2. No public authority in the territory of either Party shall impose upon hydrocarbons in transit any import, export or transit fee, duty, tax or other monetary charge. This paragraph shall not preclude the inclusion of hydrocarbon throughput as a factor in the calculation of taxes referred to in paragraph 1.

ARTICLE IV

1. Notwithstanding the provisions of Article II and paragraph 2 of Article III, a Transit Pipeline and the transmission of hydrocarbons through a Transit Pipeline shall be subject to regulations by the appropriate governmental authorities having jurisdiction over such Transit Pipeline in the same manner as for any other pipelines or the transmission of hydrocarbons by pipeline subject to the authority of such governmental authorities with respect to such matters as the following:

- a. Pipeline safety and technical pipeline construction and operation standards;
- b. environmental protection;
- c. rates, tolls, tariffs and financial regulations relating to pipelines;

<https://www.transmountain.com/news/2021/update-august-2021-capacity-announcement-for-the-trans-mountain-pipeline-system>

Update: August 2021 Capacity Announcement for the Trans Mountain Pipeline System

Aug 4, 2021

Total system nominations for the Trans Mountain Pipeline system are apportioned by 23 per cent for August 2021. The pipeline will be running full at its maximum capacity.

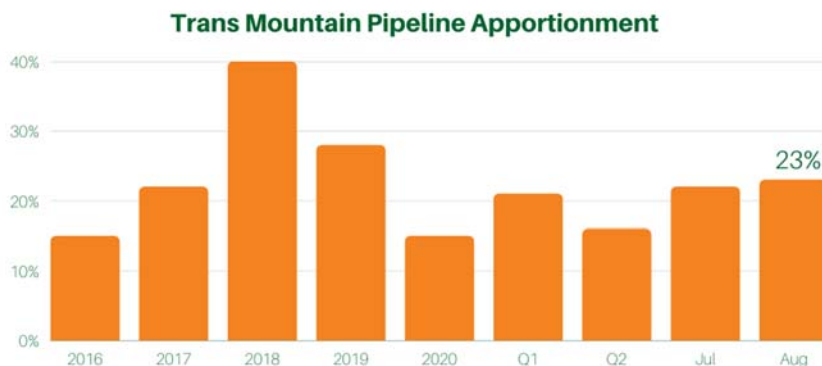
What is pipeline ‘apportionment’ and why is it important?

The energy sector around the world works on a monthly cycle. The Trans Mountain Pipeline is part of that cycle. Apportionment describes the amount of demand shippers place on the pipeline in excess of its available capacity. Here’s a step-by-step guide to the apportionment determination that’s carried out every month for the existing Trans Mountain Pipeline system.

- Each month our shippers submit requests for how much petroleum (crude oil and refined products) they want to ship through the pipeline to service their customers. These requests are called ‘nominations’.
- Based on shippers’ nominations, we then determine the ‘capacity’ available on the pipeline for the month. Determining pipeline capacity is complex. Capacity is affected by, among other things, the types of products that have been nominated, any pipeline system maintenance activities that will reduce flows that month and carry-over volumes that haven’t completed their transit of the pipeline by month’s end.
- Based on available pipeline capacity and the volume of shipper nominations we received, we calculate apportionment using a method accepted by the Canada Energy Regulator and forming part of our tariff. A tariff includes the terms and conditions under which the service of a pipeline is offered or provided, including the tolls, the rules and regulations, and the practices relating to specific services.
- If shipper nominations are less than pipeline capacity, the apportionment percentage to that destination is “zero” and all the product volumes nominated by shippers are accepted to be transported that month.
- If shipper nominations exceed pipeline capacity, the apportionment is a percentage greater than zero.

Trans Mountain Pipeline apportionment by the numbers

Apportionment of the Trans Mountain Pipeline system has been a regular monthly occurrence for the past decade. The chart below shows the apportionment for 2016, 2017, 2018, 2019, 2020 and apportionment to date for 2021.



When a pipeline experiences significant and prolonged apportionment like in the case of the existing Trans Mountain Pipeline, it’s one signal that more capacity is needed. Apportionment can bring with it a discounting of prices as producers compete to sell what they can through the pipeline before having to use another pipeline or other modes of

transport to another, less profitable market. It can also mean the buyers at the end of the pipeline are forced to source their shortfall of supply from alternate, less desirable sources.

Business case for expansion is strong

There is a strong and clear business case supporting the Trans Mountain Expansion Project. Our shippers have made long-term contract commitments ranging from 15 to 20 years that will underpin the cost of construction and the operating costs. The additional capacity offered by the expansion will be used to supply more crude oil and refined products markets in British Columbia and Washington State and to offshore markets in the Asia Pacific. Pipeline design and operations, including emergency response and preparedness for tanker movements are world-class, providing a safe and reliable supply of petroleum products to the markets served by the Trans Mountain Pipeline.

Gas production in Colombia registered an increase of 9.8% during June 2021

Minenergy. Bogotá, DC, August 3, 2021. Commercialized gas production in Colombia was 1,065 million cubic feet per day (mcf) in June 2021, which means an increase of 9.8% compared to May past (970.4 mpcpd). Compared to June 2020 (1,096 mpcpd), production decreased by 2.7%.

The increase in production during the month of June was due to the start-up of the Aguas Vivas field in Sahagún, Córdoba, and an increase in gas sold mainly in the Cusiana, Cusiana Norte (Tauramena, Casanare), Cupiagua Sur (Aguazul) fields. , Casanare), Pauto Sur (Yopal, Casanare), Cañahuate (Sahagún, Córdoba) and Nelson (Pueblo Nuevo, Córdoba), due to the behavior of gas demand during the month.

During the first semester of 2021, the average production of commercialized gas in Colombia registered an increase of 3.9%, reaching 1,070 million cubic feet per day (mpcpd) compared to the 1,029 mpcpd reported in the same period of 2020.

As for oil production, in June 2021 it was 694,151 barrels a day, a decrease of 1.3% compared to the data reported last May (703,478 bpd). Regarding the production of June 2020 (729,905 bpd), a 4.9% drop was registered.

The decrease in production occurred mainly in the Rubiales (Puerto Gaitán, Meta), Costayaco (Villagarzón, Putumayo), Moriche, Jazmín, Girasol (Puerto Boyacá, Boyacá), Floreña and Pauto Sur (Yopal, Casanare) fields, due to mechanical failures in the wells and the different blockages that occurred in the country and that prevented the proper functioning of the production facilities.

In the first half of 2021, the average oil production reached 729,952 barrels per day, which shows a reduction of 10.2% compared to the same period in 2020, when there was a production of 812,927 barrels per day.

Finally, during June 2021, the drilling of 3 exploratory wells and 31 development wells began in Colombia, for a total of 15 exploratory wells and 179 development wells so far this year. In addition, 192.5 kilometers of equivalent 2D seismic were acquired during this month, for a total of 784 kilometers in the year.

Tuesday August 3, 2021, Cundinamarca, Bogotá DC, Source: Minenergía

Russia's Oil, Condensate Output Rises Amid Higher OPEC+ Quotas
2021-08-02 05:49:05.725 GMT

By Olga Tanas

(Bloomberg) -- **Russia increased oil production in July for the first time in three months**, after more generous quotas were extended to the entire OPEC+ alliance.

Producers pumped 44.24 million tons of crude and condensate last month, according to preliminary data from the Energy Ministry's CDU-TEK unit. That's about 10.46 million barrels a day, or 0.3% higher than in June, Bloomberg calculations show, based on a 7.33 barrels-per-ton conversion rate.

It's difficult to assess Russia's compliance with the output-cut deal between the Organization of Petroleum Exporting Countries and its allies, as CDU-TEK's data don't provide a breakdown between crude and condensate, which is excluded from the deal. If Russia produced the same level of condensate as in June -- about 900,000 barrels a day -- **then daily crude-only output would be some 9.56 million barrels, slightly above its July quota of 9.495 million barrels.**

Deputy Prime Minister Alexander Novak told reporters on Friday that the nation's adherence to the deal would be about 100% in July.

Russia's compliance increased to 96% in June from 94% in May and 91% in April, the International Energy Agency said in its latest monthly report. Planned maintenance led to a drop in June's crude-only volumes, according to the IEA.

Under the deal with OPEC+, Russia was allowed to raise its crude-only production by a total of 116,000 barrels a day from May to July. Last month the alliance agreed to raise output by 400,000 barrels a day each month starting August, continuing until all of its halted output has been revived. That means that, starting August, Russia can increase its daily crude production by 100,000 barrels each month, according to Novak.

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<https://blinks.bloomberg.com/news/stories/QX05DVT0G1L1>

PRESS RELEASE | Aug. 6, 2021

U.S. Central Command Statement on the Investigation into the Attack on the Motor Tanker Mercer Street

USCENTCOM

TAMPA, Fla. –

**Please note, statements made within the enclosed briefing slides "Iranian UAV Attack Against MOTOR TANKER MERCER STREET" are attributable to U.S. Navy Capt. Bill Urban, the CENTCOM spokesman.

August 6, 2021

Release Number 20210806-02

FOR IMMEDIATE RELEASE

U.S. Central Command Statement on the Investigation into the Attack on the Motor Tanker Mercer Street

TAMPA, Fla. – Following the July 30, explosive unmanned aerial vehicle attack on the Motor Tanker (M/T) Mercer Street while transiting international waters off the coast of Oman, an expert explosive investigative team from the USS Ronald Reagan embarked the M/T to examine the evidence and interview the surviving crew members.

The team found:

- 1) The M/T Mercer Street was targeted by two unsuccessful explosive UAV attacks on the evening of July 29. The crew reported the attacks via distress calls on the evening of July 29. Based on crew interviews, the investigative team found credible the reports of the attacks, which impacted the sea near the M/T Mercer Street. Investigators found small remnants of at least one of the UAVs on Mercer Street that the crew had retrieved from the water, corroborating the reports.
- 2) The investigative team determined that the extensive damage to the Mercer Street, documented in the attached slides, was the result of a third UAV attack on July 30. This UAV was loaded with a military-grade explosive, and caused the death of two crewmembers; the master of the ship, a Romanian citizen, and a United Kingdom national who was part of the security detail.
- 3) The explosive detonation following the UAV impact created an approximately 6-foot diameter hole in the

topside of the pilot house and badly damaged the interior. Explosive chemical tests were indicative of a Nitrate-based explosive and identified as RDX, indicating the UAV had been rigged to cause injury and destruction.

4) Explosives experts were able to recover several pieces of this third UAV, including a vertical stabilizer (part of the wing) and internal components which were nearly identical to previously-collected examples from Iranian one-way attack UAVs. The distance from the Iranian coast to the locations of the attacks was within the range of documented Iranian one-way attack UAVs. Following an on-scene analysis, some of the material was transferred to U.S. Fifth Fleet headquarters in Manama, Bahrain and subsequently to a U.S. national laboratory for further testing and verification.

5) U.K. explosive experts were provided access to the evidence at the Fifth Fleet headquarters. Evidence was shared virtually with Israeli explosive experts. Both partners concurred with the U.S. findings.

U.S. experts concluded based on the evidence that this UAV was produced in Iran.

[Link to photos PDF](#)



29-30 JULY 2021: IRANIAN UAV ATTACK ON M/T MERCER STREET

EXECUTIVE CONCLUSION: The confluence of multiple components with very specific and matching identities to previously exploited (and known) Iranian one-way attack UAVs. The use of Iranian designed and produced one way attack “kamikaze” UAVs is a growing trend in the region. They are actively used by Iran and their proxies against coalition forces in the region, to include targets in Saudi Arabia and Iraq.

Summary:

- Early on 29 July, Liberian-flagged M/T MERCER STREET, operated by Zodiac Maritime Limited (chaired by Israeli businessman), came under attack from two one-way UAVs while transiting in international waters off the coast of Oman.
- After first failed UAV attack, crew was able to recover some UAV debris.
- On 30 July, in a separate and deliberate attack, MERCER STREET was struck by another drone, killing the ship’s master (Romanian citizen) and a security officer (UK citizen).
 - This second attack required calculated and deliberate retargeting of M/T MERCER STREET by Iran
- The crew followed appropriate procedures, gathered in safe haven inside the ship, and informed their company of an attack.
- The company informed UK Maritime Trade Organization (UKMTO) of the incident, who then communicated the matter to Headquarters, US Naval Forces Central Command (USNAVCENT).



(U) M/V MERCER STREET (Stock Photo)



(U) Damage Caused by Iranian UAV Attack



(U) Debris From Failed Iranian UAV Attack



(U) Iranian UAV Impact Location



29-30 JULY 2021: IRANIAN UAV ATTACK ON M/T MERCER STREET

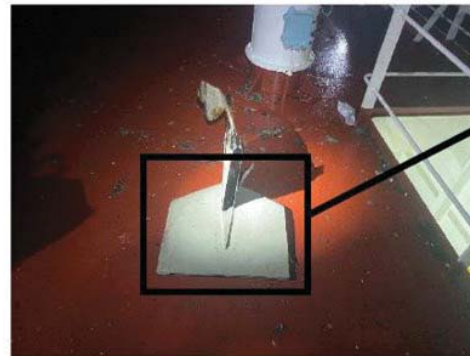
- USNAVCENT directed aircraft carrier USS RONALD REAGAN with escort (USS MITSCHER), to close the coast of Oman, establish communications with the MERCER STREET and render assistance. A US drone was also directed to the area to assist.
- A helicopter from USS RONALD REAGAN located the MERCER STREET in a remote area of the Arabian Sea.
- Working through UKMTO and Zodiac, communications were established with MERCER STREET; surviving crew confirmed Master and a Security Officer had been killed.
- In early afternoon, an Explosive Ordnance Disposal (EOD) team from USS RONALD REAGAN fast-roped onto MERCER STREET to ensure vessel security, verify no further explosive-related danger existed, facilitate vessel communications with Zodiac, and gather debris from the incident.
- By 31 July, the US EOD team was extracted and returned to USS RONALD REAGAN. Material gathered from the scene was transported to NAVCENT Headquarters for forensic analysis.
- By 2 Aug, a multi-lateral exploitation team initiated analysis of the recovered debris.



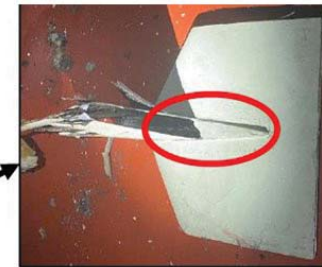
(U) EOD Site Assessment of Iranian Attack



(U) Internal View of Iranian UAV Impact Site



(U) From UAV on MERCER STREET



(U) Vertical Stabilizer on Iranian UAV

FORENSIC CONCLUSIONS: 1) Verified components of the Iranian one-way attack UAV were identical to previously identified Iranian unmanned one-way attack systems, and 2) Confirmed the Iranian UAV was explosive laden.



29-30 JULY 2021: IRANIAN UAV ATTACK ON M/T MERCER STREET



(U) Vertical Stabilizer Identical to Iranian UAV



(U) Side and Top View of Iranian UAV Fin



29-30 JULY 2021: IRANIAN UAV ATTACK ON M/T MERCER STREET

Iranian Delta Wing UAS Family



May 2014: Smaller Delta Wing UAV on Display in Iranian Airshow



May 2019: Iranian Smaller Delta Wing UAV Used in Attack on Saudi Arabia



Sep 2020: Larger Iranian Delta Wing UAV Crash in Yemen

Iran has publically displayed delta wing, one-way attack UAVs consistent with UAVs observed operating across the Middle East in recent years.

May 2021: Iranian Video of Larger Delta Wing UAV Test



Jan 2021: IranPress Video of Smaller Delta Wing UAV Test



FORENSIC CONCLUSIONS: US Experts concluded, based on the vertical fin being identical to those identified on one of the Iranian designed and produced one-way attack “kamikaze” UAV family, that Iran was actively involved in this attack.

Iran warns Zionist against any adventurist moves



New York , IRNA – Ambassador and deputy to the Permanent Mission of the Islamic Republic of Iran to the United Nations Zahra Ershadi warned the Zionist regime against adventurist moves and any kind of miscalculations and said Iran will never hesitate in defending the country and protecting the national interests.

She made the remark while talking to reporters after the close-door meeting of the United Nations Security Council on the recent incident for Mercer vessels in the Sea of Oman. Her remarks came as a reaction to threats posed to Iran by the Zionist regime defense minister .

The senior Iranian diplomat said that the Zionist regime was continuing to the boldly threatening that it will resort to aggression against the regional countries while it has been the main source of menace. Instability and insecurity in the region for the past seven decades.

She said that " we just heard a distorted statement about the Mercer Street vessel incident. Let me say a few words about it.

First, our thoughts are with the families of those who have lost their loved ones in that unfortunate incident.

Immediately following this event, Israeli officials accused Iran of the incident. This is what they usually do.

It is a standard practice of the Israeli regime. Its aim is to divert attention of the world public opinion from the regime's crimes and inhumane practices in the region.

To that end, they accuse others of wrongdoing. In almost all incidents in the Middle East, Israel accuses Iran. They do it immediately and provide no evidence.

Playing victim, lying and deception are part of their toolbox.

Israel's hue and cry on the Mercer Street incident is aimed, in particular, at hiding its terrorist acts against commercial navigation.

Only in less than two years, this regime has attacked over 10 commercial vessels in regional seas.

On 17 January 2021, the Syrian Prime Minister stated that 7 oil tankers en route to Syria were attacked. Israel was behind these incidents that caused serious fuel shortage in Syria.

On 11 March 2021, mainstream media outlets reported that Israel targeted at least a dozen vessels bound for Syria, mostly carrying oil.

On 23 April 2021, an oil tanker off Syria's coast was attacked by a drone. Three Syrians including two members of the crew were killed. Again, Israel was responsible for the attack.

These are only a few examples of adventurism and destabilizing activities of the Israeli regime at regional seas.

Such unlawful and terrorist acts seriously threaten maritime security, disrupt freedom of navigation and endanger energy security.

Likewise, Israel continues its systematic and persistent aggressions against sovereignty and territorial integrity of regional countries.

These illegal acts constitute a serious threat to regional and international peace and security.

The latest example is its recent air strike on Lebanon.

These are gross violations of international law and the UN Charter and shall not go unpunished.

The Security Council must prevent Israel's unbridled adventurism in the region.

The Security Council must also prove that it is not trapped by Israel's deceptions and fabrications.

We categorically reject the unfounded accusation of Israel on the Mercer Street vessel incident as we have written in our recent letter to the Council's President.

The Israeli regime cannot whitewash its destabilizing practices and vicious policies by blaming and accusing others.

This regime has been the main source of threat, instability and insecurity in the region for over 7 decades.

Its weapons of mass destruction continue to endanger the entire region.

It is the sole possessor of nuclear weapons in the region.

It is also the only non-party to the NPT in the region and its dangerous nuclear facilities and activities are not under the IAEA's comprehensive safeguards.

The Israeli regime also continues to brazenly threaten to use force against regional States.

Again, yesterday its defense minister threatened to use force against Iran.

Iran warns against any such adventurism and miscalculations.

Yet, Iran will not hesitate to defend itself and secure its national interests.

1424

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Press Release

Aramco announces second quarter and half-year 2021 results

Q2 net income rises 288% and free cash flow up by 270% YoY as Company delivers key milestones

- *Net income: \$25.5 billion (Q2) / \$47.2 billion (H1)*
- *Cash flow from operating activities: \$30.1 billion (Q2) / \$56.5 billion (H1)*
- *Free cash flow*: \$22.6 billion (Q2) / \$40.9 billion (H1)*
- *Gearing ratio*: 19.4% (June 30) compared to 23% at end of 2020*
- *Q1 dividend of \$18.8 billion paid in the second quarter; Q2 dividend of \$18.8 billion to be paid in the third quarter*

Dhahran, Saudi Arabia, August 8, 2021 – The Saudi Arabian Oil Company (“Aramco” or “the Company”) today announced its second quarter 2021 financial results, reporting a 288% increase in net income from the same quarter of last year to \$25.5 billion and declaring a dividend of \$18.8 billion. The Company’s net income for the first half of the year was \$47.2 billion, representing a 103% increase over the same period in 2020.

The results were primarily driven by higher oil prices and a recovery in worldwide demand, supported by the global easing of COVID-19 restrictions, vaccination campaigns, stimulus measures and accelerating activity in key markets.

Commenting on the results, Aramco President & CEO Amin H. Nasser, said:

“Our second quarter results reflect a strong rebound in worldwide energy demand and we are heading into the second half of 2021 more resilient and more flexible, as the global recovery gains momentum. While there is still some uncertainty around the challenges posed by COVID-19 variants, we have shown that we can adapt swiftly and effectively to changing market conditions.

“Our historic \$12.4 billion pipeline deal was an endorsement of our long-term business strategy by international investors, representing significant progress in our portfolio optimization program. Our landmark \$6 billion Sukuk reinforced our robust balance sheet, further diversifying our funding sources and expanding our investor base. And, once again, we delivered a dividend of \$18.8 billion for our shareholders.

“We continue to move forward on a number of strategic programs, which focus on sustainability and low-carbon fuels, maximizing the value of our assets, and advancing our downstream integration and expansion journey. For all these reasons and more, I remain extremely positive about the second half of 2021 and beyond.”

Financial Highlights

Aramco's net income was \$25.5 billion in the second quarter of 2021, compared to \$6.6 billion in the same quarter of 2020. Net income for the first half of 2021 was \$47.2 billion, compared to \$23.2 billion in the first half of 2020. The increase in both periods was primarily driven by higher crude oil prices, improved downstream margins and the consolidation of SABIC's results, partially offset by lower crude oil volumes sold and higher crude oil production royalties.

Free cash flow* was \$22.6 billion in the second quarter and \$40.9 billion for the first half of 2021, compared to \$6.1 billion and \$21.1 billion, respectively, for the same periods in 2020.

The gearing ratio* was 19.4% on June 30, compared with 23% on December 31, 2020. The decrease was primarily due to higher cash and cash equivalents on June 30 2021, mainly driven by stronger operating cash flows and cash proceeds in connection with Aramco's stabilized crude oil pipelines transaction.

Capital expenditure was \$7.5 billion in the second quarter and \$15.7 billion for the first half of 2021, representing an increase of 20% and 15%, respectively, compared with the same periods in 2020. This increase was primarily due to the start of initial phases of construction and procurement activities relating to increment projects, demonstrating the company's ability to mobilize capital to target growth opportunities, and the consolidation of SABIC's capital expenditure. At the same time, the Company maintains a highly disciplined and flexible approach to capital allocation, and continues to expect its 2021 capital expenditure to be approximately \$35 billion.

Aramco closed a \$12.4 billion pipeline infrastructure deal with an international consortium that acquired a 49% stake in the newly formed Aramco Oil Pipelines Company, in which Aramco remains the majority shareholder. Under a 25-year lease and leaseback agreement, Aramco Oil Pipelines Company will receive a tariff payable by Aramco for stabilized crude oil flows, backed by minimum volume commitments. This investment demonstrates investor confidence in the Company's long-term outlook.

The Company raised \$6 billion through the sale of US dollar-denominated Shari'a-compliant securities to leading institutional investors. The issuance comprised three tranches of direct and unsecured Sukuk trust certificates issued under Aramco's newly established International Sukuk Program. Funds raised were allocated for general corporate purposes.

Operational Highlights

Aramco continued its strong track record of reliable supply, achieving 100% reliability in the delivery of crude oil and other products in the second quarter of 2021.

The Company also demonstrated its reliable Upstream performance, with average total hydrocarbon production of 11.7 million barrels per day of oil equivalent in the second quarter of 2021.

The Company successfully completed and tied-in the 'Ain Dar and Fazran crude oil increments during the second quarter. These increments target secondary reservoirs with a combined production capacity of 175 mbpd.

Representing a significant step in SABIC becoming Aramco's chemicals arm, Aramco is transferring the marketing and sales responsibility for a number of Aramco petrochemicals and polymers products to SABIC, and the offtake and resale responsibility of a number of SABIC products is being transferred to Aramco Trading Company (ATC). These changes are intended to focus SABIC on polymers and derivative products while ATC focuses on fuels, aromatics and MTBE, driving further operational efficiencies, strengthening the brands of both companies and improving overall competitiveness. Considerable synergies are being captured, mainly in procurement, supply chain, feedstock optimization, stream integration, operations and maintenance.

The Company continued to contribute to COVID-19 vaccination efforts during the second quarter to protect its workforce and the wider community from the risk of infection. The Company's ongoing vaccination campaign for employees and their families complements a government vaccine program, resulting in 95% of employees and 70% of their dependants receiving at least one dose by the end of June.

Aramco participated in the creation of Altamayyuz Finance and Accounting Excellence Academy, a collaboration between leading accountancy firms and investment banks to establish a center of excellence for finance and accounting in Saudi Arabia. The academy aims to build the capabilities of top finance and accounting graduates, supporting growth of the region's financial services sector and forming a highly-skilled talent pool for the Company and other private and public employers.

Aramco will discuss its Q2 and H1 financial results for 2021 in a webcast on August 9, 2021 at 3.30pm KSA / 1.30pm BST / 8.30am EDT. The webcast will be available at www.aramco.com/investors.

**Please refer to www.aramco.com/investors for reconciliation of non-IFRS measures*

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 [Aramco](https://twitter.com/Aramco)

Non-IFRS measures reconciliations and definitions

Aramco uses certain non-IFRS financial measures, including free cash flow and gearing, to make informed decisions about its financial position and operating performance or liquidity. These non-IFRS financial measures have been included below to facilitate a better understanding of Aramco's historical trends of operation and financial position.

Aramco uses non-IFRS financial measures as supplementary information to its IFRS based operating performance and financial position. The non-IFRS financial measures are not defined by, or presented in accordance with, IFRS. The non-IFRS financial measures are not measurements of Aramco's operating performance or liquidity under IFRS and should not be used instead of, or considered as alternatives to, any measures of performance or liquidity under IFRS. The non-IFRS financial measures relate to the reporting periods are not intended to be predictive of future results. In addition, other companies, including those in Aramco's industry, may calculate similarly titled non-IFRS financial measures differently from Aramco. Because companies do not necessarily calculate these non-IFRS financial measures in the same manner, Aramco's presentation of such non-IFRS financial measures may not be comparable to other similarly titled non-IFRS financial measures used by other companies.

Free cash flow

Aramco uses free cash flow to evaluate its cash available for financing activities, including dividend payments. Aramco defines free cash flow as net cash provided by operating activities less capital expenditures.

Free cash flow for the second quarter of 2021 was SAR 84,657 (\$22,576), compared to SAR 22,878 (\$6,101) for the same quarter in 2020, an increase of SAR 61,779 (\$16,475). This was principally due to higher earnings, mainly reflecting stronger crude oil prices, improved Downstream margins and the consolidation of SABIC's results, partly offset by unfavorable changes in working capital and higher cash paid for the settlement of income, zakat and other taxes. Capital expenditures increased by SAR 4,644 (\$1,239) in the second quarter of 2021, compared to the same period in 2020, due to increased spend in relation to ongoing Upstream increment projects, and higher Downstream capital expenditures.

Free cash flow for the first half of 2021 was SAR 153,206 (\$40,855), compared to SAR 79,205 (\$21,122) for the same period in 2020. This increase of SAR 74,001 (\$19,733) was mainly due to higher operating cash flow, principally driven by stronger earnings, partially offset by negative working capital movements. Capital expenditures for the first half of 2021 increased in comparison to the same period in 2020, due to higher Upstream and Downstream capital spend.

	Second quarter				Half year			
	SAR		USD*		SAR		USD*	
	2021	2020	2021	2020	2021	2020	2021	2020
All amounts in millions unless otherwise stated								
Net cash provided by operating activities	112,733	46,310	30,063	12,349	212,032	130,377	56,542	34,767
Capital expenditures	(28,076)	(23,432)	(7,487)	(6,248)	(58,826)	(51,172)	(15,687)	(13,645)
Free cash flow	84,657	22,878	22,576	6,101	153,206	79,205	40,855	21,122

* Supplementary information is converted at a fixed rate of U.S. dollar 1.00 = SAR 3.75 for convenience only.

Gearing

Gearing is a measure of the degree to which Aramco's operations are financed by debt. Aramco defines gearing as the ratio of net debt (total borrowings less cash and cash equivalents) to net debt plus total equity. Management believes that gearing is widely used by analysts and investors in the oil and gas industry to indicate a company's financial health and flexibility.

Aramco's gearing ratio as at June 30, 2021 was 19.4%, compared to 23.0% as at December 31, 2020. The decrease in gearing was primarily due to higher cash and cash equivalents as at June 30, 2021, mainly driven by stronger operating cash flows and cash proceeds in connection with Aramco's stabilized crude oil pipelines transaction.

	SAR		USD*	
	June 30, 2021	December 31, 2020	June 30, 2021	December 31, 2020
All amounts in millions unless otherwise stated				
Total borrowings (current and non-current)	539,633	536,077	143,903	142,954
Cash & cash equivalents	(253,593)	(207,232)	(67,625)	(55,262)
Net debt	286,040	328,845	76,278	87,692
Total equity	1,189,393	1,101,094	317,171	293,625
Total equity and net debt	1,475,433	1,429,939	393,449	381,317
Gearing	19.4%	23.0%	19.4%	23.0%

* Supplementary information is converted at a fixed rate of U.S. dollar 1.00 = SAR 3.75 for convenience only.

Saudi Aramco Follows Big Oil Rivals With Profit Surge (2)

2021-08-08 08:42:17.475 GMT

By Paul Wallace and Matthew Martin

(Bloomberg) -- Saudi Aramco followed its Big Oil competitors with bumper earnings, boosted by a recovery in oil and chemical prices.

The world's biggest energy company made net profit of 95.5 billion riyals (\$25.5 billion) in the second quarter, the highest level since the end of 2018. Free cash flow rose to \$22.6 billion, above the state-controlled firm's quarterly dividend of \$18.8 billion for the first time since the start of the coronavirus pandemic.

The reopening of major economies has triggered a surge in commodity prices, with crude up around 40% this year. In the past two weeks, oil companies such as BP Plc, Chevron Corp. and Royal Dutch Shell Plc have said they will increase share buybacks and payouts, confident the worst of the pandemic is over.

Aramco's annual dividend of \$75 billion, the world's largest, is a crucial source of funding for Saudi Arabia. The government, which owns 98% of the company, is trying to narrow a budget deficit that ballooned last year as energy prices tanked with the spread of the virus.

The results "reflect a strong rebound in worldwide energy demand and we are heading into the second half of 2021 more resilient and more flexible, as the global recovery gains momentum," Chief Executive Officer Amin Nasser said in a statement on Sunday. "I remain extremely positive about the second half of 2021 and beyond."

Still, the pandemic is "clearly far from over," Nasser said later on a call with reporters. Oil just had its worst week since October as the spread of the delta variant, especially in China, clouds the short-term outlook. Brent crude fell 7% to \$70.70 a barrel.

Global oil demand remains below pre-Covid levels, but should reach near-record levels of 100 million barrels a day next year, Nasser said.

