Energy Tidbits

EU Fuel Co’s Warn EU Requires a Difficult Rethink of Long-held Assumptions How We Can Best Reach Climate Neutrality in 2050

Produced by: Dan Tsubouchi

September 25, 2022

Dan Tsubouchi
Chief Market Strategist
dtsubouchi@safgroup.ca

Ryan Dunfield
CEO
rdunfield@safgroup.ca

Aaron Bunting
COO, CFO
abunting@safgroup.ca

Ryan Haughn
Managing Director
rhaughn@safgroup.ca

https://ir.tellurianinc.com/press-releases/detail/270/tellurian-announces-withdrawal-of-public-offering-of-senior

Tellurian Announces Withdrawal of Public Offering of Senior Secured Notes

SEPTEMBER 19, 2022 5:25PM EDT**Download as PDF**

HOUSTON, Texas – (BUSINESS WIRE) September 19, 2022 -- Tellurian Inc. (Tellurian or the Company) (NYSE American: TELL) today announced that, due to uncertain conditions in the high-yield market, it has withdrawn its proposed public offering of units consisting of 11.25% senior secured notes due 2027 and warrants to purchase shares of Tellurian common stock.

About Tellurian Inc.

Tellurian is developing a portfolio of natural gas production, LNG marketing and trading, and infrastructure that includes an ~ 27.6 mtpa LNG export facility and an associated pipeline. Tellurian is based in Houston, Texas, and its common stock is listed on the NYSE American under the symbol "TELL."

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): September 23, 2022

Tellurian Inc.
(Exact name of registrant as specified in its charter)

Delaware 001-5507 06-0842255
(State or other jurisdiction of
incorporation) (Commission File Number) (I.R.S. Employer
Identification No.)

1201 Louisiana Street, Suite 3100, Houston, TX 77002
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (832) 962-4000

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

• Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

• Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.01 per share	TELL	NYSE American LLC
8.25% Senior Notes due 2028	TELZ	NYSE American LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company •

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. •

Item 1.02 Termination of a Material Definitive Agreement.

On September 23, 2022, Tellurian Inc. (“Tellurian” or the “Company”) received a notice of termination from Shell NA LNG LLC (“Shell”) with respect to the LNG Sale and Purchase Agreements 1 and 2 between Driftwood LNG LLC and Shell, each dated as of July 29, 2021, as amended (the “Agreements”). The terms of the Agreements are summarized in the Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on July 29, 2021.

Also on September 23, 2022, the Company delivered a notice of termination to Vitol, Inc. (“Vitol”) regarding the LNG Sale and Purchase Agreement, dated as of June 2, 2021, by and between Driftwood LNG LLC and Vitol. The terms of that agreement are summarized in the Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on June 3, 2021.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

TELLURIAN INC.

Date: September 23, 2022 By: /s/ L. Kian Granmayeh
Name: L. Kian Granmayeh
Title: Executive Vice President and Chief Financial Officer

https://ir.tellurianinc.com/press-releases/detail/271/tellurian-updates-financing-process-for-driftwood-lng

Tellurian updates financing process for Driftwood LNG

SEPTEMBER 23, 2022 2:16PM EDT**Download as PDF**

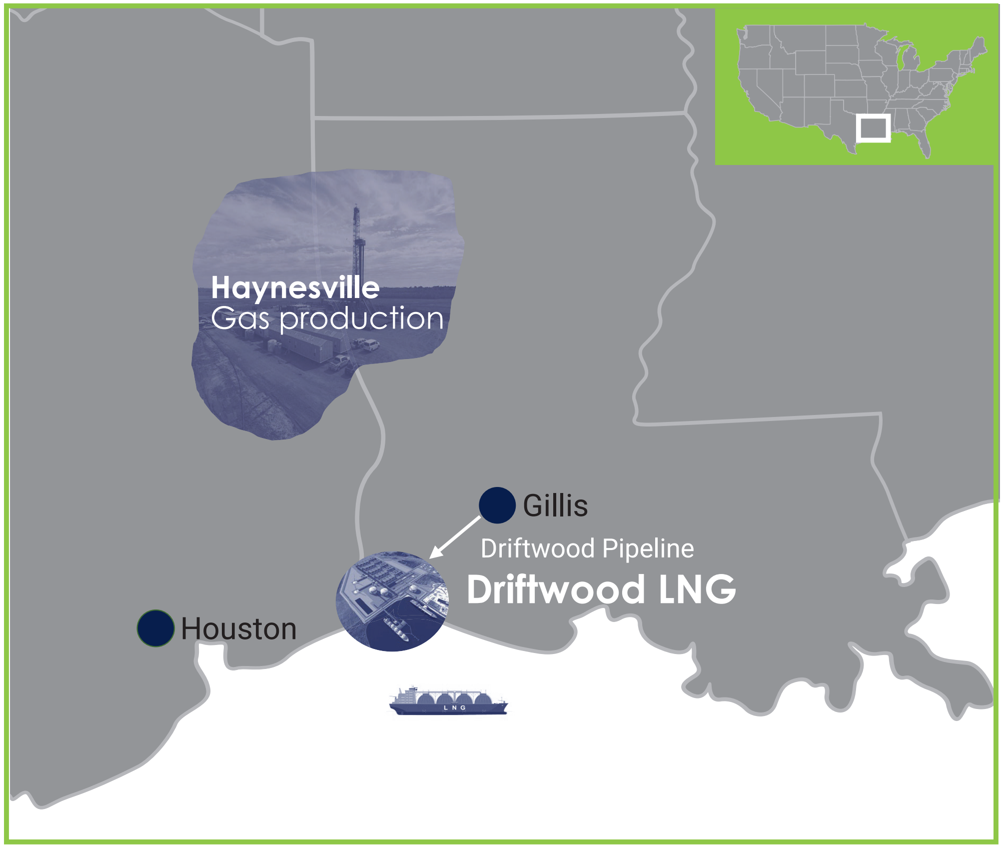
HOUSTON--(BUSINESS WIRE)-- Tellurian Inc. (Tellurian) (NYSE American: TELL) announced today that it has updated its Driftwood LNG financing strategy to prioritize securing equity partners. Part of this strategy includes introducing flexibility in its liquefied natural gas portfolio with the termination of two current sales and purchase agreements.

President and CEO Octávio Simões said, "The potential corporate and strategic partners we are seeking may want liquefied natural gas (LNG) volumes that they can sell globally and now we have some capacity to offer that option. We have made good progress on our construction plan and will continue funding that with our cash and operating cash flow."

Simões added, "What has not changed for Tellurian is that we are an operating natural gas producer with revenue from our gas sales. Last quarter we produced nine billion cubic feet of natural gas and had over $61 million in sales, and since then we have closed the EnSight acquisition. Currently we have 11 natural gas wells in various stages of completion and therefore expect a significant increase in production and sales next quarter. In addition, we will add to our value when our fully permitted Driftwood LNG project is completed, and we can reach the global markets with LNG sales at global prices."

Tellurian: fully integrated, pure-play LNG

- **Low-cost, integrated business model**: upstream gas production in Haynesville[1], pipeline and LNG terminal in SW Louisiana
- **Pure-play, global gas producer**: monetizing U.S. domestic gas production into premium global gas markets, integration provides cost certainty of supply
- **Bechtel EPC execution**: best in-class LNG execution; lump sum turnkey with ~30% of project engineering complete
- **All critical permits secured**: all FERC and DOE permits secured for Driftwood LNG terminal and pipeline
- **Proven management track record**: Tellurian team has originated and executed ~79% of U.S. LNG capacity development and ~36% of global LNG capacity development across four continents
- **Critical role in energy transition**: significant ESG benefits and end-to-end emissions control from owning upstream



Note: (1) Tellurian's integrated model creates a physical hedge from upstream operations for Driftwood's natural gas purchases.

TELLURIAN

Driftwood LNG Phase I *(2-plant, ~11 mtpa)*


Note: Artist rendering of full 5-plant Driftwood LNG development

Total capacity	Feedgas requirement
~11 mtpa LNG	~550 bcf/year

2-plant development costs ($ bn)	
■ LNG terminal[1]	$8.5
EPC cost/tonne *($/tonne)*	**$773**
■ Owner's cost[2]	1.5
■ Pipeline[3]	0.9
Capital cost/tonne *($/tonne)*	**$991**
■ Financing, interest and other[4]	1.9
Total development costs	**$12.8**

Notes: (1) Phase 1 EPC contract figures reflect the latest price refresh executed with Bechtel in April 2022; EPC price subject to change.
(2) Includes owner's costs, terminal labor, opex prior to LNG production and contingencies.
(3) Includes first phase of pipeline system and pipeline opex prior to LNG construction.
(4) "Other" includes management fee to Tellurian and G&A during construction; "interest" reflects SOFR rates as of April 2022.

Phase I Driftwood LNG: sold out

Driftwood LNG: construction in progress

Recent Driftwood development activities

- Bechtel commenced construction in April 2022, including
  - Demolition of existing structures
  - Clearing, grubbing and backfilling
  - Phase 1 piling program, with driving underway in July 2022
- Substantially completed the following owner's projects by March 2022
  - Pipeline relocation
  - Highway and road widening
  - Electrical infrastructure removal
  - Drilling of water wells
- Exercised options on the remaining land leases for the terminal
- In June 2022, Tellurian awarded Baker Hughes a contract for electric-drive, zero-emission pipeline compressors for the Lines 200 and 300 pipeline project

Driftwood site and construction progress

Plant 1 site preparation

First piles delivered to site

Site prep for piling

Pile driving underway

Illustrative cash flows @ $14 JKM

		Phase I (Plants 1-2)		Full Development (Plants 1-5)
LNG sales price[1] (JKM less transportation, $/mmBtu)		**$12**		**$12**
Gas sourcing ($/mmBtu)	**-**	**$3**	**-**	**$3**
Liquefaction and transport ($/mmBtu)	**-**	**$1**	**-**	**$1**
Margin ($/mmBtu)	**=**	**$8**	**=**	**$8**
Annual capacity	**x**	**~550 Bcf**	**x**	**~1,380 Bcf**
Illustrative annual cash flow from operations	**=**	**$4 billion**	**=**	**$11 billion**

Plants 3-5 to be funded by cash flow from Phase I

Source: Bloomberg
Note: (1) $85 Brent crude implies $14 JKM on Btu equivalency basis

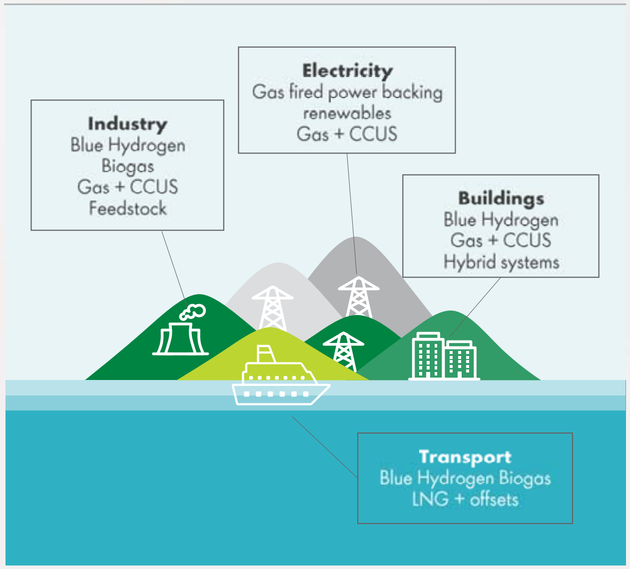
TELLURIAN

LNG OUTLOOK

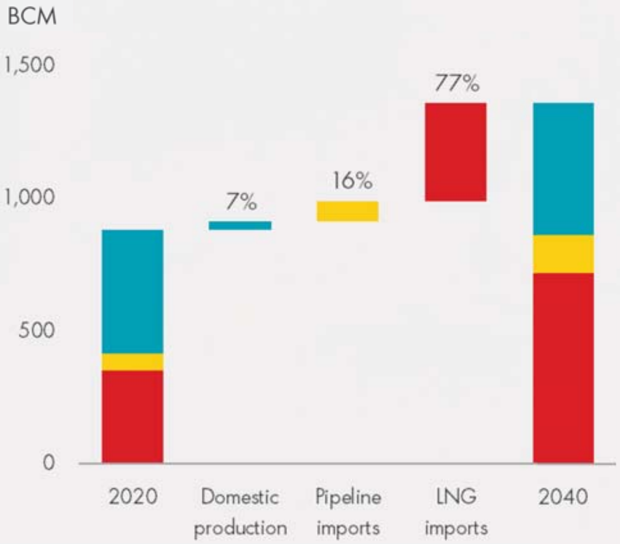
ENERGY SECURITY, EMISSIONS AND ECONOMIC GROWTH IN ASIA TO DRIVE FUTURE LNG DEMAND

- Gas has an important role in the journey to net-zero - as a partner to renewables for grid stability and an immediate option to lower emissions in hard-to-electrify energy demand sectors
- LNG needed for declining domestic gas production, coal to gas switching, substituting higher-emission energy sources, tackling air quality concerns – particularly in Asia

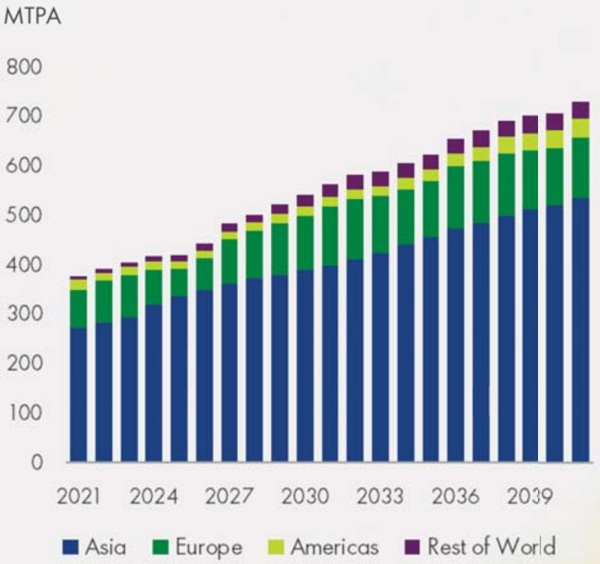
Use of gas in a decarbonised world



Asian gas demand by source



LNG imports by region



Source: Shell interpretation of Wood Mackenzie data

RUN THE BUSINESS

ACTIVELY ADDRESSING OPERATIONAL GREENHOUSE GAS EMISSIONS

Cutting operational emissions

- Pearl GTL, Qatar: significant emissions reductions already achieved, further reductions and other improvements planned through innovative catalysts
- QGC, Australia: reduced venting from dehydration units and improved efficiency on well workovers resulting in 2,500 tonnes lower methane emissions in 2021
- Real Time Production Optimisation saving fuel gas and improving efficiency across LNG sites

Managing GHG intensity

- Implementing carbon management framework for projects and operating assets
- The IG operated portfolio is well within the Group's 2025 target of ensuring methane emissions intensity is below 0.2%
- No routine flaring in IGs operated portfolio