Debt Down

Aramco's gearing, a measure of net debt to equity, fell to 19.4% from 23% at the end of 2020, though it remains above management's preferred cap of 15%. It declined thanks to higher cash flow and the Dhahran-based firm using some proceeds from the sale of a stake linked to oil pipelines to pay down debt. In June, Aramco completed the \$12.4 billion deal with a consortium led by U.S. group EIG Global Energy Partners LLC.

Capital expenditure was \$15.7 billion in the first half of the year and Aramco expects it to be around \$35 billion for all of 2021, in line with earlier guidance.

Part of that money will go toward boosting daily crude-

production capacity to 13 million barrels from 12 million.

“With less investment that we see from other producers globally, this creates an opportunity,” Nasser said.

At current capex levels and oil prices, most analysts expect Aramco will be able to cover its dividend commitment with free cash flow. Those at Bank of America even suggested the payout needs to be raised for Aramco to stay competitive now Western oil firms are hiking shareholder returns.

Read: Even at \$75 Billion, Aramco’s Dividend Isn’t Enough, Says BofA

“We’ll advise later this year whether we’ll be sticking to the ordinary dividend or doing otherwise,” Ziad al-Murshed, Aramco’s chief financial officer, said on the same call.

Reliance Deal

Aramco is continuing to do due diligence on a proposed investment in Reliance Industries Ltd.’s oil-to-chemicals refining business, al-Murshed said. In 2019, Aramco discussed buying a 20% stake for roughly \$15 billion, but the deal was delayed by the pandemic. It should be finalized this year, India’s Reliance said in June.

The Saudi firm is scheduled to release more detailed financial statements on Monday, including a breakdown of the performance of its upstream and downstream units. The company’s chemicals arm, Saudi Basic Industries Corp., reported its best results in almost a decade last week as demand for products from plastics to paint and packaging booms.

Nasser will also hold an investor call on Monday. Aramco’s stock was unchanged at 35.05 riyals at 11:40 a.m. in Riyadh on Sunday.

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• 08 Aug 2021 | 07:03 UTC

Saudi Aramco's Q2 hydrocarbon output falls 8%; profit surges almost 4 times

HIGHLIGHTS

Hydrocarbon output drops to 11.7 mil boe/d

Profit at \$25.5 bil vs \$6.6 bil year earlier

Q2 capex up by 20% to \$7.5 bil

Author Dania Saadi

Saudi Aramco, the world's largest oil company, said Aug. 8 that its hydrocarbons production fell 8% to 11.7 million boe/d in the second quarter from the year-earlier period due to OPEC+ cuts, but its profit surged almost four times thanks to higher oil prices and a recovery in worldwide demand.

Net income soared to \$25.5 billion in the second quarter from \$6.6 billion a year earlier, the company said in an earnings statement. Aramco's total hydrocarbon production, which averaged 12.7 million boe/d in the second quarter of 2020, fell mainly due to OPEC+ cuts this year, CEO Amin Nasser said in a media call with journalists.

"Our second quarter results reflect a strong rebound in worldwide energy demand and we are heading into the second half of 2021 more resilient and more flexible, as the global recovery gains momentum," Nasser said in the statement. "While there is still some uncertainty around the challenges posed by COVID-19 variants, we have shown that we can adapt swiftly and effectively to changing market conditions."

The Q1 dividend of \$18.8 billion was paid in the second quarter, and the Q2 dividend of \$18.8 billion will be paid in the third quarter, the company said.

Boosting capacity

Aramco is working on boosting its maximum sustainable capacity to 13 million b/d from 12 million b/d and expects most of the increase to come from offshore fields, Nasser said on the call. Fields that will contribute to production increments are Zuluf, Marjan and Berri.

"We are diligently working on increasing the capacity," he said. "We are just doing currently the front end engineering to increase maximum sustainable capacity from 12 million b/d to 13

million b/d and as soon as we complete the front end engineering, which usually takes approximately two years, we will advise you accordingly on terms of on-stream date."

Saudi Aramco expects global oil demand to rise by the end of 2021 and in 2022 on economic recovery and higher oil demand, particularly in the US and China, the CEO added.

"Our expectation that recovery will continue, yes variants are having a certain impact; however we are seeing more openings of economies and we expect by year end the demand will be around 99 million b/d," he said. "There is strong economic recovery that we see and demand rebound especially from the US and China and we expect it to be at a 100 million b/d next year as a forecast for total demand."

OPEC in July put 2021 global oil demand at 96.58 million b/d and 2022 at 99.86 million b/d.

Maintaining capex

Capital expenditure was \$7.5 billion in the second quarter, up 20% from a year earlier and the company expects 2021 total to be approximately \$35 billion.

"Our projects are going as planned some of them to do with maintaining MSC [maximum sustainable capacity], and certain investments in downstream," Nasser told reporters.

"However, we are looking at opportunities for growth and we will be considering that this year and [in] future years," he added, without elaborating.

The company is also considering investment transactions similar to the \$12.4 billion deal clinched with a host of investors led by EIG for a 49% stake in newly formed Aramco Oil Pipelines Co.

Under the deal announced April 9, Aramco Oil Pipelines Co., a newly formed unit of the state oil company, will lease usage rights in Aramco's stabilized crude oil pipeline network for 25 years, in exchange for a tariff paid by Aramco for the crude flows through the network, backed by volume commitments.

"We are working on a good number of deals," Nasser said, without being more specific.

Aramco is still doing its due diligence to buy a 20% stake in the oil-to-chemicals unit of Reliance Industries, the CEO said. The deal could not progress in 2020 after the oil price crash and demand destruction caused by the pandemic, which saw Aramco tighten its belt.

"India is a very important market for us. We continue to review opportunities in India," he said. "We are still doing our due diligence (on the Reliance deal). We were delayed a little bit because of COVID 19 but we are back on track doing our due diligence."

Hydrogen supply

The company is working on developing its blue hydrogen supply, which will depend on global demand and costs, Nasser said.

"Hydrogen is an area where we have a lot of focus on right now. We are interested in blue hydrogen and we identified good aquifers to sequester CO₂," he said.

"We completed a lot of work so far. Right now when it comes what is our target, it will all depend on the markets that we are going to supply in the future and offtake agreements."

Excerpt Bloomberg Transcript
STATE DEPARTMENT SPOKESPERSON NED PRICE HOLDS DAILY PRESS
BRIEFING

AUGUST 5, 2021

SPEAKERS:
STATE DEPARTMENT SPOKESPERSON NED PRICE

QUESTION: (INAUDIBLE)

PRICE: Iran and then I'll go to the back, sure.

QUESTION: (INAUDIBLE) Iranian president sent some mixed messages today saying he is ready to support any diplomatic plans to lift the sanctions but also that he won't back down from defending their rights and their nuclear program. Are you -- now that he is in place, are you telling the Iranian government that now is the time to resume talks in Vienna or are you ready to wait for some more time?

PRICE: Well, we wouldn't want to weigh in on the messages that the new Iranian president may or may not be sending. What I can say is that our message to President Raisi is the same as our message to his predecessors, and that is very simple. The U.S. will defend and advance our national security interests and those of our partners. We hope that Iran seizes the opportunity now to advance diplomatic solutions and the diplomatic solutions that are before all of us. We are waiting to see, as I've said before, the approach that the new government in Iran will take. And we will in turn respond in consultation with our partners.

For our part, we've made very clear that we are prepared to return to Vienna to resume negotiations. We are prepared to do that for one simple reason, and that goes back to the message -- our message to President Raisi. Doing so is in our national security interests. It is in our national security interest and the national security interest of our allies and our partners the world over to once again permanently and verifiably ensure that Iran is not able to acquire a nuclear weapon.

We urge Iran to return to the negotiation soon so that we can seek to conclude our work. We've heard what that new Iranian president has had to say on that score. But at the same time, and the secretary has said this message, you've heard it from here as well, this process cannot go on indefinitely. The opportunity to achieve a mutual return to compliance with the JCPOA won't last forever. The longer this goes on, the advantages to our national security that would be accrued by a mutual return to compliance will start to chip away by the advancements that Iran is able to make while the shackles are at present removed from its nuclear program.

So we're mindful of that and that's why we urge the new Iranian

government to return to diplomacy.

Yes.

(CROSSTALK)

QUESTION: (INAUDIBLE) ready to wait for him?

PRICE: Again, we're not going to put a timeline on it. But for us this is an urgent priority, knowing the issues that are at play and we hope the other -- we hope the Iranians treat it with the same degree of urgency.

QUESTION: More specifically, is the U.S. worried about losing by this extended delay in the return to talks? What progress has been made that you think could be degrading because there are these conversations happening?

PRICE: Well, for us, the -- the more important issue, it's less the progress that has been achieved in the sixth round of talks. I think, the United States and our partners, we assume that the seventh round would pick up where the sixth round has left off. For us, the more important issue is what the -- the implications of further delays for the broader issue that we're talking about. And that's Iran's nuclear program.

Again, this goes back to the original advantage of the JCPOA. When it was being negotiated in 2014, and 2015 and -- and the proceeding talks before that, Iran at points was a handful of months away from being able to produce the fissile material required for a nuclear weapon, should it decide to weaponize and pursue that route? The advantage of the JCPOA was that it extended that so-called breakout time to 12 months to a year. For us, this has always been the advantage of the JCPOA; it is the extension of that so-called breakout time.

But even more so, it's the permanent and verifiable prohibition on Iran ever obtaining a nuclear weapon. So now that Iran has been -- has distanced itself from its nuclear limitations since 2018, the breakout time, according to published reports, is back down to a handful of months. For us, that is not a proposition that can last indefinitely, and it is also not a proposition that can last indefinitely when as these nuclear constraints aren't applied, Iran's advancements continue day by day.

And we are not comfortable with an Iranian nuclear program that is able to make advancements without these checks in place. So that's why we're treating this as an urgent priority. We're treating it as an urgent priority to return to the diplomacy but more so as an urgent priority to ensure that those permanent and verifiable limits on Iran's nuclear program and that permanent and verifiable prohibition on Iran ever obtaining a nuclear weapon is back in place.

Anything else on Iran?

QUESTION: Yeah, on Iran.

PRICE: Iran?

QUESTION: (OFF-MIKE). Under sanctions, you know, President Raisi said today, as he said in the past, that his focus is on lifting the sanctions. Now, you guys have said in the past that you are willing to consider lifting the sanctions that were imposed under former President Trump. Is that the case? I mean, is that (inaudible) probably covers all the sanctions that Iran would want lifted.

PRICE: Well, again, the -- the nature of sanctions relief is a primary topic of discussion in Vienna. If President Raisi is genuine in his determination to see the sanctions lifted, well, that is precisely what's on the table in Vienna, the formulation that was enshrined in the original JCPOA, the JCPOA with which we're trying. We're attempting to see if we can resume mutual compliance.

It was a formulation that called for the lifting of nuclear sanctions in return for these permanent and verifiable limits on Iran's nuclear program. This is something that in 2015 was in the interests of the United States; it was in the interest of our P5+1 partners. According to the Supreme Leader then, and now -- the now-former president of Iran, it was in Iran's interests at that time.

You just cited President Raisi's statement about wishing to see that sanctions relief come into play once again, that might suggest that there's an appetite on the part of the new Iranian government to engage in this diplomacy. We certainly hope that's the case because we believe profoundly that it remains in our interest and the interest of our allies and partners to see Iran's nuclear program once again, permanently and verifiably restricted.

But this is a new administration in Iran. We've heard their words, but to us, actions will speak louder, and the Iranians clearly have some decisions to make. Anything else on Iran before...

QUESTION: (OFF-MIKE) because actions speak louder, yeah. OK, let's leave apart the increased aggression in the Gulf, the attacks on various ships, drone attacks, whether or not you guys have decided who was responsible for the -- for the -- for the incident involving multiple vessels the other day, the kidnapping attempt on -- on someone who's living in, you know, in the -- in the States, the increase in Houthi aggression in Yemen, the Hezbollah rocket attacks on Israel.

So, let's leave aside all of that right now and just focus on the nuclear side of it. It is your position right that since January

-- since this -- since this -- the Biden administration took office that Iran has become less compliant with the JCPOA, right. They have taken steps since January to -- to bring themselves further out of compliance. That's correct, right?

PRICE: What is correct is that since the last administration left...

QUESTION: No, no, no, (OFF-MIKE) since January, since you guys have been running the show.

PRICE: It's -- it's -- it's a little nuanced, as is often the case in foreign policy. So if you'll give me a second to explain, I will. In 2018, the last administration left the JCPOA. In -- in 2019 -- in 2019, Iran began to distance itself from the limitations that were on its nuclear program. So...

QUESTION: And the previous administration took action. Whether or not it was successful or not, but they imposed more and more sanctions on them, right. So since January, the Iranians have continued to distance themselves from the agreed -- agreement. Correct?

PRICE: Since January, the Iranians have continued to pursue the path that they have gone down since 2019, yes.

QUESTION: OK, fair enough. But they have gotten -- but it's gotten worse, their compliance has gotten worse. Right?

PRICE: They've continued to go down the path that has been...

QUESTION: And what has this...

PRICE: ... that has been available to them since 2019.

QUESTION: And so what have you guys done? What has this administration done since January to -- to make -- yeah, to make it clear to Iran, other than, you know, getting up on the podium or -- and -- and condemning them. What actions has this administration done to show your disapproval or to punish them or to however you want to -- whatever word you want to use? What -- what have you done to make it clear to them that this is not acceptable?

PRICE: As you said yourself, Iran has been under heavy sanctions since 2018; those sanctions every single one of them remains in place. We have not removed...

QUESTION: (OFF-MIKE) gotten worse, and you guys haven't done anything. In fact, you've lifted some sanctions. Correct?

PRICE: We have not lifted...

QUESTION: Yeah, you did. You -- in New York, you guys -- you

guys went back on the, you know, on the snapback, you lifted the -- the -- the prohibitions of the -- the travel restrictions on Iranian diplomats who are accredited to the U.N. You've removed at least five -- maybe not you, but Treasury has; at least five, maybe six or seven Iranian individuals and entities from sanctions list.

But have you imposed any new costs on Iran since January?

PRICE: There is a strict and comprehensive sanctions regime that is in place against Iran. That will remain in place against Iran unless and until we reach a mutual return to compliance with the JCPOA.

QUESTION: (OFF-MIKE) added anything to the sanctions regime that was opposed by the last administration, correct?

PRICE: We absolutely have added sanctions against Iran. We've talked -- we've talked about them in the context of support for the Houthis in Yemen. We've talked about them in -- in connection with Iran's abuses of human rights, absolutely. We continue to hold...

QUESTION: I just said leaving aside -- my opening to my question was leaving aside the non-nuclear things. Just on the nuclear front, what have you guys done in terms of the nuclear file to impose costs on Iran for their -- for their increasing non-compliance?

PRICE: First of all, the non-compliance, it's a binary. Either they are -- they are in compliance with the JCPOA, or they're not. Since 2019, Iran has not been in compliance with the JCPOA. There was a pathway that, in our estimation, unfortunately, was put before them in 2018 that they have very regrettably chosen to pursue.

It is true that they have continued to make advancements in their nuclear program. This is a concern for us; it is motivating the fact that we have been very clear that this is not a process that will be open indefinitely...

QUESTION: (OFF-MIKE) as they are non-compliant, you haven't done anything other than to say that you're still open to talks and -- anyway, I'll stop because I don't think you can...

(LAUGHTER)

... answer that.

PRICE: Please. Sorry, I'm -- I'm -- I told you, I'd come back to you. Yes?

QUESTION: (OFF-MIKE)?

PRICE: Yes.

Caixin China General Manufacturing PMI™

Operating conditions improve only slightly in July

Manufacturers in China signalled a softer improvement in operating conditions at the start of the third quarter. Output expanded at the slowest rate for 16 months, while overall new work fell slightly for the first time since May 2020. The COVID-19 pandemic meanwhile continued to dampen export sales, which rose only slightly in July. Relatively subdued demand conditions resulted in broadly unchanged employment across the sector. At the same time, inflationary pressures eased, with both input costs and output charges increasing at softer rates.

The headline seasonally adjusted *Purchasing Managers' Index™ (PMI™)* – a composite indicator designed to provide a single-figure snapshot of operating conditions in the manufacturing economy – slipped from 51.3 in June to 50.3 in July, to point to a softer improvement in the health of the sector that was only slight. Notably, it signalled the slowest improvement for 15 months.

A key factor weighing on the headline reading was a renewed fall in total new business during July. Though only marginal, it marked the first decline in sales for 14 months. Some companies noted that higher factory gate prices had dampened customer demand. At the same time, new export orders rose only slightly as the pandemic continued to hinder sales overseas.

Concurrently, the rate of output growth softened for the third month in a row. The latest increase was the slowest seen for 16 months and only marginal. Where production had increased, it was generally linked to improved capacity and firmer market conditions.

In line with the trend for output, purchasing activity rose again in July, albeit only slightly. Notably, it was the softest increase in input buying for four months. Stocks of purchased items meanwhile declined slightly during the latest survey period. Panel members indicated that some firms increased their usage of current inventories due to rising raw material prices. Meanwhile, the delivery of goods to clients led to a further reduction in stocks of finished goods.

Supply chain delays persisted in July, with average delivery times for inputs increasing solidly. Anecdotal evidence indicated that material shortages and transport delays due to the pandemic had driven the latest increase in lead times.

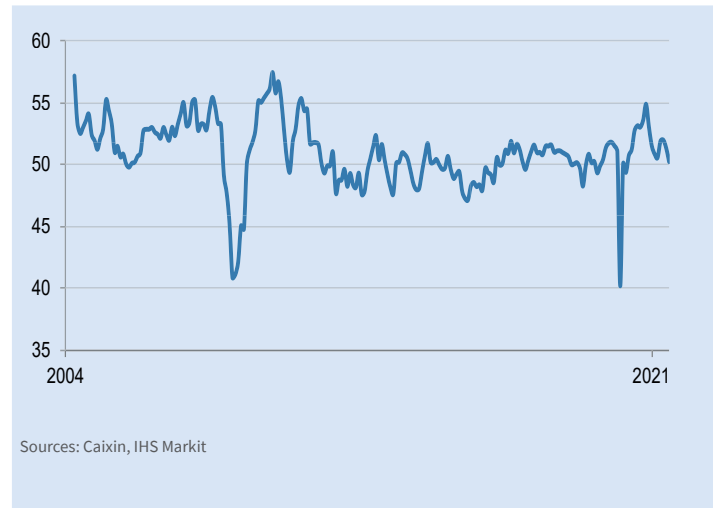
Capacity pressures eased at the start of the third quarter, with backlogs of work rising at the softest pace for five months. Employment levels meanwhile were little-changed in July, after a slight uptick in payroll numbers in June.

The latest survey data also saw inflationary pressures soften. Input prices rose at the weakest rate since November 2020, albeit still sharply overall. Higher expenses were frequently linked to increased prices for a range of raw materials and greater transport fees. The rate of output charge inflation likewise slowed in July, with selling prices rising only slightly overall.

Chinese manufacturers were generally optimistic that output would increase over the next year. However, the level of confidence slipped to a three-month low amid concerns over how long it would take to get the global pandemic under control and ongoing supply chain disruption.

China General Manufacturing PMI

sa, >50 = improvement since previous month



Key findings:

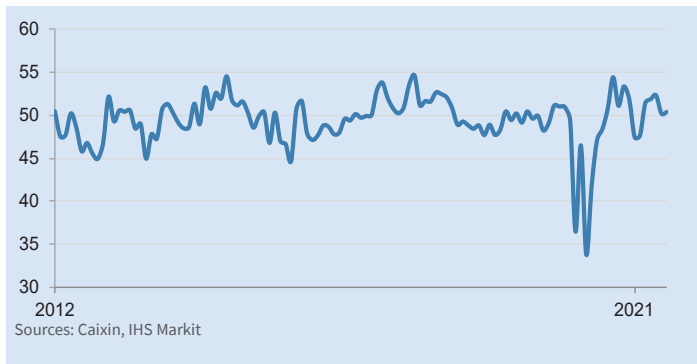
Output growth slows amid slight drop in new orders

Staffing levels are broadly unchanged

Inflationary pressures ease

New Export Orders Index

sa, >50 = growth since previous month



Commenting on the China General Manufacturing PMI™ data, Dr. Wang Zhe, Senior Economist at Caixin Insight Group said:

“The Caixin China General Manufacturing PMI came in at 50.3 in July, down from 51.3 the previous month. The July reading was the lowest in 15 months, though it marked the 15th consecutive month of expansion. That meant while the manufacturing industry continued to grow, the rate of expansion slowed further.

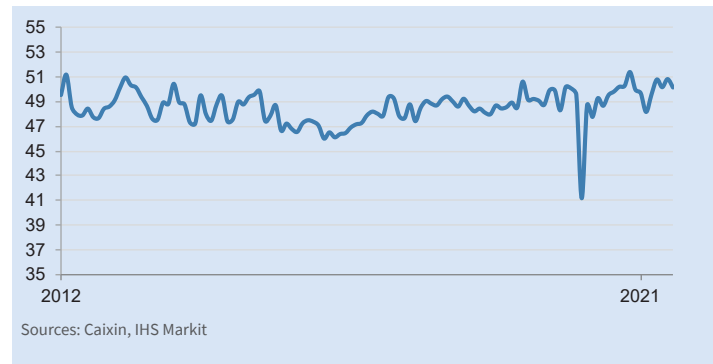
“Supply in the manufacturing sector continued to expand, while demand contracted for the first time in more than a year. External demand remained stable. The gauge for output in July was the lowest in 16 months, while the gauge for new orders was the lowest in 15 months. Surveyed manufacturing enterprises said market demand was weak. High product prices suppressed demand, especially for consumer goods and intermediate goods. The gauge for new export orders came in just above 50 in July. The epidemic situation varied in different regions overseas, which made exports remain stable as a whole.

“The employment market stayed stable. Some enterprises hired more staff to expand production capacity, while some kept a cautious stance on increasing hiring. The measure for employment was just above 50 in July, marking the fourth straight month of expansion. Outstanding workloads increased slightly.

“Inflationary pressure eased slightly. Both the gauges for input prices and output prices fell in July, with the latter dropping at a steeper pace. Still, the gauge for input prices was well above 50, as surveyed enterprises said raw material prices remained high, especially for industrial metals. Notably, the gauge for input prices remained above 55 for the eighth consecutive month in July. By comparison, the gauge for output prices was just above 50 in July, the lowest since September. As mentioned earlier, market demand was sensitive to product prices, which limited enterprises’ pricing

Employment Index

sa, >50 = growth since previous month



power.

“Logistics delivery times continued to lengthen. Impacted by the resurgence of the Covid epidemic in some regions in China and the shortage of materials including chips, the measure for suppliers’ delivery times remained in contractionary territory. Prices of raw materials remained high. Manufacturing enterprises’ quantity of purchases increased marginally, while the stock of purchases fell slightly.

“Overall, the rate of expansion in the manufacturing sector slowed in July. Market supply continued to expand, while demand began to come under pressure. The job market remained stable, as did the quantity and stock of purchases. Enterprises were cautious about increasing staff and purchasing raw materials. Inflationary pressure was partly eased, but input prices and output prices of manufacturing enterprises continued to rise, especially raw materials such as industrial metals. Entrepreneurs stayed positive about the business outlook, but the measure for future output expectations in July was lower than its long-term average and was the lowest in 15 months. China’s official second-quarter economic figures were in line with expectations, but the Caixin China manufacturing PMI in July and relevant data suggested the recovery of the economy is not yet solid. The economy is still facing huge downward pressure, and we need to ensure entrepreneurs’ confidence.”

1. There are some good reminders/insights into India looking thru the 2020s from the India Oil Corp 2020/21 annual report posted yesterday. https://iocl.com/download/IndianOil_IR_02_08_2021_single_pg_view.pdf
2. Key reminder they aren't doing Net Zero, and they recognize they need fossil fuels.
3. Reminds that India is still in the early stages of increasing living standards to its people and this gets reflected in a realistic view of energy for the future. They don't say its specifically that they can't rely on moving to renewable, rather they talk about the need to have "traditional offerings like coal, oil and natural gas" i.e. p16.

Crafting a new energy future. With more than 1.3 billion people, India is home to 18% of the global population but accounts for a mere 7% of the world's energy demand. This vast gap, coupled with the rising aspirations of Indians for improved living standards, will be the key driver of the country's energy demand. As a result, India is set to experience the fastest growth in energy consumption among all large economies. To cater to this exponential demand growth, we need a more comprehensive, diverse energy basket where traditional offerings like coal, oil, and natural gas coexist with bioenergy and renewables. Each energy form has its role cut out in fuelling the emergent nation that is the world's third largest oil consumer. I want to assure you that IndianOil's growth agenda reflects this diversity and translates into refinery expansions as well as scaling up renewables and alternative fuel options. Your Company is pacing ahead to energise the nation and strengthen the four pillars of India's energy future as envisioned by the Hon'ble Prime Minister - Energy access, Energy efficiency, Energy sustainability, and Energy security; at the same time ensuring Energy justice with the objective of access to safe, affordable and sustainable energy for all citizens. In addition, the post-Covid world will witness a renewed consensus on urgent climate action with a more significant push for sustainable solutions. So, while the aspirations of our nation are unique, the commitment towards a low carbon economy remains steadfast."

4. Reminds that their priority is to meet the needs of the energy growth. Didn't say it as directly as the tweet below, but same concept. Pg 21 "A future-ready IndianOil Worldwide, the most significant overall long-term challenge is to supply clean and affordable energy while addressing the concerns related to climate change. Therefore, the next few years will be crucial for the energy sector and let me affirm that IndianOil is geared up to cater to the new energy order of the future. India, like several other countries, is in the midst of an energy transition. There will be a continuity of energy consumption patterns, but a profound change in the energy mix is inevitable as we integrate renewables more intensely. For a country like India with high energy appetite, the path towards energy transition will involve balancing our enthusiasm for the future with the reliability of the old order. Given the magnitude of incremental energy required in addition to meeting existing needs, the dovetailing of new greener energy options in a requisite scale and scope is needed to offer sustainable choices for a smooth changeover. IndianOil has been working in mission mode to meet the rapid growth of the nation's energy needs while pursuing the aspiration for a greener tomorrow."



IOC Chair why 1/3 increase to India [#Gasoline](#) [#Diesel](#) output "consumption is going from leaps and bounds and energy security is primary concern for me, which may not be the concern to the developed world". Why [@POTUS](#) [@JustinTrudeau](#) will ask [#G7](#) to pay more than fair share [#OOTT](#) pic.twitter.com/UdoYAfo8Rp
2021-07-24, 7:35 AM

5. India plans to double its refining capacity by 2025. Pg 161 *"Despite challenges, India continued to pursue energy sector reforms and promote renewables and storage technologies. India now aims to double its refining capacity by 2025, reduce carbon emissions by 30-35% (relative to 2005) before 2030, and increase the share of gas in the energy mix to 15% from the current 6% by 2030."* Increasing refinery capacity is the cornerstone of the IOC growth strategy. This is the item we noted recently. Pg 18 *"As part of the larger vision, refinery expansion, coupled with value-added products and petrochemical integration, are the cornerstones of your Company's growth strategy."*
6. Natural gas to move from 6% to 15% of India energy mix. Included in the point above that India targets natural gas from 6% of energy mix to 15% by 2030. Note the s IOC joins India's energy ministers who have recently reminding of this target. Pg 46 *"Aligned to the Government of India's vision of increasing the nation's share of natural gas in the primary energy mix to 15% by 2030, IndianOil is creating world class infrastructure for natural Gas pipelines, regasification terminals, and CGD infrastructure on standalone basis and through JVs."*
7. IOC reminds of the point from fall 2019 and our SAF Group Oct 23, 2019 blog *"Finally, Some Visibility That India Is Moving Towards Its Target For Natural Gas To Be 15% Of Its Energy Mix By 2030"* . India is now moving rapidly to increase natural gas infra. Pg 162 *"India's natural gas sector is transforming rapidly, propelled by a highly ambitious policy to double its share in this decade. Critical policy support in the form of reforms such as rationalisation of tariffs, taxes, gas trading, transport system operator and viability gap funding for gas pipeline infrastructure development, and a priority focus on city gas distribution (CGD) under gas allocation policy is working to ensure that the sector remains integral to India's decarbonisation strategy."*
8. IOC's plans to double its LNG regasification terminals from 9.18 MMT (1.2 bcf/d) in 2021 to 13.18 MMT (1.7 bcf/d) in 2025 to 18.18 MMT (2.4 bcf/d) in 2030. Pg 47.
9. Global oil demand +1.3 mmb/d from pre Covid 2019 to 2026. Pg 158 *"In the medium term, global oil demand is now projected to rise by 4.4 mb/d between 2019 and 2026. Moreover, the demand growth relative to 2019 is expected to come primarily from the emerging and developing economies. Overall, however, the dominant view remains that global oil demand is unlikely to catch up with its pre-Covid trajectory."*
10. Oil supply risk. Pg 160. *"The falling and lacklustre upstream investment pose a risk to oil supply availability in the future. As per the IEA, the spare capacity cushion will slowly erode in the absence of fresh upstream*

investments. By 2026, global effective spare production capacity (excluding Iran) could fall to 2.4 mb/d, its lowest level since 2016.”

11. Global natural gas demand in 2021 to be above pre Covid 2019. Pg 159 *“The global gas demand is expected to recover 3.2% in 2021, erasing the losses in 2020 and pushing demand 1.3% above 2019 levels - the strongest anticipated rebound amongst fossil fuels. The recovery will be driven mainly by continued lower prices and rapid growth in economies across Asia and the Middle East.”*
12. Renewable is becoming more competitive. Pg 160 *“Investment in Green Energy: The remarkable decline in the cost of solar and wind power over the past decade has set the stage for these technologies to take wings. Today, China, the Gulf nations, even India are investing in green energy on a scale that would have been considered improbable even a decade ago.”* Pg 161 *“The share of renewable power increased to 11% in 2020-21 from 10% in 2019-20. Renewables remain a high priority despite headwinds and multitechnology auctions are expected to be the new trend in 2021. The competitiveness of renewables continues to improve.”*
13. Biofuels and Hydrogen seem to be two priorities for India and IOC. Pg 170. *“Biofuels have low carbon footprint, are an indigenous resource, and can be integrated with refinery production. Hence, in view of the climate change challenge, biofuels present themselves as a natural ally to liquid transportation fuels. Many oil and gas majors are investing in the biofuels business - biodiesel, ethanol, biogas, bio LNG, and integrating biofuels into refineries. The Company, in collaboration with the US-based LanzaTech, is setting up the world’s first refinery off gas-to-bioethanol production facility at Panipat”> “IndianOil is one of the first companies to recognise the potential of hydrogen as the ultimate green fuel and started its research in this area a decade-and-a-half-ago. Hydrogen has its advantages because it is a molecule and not an electron, thus becoming a more appropriate choice than other e-mobility options. India can be the driving force in green hydrogen production because of the variety of available resources, be it solar energy, wind energy or biomass.”*
14. CCS is crucial to IOC energy transition and needs “collaboration on a global scale”. Pg 172 *“The Company sees carbon capture, utilisation, and storage (CCUS) as crucial in its transition strategy.” “Carbon capture, utilisation and storage (CCUS) is an area that can bring in sizeable emission reduction from heavy energy-intensive industries like refineries. The Company is already into R&D in CCUS. It seeks collaboration on a global scale in pursuit of the commitment of the global community to the Paris goals.”*
15. The report is a massive file size so couldn’t attach.