Spearheading methane reduction initiatives

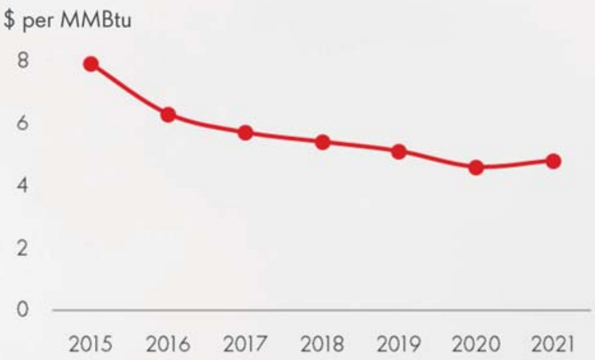
- Helping to deliver the Global Methane Pledge through oil and gas sector implementation working group
- Leading an industry working group to increase understanding of supply chain methane emissions data through detection and quantification field campaigns
- Joined industry project developing pioneering offshore North Sea drone-based methane emission quantification technology

Picture credit: Flylogix

The improved efficiency on well workovers is relative to 2020.

GROW THE BUSINESS
OPTIMISING CAPITAL TO CREATE VALUE

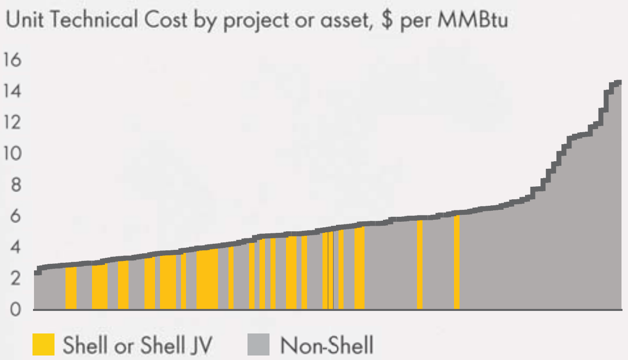
Unit technical cost reduced



Structural decrease in cost

- UTC stable below target of $5/MMBtu set in 2015
- $4 billion per annum selective investment in competitive LNG assets, including backfill and expansion options
- Examples of competitive pre-FID projects: LNG Canada Expansion, Manatee

Competitive project funnel



Commercially competitive

- Project funnel delivering LNG into Asia at total cost structure that is competitive in the industry
- We believe strong focus on scope 1 & 2 emissions reduction for new projects provides longer term competitive advantage and sustainability

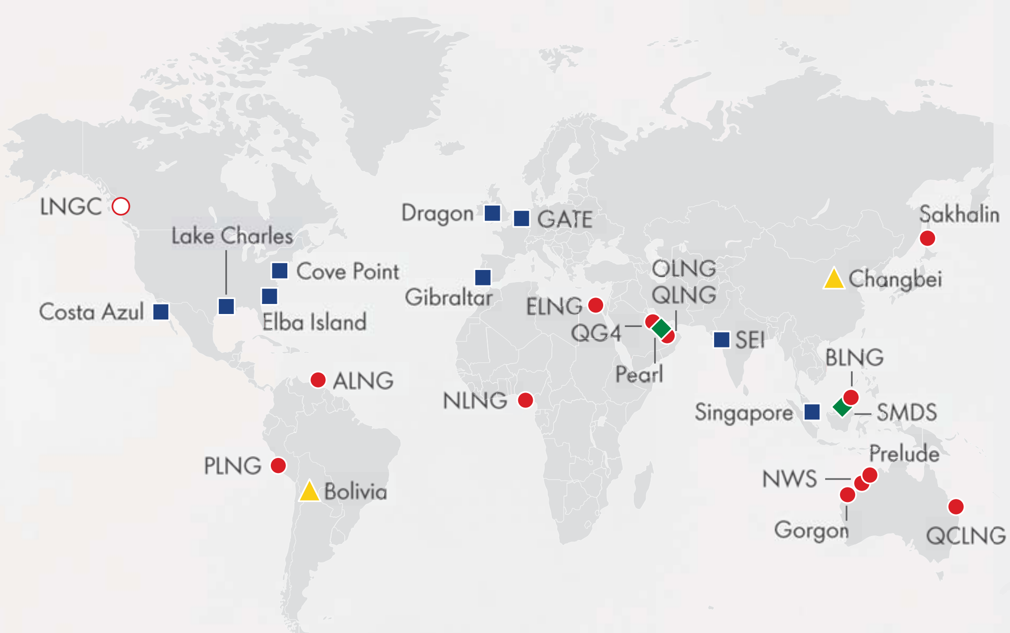
Robust project delivery

Building new capacity

- LNG Canada will deliver 14 mtpa of supply into Asia. The LNG project is designed to have the lowest carbon intensity in the industry
- Nigeria LNG T7 will deliver 7.6 mtpa into Europe and Asia, with key supply from offshore assets
- Both projects to be onstream around the middle of the decade

Competitive funnel chart contains all projects and assets in the LNG industry. Non-Shell projects are a Shell interpretation of Wood Mackenzie data.

INTEGRATED GAS PORTFOLIO & MAJOR PROJECTS



KEY

- Liquefaction plants
- Liquefaction plants under construction
- Regasification terminals
- GTL
- On-stream gas projects

Project	Country	Shell share %	Peak production kboe/d	LNG capacity mtpa	Shell-operated
Under construction – Start-up 2022-2023					
Arrow - Surat Gas	Australia	50	backfill		
Colibri	Trinidad & Tobago	87	backfill		✓
Gorgon - Jansz	Australia	25	backfill		
QGC SW20+ Measure	Australia	62	backfill		✓
Oman Gas*	Oman	53	120		✓
Under construction – Start-up 2024+					
Gorgon - Jansz compression	Australia	25	backfill		
LNG Canada T1-2	Canada	40		14	
NLNG T7	Nigeria	26		7.6	
Pre-FID options					
Abadi	Indonesia	35	245	9.5	
East Med	Egypt	35	backfill		
LNG Canada Expansion	Canada	40		14	
Manatee	Trinidad & Tobago	100	backfill		✓
NWS - Browse	Australia	27	backfill		
Prelude - Crux	Australia	82	backfill		✓
Tanzania	Tanzania	25	[A]	15	✓

*FID of the project subject to the issuance of a Royal Decree by the government of the Sultanate of Oman confirming award of the Block 10 Concession Agreement.

Projects listed are a selection of our project portfolio. Peak production and LNG capacity are 100%. [A] to be confirmed.

INTEGRATED GAS

UPDATE SD21 TARGETS – PROGRESS MADE

Targets	Progress
~20% Opex reduction by 2022 vs 2019	Underlying 2021 IG Opex 15% lower than 2019
3 mtpa Develop new LNG markets by 2025	On track to deliver First LNG volumes supplied into Croatia
< $5/MMBtu Unit Technical Cost	Current project funnel average $4.8/ MMBtu
14% - 18% Average project IRR	Current project funnel average showing 14-18%

Targets	Progress
> 20% Market share in LNG bunkering sales by 2030	▪ 12 LNG fuelled crude and product tankers in operation, with a further 24 on order with expected delivery by end 2023 ▪ 5 bunker vessels in operation with a further 7 on order ▪ Completed over 700 global ship-to-ship bunkering at numerous ports in 10 countries ▪ First liquefied biomethane (BioLNG) bunkering trial in Rotterdam, together with CMA CGM
> 7 mtpa New LNG capacity onstream by the middle of the decade	Progress made on NLNG T7 and LNGC. 7.6 mtpa new capacity around middle of decade
GTL Uplift Aiming to grow value from GTL products	In Q3 2021 Pearl GTL achieved highest value uplift from GTL products on record

S**hell Integrated Business Deep Dive Feb 21, 2022 Wael Sawan.**

Items in "i*talics*" are SAF Group created transcript

Approx 9:18am MT. Analyst asks if the future equity percentage you have for the natural gas supply be less than the offtake percentage you have for the LNG? Wael, *".. typically, what I would say, as much as possible, having access across the entire value chain in as close of a percentage as you can, helps ensure that wherever value might rate at any point in time, you are capturing that value. So in general. Take our LNG Canada investment that you just referenced in the second question, we would look to be able to at least assure ourselves that we are not caught up by vagaries of one part of the market. let's say the gas supply, but we would want to have enough on the gas supply equity side to be able to make sure if gas prices go up there, we benefit from them while maybe disadvantaging the midstream or vice versa depending on where prices go. So we are not in the game of necessarily taking undue risk. we are in the game of creating integrated value chains that we can leverage as part of the broader portfolio*. "

Scotiabank asks on the media report of the infrastructure issue on LNG Canada? Wael " *on the issues around LNG Canada, a few things to say. Firstly, we're just, what is it 3 years, 3, 4 months since we have taken FID on that project. Just last oct we crossed the 50% completion on the site in Kitmat. Good progress and this was despite some real challenges with Covid. A lot of the modules coming from various yards in Asia being challenged. Credit to the team, I think some heroic efforts to be able to by and large continue to be on track. I think the challenge that you are referencing is more related to the pipeline – the Coastal GasLink pipeline. Multiple reasons for that which I won't get into in detail. This is a question better addressed to CGL themselves directly. But suffice it to say that we do have some concerns around the cost of the pipeline, we are having deep discussions with TCE, who oversee the pipeline and therefore tying to see how we can mitigate some of these cost increases. But so far, we see TCE getting back on the ball and making sure they are able to move at the pace that ensures that we have pipe before we have the plant. The last comment I will make on that pipeline. Some of you may have picked up the press the incredibly sad events of a couple days ago where we strongly, strongly condemn some of the violence that was shown. Thankfully, no one got hurt in Houston, British Columbia when a specific part of the pipeline around the Maurice River. 20 or so people attacked those who were earning a living at night and thankfully, they all came out well and safe. These events are unfortunate and I'm sure TCE and RCMP will be able to address the issue sufficiently*"

Sl 6. 8:36am MT. Sawan "*That brings me to the future. Our current integrated gas business is doing what we said we would do and is on the right trajectory. But we are not yet where we want to be. We have opportunities that we are pursuing to do even better, with our existing assets, but also to position our growth portfolio to one with even stronger returns with lower carbon emissions. Let me expand on that a bit more. For our capital spend, we need to be even more focused with a continued emphasis on value over volume. We have a capital budget of $4 to $5 billion a year in the short to medium term. We are making good progress on our two LNG capacity expansion projects under construction. In Canada, Canada LNG surpassed recently the 50% completion mark last October, after three years of construction. The project remains dedicated to have the first cargo by the middle of this decade*." He then speaks of Nigeria and that construction there is now firmly underway, and then says "*both these projects are competitively positioned for LNG growth markets in Asia. The same goes for most of our long term project funnel. We have several attractive expansion and backfill projects. A limited number of greenfield LNG projects and several promising low carbon new gaseous projects in early stages of development. For the pre-FID projects, we have an expected average internal rate of return of between 14% and 18%, and a unit technical cost below $5/mmbtu. With most of these projects clearly having lower costs than the average in the industry. These are good numbers, but you will understand that we strive to push the IRR to the higher end and to push the unit costs down even further. But the long term role of gas depends on efforts to abate emissions and develop cleaner pathways for gas. This is why we continually try to reduce the carbon intensity of our new projects. Take LNG Canada currently under construction. It will run on hydropower and is set to deliver the lowest carbon intensity in the entire industry."*

[Qatar: TotalEnergies Selected as QatarEnergy's First Partner in the North Field South LNG project | TotalEnergies.com]

Qatar: TotalEnergies Selected as QatarEnergy's First Partner in the North Field South LNG project

09/24/2022

News

Download the Press Release (pdf - 279 KB)

Doha, September 24, 2022 – Following its selection as the first partner for the 32 million ton per annum (Mtpa) North Field East (NFE) liquefied natural gas (LNG) project, TotalEnergies has again been selected as the first international partner in the 16 Mtpa North Field South (NFS) LNG project. Pursuant to the agreement, TotalEnergies will obtain a 9.375% participating interest in the NFS project – out of a total 25% interest available for international partners – while the national company QatarEnergy will hold the remaining 75%.

Through its combined participating interests in NFE (6.25%) and NFS, TotalEnergies will add 3.5 Mtpa of LNG production to its growing worldwide LNG portfolio by 2028, in line with the Company's objective to increase the share of natural gas in its sales mix to 50% by 2030.

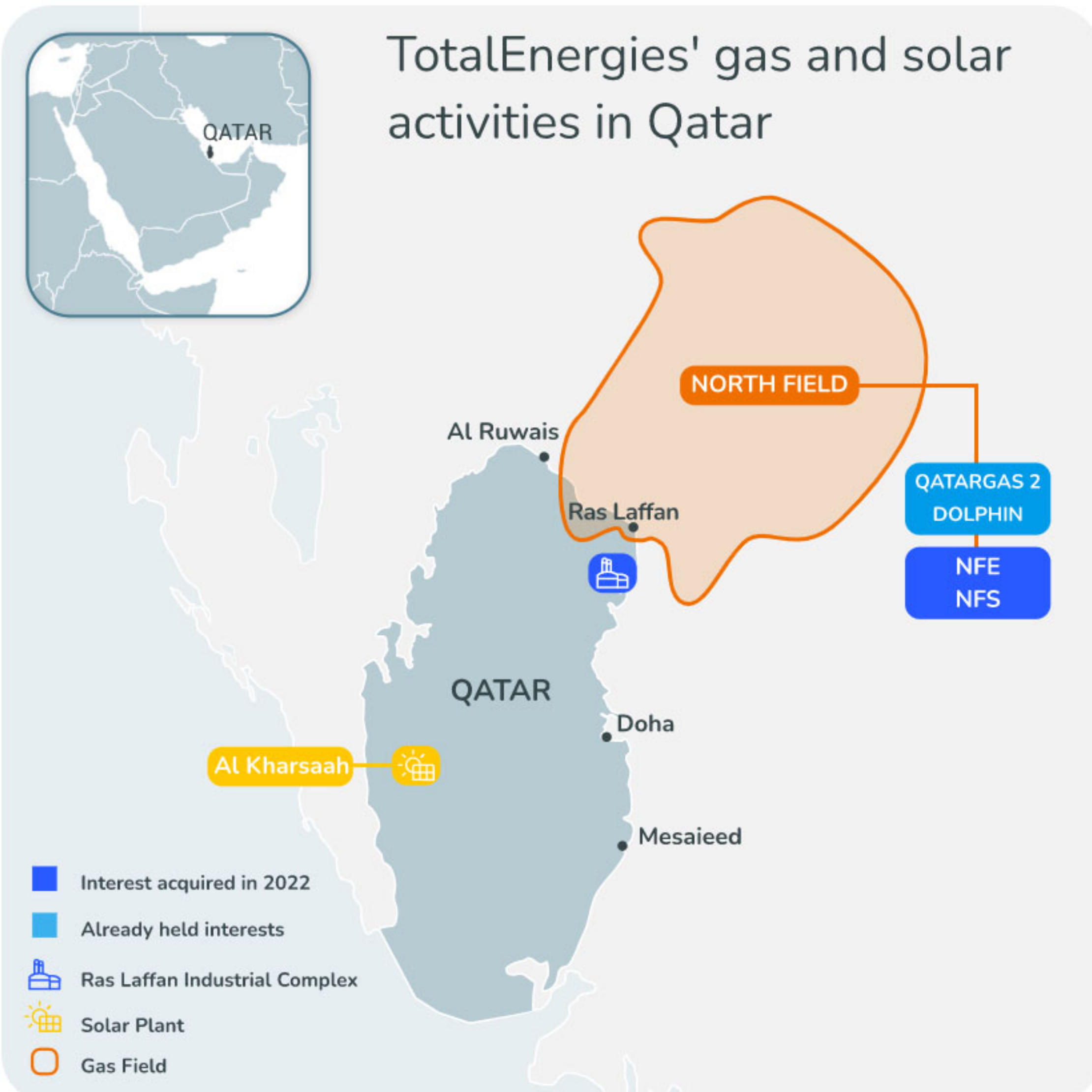
The Second Phase of the World's Largest LNG Project