Finally, Some Visibility That India Is Moving Towards Its Target For Natural Gas To Be 15% Of Its Energy Mix By 2030

Posted: Wednesday October 23, 2019. 3:45pm MT

It's taking longer than expected, but we are finally getting visibility that India is investing significantly towards its goal to have natural gas be 15% of its energy mix by 2030. Earlier in Oct, India Oil Minister Dharmendra Pradhan said that there are \$60 billion of natural gas infrastructure and LNG import terminals that are "under execution". He said "*I am not talking about potential investment. This number relates to the project that are under execution*". Natural gas consumption in India is only now back to 2011 levels at 5.6 bcf/d and represents only 6.2% of its energy mix. If India hits its 15% target of its energy mix by 2030, it would add natural gas demand, on average, of >1.5 bcf/d per year. At the same time India's domestic natural gas production peaked in 2010 at 4.6 bcf/d, but has been flat from 2014 thru 2018 at ~2.7 bcf/d, which means the big winner will be LNG. The most important factor driving this expectation for natural gas consumption growth is likely price. Asian LNG landed prices are down about 50% YoY and, more significantly, the expectation is for future Asian LNG prices to be at lower levels than prior cycles. India, by itself, may not be a LNG global game changer, but it is another positive support for why we believe LNG markets will rebalance sooner than expected ie. in 2022/2023. We see mid term Asian LNG landed prices lower than prior cycles in a rebalanced market (ie. +/- \$8), which means that low capital costs will be critical for future LNG projects. We believe that BC's LNG key potential projects (LNG Canada Phase 2 and Chevron Kitimat LNG) can compete in this price environment as they have the potential for brownfield capital costs if they move to a continuous construction cycle following in lockstep to LNG Canada Phase 1, much like Cheniere does for its LNG projects in the Gulf Coast.

India has a pollution crisis. We don't think it is unfair to say India has a pollution crisis. In every pollution ranking, India has several cities among the most polluted cities. The 2018 World Air Quality Report (AirVisual) list of the World's Most Polluted Cities 2018 has 20 of the world's 25 most polluted cities being in India. India has all of the top 25 most polluted cities other than #3 Faisalabad (Pakistan), #7 Hotan (China), #10 Lahore (Pakistan), #17 Dhaka (Bangladesh), and #19 Kashgar (China). Like us, many people have been to Beijing on business and believe Beijing's reputation as a very polluted city is deserved. But to put in perspective, Beijing's ranking isn't even close to the 15 most polluted cities in China, let alone the world. Beijing's score on their scale is 50.9 vs the other Chinese cities #7 in the world, Hotan at 116.0, and #19 Kashgar at 95.7, and the world's most polluted city #1 Gurugram (India) at 135.8 .

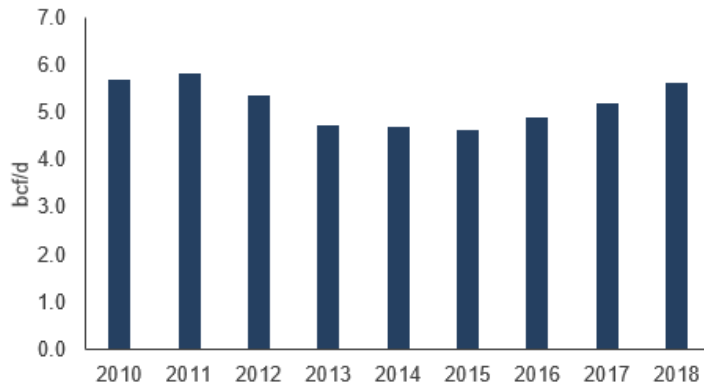
World's Most Polluted Cities 2018

Rank	City	Country	Rank	City	Country
1	Gurugram	India	14	Varanasi	India
2	Ghaziabad	India	15	Moradabad	India
3	Faisalabad	Pakistan	16	Agra	India
4	Faridabad	India	17	Dhaka	Bangladesh
5	Bhiwadi	India	18	Gaya	India
6	Noida	India	19	Kashgar	China
7	Patna	India	20	Jind	India
8	Hotan	China	21	Kanpur	India
9	Lucknow	India	22	Singrauli	India
10	Lahore	Pakistan	23	Kolkata	India
11	Delhi	India	24	Pali	India
12	Jodhpur	India	25	Rohtak	India
13	Muzaffarpur	India	26	Mandi Gobindgarh	India

Source: Airvisual

India natural gas consumption is only now back to 2011 levels. For the past couple years, we have been highlighting that the growth in India's natural gas consumption (and linked LNG imports) has been very low due to the slow buildout of domestic natural gas infrastructure and LNG import facilities. BP data shows India's natural gas consumption was 5.6 bcf/d in 2018, and this compares to its peak of 5.8 bcf/d in 2011. To put in perspective, China's natural gas consumption in 2011 was 13.1 bcf/d and reached 27.4 bcf/d in 2018.

India's Natural Gas Consumption (bcf/d)



Source: BP

Perhaps the best reason why there is better visibility – LNG prices are expected lower than prior cycles. A key reason for this lack of growth has been the price of LNG relative to coal. Our June 17, 2018 Energy Tidbits [LINK](#) highlighted comments from the Q&A from BP's Chief Economist speech "*Energy in 2017: two steps forward, one step back*" on this relative cost concept. We then wrote on the BP Chief Economist comments from an India company on why there isn't more natural gas and why coal is still going up. He said that the Indian executive said it was because the cost of natural gas was significantly more expensive than domestic coal and that the push in India is to get more power to more poorer people, but if natural gas is significantly higher, it can't be done, they have to rely on coal. What has happened since the BP Chief Economist June 2018 comment is that Asian LNG prices are down 50% and the expectation going forward is that future LNG prices are not expected to be at prior cycle highs. But the other question is what does it mean for LNG prices. There is an increasing supply of reasonable priced LNG around the world, whether it from Qatar, Papua New Guinea, the Gulf of Mexico and even Canada. And each of these areas has anchor projects to support future brownfield development. Couple that with increasing linkage of LNG prices away from oil indexed contracts, we believe this means that a balanced LNG market going forward is going to see sustained high Asian LNG prices from prior cycles, but around more costs related more to lower LNG supply basins ie. LNG prices around mid to long term +/- \$8 landed Asian LNG prices, and not the prior \$10 - \$12 range. As the BP Chief Economist highlights, price is a huge issue for India and it is likely that the expectation for lower LNG prices than prior cycles is the most important reason to push India to increased natural gas consumption.

Japan/Korea Marker (JKM) LNG Price



Source: Bloomberg

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India is now getting serious about increasing natural gas consumption, has \$60b of projects under execution. We follow the key India news as part of our weekly news scan for our Energy Tidbits memos and there is no question that the India government and its people realize they have to deal with this increasing pollution problem. And perhaps most of all, India is now taking specific, significant action to set the stage for increasing natural gas consumption and LNG imports. Earlier in Oct, Japan Times picked up a Reuters story “*India investing \$60 billion on gas grid to link up nation by 2024*” [\[LINK\]](#). The story notes “*India, one of the world’s largest consumers of oil and coal, is investing \$60 billion to build a national gas grid and import terminals by 2024 in a bid to cut its carbon emissions, the oil minister said on Sunday. India has struggled to boost its use of gas, which produces less greenhouse gas emissions than coal and oil, because many industries and towns are not linked to the gas pipeline network. Gas consumption growth was running at 11 percent in 2010 but growth slid to just 2.5 percent in the financial year 2018/19.*” The most significant part of this story is that this is \$60 billion of projects under execution, not planned or potential projects. The story quotes Oil Minister Dharmendra Pradhan “*I am not talking about potential investment. This number relates to the project that are under execution*”. The critical natural gas infrastructure requirement is a domestic natural gas pipeline network to deliver gas throughout India. The India Ministry of Petroleum & Natural Gas Oct 3, 2019 release [\[LINK\]](#) said “*On the issue of moving towards the gas economy, Shri Pradhan said that over 16,000 km of gas pipeline has been built and an additional 11,000 km is under construction. With the tenth bid round for City Gas Distribution completed, it will cover over 400 districts and will extend coverage to 70 percent of our population*”. Progress is being made. Plus LNG regasification projects continue to be completed. Below is our updated table of India LNG projects that are estimated to come on stream in 2019 and 2020. We haven’t included the projects beyond 2020, but there are several planned projects already on the books.

India Current/Planned LNG Regasification Projects Est. In Service In 2019/2020

	State	Coast	Operator	Capacity (mtpa)	Capacity (bcf/d)	Expected Timelines
Existing Terminals						
Dahej	Gujarat	West	Petronet LNG	10.00	1.32	Operating
Dahej Phase 2	Gujarat	West	Petronet LNG	5.00	0.66	Operating
Hazira	Gujarat	West	Shell	5.00	0.66	Operating
Dabhol RGPPL	Maharashtra	West	GAIL & NTPC JV	5.00	0.66	Operating
Kochi	Kerala	West	Petronet LNG	5.00	0.66	Operating
Ennore Phase 1	Tamil Nadu	East	IOCL	5.00	0.66	Operating
<i>Total Existing</i>				35.00	4.61	
Upcoming Terminals						
Mundra	Gujarat	West	Adani & GSPC	5.00	0.66	2019
Jaigarh	Maharashtra	West	H-Energy Gateway Pvt. Limited	4.00	0.53	2019
Dahej Phase 3	Gujarat	West	PLL	2.50	0.33	2019
Mundra	Gujarat	West	Adani	5.00	0.66	2020
Digha FSRU	Odisha	East	H-Energy	4.00	0.53	2020
Ennore Phase 2	Tamil Nadu	East	IOCL	1.75	0.23	2020
Jafrabad	Gujarat	West	Swan Energy	5.00	0.66	2020
<i>Total Upcoming</i>				27.25	3.59	

Source: Bloomberg, Company Reports, Street Reports

It reminds us of when China got really serious about natural gas in 2018. We should be clear that we do not consider India anywhere near as significant to global LNG markets as China. But conceptually, India getting serious about increasing natural gas consumption reminds us of what we were seeing in China in 2016/2017. India is probably more like China in 2016 as opposed to the summer of 2017, when it seemed clear that China was on the cusp of a major push in natural gas consumption and LNG would be the winner in 2018. India’s impact should start to play out by year end 2020 as opposed to this winter. We first outlined the China LNG thesis in our Sept 20, 2017 blog “*China’s Plan To Increase Natural Gas To 10% Of Its Energy Mix Is A Global Game Changer Including For BC LNG*” [\[LINK\]](#). Our Sept 20, 2017 blog wrote “*The news flow from China this summer on its increasing fight and urgency to fight pollution supports China’s plan to increase natural gas to 10% of its energy mix in 2020 and 15% of its energy mix in 2030. This is a game changer to global natural gas markets and, by itself, can bring LNG to undersupply 2 to 3 years earlier than expected. China’s natural gas consumption increased by ~15% per year from 2005 thru 2016 and ~1.5 bcf/d per year vs China’s 8.5%*”

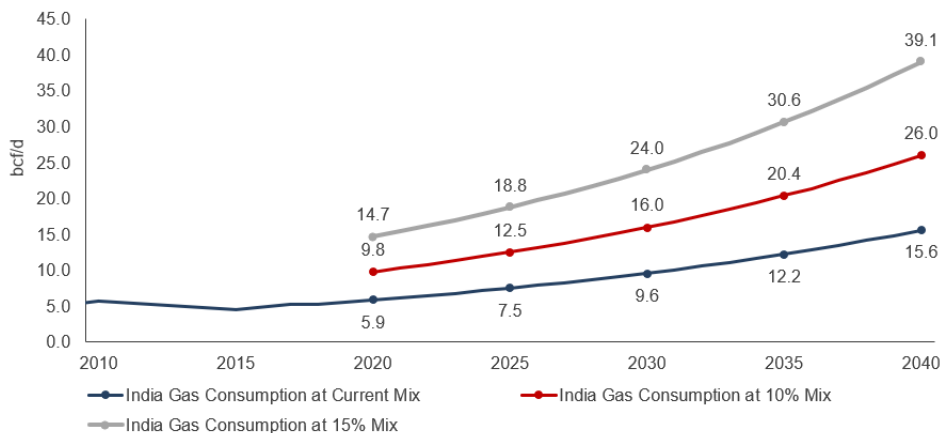
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growth rate in energy in total. Yet natural gas only got to 5.9% of China's energy mix. If China is to hit 10% by 2020, it will need to increase natural gas consumption by 4 to 5 bcf/d per year. Assuming China continues to grow its domestic natural gas production by 0.6 bcf/d per year (its growth rate for last five years), China will need to import an additional ~3.5 to ~4.5 bcf/d per year. This is "per year"! And if so, we believe BC LNG will be back and there is a higher probability than ever before for a Shell FID on its BC LNG project in 2018." As it turned out, Shell did FID its LNG Canada project on Oct 1, 2018.

Natural gas is only 6.2% of India's energy mix vs its target of 15% in 2030. India, similar to China, has a target to have natural gas to be 15% of its total energy mix by 2030. This is not a new target, rather it has been in place and we first highlighted India's 15% target of its energy mix in our Nov 23, 2018 blog "[India's Natural Gas Consumption Would Be Up ~1.3 Bcf/D Per Year If Its To Reach Its Target Of 15% Of Its Energy Mix By 2030](#)" [LINK](#) At that time, we noted some specific steps that were happening in 2019 and 2020 to put them on that long term plan. The impact to get to 15% of energy mix is significant to world LNG markets. This is a big increase from natural gas being 6.2% of India's energy mix in 2018. To put in perspective, in 2018, natural gas was 30.5% of US energy mix, 21.9% of Japan's energy mix, 16.0% of South Korea's energy mix, and 7.4% of China's energy. Note, China is up from 6.6% in 2017.

Hitting 15% of its energy mix would increase India's natural gas consumption by >1.5 bcf/d per year. We projected how much India's natural gas consumption would increase if it can hit its target of 15% of total energy mix in 2030. BP data shows India's natural gas consumption in 2018 was 5.6 bcf/d and natural gas was only 6.2% of total energy mix. BP also estimates India's total energy consumption grew at a rate of 5.2% per year for the 2007 – 2017 period, but energy consumption growth increased to +7.9% in 2018 YoY vs 2017. But if we only assume a 5% growth in total energy mix to 2030, then if natural gas is 15% of India's energy mix, it would be 18.8 bcf/d in 2025 and 24.0 bcf/d in 2030 ie. growth of +13.2 bcf/d to 2025 and +18.4 bcf/d to 2030. India's domestic natural gas production peaked in 2010 at 4.6 bcf/d, but has been flat from 2014 thru 2018 at +/- 2.7 bcf/d. We expect there to be some increased focus to at least return India to modest domestic natural gas production. But, until then, any growth in natural gas consumption will be met with LNG. Our model forecasts of >1.5 bcf/d per year, on average, in consumption is the equivalent of 2.5 Cheniere LNG trains per year.

India's Projected Natural Gas Consumption @15% Of Energy Mix (bcf/d)



Source: BP, SAF

India may not be a LNG global game changer by itself like China, but does support the call that LNG markets rebalance sooner than expected. We had our SAF Group 2020 Energy Market Outlook on Monday Oct 7. A replay of the call and the supporting slide presentation are available on our website at [LINK](#). Two of our key off consensus calls were on LNG including our view LNG market would balance earlier than expected ie. 2022/2023. We noted that we agree with markets that LNG will be oversupplied thru 2021, but where we disagree is that we see LNG markets balancing in 2022 or 2023. Our presentation reminded that LNG supply capacity needs to be in excess of demand to provide for turnarounds and

allowance such that suppliers can deliver contract volumes. We also expect the required over capacity of supply is increasing as contract mix shifts away from historical oil indexed take or pay contracts with destination clauses to an increase share of portfolio contracts. There is no firm number, but we believe the required excess supply capacity relative to demand has increased from approx. 5% to 10% to +/-15% ie. LNG markets are effectively balanced when LNG supply capacity is >10% of demand. As a result, we believe that LNG markets rebalance in 2022/2023, a view which is similar to Total's Sept 25, 2019 Investor Day [\[LINK\]](#) (see below graphs). We should note that our view of balanced LNG markets doesn't mean a return to \$12 or more Asian landed LNG prices, rather, we see the emergence of anchor LNG projects in areas with brownfield expansion potential means that a planning case for mid term Asian LNG price is in the \$8 range. Our outlook presentation also includes our view that BC's LNG key potential projects (LNG Canada Phase 2 and Chevron Kitimat LNG) can compete in this price environment as they have the potential for brownfield capital costs if they move to a continuous construction cycle following in lockstep to LNG Canada Phase 1, much like Cheniere does for its LNG projects in the Gulf Coast. Our outlook call did not specifically work in the India Energy Minister's comment on in execution projects, but, if anything, it provides us with more confidence for the call for LNG markets to rebalance in 2022/2023.

Total's Medium And Long Term LNG Supply & Demand

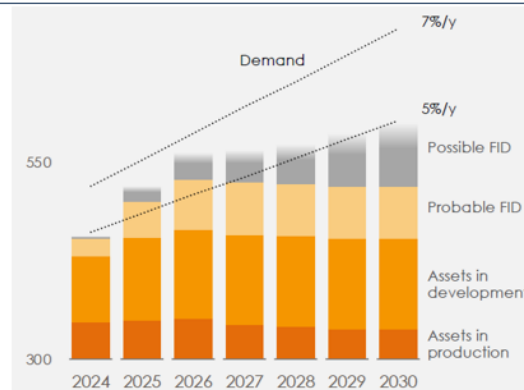
Medium Term LNG Supply & Demand



Source: Total

Source: Total Sept 25, 2019 Investor Day

Long Term LNG Supply & Demand



Source: Total

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Appellate Court Remands Brownsville Channel LNG Orders to FERC

August 03, 2021

The U.S. Court of Appeals for the D.C. Circuit today remanded to FERC the Commission's November 2019 [approval](#) of two liquefied natural gas (LNG) terminals and associated pipeline facilities in the Brownsville Channel—the Rio Grande LNG and Texas LNG projects.

In today's decision, the court agreed with local organizations that the Commission's analyses of the projects' climate change and environmental justice community impacts were deficient under the National Environmental Policy Act and the Administrative Procedures Act, and that FERC had not adequately justified its finding that the projects are in the public interest under the Natural Gas Act.

FERC Chairman Richard Glick said today's court decision reaffirms the urgency behind his push for the Commission to adequately consider the effects of its decisions on climate change and the impacts of building these projects in environmental justice communities.

"As I said in my dissents when FERC approved these projects nearly two years ago, neither the Natural Gas Act nor the National Environmental Policy Act permit FERC to assume away the impacts of building and operating any natural gas facilities," Chairman Glick said. **"This decision clearly demonstrates that the Commission has the authority and obligation to meaningfully analyze and consider the impacts from GHG emissions and impacts to Environmental Justice communities. Moreover, failure to do so puts the Commission's decisions – and the investments made in reliance on those decisions – in legal peril."**

Chairman Glick reiterated his commitment to revisiting these issues through the Commission's natural gas pipeline Certificate Policy Statement that is currently pending before the Commission.

"I look forward to continuing to work on these issues with my colleagues with the hope that we can expeditiously update the Commission's Policy Statement applicable to the consideration of proposed gas infrastructure projects," he said.

RM21-50

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BP Follows Big Oil Peers by Increasing Buybacks and Dividend (3)

2021-08-03 07:03:20.778 GMT

By Laura Hurst and Javier Blas

(Bloomberg) -- BP Plc followed its Big Oil peers by increasing dividends and share buybacks as higher crude prices boosted profit.

The oil majors -- with the notable exception of Exxon Mobil Corp. -- are raising returns as they express confidence that the worst of the slump caused by the coronavirus pandemic is over.

Their goal is to woo investors who are becoming increasingly wary about the future of the fossil fuels in a changing climate.

BP will increase its dividend by 4% to 5.46 cents a share and buy back \$1.4 billion of stock in the third quarter, said Chief Executive Officer Bernard Looney. "What you're seeing around the dividend is really a story of confidence," Looney said in a Bloomberg television interview on Tuesday. "Confidence in the underlying performance of the business, confidence in the balance sheet."

Shares of the company rose 2.2% to 296.2 pence as of 8:02 a.m. in London. If oil averages about \$60 a barrel, BP expects to be able to continue increasing its dividend by about 4% annually and repurchase \$1 billion of shares each quarter until 2025, Looney said.

That would lift total shareholder returns to about 10%, at the top end of its peer group, RBC Capital Markets analyst Biraj Borkhataria said in a note. It would still leave dividends well below the pre-pandemic level of 10.5 cents a share, according to Bloomberg calculations.

Looney's pledges that go further than the distributions policy BP outlined earlier this year. The turnaround reflects the impact of higher energy prices, but also demands from shareholders, who weren't happy in early 2021 with the company's plans.

"Twelve months on from when we laid out our strategy, of course the world's in a very different place," Looney said.

"Global GDP is now back to pre-pandemic levels, the vaccines clearly are working" and people are traveling more.

The London-based company's second-quarter adjusted net income was \$2.8 billion, compared with a loss of \$6.68 billion a year earlier, according to the statement. That was above the average estimate of \$2.13 billion in a Bloomberg poll of 19 analysts.

Higher shareholder returns show the oil majors' confidence that higher oil and gas prices are here to stay. BP increased its Brent crude price assumptions to 2030 to reflect expected supply constraints, resulting in the reversal of a previous pretax net impairment of \$3 billion.

Having achieved its net debt target of \$35 billion in the first quarter, BP's net liabilities dropped further in the period to \$32.71 billion, thanks to the sale of assets. The firm has a goal of reaching \$25 billion of divestments by 2025 to fund the expansion of its low-carbon business.

--With assistance from Christopher Sell and Anna Edwards.

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To view this story in Bloomberg click here:

<https://blinks.bloomberg.com/news/stories/QX94C5DWRGG0>

Atlantic hurricane season shows no signs of slowing

August 4, 2021

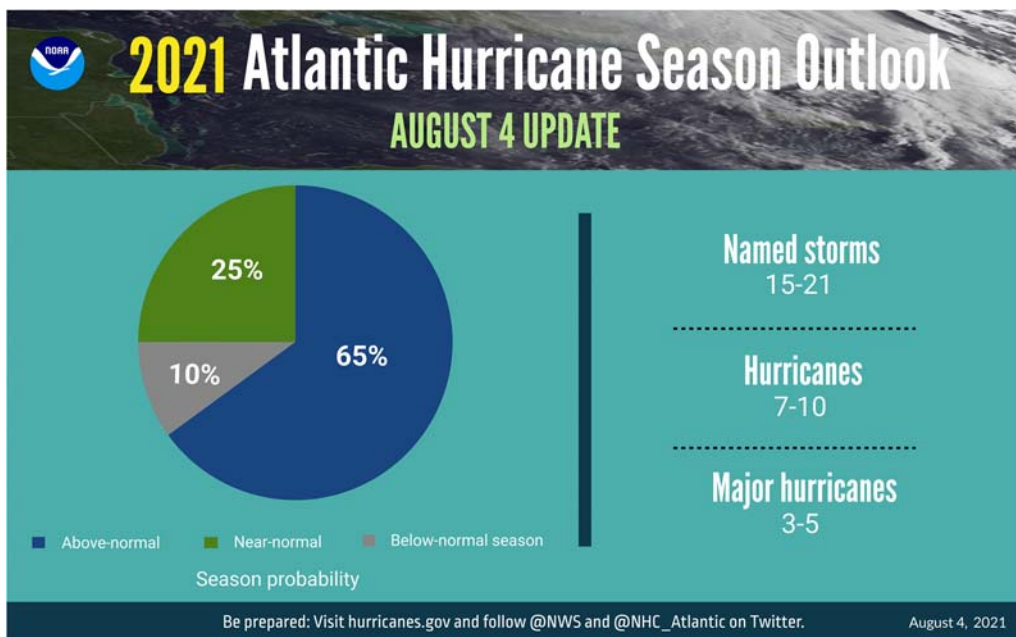


NOAA GOES-East satellite image of Hurricane Elsa as it moves up Florida's west coast on July 6, 2021. (NOAA)

[Transcript \(PDF\): August 4 virtual media briefing on NOAA's 2021 Atlantic Hurricane Season Outlook Update](#)

The 2021 Atlantic hurricane season is well underway, and atmospheric and oceanic conditions **remain conducive for an above-average hurricane season**, according to the annual mid-season update issued by NOAA's [Climate Prediction Center](#), a division of the National Weather Service.

The latest outlook reflects that the number of expected named storms (winds of 39 mph or greater) is 15-21, including 7-10 hurricanes (winds of 74 mph or greater), of which 3-5 could become major hurricanes (Category 3, 4, or 5 with winds 111 mph or greater). This updated outlook includes the 5 named storms that have formed so far, with Hurricane Elsa becoming the earliest 5th named storm on record.



The updated 2021 Atlantic hurricane season probability and numbers of named storms. (NOAA)

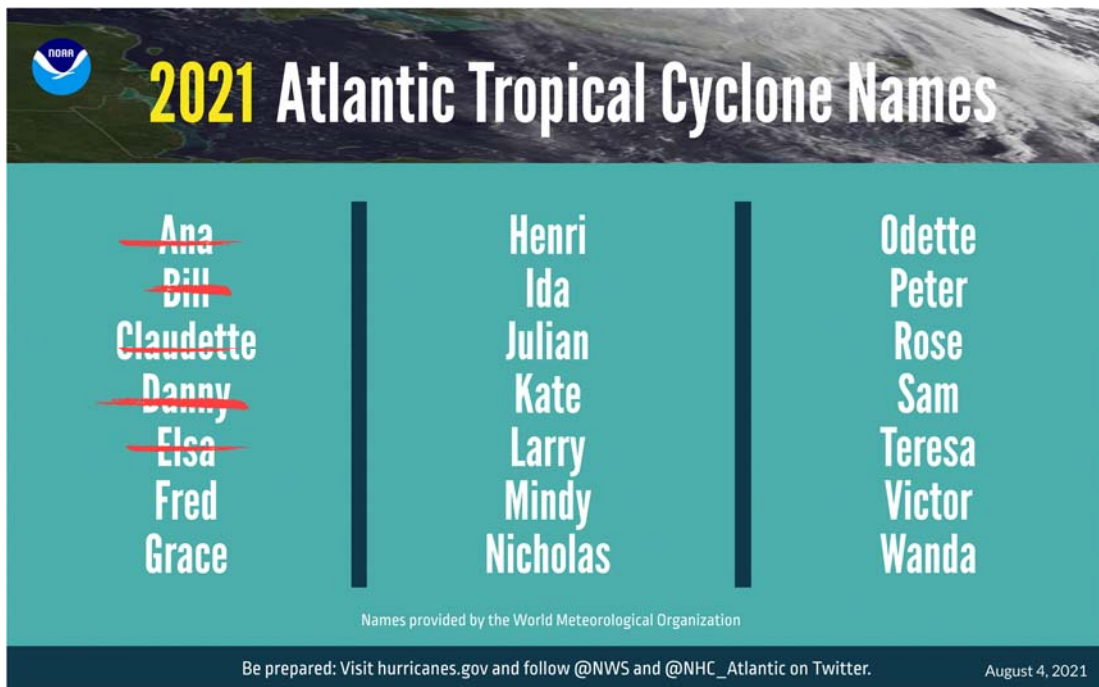
[Download Image](#)

“After a record-setting start, the 2021 Atlantic hurricane season does not show any signs of relenting as it enters the peak months ahead,” said Rick Spinrad, Ph.D., NOAA administrator. “NOAA will continue to provide the science and services that are foundational to keeping communities prepared for any threatening storm.”

NOAA scientists predict that the likelihood of an above-normal 2021 Atlantic hurricane season is 65%. There is a 25% chance of a near-normal season and a 10% chance of a below-normal season.

“A mix of competing oceanic and atmospheric conditions generally favor above-average activity for the remainder of the Atlantic hurricane season, including the potential return of La Nina in the months ahead,” said Matthew Rosenkrans, lead seasonal hurricane forecaster at NOAA’s Climate Prediction Center.

Atlantic sea surface temperatures are not expected to be as warm as they were during the record-breaking 2020 season; however, reduced vertical wind shear and an enhanced west Africa monsoon all contribute to the current conditions that can increase seasonal hurricane activity. These conditions are set against the backdrop of the ongoing warm phase of the Atlantic Multi-Decadal Oscillation, which has been favoring more active hurricane seasons since 1995.



The 2021 Atlantic tropical cyclone names selected by the World Meteorological Organization. (NOAA)

[Download Image](#)

“Now is the time for families and communities to ensure their preparations are in place,” said National Weather Service Director Louis W. Uccellini, Ph.D. “These storms can be devastating, so be prepared for all possible outcomes by staying tuned to the forecast and following safety information and possible evacuation notifications issued by emergency officials.”

NOAA’s update to the 2021 outlook covers the entire six-month hurricane season, which ends Nov. 30. Throughout the hurricane season, NOAA’s [National Hurricane Center](#) (NHC) provides the hurricane track and intensity forecasts that emergency managers and communities rely on across areas at risk during a landfalling storm. NHC is the source for all watches and warnings for tropical storms, hurricanes, and related storm surge.

The seasonal outlook from NOAA is not a landfall forecast as landfalls are typically only predictable within about a week of a storm potentially reaching a coastline.

Learn more about NOAA's comprehensive expertise across all aspects of hurricane science and forecasting with our [Hurricane Resource Guide on NOAA.gov](#). Visit FEMA's [Ready.gov](#) for the latest information about hurricane preparedness and evacuation safety.

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WATER & DROUGHT

California drought squeezes power supplies: Hydro plant at Lake Oroville shuts down

BY DALE KASLER

UPDATED AUGUST 05, 2021 05:15 PM



A car crosses Enterprise Bridge over Lake Oroville's dry banks Sunday, May 23, 2021, in Oroville. At the time of this photo, the reservoir was at 39% of capacity and 46% of its historical average. NOAH BERGER AP

The giant hydropower plant at Lake Oroville shut down in a historic first Thursday because of the drought, [putting another dent](#) in California's defense against rolling blackouts.

The state Department of Water Resources said the Hyatt Powerplant, a fixture at Lake Oroville since the reservoir was built in the late 1960s, has been taken down because of low water levels.

"This is the first time Hyatt Powerplant has gone offline as a result of low lake levels," said Karla Nemeth, the agency director, in a prepared statement.

The plant has the capacity to generate up to 750 megawatts of electricity, enough power for about a half-million households, although it typically produces about 400 megawatts.

The shutdown at Hyatt has been anticipated for months as the drought worsened. All told, managers of California's power grid are struggling with the loss of roughly [1,000 megawatts of](#) hydropower as reservoir levels plunge.

Lake Oroville is just one-quarter full, which is [well below normal for early August](#).

“DWR anticipated this moment, and the state has planned for its loss in both water and grid management,” Nemeth said. Typically the state gets about 15% of its power from hydro.

The Independent System Operator, which runs the state’s electricity grid, has been working furiously to avoid a repeat of last August’s [two nights of rolling blackouts](#).

The state has had several close calls this summer but so far has been able to keep the lights on. The Independent System Operator has appealed to generators and trading companies to supply the state with more power.

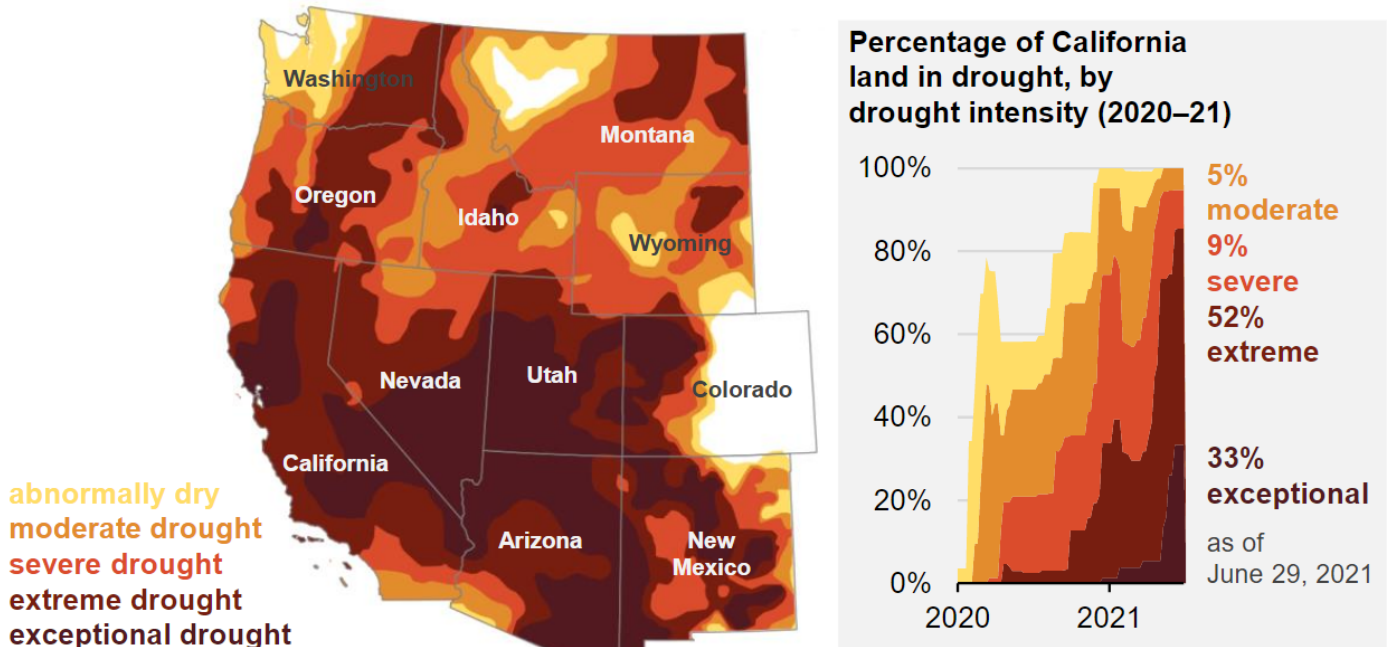
And in late July, Gov. Gavin Newsom’s administration announced a [cash-for-conservation](#) program, aimed at large industrial customers, that would compensate them for reductions in energy usage during crunch times.

JULY 7, 2021

California's hydroelectric generation affected by historic drought



Western U.S. drought conditions (as of June 29, 2021)



Source: U.S. Energy Information Administration, based on [U.S. Drought Monitor](#)

Most of the western United States is experiencing intense and historic drought conditions. California is one of the most severely affected states. As of June 22, 2021, [100% of the state is experiencing some degree of drought](#). About 33% of the state has been categorized under *exceptional drought*, the most intense drought classification. The drought conditions have affected California's water supply levels and hydropower plants.

Drought conditions include below-normal precipitation and snowpack accumulation, very dry soil, and higher-than-normal temperatures. These factors lower the water supply available in the summer months.

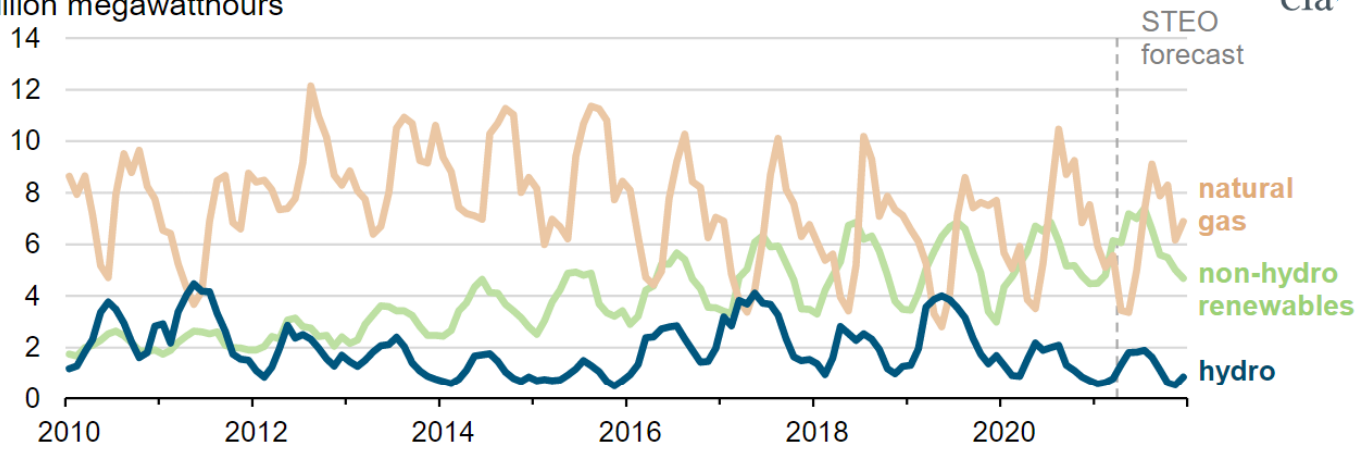
Mountain snowpack serves as a natural reservoir, providing water throughout the spring and summer as it melts. However, the California [snowpack was well below normal](#) this year, and most of it melted quickly because of higher spring temperatures. Measurable snow was [present at only 3 of 131 monitoring stations](#) on June 1.

Meltwater from the snowpack often didn't reach reservoirs in California this year because it was absorbed by drought-parched soil and streams, leaving reservoirs across the state at low levels. Shasta Lake, the largest reservoir in California, is at [48% of its average capacity](#). Lake Oroville, the second-largest reservoir in the state, is at [40% of its average capacity](#). Lake Oroville's water level is expected to fall even lower, which will likely force the [Edward Hyatt Power Plant to shut down](#) for the first time since it opened in 1967.

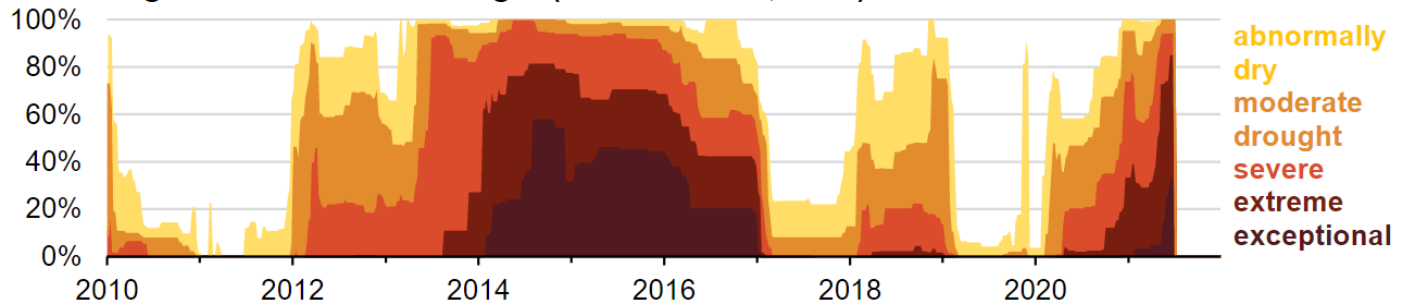
Low water supply can affect hydroelectric generation. California's [previous drought](#), which lasted from 2012 to 2016, led to [significant declines in hydroelectric generation](#) and the state's first-ever mandatory water restrictions in 2015. As drought conditions eased, hydropower conditions improved.

California monthly electricity generation, by select fuel (2010–2021)

million megawatthours



Percentage of California in drought (2010–June 29, 2021)



Source: U.S. Energy Information Administration, [Short-Term Energy Outlook \(STEO\)](#); [U.S. Drought Monitor](#)

However, as a result of this year's harsh drought conditions, we expect hydroelectric generation in California to be lower in 2021 than it has been in recent years. In the first four months of 2021, hydroelectric generation in California was 37% less than in the same four months in 2020 and 71% less than during those months in 2019. According to our [Short-Term Energy Outlook](#), hydroelectric generation in California this year will be 19% less than last year, decreasing from 16.8 million megawatthours (MWh) in 2020 to 13.6 million MWh in 2021.

Principal contributor: Lindsay Aramayo

Tags: [generation](#), [weather](#), [hydroelectric](#), [California](#), [states](#), [map](#)

Electrification is a firmly entrenched trend

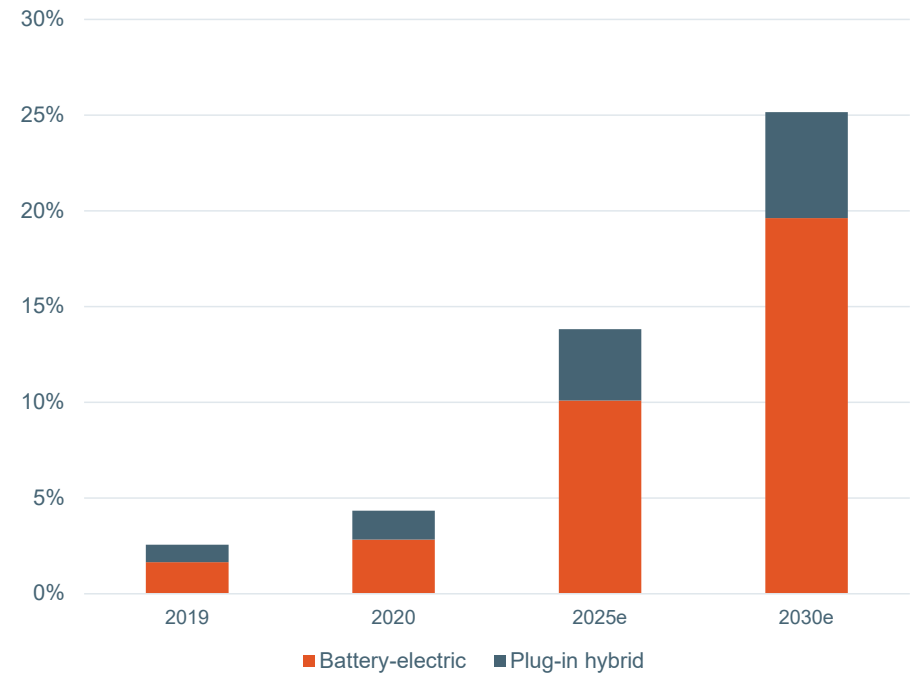
1 in 4 light-duty vehicles sold in 2030 will be electric

- 2020 was an inflection point for EVs – 3.2m units sold globally, up 44% from 2.2m units in 2019 and representing 4.3% of all light-duty vehicle (LDV) sales
- EVs are expected to make a quarter of all LDV sales globally by 2030, with leaders like Europe seeing penetration rates in excess of 40%
- Sales are being driven by increasing number of EV models on the market, policy support from governments, expanding charging infrastructure and shifting consumer preferences

Note: EV - Electric Vehicles

Eddy Haegel, Asset President Nickel West
3 August 2021

Global Light Duty Vehicle (LDV) sales: EV penetration rate (EV light vehicle sales, per cent)



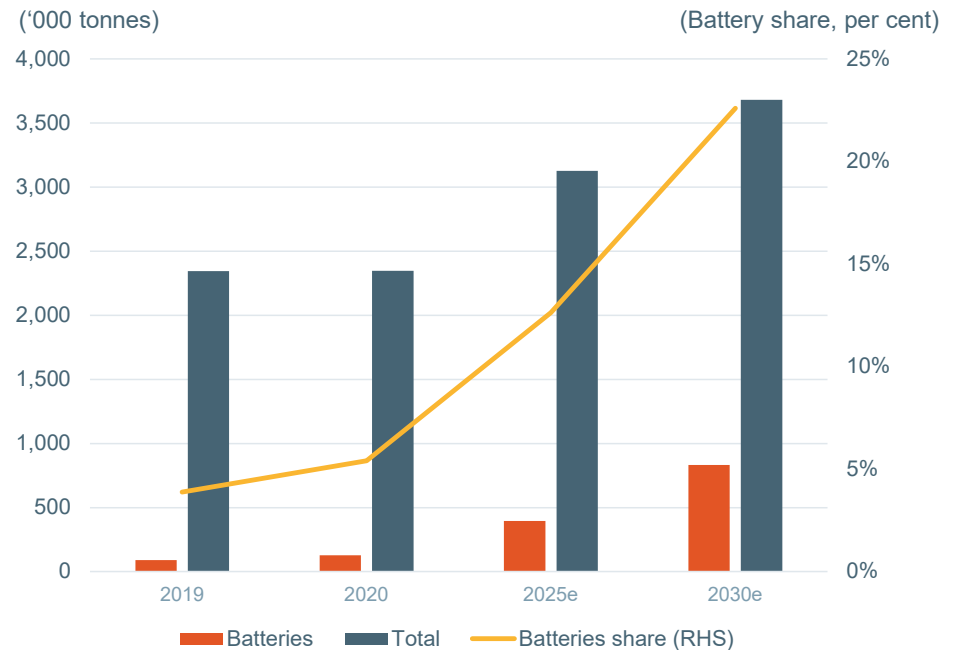
Source: BHP analysis

Nickel demand from batteries to grow

We anticipate demand for nickel-in-batteries will grow by over 500% in the next decade

- Primary nickel demand expected to grow by 1,300 kt in the next decade
- Today, Nickel makes up ~80% of metals in lithium-ion battery cathodes like NMC811
- Primary nickel demand from batteries expected to rise by ~700 kt in the next decade
- Lithium iron phosphate (LFP) batteries expected to take market share in the small car segment, especially in China - but they have limited performance and range compared to nickel-based cathodes

Global primary nickel demand and battery demand



Compound Annual Growth Rate (CAGR), 2020-2030

~21% (Batteries) ~5% (Total)

Nickel West sales to the battery segment reach 85%

Our transition to the electric vehicle supply chain is almost complete

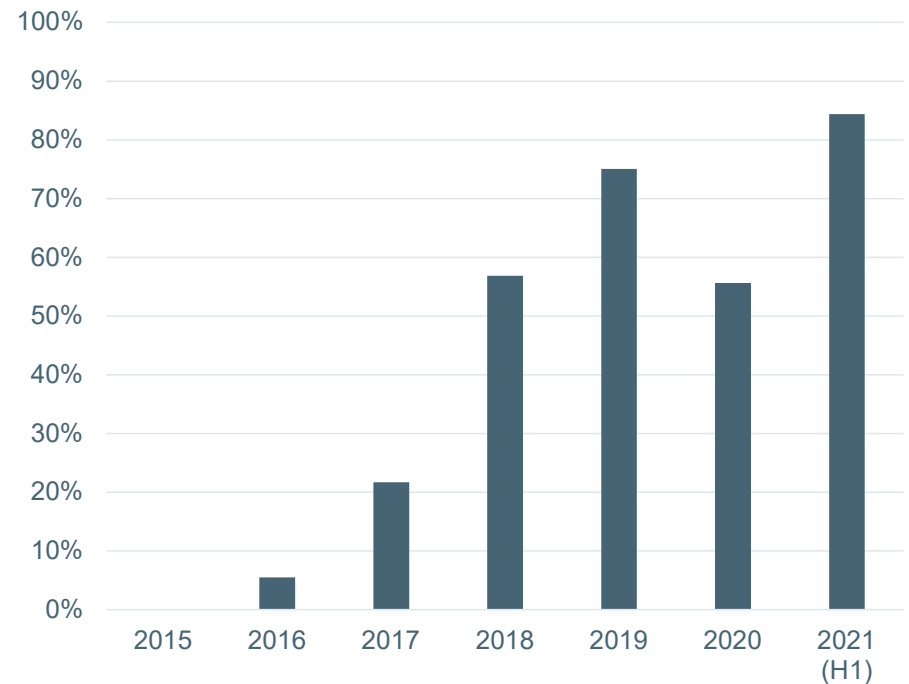
Future facing commodities like nickel are critical for the energy transition

- We now sell 85% of our nickel metal to the electric vehicle supply chain - precursor, cathode active material, battery producers and OEMs
- Expect increasing sales to the battery segment in the coming years as demand for EVs grow in Asia, Europe and North America
- The continued growth in battery demand supports our ambition to be world's leading supplier of battery grade nickel

Customers around the world are focused on improving sustainability in the battery chain

- We are working with key end users across the supply chain that not only value our product, but also share our commitment to sustainability and supply chain transparency

Battery segment exposure (Nickel metal sold, per cent)



Source: BHP

Electricity Generation*

Terawatt-hours													Growth rate per annum		Share
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2009-19	2020
Total North America	5088.1	5276.8	5293.8	5243.5	5283.1	5314.2	5318.4	5331.1	5287.7	5452.5	5382.4	5243.6	-2.8%	0.6%	19.5%
Total S. & Cent. America	1083.0	1140.5	1181.1	1231.4	1267.6	1287.3	1296.6	1305.6	1306.8	1330.9	1339.0	1282.8	-4.5%	2.1%	4.8%
Total Europe	3894.7	4065.8	4019.4	4053.1	4022.2	3939.2	3982.7	4021.4	4061.3	4065.5	3992.1	3871.3	-3.3%	0.2%	14.4%
Total CIS	1226.2	1284.0	1308.5	1330.4	1323.7	1337.9	1340.9	1369.3	1383.0	1416.4	1428.8	1397.1	-2.5%	1.5%	5.2%
Total Middle East	807.9	873.7	889.7	948.6	982.4	1051.4	1109.7	1143.7	1190.5	1207.4	1253.6	1265.2	0.6%	4.5%	4.7%
Total Africa	627.5	672.3	689.4	721.1	744.0	767.9	788.4	796.5	824.8	847.2	863.4	843.9	-2.5%	3.2%	3.1%
Total Asia Pacific	7537.5	8257.7	8875.1	9278.1	9812.3	10333.7	10433.9	10947.6	11569.8	12339.3	12741.6	12919.3	1.1%	5.4%	48.2%
Total World	20264.9	21570.7	22257.0	22806.3	23435.2	24031.7	24270.5	24915.2	25623.9	26659.1	27001.0	26823.2	-0.9%	2.9%	100.0%
of which: OECD	10640.3	11062.8	11014.3	11023.7	11015.6	10956.6	11005.0	11082.8	11119.5	11312.8	11168.4	10880.8	-2.8%	0.5%	40.6%
Non-OECD	9624.6	10507.9	11242.7	11782.6	12419.7	13075.2	13265.5	13832.4	14504.4	15346.4	15832.5	15942.4	0.4%	5.1%	59.4%
European Union #	2847.6	2982.6	2931.3	2932.3	2912.9	2851.1	2899.1	2920.1	2952.4	2937.5	2892.5	2770.6	-4.5%	0.2%	10.3%

Source: bp Statistical Review of World Energy 2021

Electricity generation from coal*

Terawatt-hours													Growth rate per annum		Share
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2009-19	2020
Total North America	2011.4	2114.9	1987.7	1742.5	1814.3	1813.7	1564.2	1442.9	1401.0	1330.1	1131.7	898.6	-20.8%	-5.6%	9.5%
Total S. & Cent. America	39.3	44.3	48.6	56.9	72.7	75.1	75.1	77.9	70.0	70.4	74.4	76.4	2.5%	6.6%	0.8%
Total Europe	1004.3	1016.1	1062.4	1113.0	1085.3	1013.2	989.7	921.7	887.8	852.4	689.5	574.8	-16.9%	-3.7%	6.1%
Total CIS	225.4	235.0	237.7	239.9	235.6	230.4	227.1	236.1	246.4	255.6	254.9	229.4	-10.2%	1.2%	2.4%
Total Middle East	34.7	34.6	35.6	39.2	32.6	30.7	29.7	24.7	22.7	21.3	22.6	19.7	-13.3%	-4.2%	0.2%
Total Africa	247.7	257.3	260.0	255.5	251.4	251.9	247.0	246.9	252.1	258.8	255.7	236.0	-7.9%	0.3%	2.5%
Total Asia Pacific	4552.6	4932.2	5444.2	5660.7	6085.2	6337.5	6269.6	6472.3	6836.4	7308.1	7397.4	7386.4	-0.4%	5.0%	78.4%
Total World	8115.4	8634.5	9076.2	9107.7	9577.1	9752.4	9402.4	9422.4	9716.2	10096.7	9826.2	9421.4	-4.4%	1.9%	100.0%
of which: OECD	3616.9	3733.0	3602.0	3465.2	3534.8	3466.3	3208.1	2993.0	2938.0	2828.7	2450.2	2067.8	-15.8%	-3.8%	21.9%
Non-OECD	4498.6	4901.5	5474.2	5642.5	6042.3	6286.1	6194.3	6429.4	6778.2	7268.0	7376.0	7353.6	-0.6%	5.1%	78.1%
European Union #	733.3	738.5	761.2	773.3	759.4	722.4	732.5	688.2	669.0	625.7	475.1	373.4	-21.6%	-4.2%	4.0%

Source: bp Statistical Review of World Energy 2021

Nuclear: Generation*

Terawatt-hours													Growth rate per annum		Share
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2009-19	2020
Total North America	940.9	945.3	934.8	912.8	945.1	955.3	951.8	959.4	958.8	959.3	963.9	940.4	-2.7%	0.2%	34.8%
Total S. & Cent. America	21.1	21.7	22.1	22.4	21.7	20.9	21.8	24.1	21.8	22.5	24.6	26.0	5.4%	1.5%	1.0%
Total Europe	1004.7	1032.0	1024.2	998.4	986.5	992.7	968.3	942.2	936.1	936.1	930.0	837.4	-10.2%	-0.8%	31.0%
Total CIS	166.1	172.9	175.5	179.8	174.9	183.2	198.3	199.0	205.8	206.7	211.2	218.0	3.0%	2.4%	8.1%
Total Middle East	-	-	0.1	1.5	4.3	4.1	3.5	6.5	7.0	6.9	6.4	8.0	23.7%	n/a	0.3%
Total Africa	12.8	13.5	12.9	13.0	14.1	13.8	12.2	15.0	14.2	11.6	13.6	15.6	14.1%	0.6%	0.6%
Total Asia Pacific	553.4	582.9	483.1	342.9	344.1	371.4	419.7	467.7	493.6	553.6	646.9	654.8	0.9%	1.6%	24.3%
Total World	2699.0	2768.5	2652.7	2470.8	2490.5	2541.4	2575.6	2613.9	2637.2	2696.6	2796.6	2700.1	-3.7%	0.4%	100.0%
of which: OECD	2258.0	2302.3	2158.3	1962.1	1975.9	1988.5	1974.7	1973.2	1959.8	1966.0	1994.6	1876.7	-6.2%	-1.2%	69.5%
Non-OECD	440.9	466.2	494.3	508.7	514.6	552.9	600.9	640.7	677.4	730.6	802.0	823.4	2.4%	6.2%	30.5%
European Union #	825.2	854.2	838.0	812.2	806.5	812.8	787.0	768.2	759.7	762.2	765.5	687.9	-10.4%	-0.7%	25.5%

Source: bp Statistical Review of World Energy 2021

Renewables: Renewable power generation*

Terawatt-hours													Growth rate per annum		Share
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2009-19	2020
Total North America	173.7	201.7	231.9	261.9	301.5	335.3	372.2	431.9	479.3	525.0	563.1	642.1	13.3%	11.8%	20.4%
Total S. & Cent. America	39.1	50.9	54.0	64.1	73.8	88.6	107.1	126.4	142.6	159.4	181.4	192.9	5.7%	15.9%	6.1%
Total Europe	270.3	313.6	379.5	449.9	509.2	549.7	627.5	640.2	719.7	759.9	840.0	921.0	8.9%	11.4%	29.3%
Total CIS	0.6	0.6	0.7	0.6	0.7	1.0	1.4	1.8	2.1	2.5	3.8	8.1	112.2%	20.2%	0.3%
Total Middle East	0.3	0.4	0.7	0.9	1.1	1.8	2.4	3.8	5.0	7.7	13.8	18.6	34.3%	44.6%	0.6%
Total Africa	5.2	6.3	6.9	7.6	8.8	12.5	19.7	23.6	27.0	31.2	38.0	42.3	10.5%	21.2%	1.3%
Total Asia Pacific	146.5	187.6	234.5	282.9	350.4	425.2	504.0	623.6	804.3	992.9	1149.2	1322.0	14.3%	22.2%	42.0%
Total World	635.8	761.2	908.2	1067.9	1245.5	1414.0	1634.4	1851.3	2180.2	2478.6	2789.2	3147.0	12.1%	15.3%	100.0%
of which: OECD	491.0	569.3	672.8	778.7	886.7	977.4	1113.9	1197.9	1347.8	1456.6	1599.3	1788.6	11.1%	11.9%	56.8%
Non-OECD	144.7	191.9	235.4	289.2	358.8	436.6	520.5	653.4	832.4	1022.0	1189.9	1358.4	13.4%	22.7%	43.2%
European Union #	240.8	279.7	336.0	396.7	439.7	466.8	521.3	527.0	583.2	599.9	658.5	710.4	7.2%	9.9%	22.6%

Source: bp Statistical Review of World Energy 2021

Electricity generation from gas*

Terawatt-hours													Growth rate per annum		Share
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2009-19	2020
Total North America	1172.5	1257.1	1302.4	1533.4	1433.6	1448.0	1688.7	1737.8	1645.6	1849.2	1962.4	1992.4	1.3%	5.3%	31.8%
Total S. & Cent. America	139.8	177.0	166.7	204.1	231.3	247.9	261.5	250.5	251.6	244.6	246.6	233.5	-5.6%	5.8%	3.7%
Total Europe	847.5	886.1	832.0	710.4	635.4	597.4	612.3	716.7	788.3	732.9	774.2	759.1	-2.2%	-0.9%	12.1%
Total CIS	587.2	642.1	647.7	661.7	668.5	684.2	679.9	675.3	673.9	693.8	692.3	657.9	-5.2%	1.7%	10.5%
Total Middle East	469.5	529.4	504.5	534.4	548.4	634.7	692.6	750.5	815.4	799.2	813.7	836.1	2.5%	5.7%	13.3%
Total Africa	189.9	216.7	234.6	258.8	265.4	273.7	289.5	303.5	327.3	335.7	337.5	332.2	-1.8%	5.9%	5.3%
Total Asia Pacific	1045.4	1164.2	1240.7	1319.4	1317.4	1367.7	1378.5	1404.5	1439.6	1478.7	1497.1	1456.9	-3.0%	3.7%	23.2%
Total World	4451.8	4872.6	4928.6	5222.0	5099.9	5253.6	5603.1	5838.8	5941.7	6134.1	6323.8	6268.1	-1.2%	3.6%	100.0%
of which: OECD	2476.8	2646.3	2692.6	2863.8	2714.3	2710.7	2928.6	3073.0	3067.5	3229.0	3358.6	3360.0	-0.2%	3.1%	53.6%
Non-OECD	1975.1	2226.3	2236.0	2358.2	2385.6	2542.9	2674.5	2765.8	2874.2	2905.1	2965.2	2908.1	-2.2%	4.1%	46.4%
European Union #	566.6	589.2	554.8	482.6	414.3	357.2	396.6	467.4	526.2	491.2	566.7	552.9	-2.7%	♦	8.8%

Source: bp Statistical Review of World Energy 2021

FACT SHEET: President Biden Announces Steps to Drive American Leadership Forward on Clean Cars and Trucks

AUGUST 05, 2021 • [STATEMENTS AND RELEASES](#)

President Biden Outlines Target of 50% Electric Vehicle Sales Share in 2030 to Unleash Full Economic Benefits of Build Back Better Agenda and Advance Smart Fuel Efficiency and Emission Standards

President Biden’s Build Back Better Agenda and the Bipartisan Infrastructure Deal invest in the infrastructure, manufacturing, and incentives that we need to grow good-paying, union jobs at home, lead on electric vehicles around the world, and save American consumers money. Today, the President will announce a set of new actions aimed at advancing these goals and increasing the impact of his proposed Build Back Better investments – positioning America to drive the electric vehicle future forward, outcompete China, and tackle the climate crisis.

Specifically, the President will sign an **Executive Order** that sets an **ambitious new target to make half of all new vehicles sold in 2030 zero-emissions vehicles, including battery electric, plug-in hybrid electric, or fuel cell electric vehicles.** The Executive Order also kicks off development of long-term fuel efficiency and emissions standards to save consumers money, cut pollution, boost public health, advance environmental justice, and tackle the climate crisis.

In addition, and consistent with the President’s [Day One Executive Order](#), the Environmental Protection Agency (EPA) and U.S. Department of Transportation (USDOT) will announce how they **are addressing the previous administration’s harmful rollbacks of near-term fuel efficiency and emissions standards. Through these coordinated notices of proposed rulemaking, the two agencies are advancing smart fuel efficiency and emissions standards that would deliver around \$140 billion in net benefits over the life of the program, save about 200 billion gallons of gasoline, and reduce around two billion metric tons of carbon pollution. For the average consumer, this means net benefits of up to \$900 over the life of the vehicle in fuel savings.**

These new actions – paired with the investments in the President’s Build Back Better Agenda – will strengthen American leadership in clean cars and trucks by accelerating innovation and manufacturing in the auto sector,

bolstering the auto sector domestic supply chain, and growing auto jobs with good pay and benefits. That is why today, American automakers Ford, GM, and Stellantis and the United Auto Workers (UAW), will stand with President Biden at the White House with aligned ambition: supporting the President's Build Back Better Agenda and the automakers' need to invest in and grow good-paying union jobs in the United States.

Build Back Better Investment Agenda

The global market is shifting to electric vehicles and tapping their potential to save families money, lower pollution, and make the air we breathe cleaner. Despite pioneering the technology, the U.S. is behind in the race to manufacture these vehicles and the batteries that go in them. Today, the U.S. market share of electric vehicle sales is only one-third that of the Chinese electric vehicle market. The President believes it is time for the U.S. to lead in electric vehicle manufacturing, infrastructure, and innovation, **by investing** in:

- **Installing the first-ever national network of electric vehicle charging stations.**
- Delivering point-of-sale consumer incentives to spur U.S. manufacturing and union jobs.
- Financing the retooling and expansion of the **full domestic manufacturing** supply chain.
- Innovating the next generation of clean technologies to maintain our competitive edge.