Together, NFE and NFS form the wider North Field Expansion project to increase LNG production from the North Field, adding 48 Mtpa to Qatar's export capacity and bringing it to 126 Mtpa by 2028. The upstream part of the project will develop the southern area of the North Field with five platforms, 50 wells and gas pipelines to the onshore processing plant. Downstream, there will be two 8 Mtpa liquefaction trains. NFS will benefit from significant synergies with NFE, making it one of the most cost-competitive LNG projects worldwide.

Just like NFE, NFS will apply the highest standards to reduce its GHG emissions intensity. Native CO_2 from natural gas production will be captured and sequestered, and the plant will be connected to Qatar's electrical grid, which will supply it with a growing portion of renewable electricity – in line with Qatar's climate ambitions – thanks to the 800 MW Al Kharsaah solar power plant project, in which TotalEnergies is a partner, and QatarEnergy's new solar power plant currently under construction in Ras Laffan with TotalEnergies' support.

At the signing ceremony, Patrick Pouyanné, Chairman and Chief Executive Officer of TotalEnergies, said: "Following North Field East, we are truly honored and proud that Qatar has once again chosen TotalEnergies to be QatarEnergy's first partner in North Field South. The State of Qatar's ambitious leadership in further developing its natural gas resources through this expansion project, which ranks among the world's most competitive in terms of costs and low emissions, will make a major contribution to increasing LNG supply in the years to come. We consider Qatar as a long-term strategic country for TotalEnergies and this latest addition to our portfolio marks an important step toward our low-carbon LNG growth objectives, a key pillar of TotalEnergies' transformation into a sustainable multi-energy company. It will also further strengthen our ability, together with Qatar, to support Europe's energy security."

In his remarks during the ceremony, His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy, said: "QatarEnergy is moving forward, with the support of our partners, to help meet growing global demand for cleaner energy, of which LNG is the backbone for a serious and realistic energy transition. We are committing significant investments to lower the carbon intensity of our energy products, which constitutes a key pillar of QatarEnergy's sustainability and energy transition strategy. I am pleased to welcome TotalEnergies yet again to our flagship LNG projects. I would like to thank Mr. Patrick Pouyanné, Chairman of the Board and CEO of TotalEnergies for his leadership and continued efforts to further strengthen our long-term partnership."

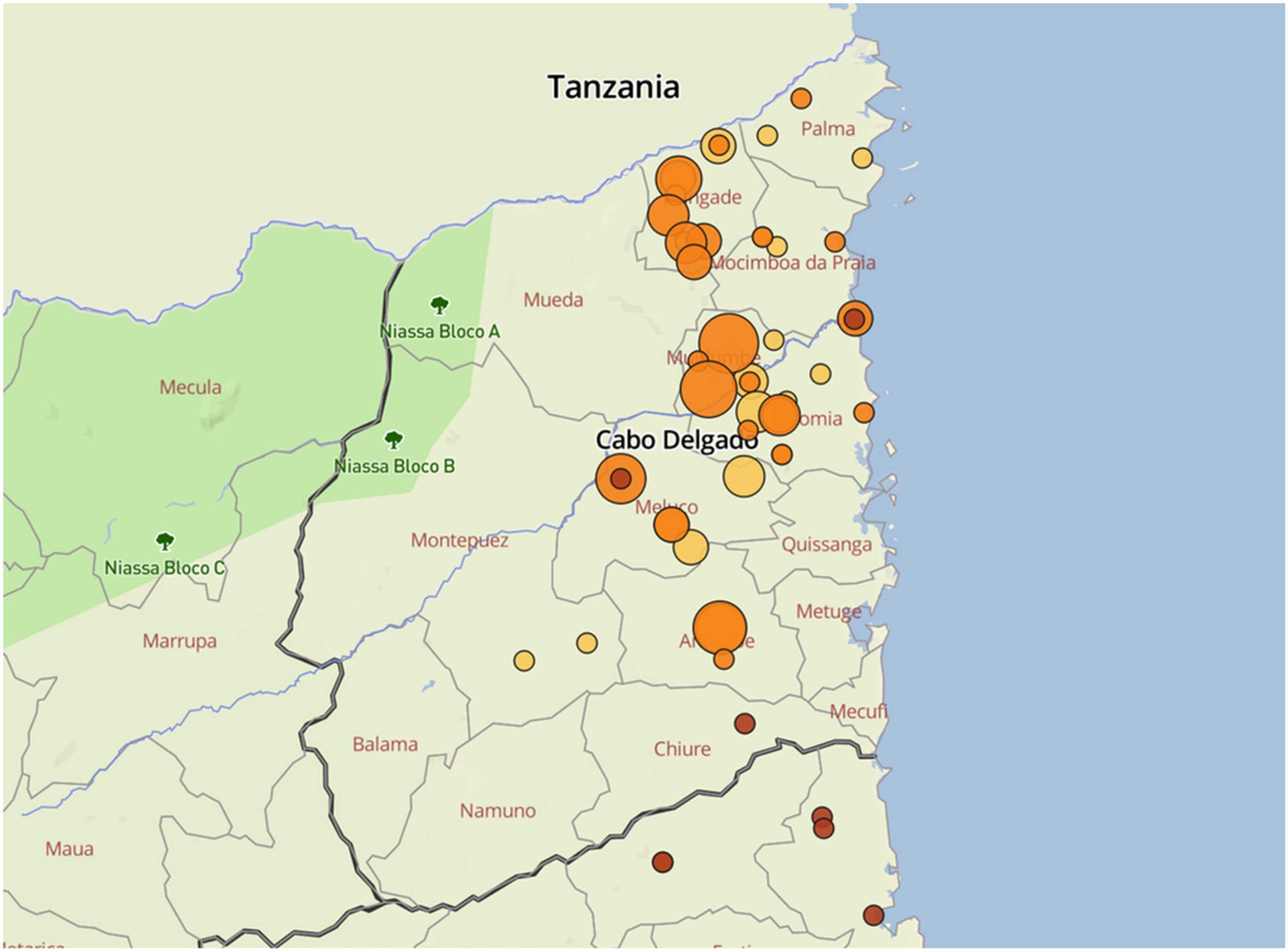


TotalEnergies, The World's Third-Largest Low-Carbon LNG Company
TotalEnergies is the world's third-largest low-carbon LNG company, with a global market share of around 10% and a global portfolio of nearly 50 Mt/y by 2025 thanks to its interests in liquefaction plants in all geographies. The Company benefits from an integrated position across the LNG value chain, including production, transportation, trading, and LNG bunkering. TotalEnergies ambition is to increase the share of natural gas in its sales mix to 50% by 2030, reduce the gas value chain's carbon emissions, eliminate methane emissions, and work with local partners to promote the transition from coal to natural gas.

https://www.caboligado.com/reports/cabo-ligado-weekly-12-18-september-2022

Cabo Ligado Weekly: 12-18 September 2022

Sep 20, 2022



By the Numbers: Cabo Delgado, October 2017-September 2022 [1]

- **Total number of organized political violence events**: 1,440
- **Total number of reported fatalities from organized political violence**: 4,258
- **Total number of reported fatalities from organized violence targeting civilians**: 1,879

All ACLED data are available for download via the data export tool and curated data files.