Through the investments in the Build Back Better Agenda and Bipartisan Infrastructure Deal, we can strengthen U.S. leadership in electric vehicles and batteries. These once-in-a-generation investments will position America to win the future of transportation and manufacturing and create good-paying, union jobs, dramatically expand American manufacturing, make electric vehicles **more affordable for families**, and export our electric vehicles around the world.

And, the President has already made a down payment on his vision for U.S. leadership in auto manufacturing. Last month, the Department of Commerce announced \$3 billion in currently available American Rescue Plan funds that can be used to advance the domestic electric vehicle industry in communities that have historically been the backbone of our auto industry.

Electric Vehicles Ambition for 2030

Over the last decade, we have seen a transformation in the technology costs, performance, and availability of electric vehicles. Since 2010:

- Battery pack costs dropped by 85 percent, paving the way to sticker price parity with gasoline-powered vehicles.
- Average vehicle range increased dramatically as charging times shortened.
- Electric models available to U.S. consumers expanded to over 40 last year – and growing.

Seeing this shift, countries are sprinting to lead. For example, China is increasingly cornering the global supply chain for electric vehicles and batteries with its fast-growing electric vehicle market. By setting clear targets for electric vehicle sale trajectories, these countries are becoming magnets for private investment into their manufacturing sectors – from parts and materials to final assembly.

President Biden is committed to changing that and delivering for the American people. That is why he will sign an Executive Order that sets a new target of electric vehicles representing half of new vehicles sold in 2030. This builds on the announcements today from automakers, representing nearly the entire U.S. auto market who have positioned around the goal of reaching 40 to 50 percent electric vehicle sales share in 2030. More than a deployment target, it is a goal to leverage once-in-generation investments and a whole-of-government effort to lift up the American autoworker and strengthen American leadership in clean cars and trucks. The 2030 target is calibrated to provide time for existing manufacturing facilities to upgrade without stranding assets, upgrades that will be catalyzed by the Build Back Better Agenda, and lean into a path that expands domestic U.S. manufacturing with union workers.

Smart Fuel Efficiency and Emissions Standards

Consistent with the President’s Day One Executive Order, the Environmental Protection Agency (EPA) and U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) will announce how they are addressing the previous administration’s harmful rollbacks of near-term fuel efficiency and emissions standards. The two agencies’ standards work in a compatible fashion through model year 2026, with the NHTSA proposed rule starting in model year 2024 and the EPA proposed rule taking effect a year sooner with model year 2023. The standards build on the momentum from “California Framework Agreement” – an agreement between the State of California and five automakers: Ford, Honda, Volkswagen Group, BMW, and Volvo.

Through these coordinated notices of proposed rulemaking, the two agencies are advancing smart fuel efficiency and emissions standards that would deliver around \$140 billion in net benefits over the life of the standards, including asthma attacks avoided and lives saved, save about 200 billion gallons of gasoline, and

reduce around two billion metric tons of carbon pollution. For the average consumer, this means net savings of up to \$900 over the life of the vehicle from fuel savings.

Building on these near-term steps, the Executive Order that the President will sign kicks off development of long-term fuel efficiency and emissions standards to save consumers money, cut pollution, boost public health, advance environmental justice, and tackle the climate crisis. Specifically, the Executive Order lays out a robust schedule for development of fuel efficiency and multi-pollutant emissions standards through at least model year 2030 for light-duty vehicles and for medium- and heavy-duty vehicles starting as early as model year 2027. The Executive Order also directs agencies to:

- Consult with the Secretaries of Commerce, Labor, and Energy on ways to accelerate innovation and manufacturing in the automotive sector, to strengthen the domestic supply chain for that sector, and to grow jobs that provide good pay and benefits.
- Engage with California and other states leading the way in reducing vehicle emissions.
- Secure input from a diverse range of stakeholders, including representatives from labor unions, industry, environmental justice organizations, and public health experts.

Together, today's announcements would put us on track to reduce greenhouse gas emissions from new passenger vehicle sales by more than 60 percent in 2030 compared to vehicles sold last year, and facilitate achieving the President's goal of 50-52 percent net economy-wide greenhouse gas emission reductions below 2005 levels in 2030.

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A Matter Of Trust - Assessing The Energy Industry's Carbon-Related Initiatives

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In case you hadn't noticed, there's a big push by the government, industry, and the broader public to reduce greenhouse gas (GHG) emissions and to offset those that do occur. Given its carbon-intensive nature, the oil and gas sector is at the heart of this activity, with almost daily announcements about carbon-neutral LNG shipments, carbon-dioxide capture and sequestration projects, and other efforts. The problem is, it can be difficult sometimes to figure out what's real and what's not — that is, which efforts have an actual, measurable impact and which are sort of vague or fuzzy and need to be sussed out. Today, we discuss the latest round of announcements by producers, midstreamers, refiners, and others to “green up” their operations and products.

Back in the mid-1970s, Hall of Fame catcher Yogi Berra was the manager of the New York Mets and America was in the midst of a streaking fad. (Stay with us on this.) Well, there was a rain delay during a Mets spring training game in Florida and, to help pass the time, two streakers climbed over the outfield fence and sprinted across the wet grass, ending their run with belly-flops onto the tarp-covered infield. The crowd went wild; the streakers were peacefully arrested. During his nightly phone call with his wife Carmen, who was back at the Berras' home in New Jersey, Yogi mentioned the incident, and she asked, “Were they male or female streakers?” Yogi thought a moment and answered, “I'm not sure. They had bags over their heads.”

Which brings us to the spate of announcements by energy companies over the past few months (many of which we've blogged about) on the steps they're taking to reduce or offset their GHG emissions and produce what's referred to as either “carbon-neutral” or “net-zero” hydrocarbons. (No, really, there's a connection here.) There have been plans put forward to [electrify some upstream operations](#) or to run compressors and equipment on wind or solar power. To reduce [venting and flaring](#). To better detect and plug leaks in pipelines. To [capture CO₂](#) from plant operations and permanently store it deep underground. To use carbon offsets to counterbalance the GHG emissions they or their products generate. And there are certainly other efforts not enumerated here. The point is, if you focus only on the “bags on the heads” of these initiatives, they'd all look similarly green and well-intentioned. But with just a little more scrutiny, you can see real differences between them.

As we've said before, we've received an unprecedented number of inquiries the past year or so from current and prospective clients about the ESG movement and efforts to reduce GHGs. This led us to seriously educate ourselves about these and related topics, and ultimately to expand our areas of hydrocarbon-related expertise (and our coverage in blogs and reports) to include, among other things, [ESG](#); [hydrogen](#); and carbon capture, use and sequestration (CCUS), particularly as it applies to [enhanced oil recovery](#) (EOR). Our expansion seems increasingly prescient, because nowadays it seems that almost every player in the energy space is trying to figure out how to adapt operations and corporate strategies to rapidly evolving demands from investors, lenders, customers, and the general public — not to mention governments. We're the first to admit that we still have a lot to learn about the space, but we will continue to take an unbiased approach when assessing the various proposals.

One of the fastest-growing trends in the new, greener energy industry relates to producers and marketers offering carbon-neutral or net-zero hydrocarbons. There have been well-publicized shipments of carbon-neutral crude oil, condensate, petrochemicals, and (most common of all) LNG. For a few years now, natural gas has been touted by LNG players as the perfect transition fuel for a lower-carbon world — even for countries that don't have large gas reserves of their own. After all, they say, natural gas not only has a smaller carbon footprint than coal or refined products such as fuel oil and diesel, but gas-fired power plants, with their ability to quickly ramp up and cut their output, are an ideal complement to intermittent renewable resources like wind and solar. Gas has already achieved significant market share growth for power generation in the U.S. as well as for [bunker fuel in the shipping industry](#). In the long term, there's also the potential for natural gas to be blended with hydrogen, further reducing GHG emissions.

More recently, a number of LNG players have been seeking to differentiate their LNG from that supplied by their competitors. How? Mostly by offering buyers the option of contracting for carbon-neutral or net-zero LNG, where the full, lifecycle emissions of their product — that is, the CO₂ and other GHGs emitted during everything from natural gas production and liquefaction to shipping and gas consumption — are entirely mitigated, typically through the use of independently verified, “nature-based” carbon offsets. (More on these in a moment.)

The world's first two shipments of carbon-neutral LNG were made just two years ago this month, in July 2019, both by Shell, to buyers in Japan (Tokyo Gas) and South Korea (GS Energy). Our understanding is that, for each of these deals, Shell used what UK regulators have established as a sort of standard for the lifecycle — or Scope 1, Scope 2, and Scope 3 — GHG emissions from the 70,000 metric tons (MT) of LNG carried in an average cargo. Under that standard, the LNG's lifecycle emissions would total about 240,000 MT of CO₂ equivalent (CO₂e) and, with each carbon offset credit equaling 1 MT of CO₂e, Shell needed to use 240,000 credits to offset each cargo.

Where did the credits come from? In Shell's case, the company has assembled a global portfolio of projects that are designed to either avoid the generation of CO₂ or remove CO₂ from the atmosphere. These projects fall into a few major categories, including conservation (sustainable management of forests), afforestation (planting trees where they had never been), and reforestation (planting trees in areas that have been deforested). Shell's portfolio — and conservation and related projects undertaken by others — act as a sort of carbon-offset bank or store that Shell and other companies seeking to mitigate the GHG impact of their LNG (or crude oil etc.) can turn to in order to secure needed offsets.

Shell makes a good poster child for CO₂ offset initiatives because of its high-profile efforts, its status as a global energy leader, and, oh yeah, the landmark mandate handed to Shell by the Netherlands in May requiring a 45% reduction in the company's GHG emissions by 2030. That certainly got the industry's attention.

You might wonder, as we did, does this kind of arrangement make the LNG that Shell delivered to Tokyo Gas and GS Energy (and that those companies or their customers consumed) genuinely carbon-neutral? In other words, can it be proven that the lifecycle emissions associated with 70,000 MT of LNG and consumed within a few days or weeks of delivery to Japan or South Korea equal (on a CO₂e basis) the CO₂ removed from the atmosphere by, say, a peatland restoration project in Indonesia or a deforestation-prevention program at the Cordillera Azul National Park in Peru (see photo below) — both of which were cited by Shell as sources of the carbon offsets for its Tokyo Gas and GS Energy deals?



Cordillera Azul National Park in Peru. Source: Shell

The answer, as we see it, is yes and no. Why do we hedge? Well, while it's possible to make a relatively accurate assessment of the CO₂ and other GHGs emitted during the production, liquefaction, shipping, and consumption of a certain amount of natural gas, it would seem to be a lot more difficult to measure with anywhere near as much precision the CO₂ that is (1) absorbed by trees and plants as a result of conservation efforts in part of a 4-million-acre park in Peru or (2) not released into the atmosphere by preventing deforestation in the park, again as a result of conservation efforts. In addition to uncertainty about the volume of CO₂ actually offset, there are also valid questions about the duration and efficacy of such efforts. Further, what's to stop deforestation from just moving down the road from the protected site? Or a wildfire destroying a "protected" forest? Other questions surround the actual accounting for such offset credits: When are they generated? Can they be double-counted?

It's also true, however, that all of the carbon offsets used by Shell (and, as far as we can tell, from other companies offering net-zero LNG) are associated with projects that meet the requirements of one or more widely accepted standards, such as the Verified Carbon Standard, the Gold Standard, and the American Carbon Registry. In our view, these independent, third-party verification programs, many of which were founded or co-founded by leading environmental groups, take CO₂ offsets beyond being simply "a matter of trust." The best of them act as a sort of gatekeeper to ensure not only that conservation and other projects provide GHG benefits that are incremental (or "additional") to the status quo but also that the carbon-offset credits the projects generate are commensurate with their GHG benefits — that is, that something approximating 1 MT of incremental/additional CO₂ will actually be avoided or absorbed for each 1-MT credit issued.

That's not to say there aren't concerns about the use of carbon offsets. Some critics argue that many verified projects overpromise and underdeliver on the CO₂ front; others say that while the projects may be helpful, companies that generate large volumes of GHGs should not view carbon offsets as a sort of "Get Out of Jail Free" card — that instead, they should focus primarily (exclusively, some say) on reducing their actual CO₂ and other GHG emissions. (Companies like Shell have said they agree, and that they see carbon offsets as only a relatively small part of their broader climate change-related efforts.) The pejorative term "greenwashing" gets bandied about by those who view industry efforts like this as just a publicity move meant to appease investors and placate environmental activists. While there is surely at least some of that, offset programs can be a worthwhile step on a path toward a more environmentally friendly energy industry, particularly if reporting standards and rigor continue to develop.

In the next blog in this series, we'll discuss the handful of other carbon-neutral LNG, crude oil, condensate, and even ethylene cargoes that have been shipped to date, as well as the prospects for more shipments in the coming months. After that, we'll look at efforts by producers, midstreamers, refiners, and other energy industry players to offset their GHG emissions with carbon offsets.

There's a lot to learn about the CO₂ market. That's why we are holding our third virtual conference in our *It's a Gas* series on August 10, 2021, this one focused on CO₂. Like our other recent conferences on propane and hydrogen, *It's A Gas: CO2* will bridge the gap between fundamentals analysis and boots-on-the-ground market intelligence. We will bring together the views of senior executives involved in the CO₂ transition along with RBN's latest analysis of CO₂ production, infrastructure, pipelines, and projects. For details, click [here](#).

"A Matter of Trust" was written by Billy Joel and appears as the third song on side one of his 10th studio album, *The Bridge*. Released as the second single from the album in July 1986, "A Matter of Trust" went to #10 on the Billboard Hot 100 Singles chart. Personnel on the record were: Billy Joel (lead, backing vocals, guitar, acoustic piano, synthesizer); David Brown and Russell Javors (guitar); Doug Stegmeyer (bass), Liberty DeVito (drums), and Jeff Bova (synthesizer).

The Bridge was recorded in 1985-86 at The Power Station, Chelsea Sound, and RCA Studios in New York City and Evergreen Studios in Burbank, CA. Produced by Phil Ramone, the album was released in July 1986. It went to #7 on the Billboard Top 200 Albums chart, and has been certified 2X Platinum by the Recording Industry Association of America. Four singles were released from the LP.

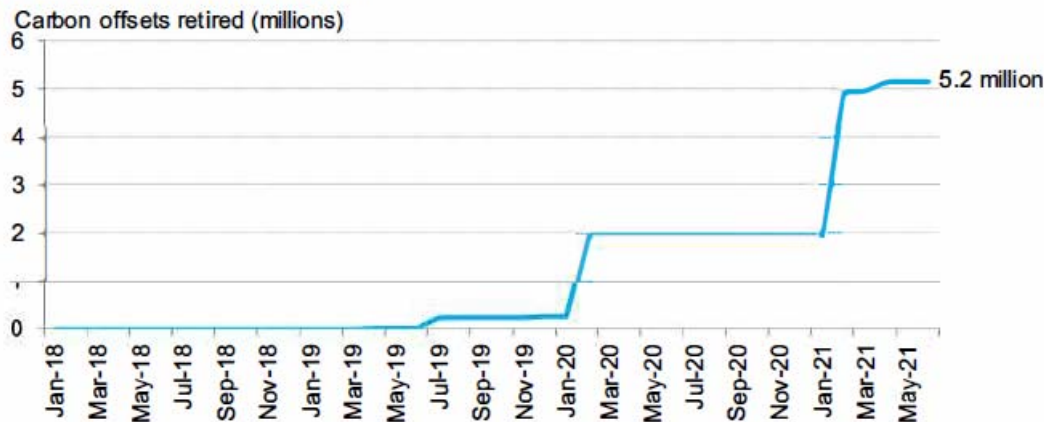
Author: Kyle Harrison

Shell Has Ramped Up Its Use of Carbon Offsets Dramatically

- Some 95% of offset retirements have come since start of 2020
- Offsets will play crucial role in the race to net zero



Carbon offset retirements from Shell



Source: BloombergNEF, Verified Carbon Standard

Note: Chart only shows offsets purchased and retired on the Verified Carbon Standard registry and is not fully indicative of Shell's total carbon offset portfolio.

- Royal Dutch Shell has long-term ambitions to pivot to a power company in order to decarbonize, but carbon offsets are playing a crucial role in its near-term decarbonization.
- Since the beginning of 2018, the oil major has retired nearly 5.2 million carbon offsets on the Verified Carbon Standard (VCS), the largest voluntary offset registry. Some 4.9 million of this total, or 95%, has come since the beginning of 2020.
- All of the offsets Shell has purchased off of the VCS have come from forestry projects, primarily in Peru, Indonesia and China. In February, the company retired almost 1.2 million offsets from the Cordillera Azul project in Peru, with its investment going to protect 1.6 million hectares of forest.
- Shell's demand for offsets lines up with its announcement in early 2020 to go net zero by 2050, pledging to reduce or offset its emissions at a level equivalent to what it emits. Its largest European competitors, BP, Eni, Total and Repsol, have all set net-zero targets of their own and will also rely heavily on offsets.

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Exxon Considers Pledging ‘Net Zero’ Carbon by 2050

Chief Executive Darren Woods faces pressure from investors to take a more decisive approach to reducing emissions

Exxon recently lost three seats on its board to a hedge fund that said the company needed to move faster to remake itself and invest in clean energy.

PHOTO: KATHLEEN FLYNN/REUTERS

By Christopher M. Matthews *and* Emily Glazer

Updated Aug. 5, 2021 1:00 pm ET

[Exxon XOM 1.15%](#) Mobil Corp. is considering a pledge to reduce its net carbon emissions to zero by 2050, according to people familiar with the matter, in what would amount to a significant strategic shift by the oil company.

In March 2020, Exxon Chief Executive Darren Woods described [ambitious carbon reduction targets](#) made by some European rivals as nothing more than a “beauty competition,” saying the pledges lacked tangible plans to achieve them.

Mr. Woods and others on Exxon’s board are now giving the same idea serious debate, the people said. Mr. Woods is facing pressure from investors to demonstrate a bolder path to reducing emissions. Following a bruising proxy fight this year, [an activist hedge fund](#) elected three new members to the company’s board.



CEO Darren Woods has said Exxon supports the goals of the Paris climate agreement.

PHOTO: ANDREW HARRER/BLOOMBERG NEWS

The Irving, Texas, company hasn’t made a final decision on a “net zero” pledge, according to the people. It plans to unveil a series of strategic moves on environmental and other issues before the end of the year, the people said.

Exxon spokesman Casey Norton said the company is committed to working to decarbonize high-emitting sectors and supports regulation that will spur that.

“As the board goes through its deliberations regarding future plans related to the company’s energy transition activities, we routinely evaluate our work and commitments and will update our shareholders and the public as those plans evolve,” Mr. Norton said.

Mr. Woods has said Exxon supports the goals of the Paris climate agreement, an international accord that aims to limit the increase in the global average temperature to less than 2 degrees Celsius above preindustrial levels and pursue efforts to limit the increase to 1.5 degrees. He has stopped short of committing Exxon to a net-zero plan.

To date, Exxon has instead pledged to reduce its so-called carbon intensity, or emissions as a proportion of total energy produced. It is unclear exactly what a new Exxon net-zero pledge would entail, but what is currently being considered would apply to the emissions directly produced by Exxon’s assets and stemming from the energy the company uses, the people said. That is known in climate disclosure as scope 1 and 2 emissions.

Exxon is expected to unveil strategic environmental moves before year-end.

PHOTO: ANDREW HARRER/BLOOMBERG NEWS

There is no standard definition for how companies define net-zero emissions, and specifics often vary, which has led some to dismiss the pledges as exercises in modern-day image management. Such goals generally aim to reduce a company’s carbon footprint to neutral in the future.

Exxon lost three seats on its board of directors at its annual shareholder meeting in May to the hedge fund Engine No. 1, which argued that the energy company needs to act faster to remake itself and invest in clean energy.

Senior executives within the company now believe it needs to act urgently to refine its strategy to navigate the energy transition, and some of Exxon’s largest shareholders have told executives recently that they need to set more- ambitious climate-change targets or risk further alienating investors, the people said.

Meanwhile, some on Exxon’s board have expressed support for a carbon neutrality pledge, according to the people. In particular, Alexander Karsner, one of the Engine No. 1 candidates elected to Exxon’s board and an executive at [Alphabet](#) Inc.’s innovation lab, has pressed Mr. Woods to reposition the company to address climate change, the people said.

Related Video

In a virtual board meeting in July, Mr. Karsner suggested to Mr. Woods that Exxon hadn't acted quickly enough to reduce its emissions, in an exchange that some of the people described as contentious.

Some of the other new directors also hold doubts regarding Mr. Woods's strategy for Exxon, people familiar with the matter said. Mr. Woods has focused on trying to bring the new board members into the fold and having candid discussions about what needs to change, some of the people said.

Exxon has for years evaluated investing in renewable energy, biofuels and other technologies including carbon capture and storage. In recent conversations with the board, Mr. Woods has shared Exxon's energy transition plans, including its evaluation of each option and the path to net zero, according to a person familiar with the matter.

After the historic proxy fight, Exxon has five new board members in total. In addition to the three Engine No. 1 candidates, Exxon appointed two new directors as part of a separate settlement with the hedge fund D.E. Shaw. Last week Exxon held its first in-person board meeting since the new directors joined the board. Mr. Woods described the meeting as encouraging during a call with analysts Friday, when the company reported earnings.

Mr. Norton declined to comment on board deliberations.

Beginning last year, several large European oil companies including [BP PLC](#) and [Royal Dutch Shell PLC](#) made public commitments to reduce to zero the emissions from their operations and from assets they own but don't operate. Shell also set a net-zero target for emissions from its products.

How companies will achieve such targets is unclear. BP and Shell have begun selling higher-carbon-emitting fossil-fuel assets and investing more in renewable energy. Exxon formed a new business unit in February to invest in lower-emission energy technologies. It will initially focus primarily on carbon capture and storage projects, which gather carbon emissions from industrial processes or directly from the air and deposit them underground.

The announcements are happening as the Biden administration focuses on how businesses respond to threats linked to climate change. The Securities and Exchange Commission is preparing to require public companies to [disclose more information on the matter](#). Biden administration officials have said better corporate reporting on climate change will channel more capital toward greener industries, helping governments reach the Paris agreement's goals.

At Exxon's annual investor day in March 2020, Mr. Woods said companies would have to sell oil and gas assets to accomplish net-zero targets, an exercise he said would simply move the emissions to a new operator.

"All you're doing is moving out from one company or one country to someplace else," Mr. Woods said at the time. "It doesn't solve the problem."

Instead, Exxon said in December it would reduce its methane emissions intensity by 40% to 50% and cut its flaring intensity by 35% to 45% by 2025, which it said would cut overall emissions from production by 30%. [Chevron](#) Corp. and many other large U.S. oil producers also haven't made net-zero commitments.

Kevin Holt, senior portfolio manager for [Invesco](#) Ltd. , said net-zero pledges for scope 1 and 2 emissions are becoming the industry norm. Invesco owned nearly \$400 million in Exxon stock as of March, according to S&P Global Market Intelligence.

"It's table stakes to be in the business," Mr. Holt said. "It's something you have to do if you want to be a responsible company."

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Xi chairs leadership meeting to study economic work

Updated: Aug 02, 2021 08:55 AM Xinhua

BEIJING — The Political Bureau of the Communist Party of China (CPC) Central Committee held a meeting on July 30 to study and analyze current economic circumstances and make plans for related work for the second half of 2021.

The meeting was chaired by Xi Jinping, general secretary of the CPC Central Committee.

Since the beginning of this year, China has coordinated COVID-19 prevention and control with economic and social development, effectively implemented macro policies, and ensured sustained recovery and improvement in its economy, said the meeting.

The country has also actively advanced scientific and technological self-reliance, enhanced reform and opening-up, effectively guaranteed people's livelihood, achieved new results in high-quality development, and maintained overall social stability.

The meeting noted that the global COVID-19 situation is still evolving and **Chinese economy faces an increasingly complex and grave external environment.**

The domestic economic recovery is still unfirm and unbalanced, according to the meeting.

To ensure sound economic work for the second half of 2021, the meeting stressed upholding the underlying principle of pursuing progress while ensuring stability, and the full, accurate and comprehensive implementation of the new development philosophy.

The meeting urged more efforts to deepen the supply-side structural reform, accelerate the building of a new development paradigm, and advance China's high-quality development.

It also stressed maintaining consistent, **stable and sustainable macro policies,** sound coordination to mesh this year's policies with those for 2022, and keeping the Chinese economy running within an appropriate range.

The proactive fiscal policy should generate greater effect, while the prudent monetary policy should maintain reasonably ample liquidity and support the continued recovery of small and medium-sized enterprises as well as stressed industries.

The meeting stressed keeping the renminbi's exchange rate basically stable at a reasonable and balanced level. It also urged efforts to ensure supply and stable pricing of commodities.

The meeting demanded efforts to tap domestic market potential and **support quicker development of the new energy vehicles.**

Integration of the county's rural e-commerce system and express logistics distribution system, as well as construction on major projects in the 14th Five-Year Plan, should be accelerated, the meeting noted, promising more guidance for businesses to increase investment in technological upgrading.

Emphasizing the importance of strengthening technological innovation and industrial chain resilience, the meeting decided to carry out targeted campaigns to address "chokepoint" problems as well as develop specialized and innovative small and medium-sized enterprises.

China should stick to the high-level opening-up and unswervingly advance the high-quality development of the Belt and Road Initiative, said the statement.

The meeting called for the introduction of an action plan as soon as possible for achieving carbon peak before 2030. It urged putting an end to "whirlwind campaigns" for carbon reduction and resolutely curbing the pell-mell development of high-energy intensity and highly pollutive projects.

Efforts should be made to prevent and defuse risks in key fields and improve the regulation system on firms' overseas listings, according to the meeting.

The meeting stressed sticking to the principle of "houses are for living in, not for speculation," stabilizing the prices of lands, homes and expectation to promote the stable and sound development of the real estate market as well as accelerating the development of rental housing.

China should align efforts to consolidate and expand the achievements in poverty elimination with efforts to promote rural vitalization, the meeting said.

The third-child policy should be implemented and supporting policies on childbirth, child care and education should be further improved.

It called for solid efforts on flood control and disaster relief to safeguard the safety of people's lives and property, and further advancing the country's COVID-19 vaccination program.

The meeting also stressed sound preparations for the Beijing Olympic Winter Games and the Paralympic Winter Games.

August 3, 2021 3:49 AM MDT Last Updated 12 hours ago

EXCLUSIVE ADB, Citi, HSBC, Prudential hatch plan for Asian coal-fired closures - sources

Clara DeninaMelanie Burton

6 minute read

A protester holds a bucket of coal during a demonstration demanding Japan to stop supporting coal at home and overseas, at the G20 Summit in Osaka, Japan, June 28, 2019.

REUTERS/Jorge Silva

- Summary
- ADB, Prudential, Citi, HSBC, BlackRock devising coal plan
- Initiative aims to secure funding at COP26 summit
- ADB preparing feasibility study on early closures

LONDON/MELBOURNE, Aug 3 (Reuters) - Financial firms including British insurer Prudential, lenders Citi and HSBC and BlackRock Real Assets are devising plans to speed the closure of Asia's coal-fired power plants in order to lower the biggest source of carbon emissions, five people with knowledge of the initiative said.

The novel proposal, which is being driven by the Asian Development Bank, offers a potentially workable model and early talks with Asian governments and multilateral banks are promising, the sources told Reuters.

The group plans to create public-private partnerships to buy out the plants and wind them down within 15 years, far sooner than their usual life, giving workers time to retire or find new jobs and allowing countries to shift to renewable energy sources.

It aims to have a model ready for the COP26 climate conference which is being held in Glasgow, Scotland in November.

"The private sector has great ideas on how to address climate change and we are bridging the gap between them and the official-sector actors," ADB Vice President Ahmed M. Saeed said.

The initiative comes as commercial and development banks, under pressure from large investors, pull back from financing new power plants in order to meet climate targets.

Saeed said that a first purchase under the proposed scheme, which will comprise a mix of equity, debt and concessional finance, could come as soon as next year.

"If you can come up with an orderly way to replace those plants sooner and retire them sooner, but not overnight, that opens up a more predictable, massively bigger space for renewables," Donald Kanak, chairman of Prudential's [\(PRU.L\)](#) Insurance Growth Markets, who came up with the idea, told Reuters.

Coal-fired power accounts for about a fifth of the world's greenhouse gas emissions, making it the biggest polluter.

The proposed mechanism entails raising low cost, blended finance which would be used for a carbon reduction facility, while a separate facility would fund renewable incentives.

HSBC [\(HSBA.L\)](#) declined to comment on the plan.

Finding a way for developing nations in Asia, which has the world's newest fleet of coal plants and more under construction, to make the most of the billions already spent and switch to renewables has proved a major challenge.

The International Energy Agency expects global coal demand to rise 4.5% in 2021, with Asia making up 80% of that growth.

Meanwhile, the International Panel on Climate Change (IPCC) is calling for a drop in coal-fired electricity from 38% to 9% of global generation by 2030 and to 0.6% by 2050.

MAKING IT VIABLE

The proposed carbon reduction facility would buy and operate coal-fired power plants, at a lower cost of capital than is available to commercial plants, allowing them to run at a wider margin but for less time in order to generate similar returns.

The cash flow would repay debt and investors.

The other facility would be used to jump start investments in renewables and storage to take over the energy load from the plants as it grows, attracting finance on its own.

The model is already familiar to infrastructure investors who rely on blended finance in so-called public-private deals, backed by government-financed institutions.

In this case, development banks would take the biggest risk by agreeing to take first loss as holders of junior debt as well as accepting a lower return, according to the proposal.

"To make this viable on more than one or two plants, you've got to get private investors," Michael Paulus, head of Citi's Asia-Pacific public sector group, who is involved in the initiative, told Reuters.

"There are some who are interested but they are not going to do it for free. They may not need a normal return of 10-12%, they may do it for less. But they are not going to accept 1 or 2%. We are trying to figure out some way to make this work."

Citi declined further comment.

The framework has already been presented to ASEAN finance ministers, the European Commission and European development officials, Kanak, who co-chairs the ASEAN Hub of the Sustainable Development Investment Partnership, said.

Details still to be finalised include ways to encourage coal plant owners to sell, what to do with the plants once they are retired, any rehabilitation requirements, and what role if any carbon credits may play.

The firms aim to attract finance and other commitments at COP26, when governments will be asked to commit to more ambitious emissions targets and increase financing for countries most vulnerable to climate change.

U.S. President Joe Biden's administration has re-entered the Paris climate accord and is pushing for ambitious reductions of carbon emissions, while in July, U.S. Treasury Secretary Janet Yellen told the heads of major development banks, including ADB and the World Bank, to devise plans to mobilize more capital to fight climate change and support emission cuts. [read more](#)

A Treasury official told Reuters that the ADB's plans for coal plant retirement are among the types of projects that Yellen wants banks to pursue, adding the administration is "interested in accelerating coal transitions" to tackle the climate crisis.

ASIA STEPS

As part of the group's proposal, the ADB has allocated around \$1.7 million for feasibility studies covering Indonesia, Philippines and Vietnam, to estimate the costs of early closure, which assets could be acquired, and engage with governments and other stakeholders.

"We would like to do the first (coal plant) acquisition in 2022," ADB's Saeed told Reuters, adding the mechanism could be scaled up and used as a template for other regions, if successful. It is already in discussions about extending this work to other countries in Asia, he added.