Situation Summary

Last week was marked by attacks by insurgents on the Mozambican Defense and Security Forces (FDS) and troops from the Southern African Development Community (SADC) in Macomia, Muidumbe, and Nangade districts. In Macomia, up to 16 FDS members were killed in an attack in Nkoe village, while FDS and SADC Mission in Mozambique (SAMIM) troops came under heavy attacks in Quinto Congresso in the following days according to an Islamic State (IS) claim. In Nangade district, FDS and SAMIM troops were allegedly killed in an assault on a joint outpost, while more casualties were incurred in a separate operation against insurgent camps in the district. In Muidumbe district, an IED attack was undertaken against FDS, all suggesting confidence amongst insurgents.

Multiple sources confirm the 15 September attack on a FDS outpost in Nkoe, which lies 23 km northwest of Macomia town and was, even prior to the attack, largely empty of villagers. The attack was launched between 8 pm and 11 pm. In response, reinforcements were sent from Macomia town. Up to 16 FDS members were killed in the fighting, according to one local source, though others said that just five may have been killed. IS, through Telegram channels, issued a claim to the attack the following day, claiming 16 fatalities. Photographs issued by IS, claiming to be of the event, show at least 10 dead military personnel and a significant weapons and munitions haul. One security consultant reported a further attack on FDS in Nova Zambézia the following morning, though this could not be confirmed.

The Nkoe attack came within hours of Brigadier Omar Saranga, coordinator of the Northern Operational Theater, announcing that on 7 September FDS had managed to kill four insurgency commanders in Nkoe. He made the announcement to the press at the former insurgents' base in Katupa forest. Brigadier Saranga reportedly said that those killed were on the run from the Katupa forest operations that had been underway between April and July.

In a statement issued on 19 September, IS claimed to have killed 19 members of SADC and FDS as they tried to take insurgent positions at Quinto Congresso in Macomia district, approximately 10 km northwest of Nkoe. This incident could not be corroborated.

There is less clarity of events in Nangade district over the following days. One source has shared detailed reports of actions taken by FDS and SAMIM troops on 16 September in the Namiune area, roughly 20 km east of Nangade town. Early that morning, helicopters dropped bombs on suspected insurgent camps, precipitating follow up operations by ground forces from SAMIM and FDS, according to the source. Two vehicles – according to one source, recently donated as part of the EU's military support – were ambushed at this point in an attack that left nine dead: three from SAMIM, and six from FDS. The ambush took place near Chitama, just south of Namiune.

Another source reports that on the same day, 16 September, insurgents attacked an FDS outpost that also housed SAMIM troops from the Lesotho Defense Force at Nkonga, approximately 15 km south of Namiune. Fighting continued into the morning of 17 September, according to the source, with casualties on both sides. The same source also reported an attack on 16 September on Pundanhar village in Palma district close to the Nangade border, though this too could not be confirmed. Pundanhar was abandoned by Mozambican forces in the face of an insurgent attack in early July; the military is expected to return this month.

While the sources' accounts could not be confirmed, there has long been concern about insurgents' camps in Nangade, particularly since the dispersal of insurgents from the Katupa forest. Insurgent camps in the area make attacks more likely from both insurgents on the one hand, and FDS and intervention forces on the other. For the insurgents, they also present a rearbase for actions in both Palma and Mocímboa da Praia districts.

Muidumbe district also saw an attack on security forces, this time involving an improvised explosive device (IED). According to a local source, the IED exploded on 15 September at Xitaxi, approximately five km east of Muidumbe town. Two sources reported that this led to an intense exchange of fire, with one source saying that some FDS troops were wounded, and evacuated to Pemba by helicopter.

Also in Muidumbe district, a local source said that insurgents attacked Mapate village in Muambula, killing three people on 12 September. This would be the latest in a series of attacks on civilians in this part of Muidumbe district in recent weeks, notably around Mandela village. The previous day, five corpses were found in the same part of the district.

Tension remains in the Chiure and Ancuabe districts of southern Cabo Delgado, and Eráti and Memba districts of northern Nampula. IS claimed a 13 September attack on the village of Ichibua in Chiure district, claiming to have beheaded five, including the village leader. The attack was likely undertaken by fighters returning from Nampula province. Criminal acts mimicking insurgent attacks add to the tension and confusion. In Metoro in Ancuabe district, youths set a primary school on fire, reportedly chanting 'Allahu Akbar' in the process. This was similar to an incident in Ngewe, also in Ancuabe district, where homes were burned earlier in the month.

More alarming are three sightings of suspected insurgents on the move in Ancuabe district, as well as a report of a small group entering Nampula between Memba and Namapa districts. Two sources, in Quissanga and Ancuabe, independently suggest that the main axis of movement is between Quissanga and Nampula, via Ancuabe, and that this is expected to facilitate an expansion into Nampula. Another view in the security community is that the southern offensive was to create space for the types of attack we saw last week by stretching FDS and intervention forces.

Weekly Focus: Cabo Delgado Takes Center Stage at Energy Summit

This week, senior representatives of the energy industry gathered in Maputo for the first Mozambique Energy and Gas Summit in three years, where the security situation in Cabo Delgado inevitably loomed over the agenda.

Speaking at the summit, President Filipe Nyusi continued to push gas companies to return to Cabo Delgado, saying that "the success in the fight against terrorists, on the Mocímboa da Praia-Palma axis, which includes the roadways and access to the port, gives a situation of greater stability [than existed before] the previous attacks on the town of Palma."
In response, companies tried to strike a tone that balanced optimism about the humanitarian situation in the north with caution that much progress still has to be made before business can return to normal.

Simone Santi, President of Oil & Gas, Energy & Mineral Resources at the Confederation of Economic Associations of Mozambique (CTA), painted an upbeat picture of Cabo Delgado. On a visit to Palma and Afungi in recent weeks, he told the summit, he found that "the reality is very different to the perception. Palma is full of economic activity, with Mozambican people selling to other Mozambican people." He claimed to have met farmers growing hectares of tomatoes and fishermen going out on the water with brand new boats. "Now is the time to do business again," he declared.

TotalEnergies was keen to extol the successes of its development initiatives in the area. Laila Chilemba, the company's Vice President for Socioeconomic Development, claimed: "Things are going back. There is a massive investment that TotalEnergies is doing on the ground and that is changing lives… I remember when I went there at the end of January and I saw Palma. What I see today is a completely different scenario." She went on to describe how TotalEnergies, with the help of various partners, is investing in agriculture and fisheries to revive the economy and that since January, these investments have helped create 2,500 jobs, albeit temporary.

However, Chilema acknowledged: "We need people to go back there. We need businesses to go back there… We need those long term investments to materialize and create the sustainability that we need for those communities in those districts." This recognition that there is still much work to be done was echoed by her colleague Stéphane Le Galles, Director of TotalEnergies' Mozambique liquefied natural gas (LNG) project, who said there are "visible signs of people coming back to the region but we are not there yet." "The journey is long but the direction is very good," he concluded.