To retire 50% of a country's capacity early at \$1 million-\$1.8 million per megawatt suggests Indonesia would require a total facility of roughly \$16-\$29 billion, while Philippines would be about \$5-\$9 billion and Vietnam around \$9-\$17 billion, according to estimates by Prudential's Kanak.

One challenge that needs to be tackled is the potential risk of moral hazard, said Nick Robins, a London School of Economics sustainable finance professor.

"There's a longstanding principle that the polluter should pay. We need to make absolutely sure that we are not paying the polluter, but rather paying for accelerated transition," he said.

Additional reporting by David Lawder in Washington; Editing by Amran Abocar and Alexander Smith

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South Korea to increase stockpiles of rare metals

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Share:

South Korea has announced plans to raise its stockpiles of critical metals such as cobalt, nickel and rare earths that are used in key emerging industries including electric vehicle (EV) batteries and renewable energy.

The government has set a target to increase its stockpiles to cover 100 days of consumption, up from 56.8 days currently, the country's ministry of trade, industry and energy (Motie) said today. It did not give a target date.

South Korea will build new facilities and expand existing ones to achieve this goal. State-run firm Korea Resources (Kores) will manage the stockpiles, Motie said.

The definition of "critical metals" applies to 35 groups of products, mainly covering nickel, cobalt, lithium, manganese, magnesium, titanium, bismuth, selenium, silicon, tin, arsenic, boron, cadmium, rare earth metals and platinum group metals. These are different from common metals such as copper and steel, Motie said.

The stockpiling plan is designed to establish a secure supply chain to cope with potential supply uncertainties. Global demand for these critical metals is expected to grow fourfold by 2040 compared with last year, the ministry said.

South Korea will also promote recycling of rare metals as a way to expand its self-sufficiency, as the majority of the country's consumption of these metals depends on imports. It is planning to establish a system to collect discarded solar panels and rechargeable batteries in an organised manner.

The government also aims to support research projects and offer tax incentives for businesses that are engaged in the rare metal industry, with a target of involving 100 firms by 2025.

Major South Korean companies have been investing in the EV and renewable energy industry in recent years. Hyundai Motor and battery manufacturer LG Energy Solution on 29 July unveiled a plan to establish a \$1.1bn joint venture to produce EV batteries in Indonesia.

South Korean battery cathode material manufacturers including LG Chem, Samsung SDI, L&F and Cosmo AM&T have raised their demand for lithium-ion nickel-cobalt-manganese (NCM) precursors since the start of this year, given the rapid development of the EV industry because of global carbon reduction targets. NCM precursors use some of the critical metals covered in the stockpiling plans, such as lithium, cobalt and nickel, as feedstock.

South Korea, a major global supplier of battery and semiconductor technologies, is home to companies including LG Chem and SK Innovation in the battery sector and Samsung and SK Hynix in chip manufacturing.

The government is introducing tax breaks and incentives for battery and semiconductor investment in a move that is expected to encourage manufacturing and demand for minor metals. Seoul has identified these two areas as key strategic industries and changed the tax code to incentivise research and development in the technologies, which use a range of metals such as cobalt, lithium, nickel and manganese in batteries, as well as silicon, gallium and germanium in semiconductor chips.

South Korea's eco-friendly vehicle sales rose to 30,316 units in March, up by 59pc on the year and by 65pc from February, according to Motie data. Exports of eco-friendly vehicles reached 33,164 units in March, up by 29.3pc from a year earlier and accounting for 16pc of the country's total automotive exports of 203,837 units in the month.

In the transition to clean energy, critical minerals bring new challenges to energy security

An energy system powered by clean energy technologies differs profoundly from one fuelled by traditional hydrocarbon resources. Building solar photovoltaic (PV) plants, wind farms and electric vehicles (EVs) generally requires more minerals than their fossil fuel-based counterparts. A typical electric car requires six times the mineral inputs of a conventional car, and an onshore wind plant requires nine times more mineral resources than a gas-fired power plant. Since 2010, the average amount of minerals needed for a new unit of power generation capacity has increased by 50% as the share of renewables has risen.

The types of mineral resources used vary by technology. Lithium, nickel, cobalt, manganese and graphite are crucial to battery performance, longevity and energy density. Rare earth elements are essential for permanent magnets that are vital for wind turbines and EV motors. Electricity networks need a huge amount of copper and aluminium, with copper being a cornerstone for all electricity-related technologies.

The shift to a clean energy system is set to drive a huge increase in the requirements for these minerals, meaning that the energy sector is emerging as a major force in mineral markets. Until the mid-2010s, the energy sector represented a small part of total demand for most minerals. However, as energy transitions gather pace, clean energy technologies are becoming the fastest-growing segment of demand.

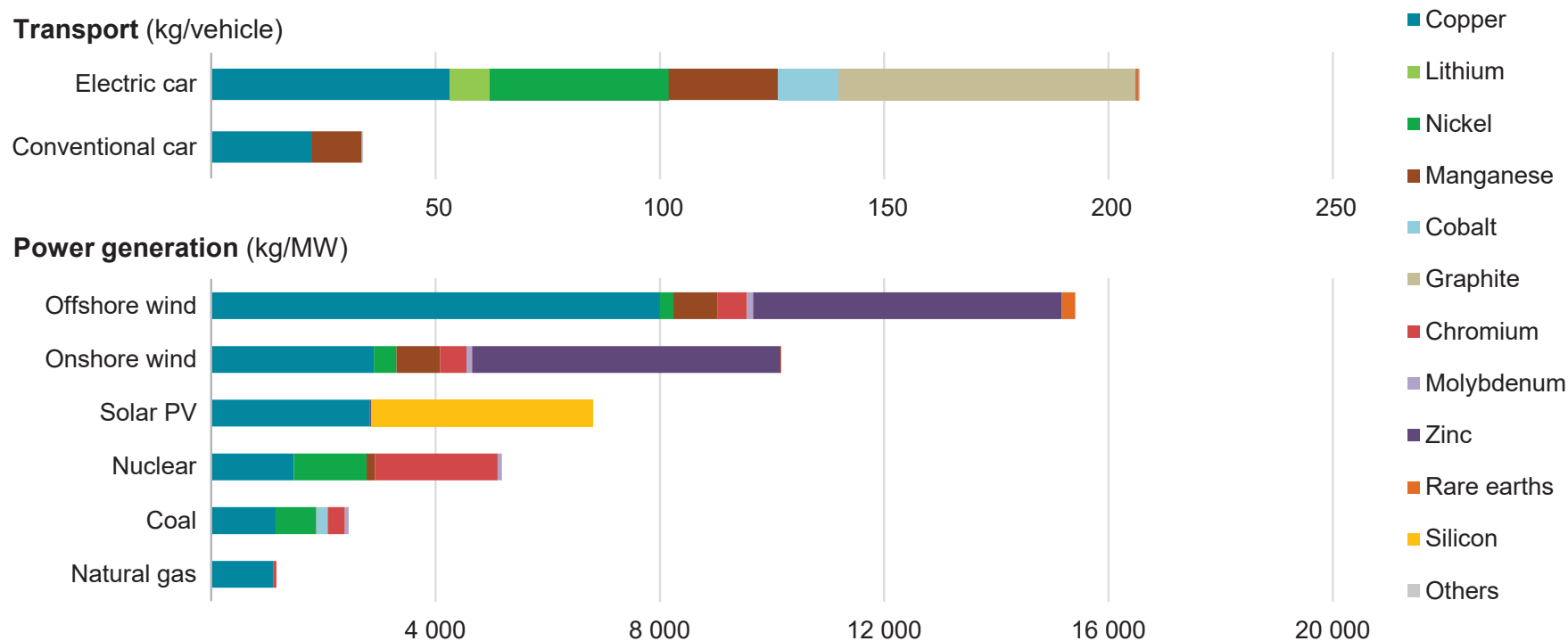
In a scenario that meets the Paris Agreement goals, clean energy technologies' share of total demand rises significantly over the next two decades to over 40% for copper and rare earth elements, 60-70% for nickel and cobalt, and almost 90% for lithium. EVs and battery storage have already displaced consumer electronics to become the largest consumer of lithium and are set to take over from stainless steel as the largest end user of nickel by 2040.

As countries accelerate their efforts to reduce emissions, they also need to make sure their energy systems remain resilient and secure. Today's international energy security mechanisms are designed to provide insurance against the risks of disruptions or price spikes in supplies of hydrocarbons, particularly oil. Minerals offer a different and distinct set of challenges, but their rising importance in a decarbonising energy system requires energy policy makers to expand their horizons and consider potential new vulnerabilities. Concerns about price volatility and security of supply do not disappear in an electrified, renewables-rich energy system.

This is why the IEA is paying close attention to the issue of critical minerals and their role in clean energy transitions. This report reflects the IEA's determination to stay ahead of the curve on all aspects of energy security in a fast-evolving energy world.

The rapid deployment of clean energy technologies as part of energy transitions implies a significant increase in demand for minerals

Minerals used in selected clean energy technologies

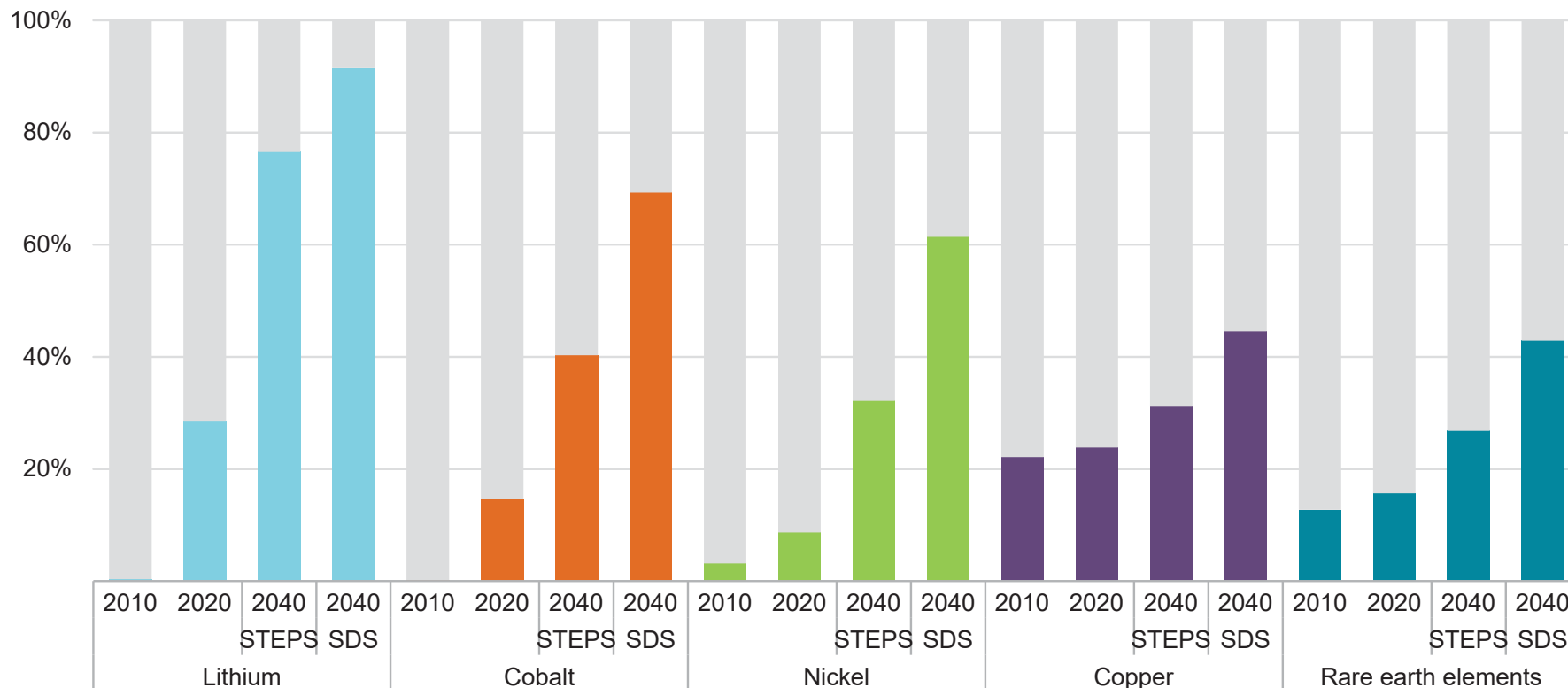


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Notes: kg = kilogramme; MW = megawatt. Steel and aluminium not included. See Chapter 1 and Annex for details on the assumptions and methodologies.

The energy sector becomes a leading consumer of minerals as energy transitions accelerate

Share of clean energy technologies in total demand for selected minerals



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Notes: Demand from other sectors was assessed using historical consumption, relevant activity drivers and the derived material intensity. Neodymium demand is used as indicative for rare earth elements. STEPS = Stated Policies Scenario, an indication of where the energy system is heading based on a sector-by-sector analysis of today's policies and policy announcements; SDS = Sustainable Development Scenario, indicating what would be required in a trajectory consistent with meeting the Paris Agreement goals.

Clean energy transitions will have far-reaching consequences for metals and mining

Our bottom-up assessment suggests that a concerted effort to reach the goals of the Paris Agreement (climate stabilisation at “well below 2°C global temperature rise”, as in the IEA Sustainable Development Scenario [SDS]) would mean a quadrupling of mineral requirements for clean energy technologies by 2040. An even faster transition, to hit net-zero *globally* by 2050, would require six times more mineral inputs in 2040 than today.

Which sectors do these increases come from? In climate-driven scenarios, mineral demand for use in EVs and battery storage is a major force, growing at least thirty times to 2040. Lithium sees the fastest growth, with demand growing by over 40 times in the SDS by 2040, followed by graphite, cobalt and nickel (around 20-25 times). The expansion of electricity networks means that copper demand for power lines more than doubles over the same period.

The rise of low-carbon power generation to meet climate goals also means a tripling of mineral demand from this sector by 2040. Wind takes the lead, bolstered by material-intensive offshore wind. Solar PV follows closely, due to the sheer volume of capacity that is added. Hydropower, biomass and nuclear make only minor contributions given their comparatively low mineral requirements. In other sectors, the rapid growth of hydrogen as an energy carrier underpins major

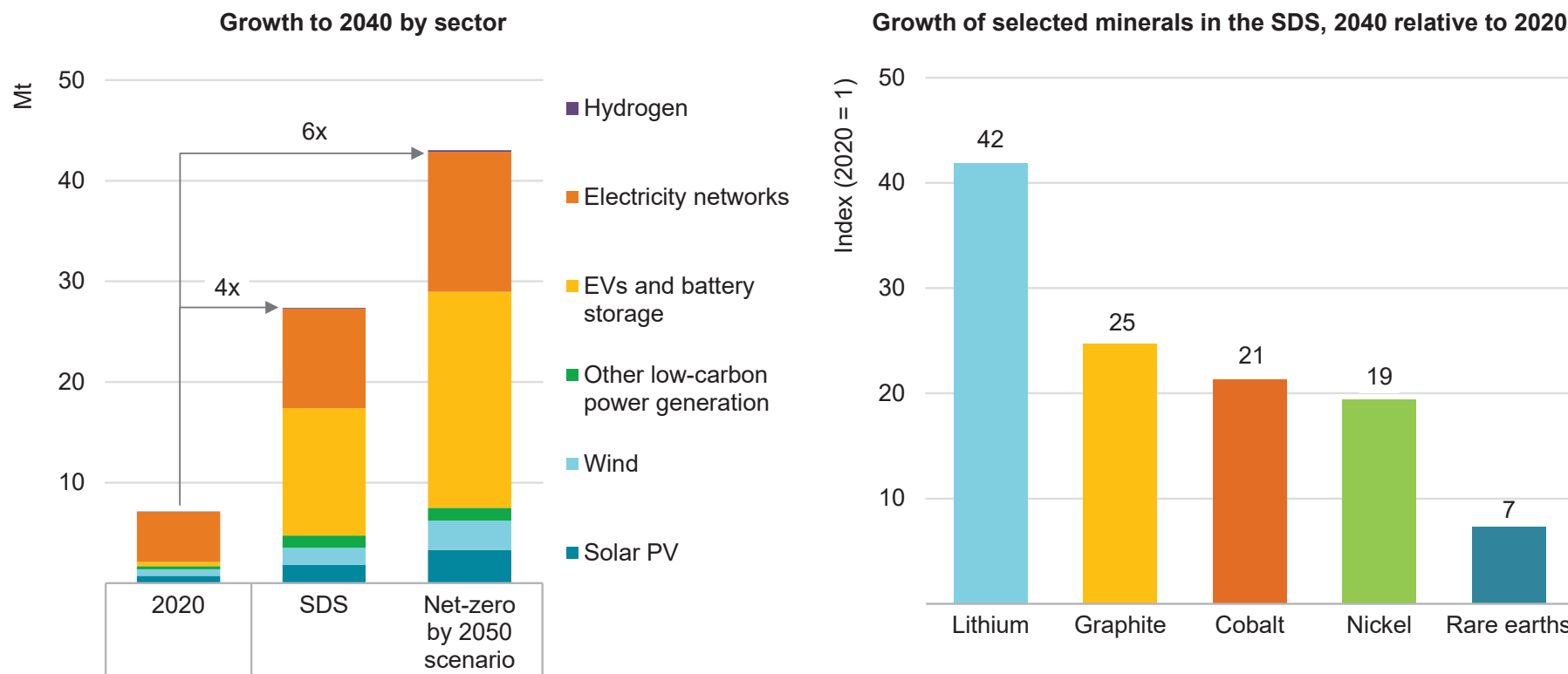
growth in demand for nickel and zirconium for electrolysers, and for platinum-group metals for fuel cells.

Demand trajectories are subject to large technology and policy uncertainties. We analysed 11 alternative cases to understand the impacts. For example, cobalt demand could be anything from 6 to 30 times higher than today’s levels depending on assumptions about the evolution of battery chemistry and climate policies. Likewise rare earth elements may see three to seven times higher demand in 2040 than today, depending on the choice of wind turbines and the strength of policy support. The largest source of demand variability comes from uncertainty around the stringency of climate policies. The big question for suppliers is whether the world is really heading for a scenario consistent with the Paris Agreement. Policy makers have a crucial role in narrowing this uncertainty by making clear their ambitions and turning targets into actions. This will be vital to reduce investment risks and ensure adequate flow of capital to new projects.

Clean energy transitions offer opportunities and challenges for companies that produce minerals. Today revenue from coal production is ten times larger than those from energy transition minerals. However, there is a rapid reversal of fortunes in a climate-driven scenario, as the combined revenues from energy transition minerals overtake those from coal well before 2040.

Mineral demand for clean energy technologies would rise by at least four times by 2040 to meet climate goals, with particularly high growth for EV-related minerals

Mineral demand for clean energy technologies by scenario

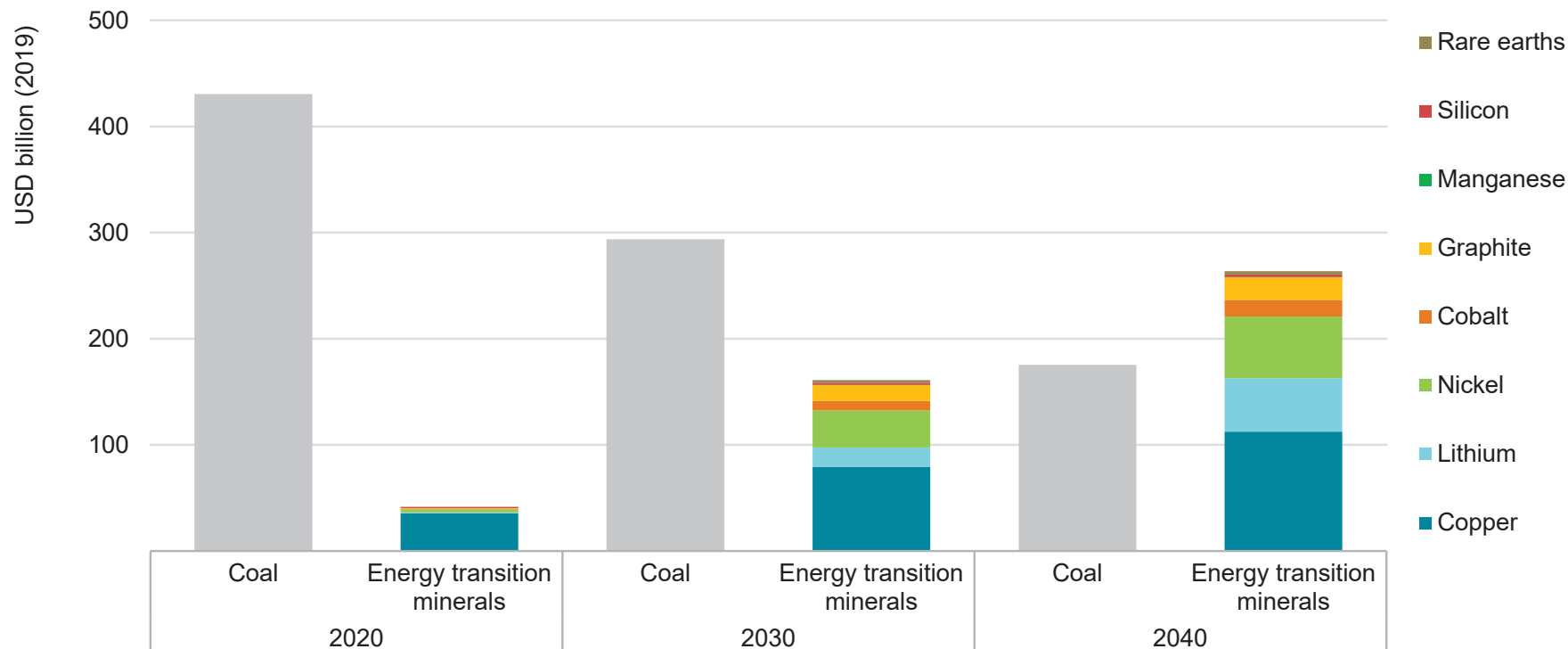


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Notes: Mt = million tonnes. Includes all minerals in the scope of this report, but does not include steel and aluminium. See Annex for a full list of minerals.

Changing fortunes: Coal vs energy transition minerals

Revenue from production of coal and selected energy transition minerals in the SDS



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Notes: Revenue for energy transition minerals includes only the volume required in clean energy technologies, not total demand. Future prices for coal are projected equilibrium prices in *WEO 2020* SDS. Prices for energy transition minerals are based on conservative assumptions about future price trends (moderate growth of around 10-20% from today's levels).

Today's mineral supply and investment plans fall short of what is needed to transform the energy sector, raising the risk of delayed or more expensive energy transitions

The prospect of a rapid increase in demand for critical minerals – well above anything seen previously in most cases – raises huge questions about the availability and reliability of supply. In the past, strains on the supply-demand balance for different minerals have prompted additional investment and measures to moderate or substitute demand. But these responses have come with time lags and have been accompanied by considerable price volatility. Similar episodes in the future could delay clean energy transitions and push up their cost. Given the urgency of reducing emissions, this is a possibility that the world can ill afford.

Raw materials are a significant element in the cost structure of many technologies required in energy transitions. In the case of lithium-ion batteries, technology learning and economies of scale have pushed down overall costs by 90% over the past decade. However, this also means that raw material costs now loom larger, accounting for some 50-70% of total battery costs, up from 40-50% five years ago. Higher mineral prices could therefore have a significant effect: a doubling of lithium or nickel prices would induce a 6% increase in battery costs. If both lithium and nickel prices were to double at the same time, this would offset all the anticipated unit cost reductions associated with a doubling of battery production capacity. In the case of electricity networks, copper and aluminium currently represent around 20% of

total grid investment costs. Higher prices as a result of tight supply could have a major impact on the level of grid investment.

Our analysis of the near-term outlook for supply presents a mixed picture. Some minerals such as mined lithium and cobalt are expected to be in surplus in the near term, while lithium chemical products, battery-grade nickel and key rare earth elements (e.g. neodymium and dysprosium) might face tight supply in the years ahead. However, looking further ahead in a scenario consistent with climate goals, expected supply from existing mines and projects under construction is estimated to meet only half of projected lithium and cobalt requirements and 80% of copper needs by 2030.

Today's supply and investment plans are geared to a world of more gradual, insufficient action on climate change (the STEPS trajectory). They are not ready to support accelerated energy transitions. While there are a host of projects at varying stages of development, there are many vulnerabilities that may increase the possibility of market tightness and greater price volatility:

- **High geographical concentration of production:** Production of many energy transition minerals is more concentrated than that of oil or natural gas. For lithium, cobalt and rare earth elements, the world's top three producing nations control well over three-

quarters of global output. In some cases, a single country is responsible for around half of worldwide production. The Democratic Republic of the Congo (DRC) and People's Republic of China (China) were responsible for some 70% and 60% of global production of cobalt and rare earth elements respectively in 2019. The level of concentration is even higher for processing operations, where China has a strong presence across the board. China's share of refining is around 35% for nickel, 50-70% for lithium and cobalt, and nearly 90% for rare earth elements. Chinese companies have also made substantial investment in overseas assets in Australia, Chile, the DRC and Indonesia. High levels of concentration, compounded by complex supply chains, increase the risks that could arise from physical disruption, trade restrictions or other developments in major producing countries.

- **Long project development lead times:** Our analysis suggests that it has taken on average over 16 years to move mining projects from discovery to first production. These long lead times raise questions about the ability of suppliers to ramp up output if demand were to pick up rapidly. If companies wait for deficits to emerge before committing to new projects, this could lead to a prolonged period of market tightness and price volatility.
- **Declining resource quality:** Concerns about resources relate to quality rather than quantity. In recent years, ore quality has continued to fall across a range of commodities. For example, the average copper ore grade in Chile declined by 30% over the past

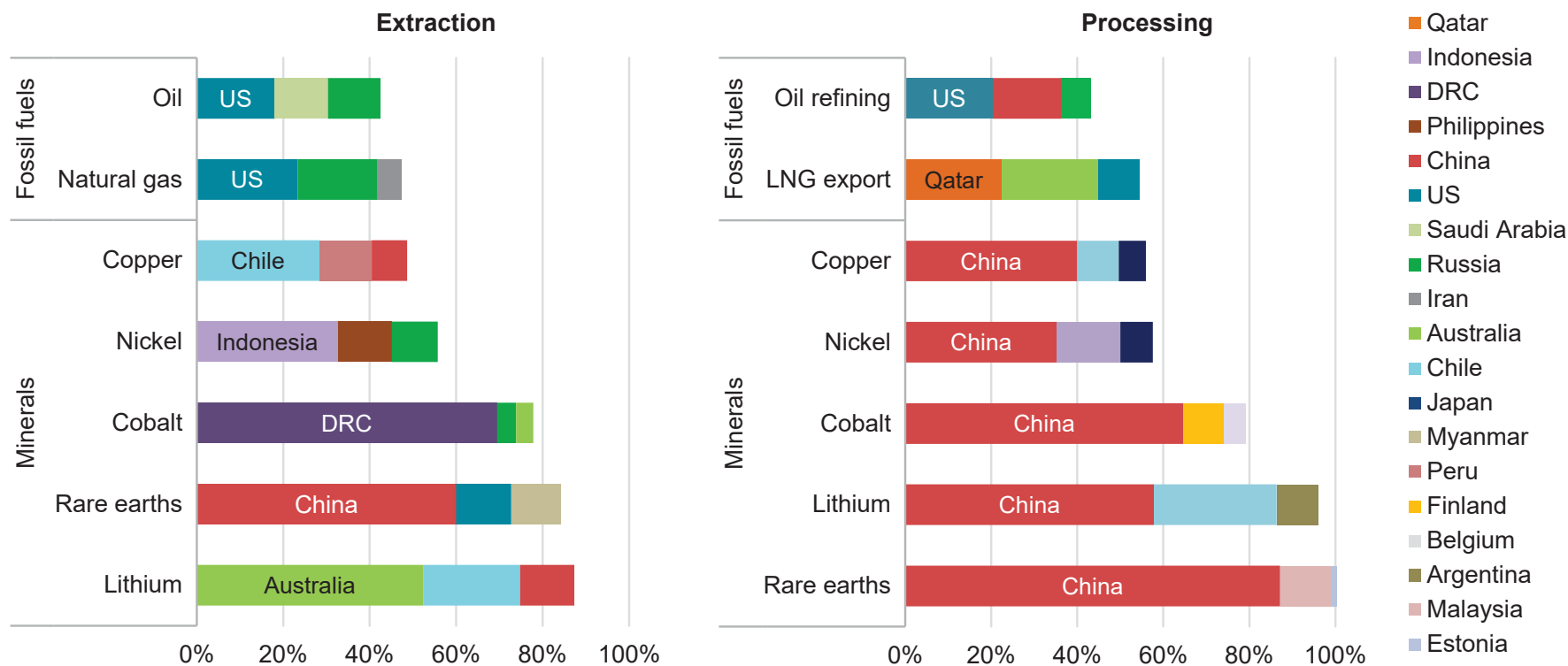
15 years. Extracting metal content from lower-grade ores requires more energy, exerting upward pressure on production costs, greenhouse gas emissions and waste volumes.

- **Growing scrutiny of environmental and social performance:** Production and processing of mineral resources gives rise to a variety of environmental and social issues that, if poorly managed, can harm local communities and disrupt supply. Consumers and investors are increasingly calling for companies to source minerals that are sustainably and responsibly produced. Without broad and sustained efforts to improve environmental and social performance, it may be challenging for consumers to exclude minerals produced with poor standards as higher-performing supply chains may not be sufficient to meet demand.
- **Higher exposure to climate risks:** Mining assets are exposed to growing climate risks. Copper and lithium are particularly vulnerable to water stress given their high water requirements. Over 50% of today's lithium and copper production is concentrated in areas with high water stress levels. Several major producing regions such as Australia, China, and Africa are also subject to extreme heat or flooding, which pose greater challenges in ensuring reliable and sustainable supplies.

These risks to the reliability, affordability and sustainability of mineral supply are manageable, but they are real. How policy makers and companies respond will determine whether critical minerals are a vital enabler for clean energy transitions, or a bottleneck in the process.

Production of many energy transition minerals today is more geographically concentrated than that of oil or natural gas

Share of top three producing countries in production of selected minerals and fossil fuels, 2019



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Notes: LNG = liquefied natural gas; US = United States. The values for copper processing are for refining operations. Sources: IEA (2020a); USGS (2021), World Bureau of Metal Statistics (2020); Adamas Intelligence (2020).

New and more diversified supply sources will be vital to pave the way to a clean energy future

As energy transitions gather pace, security of mineral supply is gaining prominence in the energy security debate, a realm where oil has traditionally occupied a central role.

There are significant differences between oil security and mineral security, notably in the impacts that any disruption may have. In the event of an oil supply crisis, all consumers driving gasoline cars or diesel trucks are affected by higher prices. By contrast, a shortage or spike in the price of a mineral affects only the supply of *new* EVs or solar plants. Consumers driving existing EVs or using solar-powered electricity are not affected. In addition, the combustion of oil means that new supply is essential to the continuous operation of oil-using assets. However, minerals are a component of infrastructure, with the potential to be recovered and recycled.

Nonetheless, experience from oil markets may offer some valuable lessons for an approach to mineral security, in particular to underscore that supply-side measures need to be accompanied by wide-ranging efforts encompassing demand, technology, supply chain resilience and sustainability.

Rapid, orderly energy transitions require strong growth in investment in mineral supplies to keep up with the pace of demand growth. Policy makers can take a variety of actions to encourage new supply

projects: the most important is to provide clear and strong signals about energy transitions. If companies do not have confidence in countries' energy and climate policies, they are likely to make investment decisions based on much more conservative expectations. Given the long lead times for new project developments, this could create bottlenecks when deployment of clean energy technologies starts to grow rapidly. Diversification of supply is also crucial; resource-owning governments can support new project development by reinforcing national geological surveys, streamlining permitting procedures to shorten lead times, providing financing support to de-risk projects, and raising public awareness of the contribution that such projects play in the transformation of the energy sector.

Reducing material intensity and encouraging material substitution via technology innovation can also play major roles in alleviating strains on supply, while also reducing costs. For example, 40-50% reductions in the use of silver and silicon in solar cells over the past decade have enabled a spectacular rise in solar PV deployment. Innovation in production technologies can also unlock sizeable new supplies. Emerging technologies, such as direct lithium extraction or enhanced metal recovery from waste streams or low-grade ores, offer the potential for a step change in future supply volumes.

A strong focus on recycling, supply chain resilience and sustainability will be essential

Recycling relieves the pressure on primary supply. For bulk metals, recycling practices are well established, but this is not yet the case for many energy transition metals such as lithium and rare earth elements. Emerging waste streams from clean energy technologies (e.g. batteries and wind turbines) can change this picture. The amount of spent EV batteries reaching the end of their first life is expected to surge after 2030, at a time when mineral demand is set to still be growing rapidly. Recycling would not eliminate the need for continued investment in new supplies. But we estimate that by 2040, recycled quantities of copper, lithium, nickel and cobalt from spent batteries could reduce combined primary supply requirements for these minerals by around 10%. The security benefits of recycling can be far greater for regions with wider deployment of clean energy technologies due to greater economies of scale.

Regular market assessments and periodic stress tests, coupled with emergency response exercises (along the lines of the IEA's existing emergency response programmes), can help policy makers identify possible weak points, evaluate potential impacts and devise necessary actions. Voluntary strategic stockpiling can in some cases help countries weather short-term supply disruptions. Such programmes need to be carefully designed, and based on a detailed review of potential vulnerabilities. Some minerals with smaller markets have low pricing transparency and liquidity, making it difficult to manage price risks and affecting investment decisions.

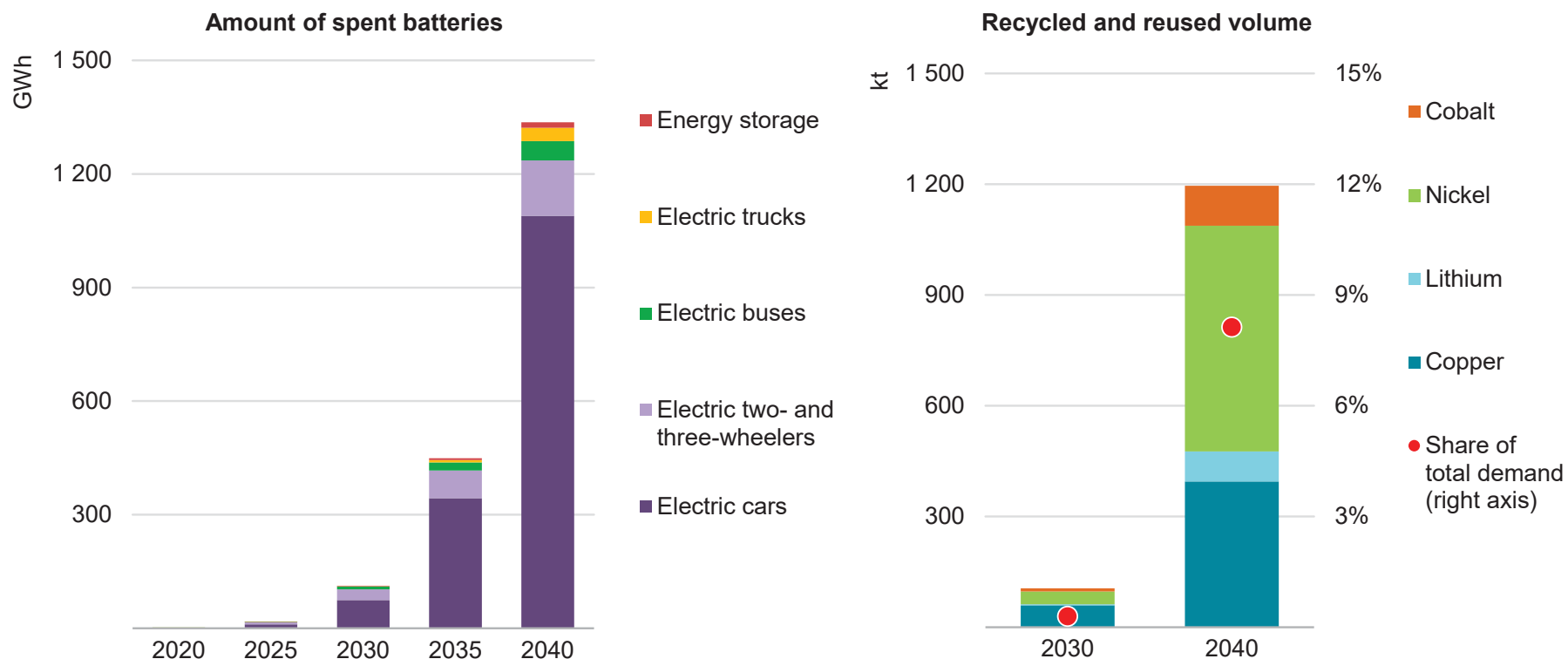
Establishing reliable price benchmarks will be a crucial step towards enhancing transparency and supporting market development.

Tackling the environmental and social impacts of mineral developments will be essential, including the emissions associated with mining and processing, risks arising from inadequate waste and water management, and impacts from inadequate worker safety, human rights abuses (such as child labour) and corruption. Ensuring that mineral wealth brings real gains to local communities is a broad and multi-faceted challenge, particularly in countries where artisanal and small-scale mines are common. Supply chain due diligence, with effective regulatory enforcement, can be a critical tool to identify, assess and mitigate risks, increasing traceability and transparency.

Emissions along the mineral supply chain do not negate the clear climate advantages of clean energy technologies. Total lifecycle greenhouse gas emissions of EVs are around half those of internal combustion engine cars on average, with the potential for a further 25% reduction with low-carbon electricity. While energy transition minerals have relatively high emission intensities, a large variation in the emissions footprint of different producers suggests that there are ways to minimise these emissions through fuel switching, low-carbon electricity and efficiency improvements. Integrating environmental concerns in the early stages of project planning can help ensure sustainable practices throughout the project life cycle.

The projected surge in spent battery volumes suggests immense scope for recycling

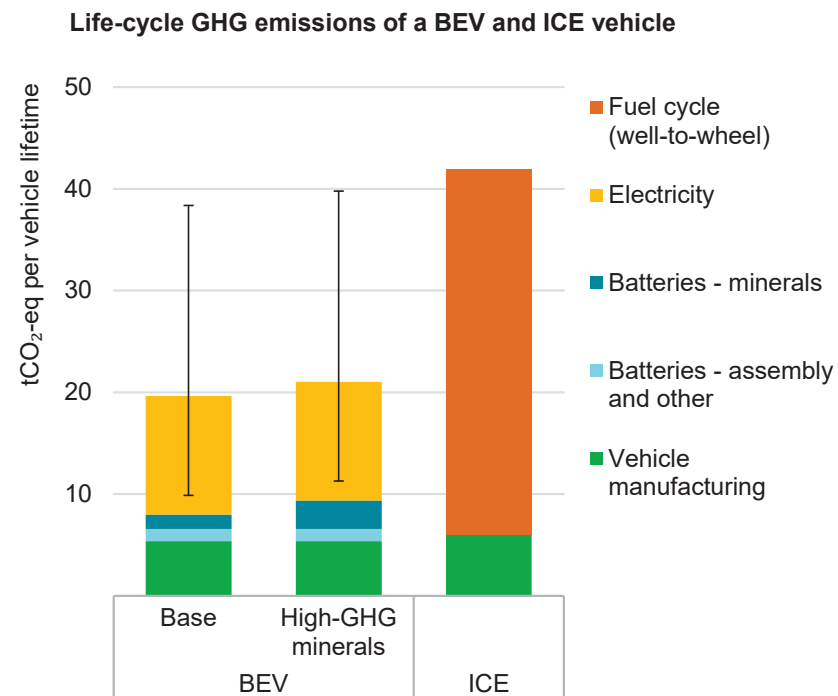
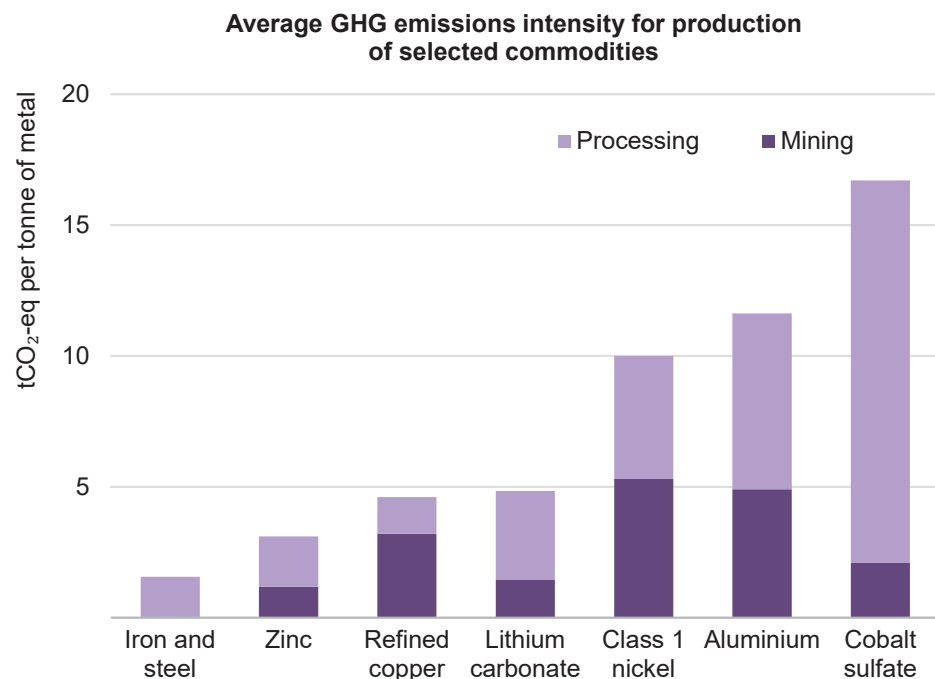
Amount of spent lithium-ion batteries from EVs and storage and recycled and reused minerals from batteries in the SDS



Note: GWh = gigawatt hour.

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Stronger actions are required to counter the upward pressure on emissions from mineral production, but the climate advantages of clean energy technologies remain clear



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Notes: BEV = battery electric vehicle; ICE = internal combustion engine. The “High-GHG minerals” case assumes double the GHG emissions intensity for battery minerals. Includes both Scope 1 and 2 emissions of all GHG from primary production. See Chapter 4 for more detailed assumptions.

Source: IEA analysis based on IEA (2020a); IEA (2020b); Kelly et al. (2020); Argonne National Laboratory (2020); Argonne National Laboratory (2019); Rio Tinto (2020); S&P Global (2021); Skarn Associates (2021); Marx et al. (2018).

IEA's six key recommendations for a new, comprehensive approach to mineral security

- 1. Ensure adequate investment in diversified sources of new supply.** Strong signals from policy makers about the speed of energy transitions and the growth trajectories of key clean energy technologies are critical to bring forward timely investment in new supply. Governments can play a major role in creating conditions conducive to diversified investment in the mineral supply chain.
- 2. Promote technology innovation at all points along the value chain.** Stepping up R&D efforts for technology innovation on both the demand and production sides can enable more efficient use of materials, allow material substitution and unlock sizeable new supplies, thereby bringing substantial environmental and security benefits.
- 3. Scale up recycling.** Policies can play a pivotal role in preparing for rapid growth of waste volumes by incentivising recycling for products reaching the end of their operating lives, supporting efficient collection and sorting activities and funding R&D into new recycling technologies.
- 4. Enhance supply chain resilience and market transparency.** Policy makers need to explore a range of measures to improve the resilience of supply chains for different minerals, develop response capabilities to potential supply disruptions and enhance market transparency. Measures can include regular market assessments and stress tests, as well as voluntary strategic stockpiles in some instances.
- 5. Mainstream higher environmental, social and governance standards.** Efforts to incentivise higher environmental and social performance can increase sustainably and responsibly produced volumes and lower the cost of sourcing them. If industry players with strong environmental and social standards are rewarded in the marketplace, this can also bring new suppliers to a more diversified market.
- 6. Strengthen international collaboration between producers and consumers.** An overarching international framework for dialogue and policy co-ordination among producers and consumers can play a vital role, an area where the IEA's energy security framework could usefully be leveraged. Such an initiative could include actions to (i) provide reliable and transparent data; (ii) conduct regular assessments of potential vulnerabilities of supply chains and potential collective responses; (iii) promote knowledge transfer and capacity building to spread sustainable and responsible development practices; and (iv) strengthen environmental and social performance standards to ensure a level playing field.

<https://www.sec.gov/news/public-statement/gensler-statement-nasdaq-proposal-disclosure-board-diversity-080621>

Statement on the Commission's Approval of Nasdaq's Proposal for Disclosure about Board Diversity and Proposal for Board Recruiting Service

Aug. 6, 2021

Today, the Commission voted to approve **Nasdaq's proposed rule changes requiring issuers to disclose certain information about the diversity of the company's board and to offer certain companies access to a complimentary board recruiting service.**^[1]

These rules will allow investors to gain a better understanding of Nasdaq-listed companies' approach to board diversity, while ensuring that those companies have the flexibility to make decisions that best serve their shareholders.

As the order discusses, the rules are consistent with the requirements of the Exchange Act. These rules reflect calls from investors for greater transparency about the people who lead public companies, and a broad cross-section of commenters supported the proposed board diversity disclosure rule. Investors are looking for consistent and comparable data when making decisions about their investments. I believe that our markets work best when investors have access to such information.

[1] See Securities Exchange Act Release No. [34-92590](#) (August 6, 2021) (order approving SR-NASDAQ-2020-081 and SR-NASDAQ-2020-082).

https://www.wsj.com/articles/nasdaqs-board-diversity-proposal-faces-sec-decision-11628242202?mod=hp_lead_pos3

Nasdaq's Board-Diversity Proposal Wins SEC Approval

Agency backs plan to set minimum targets for composition of listed companies' directors

The SEC agreed to a Nasdaq proposal that would require listed companies to meet minimum diversity targets or explain why they aren't doing so.

PHOTO: KENA BETANCUR/AGENCE FRANCE-PRESSE/GETTY IMAGES

By Alexander Osipovich

Updated Aug. 6, 2021 3:48 pm ET

[Nasdaq](#) Inc.'s [NDAQ 0.02%](#) push for greater diversity on corporate boards cleared a key hurdle, as regulators approved [the exchange operator's proposal](#) to include gender and race in its listing rules.

In an order released Friday afternoon, the Securities and Exchange Commission agreed to Nasdaq's proposed rule changes. But in a sign of the political divisions over the proposal, the SEC's two Republican commissioners registered their opposition, with one voting against the decision and the other giving only partial support.

Under the proposal, Nasdaq-listed companies [would need to meet certain minimum targets](#) for the gender and ethnic diversity of their boards or explain in writing why they aren't doing so.

For most U.S. companies, the target would be to have at least one woman director, as well as a director who self-identifies as a racial minority or as lesbian, gay, bisexual, transgender or queer. Companies would also be required to disclose diversity statistics about their boards. Nasdaq found in a review conducted before submitting its plan late last year that [more than three-quarters](#) of its listed companies wouldn't have met its proposed requirements.

“These rules will allow investors to gain a better understanding of Nasdaq-listed companies’ approach to board diversity, while ensuring that those companies have the flexibility to make decisions that best serve their shareholders,” SEC Chairman Gary Gensler said in a statement.

Republican Commissioner Hester Peirce voted against the proposal, while the SEC’s other Republican commissioner, Elad Roisman, offered a partial dissent. In a statement, Mr. Roisman praised the goal of greater boardroom diversity, but said the SEC’s approval order fails to make the case for why the agency should agree to the rule. He also warned that the rule could drag the SEC into thorny legal disputes over discrimination.

“A serious concern is that the SEC—without any doubt, a state actor—may need to take future action in which the agency must consider disclosure of the racial, ethnic, gender, or LGBTQ+ status of individual directors,” Mr. Roisman wrote. “After all, the Commission is the adjudicating body for exchange delisting decisions.”

Republicans on the Senate Banking Committee and some conservative groups [have criticized the plan](#), saying Nasdaq is overreaching and pursuing a political agenda. “I’m disappointed Chairman Gensler is turning a financial regulator into a laboratory for progressive social engineering,” Sen. Pat Toomey (R., Pa.), the committee’s ranking member, said after Friday’s decision.

Democrats on Capitol Hill and corporations such as [Goldman Sachs Group](#) Inc. and [Microsoft](#) Corp. have voiced support for the proposal.

Critics of Nasdaq’s plan have warned that it could be challenged in court. Some conservative groups have argued that the exchange’s diversity rule, if implemented, would violate the U.S. Constitution and civil-rights laws.

“The proposed rule is racist and sexist in that it mandates that firms establish quotas and discriminate based on sex, skin color, ethnicity or sexual orientation,” David Burton, a senior fellow at the Heritage Foundation, told the SEC in a January letter.

Lawyers for Nasdaq say the rule wouldn't violate any laws. Nasdaq has rejected characterizations of its proposed rule as a mandatory quota system, since companies would have the option of filing a written explanation for why they weren't meeting the diversity targets.

The exchange operator also [amended its initial proposal](#) to make it easier for small companies to comply. One of the changes, for instance, allows companies that have five or fewer directors to meet the targets with just one board member from a designated diverse background, rather than two.

Nasdaq argued that its proposed rule change would benefit investors. The exchange operator cited studies that found companies with more diverse boards tended to have stronger corporate governance and financial performance.

"We are pleased that the SEC has approved Nasdaq's proposal to enhance board diversity disclosures and encourage the creation of more diverse boards through a market-led solution," Nasdaq said Friday.

A variety of Wall Street initiatives have sought to bring more diversity to U.S. corporate boards, which remain heavily white and male. Asset managers such as [BlackRock](#) Inc. and State Street Global Advisors have pushed their portfolio companies to appoint more women as directors. Last year, Goldman said it would no longer underwrite initial public offerings of companies in the U.S. and Europe unless they had at least one "diverse" board member. The bank recently raised that target to two diverse directors.

An analysis released in June found that big U.S. companies significantly boosted the share of [new directors who are Black or Latino](#) this year, and have added more women to their boards in recent years. **Nearly 75% of new independent directors at companies in the S&P 500 are women or belong to a racial or ethnic minority, up from about 60% last year and 31% a decade ago,** according to the analysis by board and executive recruiting firm Spencer Stuart.

Still, the shift left around 80% of board seats occupied by white directors and about 70% by men. About 11% of S&P 500 board members are Black, 4% are Latino and 6% are Asian, Spencer Stuart found.

—*Theo Francis*
contributed to this article.

Excerpt SAF Group Dec 6 2020 Energy Tidbits

Capital Markets – Board diversification will increasingly screen out stocks

There was another good reminder this week on another part of ESG being an increasing screen out for stocks – board diversification. The primary focus over the past few years has been on gender diversification on boards. But it looks like there will be an added focus on adding other diverse board members such as visible minorities. This board diversification priority is only going to increase especially with NASDAQ working towards adding board diversification to its listing requirements. This week, NASDAQ issued a release [\[LINK\]](#) that it had filed a proposal with the SEC “to adopt new listing rules related to board diversity and disclosure. If approved by the SEC, the new listing rules would require all companies listed on Nasdaq’s U.S. exchange to publicly disclose consistent, transparent diversity statistics regarding their board of directors. Additionally, the rules would require most Nasdaq-listed companies to have, or explain why they do not have, at least two diverse directors, including one who self-identifies as female and one who self-identifies as either an underrepresented minority¹ or LGBTQ+. Foreign companies and smaller reporting companies would have additional flexibility in satisfying this requirement with two female directors.” Our Supplemental Documents package includes the NASDAQ release.

Large eastern Canadian companies have already focused on this push

There aren’t any similar board diversification proposals in Canada. The priority for Canadian companies has been on board gender diversification. But large eastern Canadian companies have also started to increase their efforts on other board diversification such as visible minorities or as the Liberals describe them as racialized Canadians. In this week’s Canada Fall Economic Statement the Liberals included their challenge to corporate Canada. “*Building a Corporate Canada that Looks Like Canada. In Canada’s business community, women, racialized Canadians, LGBTQ2 Canadians, people with disabilities, and Indigenous people are underrepresented in positions of influence. The 50-30 Challenge is a call to action to businesses across Canada to increase diverse representation on corporate boards and in senior management positions. The 50-30 Challenge asks participating organizations to make two commitments and report regularly on progress towards: • Gender parity (“50 per cent”) on boards and in senior management, and; • Significant representation (“30 per cent”) on boards and in senior management of other underrepresented groups, including racialized Canadians, Indigenous people, people with disabilities, and members of LGBTQ2 communities.*”



Dan Tsubouchi @Energy_Tidbits · 4h

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Congrats to #TeamCanada 🇨🇦 @Tokyo2020 for huge success & being great ambassadors of 🇨🇦. Best summer medal count ever apart from eastern bloc boycott LA 1984 games. Not just medals, so many so close to the podium who will be hugely motivated for @Paris2024 . Amazing #TeamCanada 🇨🇦

Games	Athletes	Gold	Silver	Bronze	Total	Rank
1984 Los Angeles	407	10	18	16	44	6
2020 Tokyo	370	7	6	11	24	11
2016 Rio de Janeiro	314	4	3	15	22	20
1996 Atlanta	303	3	11	8	22	21
2008 Beijing	332	3	9	8	20	20
1992 Barcelona	295	7	4	7	18	11
2012 London	281	2	5	11	18	27
1908 London	87	3	3	10	16	7
1928 Amsterdam	69	4	4	7	15	10
1932 Los Angeles	102	2	5	8	15	12
2000 Sydney	294	3	3	8	14	24

*In 1984 Los Angeles was the eastern bloc boycott by 14 countries led by Russia & East Germany
Source: Wikipedia, CBC



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Stronger for longer #Oil prices. #Aramco to boost productive capacity to 13 mmb/d. Bloomberg @PaulWallace123 @MattMartin128 report Aramco CEO Nasser "with less investment that we see from other producers globally, this creates an opportunity". #OOTT

Oil prices have risen since the end of 2020, with crude oil reaching \$115 a barrel, above the state-controlled firm's quarterly dividend of \$2.50 a share for the first time since the pandemic. The resumption of major economies has triggered a surge in commodity prices, with crude oil around 40% this year. In the past few weeks, oil companies such as BP PLC, Chevron Corp and Royal Dutch Shell PLC have said they will increase share buybacks and payoffs, confident the worst of the pandemic is over. Aramco's annual dividend of \$2.50 a share, the world's largest, is a crucial source of funding for Saudi Arabia. The government, which owns 80% of the company, is trying to narrow a budget deficit that ballooned last year as energy prices tumbled with the spread of the virus. The results "reflect a strong rebound in worldwide energy demand and we are heading into the second half of 2021 more resilient and more flexible, as the global recovery gains momentum," Chief Executive Officer Amin Nasser said in a statement on Tuesday. "Energy prices are expected to remain strong half of 2021 and beyond." Oil, the pandemic is "likely to be from now," Nasser said later on a call with reporters. Oil just had its worst week since October as the spread of the delta variant, especially in China, clouds the short-term outlook. Brent crude fell 7% to \$120.70 a barrel. **Oil prices** of demand remains below pre-Covid levels, but should reach near-normal levels of 100 million barrels a day this year, Nasser said.

Debt Down
Aramco's gearing, a measure of net debt to equity, fell to 38.4% from 20% at the end of 2020, though it remains above management's preferred cap of 35%. It declined thanks to higher cash flow and the Dhahran-based firm using some proceeds from the sale of a stake linked to oil pipelines to pay down debt. In June, Aramco completed the \$2.4 billion deal with a consortium led by U.S. group ICG Global Energy Partners LLC. Capital expenditure was \$15.7 billion in the first half of the year and Aramco expects to be around \$10 billion for all of 2021, in line with earlier guidance. Part of that money will go toward boosting daily crude.

Refined Oil
Aramco is continuing to do due diligence on a proposed investment in Refiner Industries Ltd.'s oil-to-chemicals refining business, Bloomberg said. In 2020, Aramco discussed buying a 20% stake for roughly \$15 billion, but the deal was delayed by the pandemic. It should be finalized this year, India's Refiner said in June. The Saudi firm is scheduled to release more detailed financial statements on Monday, including a breakdown of the performance of its upstream and downstream units. The company's chemicals arm, Saudi Basic Industries Corp, reported by best results in almost a decade last week as demand for products from plastics to paint and packaging boomed. Nasser will also hold an investor call on Monday. Aramco's stock was unchanged at \$33.95 a share at 12:40 p.m. in Riyadh on Sunday.

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To view this story in Bloomberg iQ & News:
<https://bbs.bloomberg.com/news/stocks/090521070100>



Dan Tsubouchi @Energy_Tidbits · 4h

...

#Aramco Q2/21 Free cash flow \$22.58b funds \$18.75b dividend, brings H1/21 FCF \$40.86b vs \$37.5b div. No special dividend, but @PaulWallace123 @MattMartin128 report CFO "We'll advise later this year whether we'll be sticking to the ordinary dividend or doing otherwise". #OOTT

Saudi Aramco
Second quarter and half year 2021
All amounts in millions unless otherwise stated

Non-IFRS measures reconciliations and definitions

Aramco uses certain non-IFRS financial measures, including free cash flow and gearing, to make informed decisions about its financial position and operating performance or liquidity. These non-IFRS financial measures have been included below to facilitate a better understanding of Aramco's historical trends of operation and financial position.

Aramco uses non-IFRS financial measures as supplementary information to its IFRS based operating performance and financial position. The non-IFRS financial measures are not defined by, or presented in accordance with, IFRS. The non-IFRS financial measures are not measurements of Aramco's operating performance or liquidity under IFRS and should not be used instead of, or considered as alternatives to, any measures of performance or liquidity under IFRS. The non-IFRS financial measures relate to the reporting periods are not intended to be predictive of future results. In addition, other companies, including those in Aramco's industry, may calculate similarly titled non-IFRS financial measures differently from Aramco. Because companies do not necessarily calculate these non-IFRS financial measures in the same manner, Aramco's presentation of such non-IFRS financial measures may not be comparable to other similarly titled non-IFRS financial measures used by other companies.

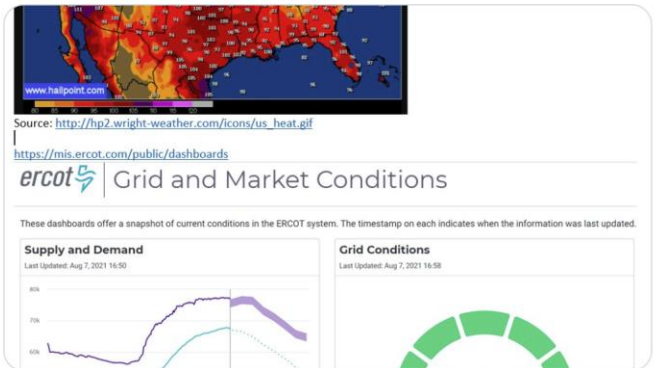
Free cash flow
Aramco uses free cash flow to evaluate its cash available for financing activities, including dividend payments. Aramco defines free cash flow as net cash provided by operating activities less capital expenditures.





Dan Tsubouchi @Energy_Tidbits · 17h

Moving into critical part of day when #Renewable power stops to drop. Texas is very hot today, but #ERCOT sees plenty of #Electricity reserve. Thx Wright-Weather LLC for heat map. #NatGas



1 1 4



Dan Tsubouchi @Energy_Tidbits · 20h

Not all higher #OPEC oil being absorbed. Note Vortexa crude #Oil in floating storage 92.13 mmb on 08/06, up vs 86.31 mmb 07/30, which was originally est at 81.15 mmb. Also +16.10 mmb vs recent 06/25 trough 76.03 mmb. Thx @Vortexa @TheTerminal. #OOTT



3 2



Dan Tsubouchi @Energy_Tidbits · 20h

getting near the end of the good #Calgary Elbow River rafting season. today is best water depth day this week and still seeing people having to get out to push thru the shallow sections.



2



Dan Tsubouchi @Energy_Tidbits · Aug 7

#LNG sea change #Cheniere Q2 mgmt "Global LNG market fundamentals continue to be extremely constructive and we've begun to see the return of long-term LNG contracts and support of the construction of new liquefaction capacity" Fits SAF Group July 14 blog safgroup.ca/news-insights/

SAF Dan Tsubouchi @Energy_Tidbits · Jul 14

SAF Group blog "Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs" just posted. Hope it helps in your #LNG #NatGas #LNGSupplyGap #OOTT perspective. safgroup.ca/insights/trend...

SAF GROUP

Blog Summary

Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs

Posted Wednesday, July 14, 2021 at 10:00 MT

The last 7 days has shown there is a sea change as Asian LNG buyers have made an abrupt change in their LNG contracting and are moving to lock in long term LNG supply. This is the complete opposite of what they were doing pre-Covid when they were trying to renegotiate Qatar LNG long term deals lower and moving away from long term deals to spot/short term sales. Why? We think they did the same math we did in our April 28 blog "Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?" and saw a much bigger and sooner LNG supply gap driven by the delay of 5 bcf/d of Mozambique LNG that was built into most, if not all LNG supply forecasts. Asian LNG buyers are committing real dollars to long term LNG deals, which we believe is the best validation for the LNG supply gap. Another validation, Shell, Total and others are aggressively competing to invest long term capital to partner in Qatar Petroleum's massive 4.3 bcf/d LNG expansion despite plans to reduce fossil fuels production in the 2020s. And even more importantly to LNG suppliers, the return to long term LNG contracts provides the financing capacity to commit to brownfield LNG FIDs. The abrupt change by Asian LNG buyers to long term contracts is a game changer for LNG markets and sets the stage for brownfield LNG FIDs likely as soon as before year end 2021. It has to be brownfield LNG FIDs if the gap is coming bigger and sooner. And we return to our April 28 blog point, if brownfield

1 3



Dan Tsubouchi @Energy_Tidbits · Aug 6

Note @breakingweather that signs Atlantic hurricane season will soon come alive. Fits with the normal seasonal timing that peak Atlantic hurricane season is mid-Aug to mid-Oct. #OOTT #NatGas

Excerpt SAF Group Aug 1, 2021 Energy Tidbits. <https://safgroup.ca/news-insights/>

Oil & Natural Gas – Peak Atlantic hurricane season is Aug 20 thru Oct 10

It's been quiet in the past few weeks for any significant tropical storm/hurricane activity in the Atlantic overall and meoreso for the Gulf of Mexico. But we remind that it's still a few weeks away from the normal peak of Atlantic hurricane season. Our prior Energy Tidbits have noted before how peak Atlantic hurricane season is in the Aug/Sept/Oct. Below is graphic we first last summer on a Aug 28, 2018 Weather Channel report that had a good graphic (see below) and wrote [link] "Historically speaking, September has recorded the most Atlantic hurricane formations since 1851 with 404. That's an average of two or three forming in the month every year, according to NOAA. August ranks second with 240 hurricanes, and October ranks third with 205. The period between Aug. 20 and Oct. 10 accounts for 60 percent of all Atlantic Basin hurricanes and 75 percent of all major hurricanes (Category 3 or stronger) in that basin, according to Dr. Phil Klotzbach, a tropical scientist at Colorado State University." We double checked the Weather Channel link this weekend and it still works.