John-Henry Farrell, Chairman of the Palma Development Foundation, provided some dissent from the notion that major progress is already being made in Cabo Delgado. While describing his organization's work helping the returned population in Palma set up bamboo farms, he observed: "Warfare has devastated the whole place, and over the last two years I haven't seen anyone do an incredible amount to reverse the effects of the war."

Paola Horyaans Vazquez, head of cooperation at the EU delegation in Mozambique, warned against top-down reconstruction efforts, calling on LNG companies to help "address the root causes of the conflict" by involving the local community. This includes consulting local people on how they want their community to be reconstructed and sharing the investments in the region's resources. "In terms of reconstruction, it is important that we not only think of security and investment opportunities but also providing services," Vazquez told the summit. These services include water and health as well as stable employment. Much of this is yet to be seen.

But Armindo Ngunga, President of the Northern Integrated Development Agency (ADIN), urged LNG companies not to embark on expensive development projects without first consulting ADIN. Ngunga told the summit a story about "someone very important" who came to his office offering to provide food aid to Cabo Delgado and he had to explain that the people there already have the ability to grow their own food and it is shelters that they want. "Talk to us because we are there every day, we know the people's needs," he said.

Most of those at the summit presented a united front, emphasizing improvements in the security situation since March 2021 and the success of development initiatives in restoring life to stricken areas of Cabo Delgado. At the same time, there is a consensus that a sustainable security solution still eludes the region and no one is willing to offer even a vague estimate of when the province will be safe enough for the LNG companies to return.

Government Response

Twenty-three Islamic organizations in Mozambique issued a statement on Thursday, 15 September, saying "they strongly repudiate" violent acts, in particular the attack in Nampula against a Christian mission, describing them as "incompatible with the principles of human coexistence." The signatories urged the government to take additional and urgent measures. The organizations represent a significant cross-section of Mozambique's Islamic institutions. One well-informed observer told Cabo Ligado that it is noteworthy that it took the killing of a Catholic nun to elicit the statement, given the numbers killed so far, including local Muslim community leaders.

On Tuesday 13 September, police announced in Nampula that they had arrested 27 men and two women in Cabo Delgado province, who were allegedly there to take part in the insurgency and who had been recruited in the districts of Memba and Nacala, in Nampula province. The group was arrested in the Cabo Delgado districts of Macomia, Palma, and Quissanga, the police said. Nampula Police Spokesperson Zacarias Nacute said they had been arrested for fear they would be recruited into the insurgency and on suspicion that they had been lured to Cabo Delgado with false promises of employment. The woman who recruited them, ostensibly for fishing, denied any such intention, reported Nampula's Ikweli newspaper. According to a Cabo Ligado source, there is not clear evidence that those detained are involved in the insurgency, and there is the impression that the police are under heavy pressure from their superiors to present results. State-linked newspaper Notícias later reported that the arrestees will not be charged, but will be returned to their communities and monitored. There is as yet no formal diversion or reintegration program in place for those at risk of recruitment, or who have been involved in the insurgency. Such ad hoc measures are similar to what is happening in border areas in southern Tanzania, where some returnees from Mozambique are allowed to reintegrate, while others are detained.

In a move tailored to facilitate return, Mozambique's National Institute of Social Action (INAS) has resumed the payment of basic social allowance to residents in the district of Mocímboa da Praia, after interruption caused by insurgent attacks, according to Florêncio Jaquicene, the district's INAS delegate. Jaquicene added he was working with partners to resume the basic social subsidy program to communities in the district of Palma, which are considered difficult to access. This is a significant move by the authorities to encourage people to return to these two towns, as they will be able to receive eligible state payments at their place of origin. The government recently claimed 9,000 residents had returned to Mocímboa da Praia.

The increasing number of displaced people following attacks in Memba continues to worry authorities. The government is still assessing the number of displaced households, and say they are mainly heading towards Nacala, Nacala-a-Velha, Mozambique Island, and Nampula city. Nampula's Secretary of State, Mety Gondola, said on Tuesday that the situation was "relatively stable" but that there were still "moments of worry." According to Gondola, in the district of Eráti alone, 10,000 people have been displaced due to the attacks.

In neighboring Eráti district, Permanent Secretary Ali Adinane told the National Institute for Disaster Risk Management and Reduction on 16 September that his region has a burden of over 47,000 people, of whom 64% are children, as reported by ActionAid Mozambique. At the meeting held in Alua, in Eráti district, he said that the authorities wanted to support them with food, shelter, and dignity. Some displaced people told the meeting that they were forced to return to their areas of origin due to lack of food.

These figures are not yet reflected in official displacement figures used by the humanitarian community, which are compiled by the International Organization for Migration. Their latest figures for those "internally displaced by conflict in northern Mozambique" and which refer to Cabo Delgado and Nampula provinces, remain at 946,508 up to June 2022, and further 83,000 since identified by the United Nations Office for the Coordination of Humanitarian Affairs.

Also on Friday 16 September, United Nations humanitarian chief Martin Griffiths announced a $5 million support to Mozambique from the Central Emergency Response Fund, in a boost to underfunded humanitarian operations.

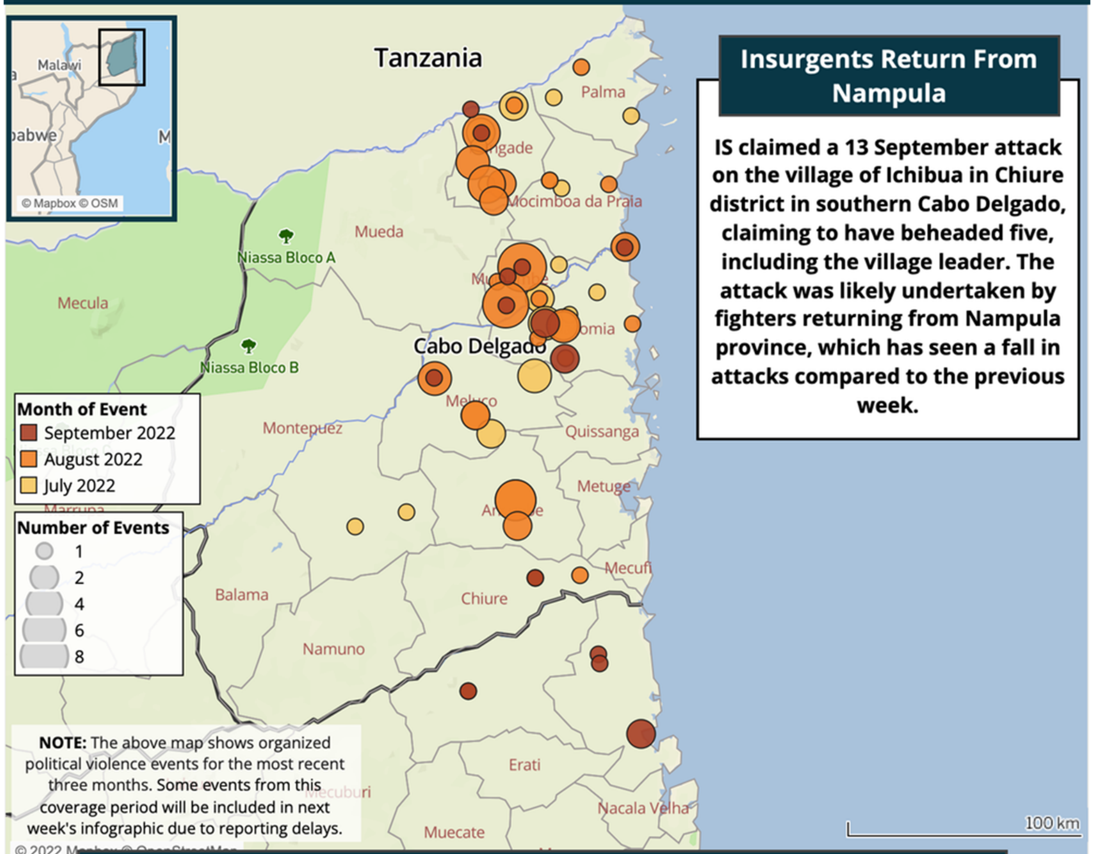
At the end of his visit to Mozambique, Josep Borrell, the head of the EU's foreign affairs, said that the EU's €20 million support to Rwanda's mission in Mozambique is not "a blank cheque for the government of Rwanda," answering questions on whether the support contradicts the EU's criticism towards the Kagame regime in the country. Borrell also said that the support to security efforts in Mozambique is "independent" of the development of gas projects in Cabo Delgado, adding that the EU "fights against terrorism in many countries."