Figure 40: Atlantic Peak Hurricane Season

Source: Weather Channel

Breaking Weather by AccuWeather @breakingweather · Aug 6

The Atlantic has been in the midsummer doldrums, a typical quiet period in tropical activity during mid- to late July. However, there are signs that the basin will soon come alive: bit.ly/2Vo7119

1



Dan Tsubouchi @Energy_Tidbits · Aug 6

Positive to #NatGas #LNG in 2020s. OECD's steady replacement of 24/7 #Coal #Nuclear baseload with variable #Renewable means OECD #Electricity prices spike/shortage risk when supply/demand gets tight. China/India just increase coal. #Electricity will cost more in #EnergyTransition

Region	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total North America	9082.1	9275.8	9293.8	9243.9	9285.1	9314.2	9374.4	9371.1	9287.7	9420.5	9282.1	9303.9	-2.8%	0.6%
Total S. & Cent. America	1093.9	1148.5	1181.1	1201.4	1247.6	1287.3	1296.6	1305.6	1306.8	1330.9	1339.0	1282.8	-4.5%	2.1%
Total Europe	3761.7	4016.8	4074.4	4091.1	4102.2	4106.2	3982.7	4081.4	4091.3	4005.9	3992.1	3987.0	-3.3%	0.2%
Total CIS	1226.2	1244.0	1338.9	1333.4	1325.7	1337.9	1343.9	1363.3	1383.0	1410.4	1428.1	1397.1	-2.1%	1.3%
Total Middle East	897.9	872.7	880.7	848.6	862.4	895.4	1109.7	1143.7	1196.5	1207.4	1253.6	1285.2	0.6%	4.9%
Total Africa	637.5	652.3	689.4	721.1	746.0	747.9	788.4	796.5	824.8	847.2	863.4	863.9	-2.5%	2.3%
Total Asia Pacific	7537.5	8297.7	8875.1	9278.1	9812.3	10333.7	10433.9	10947.6	11048.8	12339.3	12741.6	12919.3	1.1%	6.4%
Total World	20284.9	21870.7	22277.0	22066.3	23439.2	24019.7	24270.9	24919.2	24623.9	26829.1	27001.0	26523.2	-0.1%	3.0%
OECD	12461.2	13205.6	13274.3	13223.7	13191.8	13098.9	13020.9	13022.3	13178.0	13121.3	13161.1	12988.8	-0.1%	0.2%
Non-OECD	9624.8	10567.9	11242.7	11782.0	12419.7	13075.2	13205.5	13832.4	14054.4	15045.4	15832.6	15942.8	0.4%	5.1%
European Union #	2847.6	3062.6	2911.3	2932.3	2910.9	2851.1	2899.1	2920.1	2925.4	2937.6	2892.6	2779.6	-4.0%	0.2%

Source: IEA Global Review of World Energy 2021

Region	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total North America	2011.4	2114.9	1997.7	1742.6	1614.3	1513.7	1564.2	1442.9	1420.0	1330.1	1191.7	1096.6	-9.8%	0.9%
Total S. & Cent. America	39.3	44.3	48.6	52.9	57.7	63.1	73.1	77.9	79.0	79.4	76.4	76.4	2.9%	6.6%
Total Europe	1006.3	1091.1	1096.4	1115.0	1098.3	1071.2	988.7	927.7	897.8	852.4	828.3	814.8	-16.9%	-3.3%
Total CIS	228.4	235.0	237.7	239.9	238.6	239.4	227.1	226.1	246.4	255.6	254.9	229.4	-10.2%	1.2%
Total Middle East	34.7	34.6	35.6	39.2	32.6	39.7	29.7	24.7	22.7	21.3	22.6	19.7	-13.3%	-4.2%
Total Africa	247.7	267.3	268.0	265.6	251.4	261.9	247.0	248.9	256.1	264.8	265.7	234.0	-7.9%	0.3%
Total Asia Pacific	4592.6	4932.2	5441.2	5660.7	6080.2	6337.6	6209.6	6472.3	6836.4	7358.1	7397.4	7384.4	-0.8%	5.9%
Total World	8141.4	8624.5	9076.2	9107.7	9722.4	9402.4	9422.4	9716.2	9699.7	9426.2	9421.4	8421.4	-4.4%	1.9%
OECD	2011.4	2114.9	2002.2	1742.6	1614.3	1513.7	1564.2	1442.9	1420.0	1330.1	1191.7	1096.6	-18.1%	-1.9%
Non-OECD	4439.8	4491.5	5474.2	5642.9	6042.3	6286.1	6194.3	6429.4	6738.2	7284.0	7376.0	7293.6	-0.4%	5.1%
European Union #	773.3	788.0	781.2	773.3	759.4	722.4	732.0	682.2	669.0	626.7	476.1	379.4	-21.0%	-4.2%

Source: IEA Global Review of World Energy 2021

Region	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total North America	949.9	943.3	934.8	912.8	945.1	905.3	901.9	899.4	868.8	809.3	803.9	840.4	-2.7%	0.2%
Total S. & Cent. America	21.1	21.7	22.1	22.4	21.7	20.9	21.8	24.1	21.8	22.5	24.6	26.0	5.4%	1.9%
Total Europe	904.7	900.5	896.2	896.4	895.6	892.7	863.3	842.2	805.1	785.1	793.0	817.4	-10.2%	-0.8%
Total CIS	168.1	173.9	175.6	178.9	174.9	183.2	188.3	185.0	205.9	206.7	211.2	218.0	3.0%	2.8%

Source: IEA Global Review of World Energy 2021



Dan Tsubouchi @Energy_Tidbits · Aug 6

then @GrossoJulia kicks the winner for #TeamCanada 🇨🇦 gold



Dan Tsubouchi @Energy_Tidbits · Aug 6

gold for #TeamCanada 🇨🇦. @stephlabbe1 makes key save





Dan Tsubouchi @Energy_Tidbits · Aug 6



#NatGas power generation in California to increase this summer.
#LakeOroville hydro plant shut down for 1st time ever due to low lake water levels. Capacity 750MW power for ~0.5 million homes, but typically runs at ~400MW.
sacbee.com/news/californi...

SAP Dan Tsubouchi @Energy_Tidbits · Aug 2

#NatGas power generation to increase thru Oct 31 as CA to pay large energy users to move to backup generation ie #NatGas.
#EnergyTransition greenwashing? @GavinNewsom critical times causes forgot to say wildfires don't just hurt transmission, also cut #Solar generation efficiency

The screenshot shows a tweet with a report and a document. The report, titled "Strike from California wildfires decreases solar generation in CAISO", includes a line graph showing solar generation from 2018 to 2020. The graph shows a significant dip in solar generation in 2020 compared to 2018 and 2019. The document, titled "California Air Resources Board", is a multi-page report with various sections and tables.





Dan Tsubouchi @Energy_Tidbits · Aug 5



Canada unexpectedly posts trade surplus. what's the surprise? US imports ~3.5 mmb/d Cdn #oil. WCS prices in June +\$5.50 MoM & \$27.50 YoY which is \$0.6b Mom and \$2.9b YoY. Pretty obvious reminder to @JustinTrudeau how important oil is to CAN economy. #OOTT



Canada unexpectedly posts huge trade surplus in June, biggest since 2...
Canada unexpectedly posted a trade surplus of C\$3.23 billion (\$2.58 billion) in June, the largest in almost 13 years, as exports jumped on ...
[reuters.com](https://www.reuters.com)



2



4



25



Dan Tsubouchi @Energy_Tidbits · Aug 5



Expect #Exxon and a wave of Govt/Company #NetZero #CarbonNeutral #ReducingEmissions #EnergyTransition commitments/pledges to accelerate post Labor Day. Its less than 3 mths to @COP26 Glasgow starts Nov 1. #OOTT



WSJ News Exclusive | Exxon Considers Pledging 'Net-Zero' Carbon by 2...
The oil company is considering a pledge to reduce its net carbon emissions to zero by 2050, according to people familiar with the matte...
[wsj.com](https://www.wsj.com)



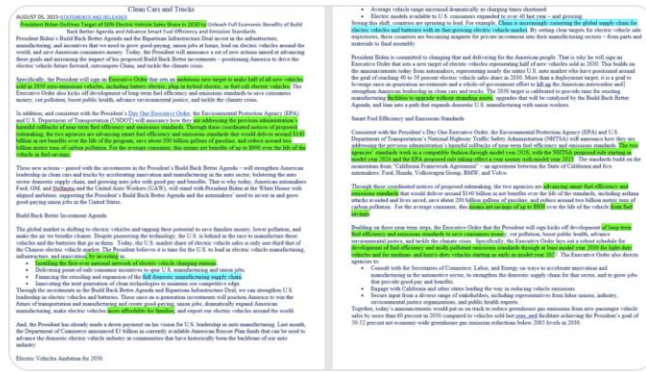
3





Dan Tsubouchi @Energy_Tidbits · Aug 5

Note @POTUS fact sheet is careful to focus on manufacturing not critical minerals. ie. "Financing the retooling and expansion of the full domestic manufacturing supply chain". Says "China is increasingly cornering the global supply chain.." but no plan to address your point.

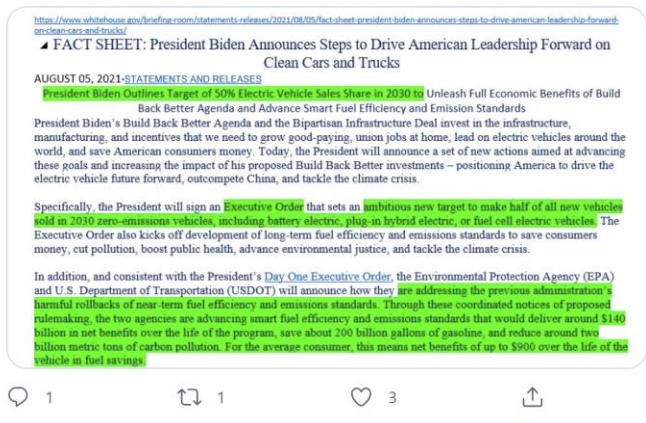


CommanderCricket @Michael42414180 · Aug 5
Replying to @Energy_Tidbits and @POTUS
There isn't enough copper, lithium, cobalt and REE's supply to meet these requirements. It takes 5 - 10 years to get a new mine producing and current supply is know where near enough to this quantity of demand in 9 years. Not going to happen



Dan Tsubouchi @Energy_Tidbits · Aug 5

#EVs get all @POTUS talk time, but finally seeing action on no brainer to significantly reduce emissions and, importantly, not require any infra capex to gasoline or electricity supply chain - fuel efficiency/emissions standards for ICE. Big #Carbon savings vs current. #OOT





Dan Tsubouchi @Energy_Tidbits · Aug 4

Can the world plant enough trees to generate the accelerating (exponential?) increase in tree planting #CarbonOffsets? Great food for thought math @RBNEnergy @Housley_RBN need 1.2 mm trees to offset entire carbon impact of 1 #LNG cargo. #EnergyTransition rbnenergy.com/a-matter-of-tr...

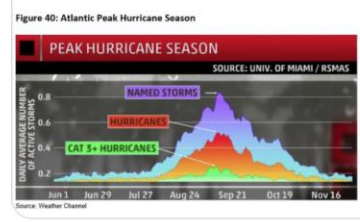
RBN Energy @RBNEnergy · Aug 4
In Monday's blog, we said the lifecycle emissions of each LNG cargo would be about 240,000 MT of CO2 equivalent. At 5 trees per ton of CO2e, using tree planting to offset the entire carbon impact of one shipment would take an estimated 1.2 million trees. rbnenergy.com/rea



Dan Tsubouchi @Energy_Tidbits · Aug 4

#NOAA update is for above average Atlantic #Hurricane season. Also reminder just now moving into peak #Hurricane season. @weatherchanne @philklotzbach remind 60% of Atlantic hurricanes occur between Aug 20 and Oct 10. #Oil #NatGas weather.com/storms/hurrica...

Excerpt SAF Group Aug 1, 2021 Energy Tidbits. <https://safgroup.ca/news-insights/>
Oil & Natural Gas -- Peak Atlantic hurricane season is Aug 20 thru Oct 10
It's been quiet in the past few weeks for any significant tropical storm/hurricane activity in the Atlantic overall and more so for the Gulf of Mexico. But we remind that it's still a few weeks away from the normal peak of Atlantic hurricane season. Our prior Energy Tidbits have noted before how peak Atlantic hurricane season is in the Aug/Sept/Oct. Below is graphic we first last summer on a Aug 28, 2018 Weather Channel report that had a good graphic (see below) and wrote [LINK] "Historically speaking, September has recorded the most Atlantic hurricane formations since 1851 with 404. That's an average of two or three forming in the month every year, according to NOAA, August ranks second with 243 hurricanes, and October ranks third with 205. The period between Aug. 20 and Oct. 10 accounts for 60 percent of all Atlantic Basin hurricanes and 75 percent of all major hurricanes (Category 3 or stronger) in that basin, according to Dr. Phil Klotzbach, a tropical scientist at Colorado State University." We double checked the Weather Channel link this weekend and it still works.



NOAA @NOAA · Aug 4
NOAA's *Updated* 2021 Atlantic #HurricaneSeason Outlook now calls for:
15-21 named storms of which 7-10 could become hurricanes, including 3-5 major hurricanes. ...





Dan Tsubouchi @Energy_Tidbits · Aug 4

For those not near their laptop. EIA weekly #Oil #Gasoline #Distillates inventory data as of July 30 just out. Prior to release, #WTI was trading at \$69.07. #OOTT

ir.eia.gov/wpsr/overview...

Oil/Products Inventory July 30: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	3.63	-3.00	-0.88
Gasoline	-5.29	-1.50	-5.75
Distillates	0.83	-0.50	-0.72
	-0.83	-5.00	-7.35

Note: In addition, there was no change in the SPR for July 30 week
 Note: Included in the data, Cushing had a draw of 0.54 mmb for July 30 week
 Source EIA, Bloomberg
 Prepared by SAF Group

1 2



Dan Tsubouchi @Energy_Tidbits · Aug 4

ICYMI. huge day for #TeamCanada 🇨🇦 in Decathlon Day 1 at @Tokyo2020. @DamianWarner sits #1, set records in 100m & long jump. @Pierce_LePage set PBs in 400m & shotput. 🇨🇦 supporters turn on your TV early Thurs. must be amazing for athletes to deliver on the biggest stage.

TOKYO 2020

SCHEDULE & RESULTS MEDALS SPORTS LIVEBLOG NEWS VIDEOS ATHLETES TEAMS/NOC FANZONE

Summary Decathlon Summary

Summary Combined Events - Men's Decathlon

Current Records

Record	Mark	Name	Location	Date
WR	9126	FRA MAYER Kevin	Talence (FRA)	16 Sep 2018
OR	8893	USA EATON Ashton	Rio de Janeiro (BRA)	18 Aug 2016

OR: Olympic Record WR: World Record [See all records](#)

Decathlon Summary

Mark Name Points 100m Long Shot Put High 400m

2 1



Dan Tsubouchi @Energy_Tidbits · Aug 4

gold for #TeamCanada 🇨🇦 @DeGrasse ! 🇨🇦



3 15



Dan Tsubouchi @Energy_Tidbits · Aug 4

...

More support why @MoEnergy_Saudi #Abdulaziz will continue to manage #Oil markets. @FrankKaneDubai hearing potential #Aramco special dividend ie. makes sense, look bad if #1 oil company was left behind by other supermajors Thx @sean_evers for usual great podcast. #OOTT

SAF Group created transcript of excerpt from Gulf Intelligence New Silk Road "Live" Aug 4 podcast. <https://soundcloud.com/user-846530307/podcast-daily-energy-markets-forum-new-silk-road-live-aug-4>

Items in "italics" are SAF Group created transcript.

Frank Kane, Senior Business Columnist, Arab News. Highlighted Saudi Aramco reports 1st half results on Sunday, should be big numbers with higher oil prices and increased volumes and adds *"and some of the people I have been talking to about this are even discussing the possibility of a special dividend from Saudi Aramco ie. a bigger dividend in line with the other"*. Sean Evers (Gulf Intelligence Managing Partner "oil majors" Kane "exactly"



Gulf Intelligence @gulf_intel · Aug 4

PODCAST: Daily Energy Markets Forum - New Silk Road "Live" - Webinar Aug 4 bit.ly/2TV6PX

@FrankKaneDubai @arabnews @EuronavNV #OPEC #Oil #energy #oilmarket #DeltaPlusVariant @AdnocGroup @vitolnews ...



Dan Tsubouchi @Energy_Tidbits · Aug 4

...

UK nails it, the response has to be deterrent (strong enough) to stop further escalation. #MercerStreet was an escalation as Israel, US, UK say was Iran direct drone attack, not via sponsored groups. Time to add geopolitical risk premium to #Oil. Thx @haynesdeborah #OOTT



Deborah Haynes @haynesdeborah · Aug 4

"But ultimately we've got to restore deterrence because it's behaviour like that [Iran's alleged tanker attack] which leads to escalation & that could v easily lead to miscalculation & that would be v disastrous for all the people's of the Gulf & the international community" 4/4

[Show this thread](#)





Dan Tsubouchi @Energy_Tidbits · Aug 3



Positive for #Oil. Overlooked big % of DUCs will never be completed ie. returns from fracing don't justify the capex. Add this to the reasons (ie. higher cost of capital) why US #Oil production growth should be modest. Thx @RystadEnergy Artem Abramov. #OOTT



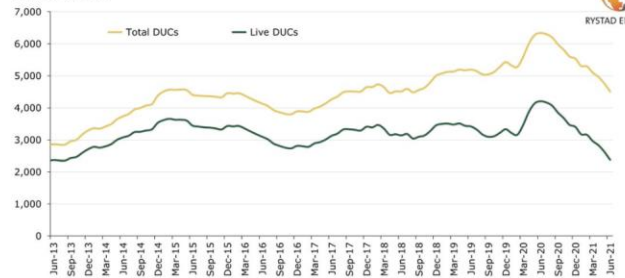
Rystad Energy @RystadEnergy · Aug 3

'Live' DUC well inventory fell to lowest since 2013 as the US continues to frack more than it drills.

Read the full PR here: okt.to/vfnca0

#rystadenergy #energy #energymarkets #oilandgas #shale #fracking #drilling

Total and live* DUC inventory in major US oil regions** by month
Number of wells



*Includes all horizontal wells which are not classified as abandoned and viewed as good completion candidates in future
**Permian, Eagle Ford, Bakken, Niobrara and Anadarko

Source: Rystad Energy ShaleWellCube



Dan Tsubouchi @Energy_Tidbits · Aug 3



betting money is likely that it got a good bid at the very last minute and will end up in europe. thx @Ronh999 for #NatGas #LNG data and info



RonH @Ronh999 · Aug 3

LNG tanker Wilforce has turned around and left the Chesapeake Bay (Cove Point LNG) without docking.

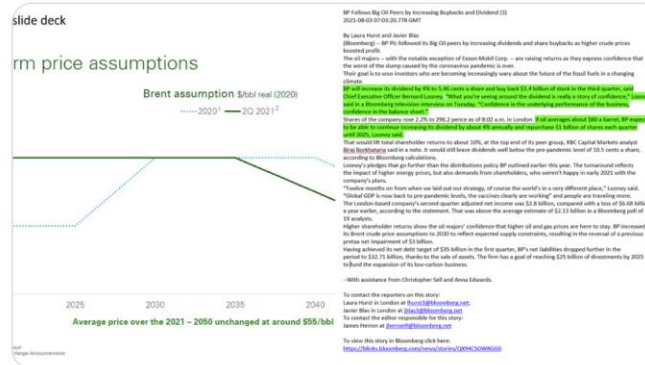
[Show this thread](#)





Dan Tsubouchi @Energy_Tidbits · Aug 3

Straight talk under #EnergyTransition era? #bp CEO on dividend increase + share buyback in Q2 & to 2025 due to "confidence in the underlying performance of the business, confidence in the balance sheet". just can't highlight they now see #Oil prices stronger thru 2020s. #OOTT



1 10



Dan Tsubouchi @Energy_Tidbits · Aug 2

#Israel will have noticed what looks to be a significant change in US position vs aug 1 written statement. #Blinken's statement today excludes considering "on an appropriate response, which will be forthcoming". wonder why? #OOTT #JCPOA

<https://www.state.gov/attack-on-mercet-street-vessel/>

Attack on Mercer Street Vessel

PRESS STATEMENT

ANTHONY J. BLINKEN, SECRETARY OF STATE

AUGUST 1, 2021

Share

We join our partners and allies in our strong condemnation of the attack against the Mercer Street, a commercial ship that was peacefully transiting through the north Arabian Sea in international waters.

Upon review of the available information, we are confident that Iran conducted this attack, which killed two innocent people, using one-way explosive UAVs, a lethal capability it is increasingly employing throughout the region.

There is no justification for this attack, which follows a pattern of attacks and other belligerent behavior. These actions threaten freedom of navigation through this crucial waterway, international shipping and commerce, and the lives of those on the vessels involved.

We are working with our partners to consider our next steps and consulting with governments inside the region and beyond on an appropriate response, which will be forthcoming. We once again offer our condolences to the families of the victims.

Department of State @StateDept · Aug 2

United States government organization

1:02

.@SecBlinken on Mercer Street tanker attack: "There is no justification for this attack on a peaceful vessel on a commercial mission in international waters. Iran's action is a direct threat to freedom of navigation and commerce."

1



Dan Tsubouchi @Energy_Tidbits · Aug 2



Iran says "any anti-Iran adventurism will receive immediate & decisive response". Hard to see that deters Israel. Israel and US both say Iran was responsible for attack & that they will take some sort of action. Time to add geopolitical risk to #Oil. #OOTT twitter.com/SKhatibzadeh/s...

Dan Tsubouchi @Energy_Tidbits · Aug 1

Time to add geopolitical risk to #Oil price. US joins Israel confident Iran conducted drone attack, considering an appropriate response. They are committed to doing something, just waiting to see what is the response, and then what does Iran do in return thereof? #OOTT twitter.com/Energy_Tidbits...

<https://www.usdoj.gov/attack-on-merc-street-vessel/>
Mercer Street Vessel

STATEMENT
FROM THE DEPARTMENT OF JUSTICE
AND THE DEPARTMENT OF STATE

The United States and its allies in our strong condemnation of the attack against the Mercer Street, a commercial ship that was peacefully transiting international waters.

Based on the available information, we are confident that Iran conducted this attack, which killed two innocent people, using one-way cruise missiles, a tactic it has been using to harass and intimidate vessels in the Persian Gulf region.

The attack on the Mercer Street is part of a broader pattern of attacks and other belligerent behavior. These actions threaten freedom of international shipping and commerce, and the lives of those on the vessels involved.

The United States, in coordination with our partners, will take appropriate steps to respond to this attack and to prevent such attacks in the future. We will continue to work with our partners to consider our next steps and consulting with governments inside the region and beyond on an appropriate response.

The United States once again offer our condolences to the families of the victims.



Dan Tsubouchi @Energy_Tidbits · Aug 2



Great reminder why @sincy12 is so important to #TeamCanada 🇨🇦 women's soccer - leadership. Puts team success above personal glory. She's taken all big penalty kicks for >decade but made decision to pass the ball/torch to @_jessiefleming & now going for Gold!

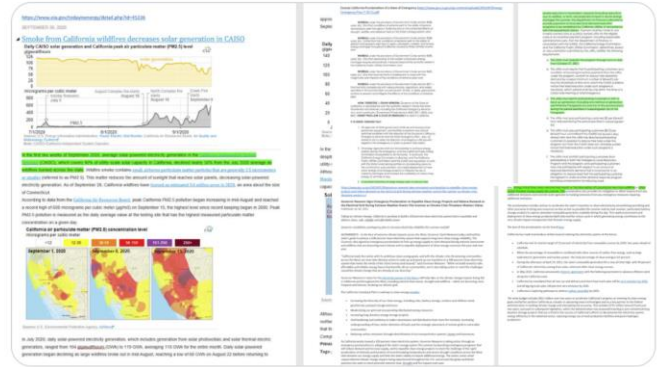


Women's Soccer - Canada vs USA - Semifinal
Watch coverage of the 2020 Tokyo Olympic Games.
[cbc.ca](https://www.cbc.ca)





Dan Tsubouchi @Energy_Tidbits · Aug 2
 #NatGas power generation to increase thru Oct 31 as CA to pay large energy users to move to backup generation ie #NatGas. #EnergyTransition greenwashing? @GavinNewsom critical times causes forgot to say wildfires don't just hurt transmission, also cut #Solar generation efficiency



2 10



Dan Tsubouchi @Energy_Tidbits · Aug 2
 China Politburo urged putting an end to "whirlwind campaigns" for carbon reduction, but wants plan to achieve #Carbon peak by 2030. Polituro principle is pursuing progress while ensuring stability. Demise of #Oil #NatGas to take longer than #EnergyTransition aspirations. #OOT

Xi chairs leadership meeting to study economic work
 BEIJING — The Political Bureau of the Communist Party of China (CPC) Central Committee held a meeting on July 30 to study and analyze current economic circumstances and make plans for related work for the second half of 2021.
 The meeting was chaired by Xi Jinping, general secretary of the CPC Central Committee.
 Since the beginning of this year, China has coordinated COVID-19 prevention and control with economic and social development, effectively implemented macro policies, and ensured sustained recovery and improvement in its economy, said the meeting.
 The country has also actively advanced scientific and technological self-reliance, enhanced reform and opening-up, effectively guaranteed people's livelihoods, achieved new results in high-quality development, and has made great social stability.
 The meeting noted that the global COVID-19 situation is still complex and **uncertainty remains high**.
The domestic economic recovery is still uneven and unbalanced, according to the meeting.
It emphasized maintaining a steady state of economic growth, ensuring the high-quality development of the economy, and the full, accurate and comprehensive implementation of the development strategy.
 The meeting urged more efforts to deepen the supply-side structural reform, accelerate the building of a new development paradigm, and advance China's high-quality development.
 It also discussed strengthening consumer, **financial and industrial** support contributions to reach this year's policies with those for **2022**, **and** keeping the Chinese economy sunny within an appropriate range.
 The proactive fiscal policy should generate greater effect, while the prudent monetary policy should maintain reasonably ample liquidity and support the continued recovery of small and medium-sized enterprises as well as stressed industries.
 The meeting stressed keeping the country's exchange rate basically stable at a reasonable and balanced level. It also urged efforts to ensure supply and stable pricing of commodities.
 The meeting emphasized efforts to tap domestic market potential and **expand foreign investment of the high-quality development**.
 Integration of the country's rural e-commerce system and express logistics distribution system, as well as innovation in major projects in the 14th Five-Year Plan, should be accelerated, the meeting noted, promoting more guidance for businesses to increase investment in technological upgrading.
 Emphasizing the importance of strengthening technological innovation and industrial chain resilience, the meeting decided to carry out targeted campaigns to address "bottleneck" problems as well as develop specialized and innovative small and medium-sized enterprises.
 China should stick to the high-quality opening-up and unswervingly advance the high-quality development of the first and second industries, said the statement.

Efforts should be made to prevent and defuse risks in key fields and improve the regulation system on listed overseas listings, according to the meeting.
 The meeting stressed abiding by the principle of "houses are for living in, not for speculation," stabilizing the price of lands, housing and expectations to promote the stable and sound development of the real estate market as well as accelerating the development of rental housing.
 China should sign efforts to consolidate and expand the achievements in poverty alleviation with efforts to promote rural revitalization, the meeting said.
 The three-child policy should be implemented and supporting policies on children, **elderly care** and education should be further improved.
 It called for solid efforts on flood control and disaster relief to safeguard the safety of people's lives and property, and further advancing the country's COVID-19 vaccination program.
 The meeting also stressed sound preparations for the Beijing Olympic Winter Games and the Paralympic Winter Games.

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Dan Tsubouchi @Energy_Tidbits · Aug 2
 #TeamCanada women's soccer going for Gold after 1-0 win over US. @_jessiefleming pressure goal on penalty kick at 75min. @stephlabbe1 making saves of course. great time for Gold medal game at 10pm ET Thurs.



Jessie Fleming's penalty lifts Canada over U.S. in w...
 Midfielder Jessie Fleming scores on a penalty in the seventy-fifth minute as Canada defeats U.S. 1-0 an...
 @cbc.ca

1 1



Dan Tsubouchi @Energy_Tidbits · Aug 1

#Caixin China PMI out at 7:45pm MT. July 50.3 vs est 51.0 and vs 51.3 in June. still growth but slowest improvement for last 15 mths, also 1st decline in sales in 14 mths. Thanks @IHSMakitPMI. #OOTT markiteconomics.com/Public/Home/Pr...

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SAF Dan Tsubouchi @Energy_Tidbits · Aug 1

Time to add geopolitical risk to #Oil price? #Bennett closes with "we expect the international community will make it clear to the Iranian regime that they have made a serious mistake. In any case, we know how to send a message to Iran in our own way" #OOTT twitter.com/IsraeliPM/stat...

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Dan Tsubouchi @Energy_Tidbits · Aug 1



Our weekly SAF Aug 1, 2021 Energy Tidbits memo was just posted to our SAF Group website. This 48-pg energy research piece expands upon and covers many more items than tweeted this week. See the research section of the SAF website [#Oil #OOTT #LNG #NatGas safgroup.ca/insights/trend...](#)

SAF | GROUP

Energy Tidbits

Aug 1, 2021

Produced by: Dan Tsubouchi

Israel PM: Iran "Carried Out" Drone Attack, "We Know How To Send a Message to Iran in Our Own Way"

Welcome to new Energy Tidbits memo readers. We are continuing to add new readers to our Energy Tidbits memo, energy blogs and tweets. The focus and concept for the memo was set in 1999 with input from PMs, who were looking for research (both positive and negative items) that helped them shape their investment thesis to the energy space, and not just focusing on daily trading. Our priority was and still is to not just report on events, but also try to interpret and point out implications therefrom. The best example is our review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector and not just a specific company results. Our target is to write on 48 to 50 weekends per year and to post by noon mountain time on Sunday.



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