Borrell also confirmed that 600 Mozambican troops had now completed their training, although it is not clear if and how they are currently deployed in the conflict zone. Mozambique is also set to receive another batch of non-lethal military equipment from the EU by the end of October, said the new commander of the EU military training mission in Mozambique, Rogério Martins de Brito. The delivery would be the last this year under the program, Brito said, adding that more material would be given to Mozambique over the next two years. This will include a fully equipped field hospital.

Mozambique is also undertaking its own training to supplement the security response to the conflict. On Monday, 19 September, 11,336 new officers completed the 42nd police course, the highest ever number of graduates. Among those, were an unspecified number of young people whom President Nyusi praised for having previously fought "side by side" with Local Forces. They are to be returned to Cabo Delgado where as police they will work alongside Local Forces.

In a meeting with US President Joe Biden on Friday 16 September, South African President Cyril Ramaphosa said the two heads of state should talk about the security and stability situation in Southern Africa, given that there is "an insurgency that is targeting one of our neighboring countries, Mozambique." "Yes", was President Biden's one word acknowledgement. It is not known how President Nyusi reacted to Ramaphosa raising Mozambique in the meeting.

Ligado Weekly #112



Insurgents Return From Nampula

IS claimed a 13 September attack on the village of Ichibua in Chiure district in southern Cabo Delgado, claiming to have beheaded five, including the village leader. The attack was likely undertaken by fighters returning from Nampula province, which has seen a fall in attacks compared to the previous week.

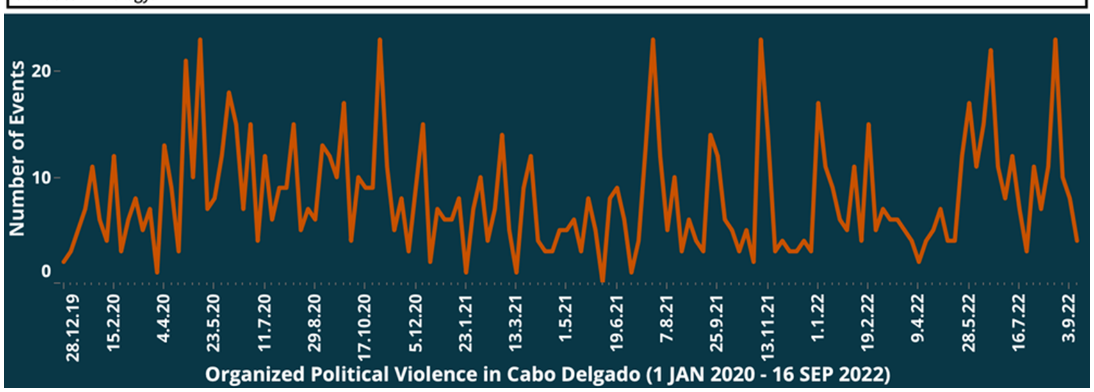
By the Numbers: Cabo Delgado (1 October 2017 - 16 September 2022)

Total number of organized political violence events: **1,440**

Total number of reported fatalities from organized political violence: **4,258**

Total number of reported fatalities from organized violence targeting civilians: **1,879**

*Numbers shown here and in the line graph below are for Cabo Delgado province only. See full report and ACLED website for more information about terminology.



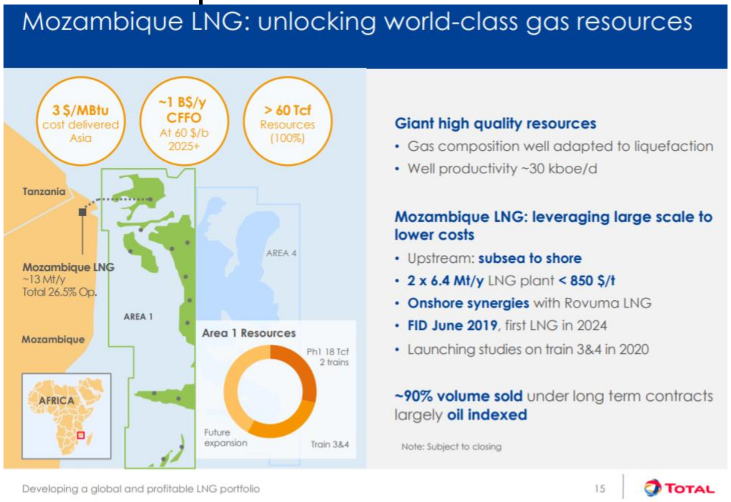
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

Posted Wednesday April 28, 2021. 9:00 MT

The next six months will determine the size and length of the new LNG supply gap that is hitting harder and faster than anyone expected six months ago. Optimists will say the Mozambique government will bring sustainable security and safety to the northern Cabo Delgado province and provide the confidence to Total to quickly get back to LNG development such that its LNG in-service delay is a matter of months and not years. We hope so for Mozambique's domestic situation, but will it be that easy for Total's board to quickly look thru what just happened? Total suspended LNG development for 3 months, restarted development on March 25, but then 3 days of violence led it to suspend development again on March 28, and announce force majeure on Monday April 26. Even if the optimists are right, Mozambique LNG is counted on for LNG supply and the major LNG supply project that are in LNG supply forecasts are now all delayed – Total Phase 1 of 1.7 bcf/d and its follow on Phase 2 of 1.3 bcf/d, and Exxon's Rozuma Phase 1 of 2.0 bcf/d. It is important to remember this 5.0 bcf/d of major LNG supply is being counted in LNG supply forecasts and starting in 2024. At a minimum, we think the more likely scenario is a delay of at least 2 years in this 5.0 bcf/d from the pre-Covid timelines. And this creates a much bigger and sooner LNG supply gap starting ~2025 and stronger outlook for LNG prices. Thermal coal in Asia will play a role in keeping a lid on LNG prices. But there will be the opportunity for LNG suppliers to at least review the potential for brownfield LNG projects to fill the growing supply gap. The thought of increasing capex was a non-starter six months ago, but there is a much stronger outlook for global oil and gas prices. Oil and gas companies are pivoting from cutting capex to small increases in 2021 capex and expecting for higher capex in 2022. We believe this sets the stage for looking at potential FID of brownfield LNG projects before the end of 2021 to be included in 2022 capex budgets. Mozambique is causing an LNG supply gap that someone will try to fill. And if brownfield LNG is needed, what about Shell looking at 1.8 bcf/d brownfield LNG Canada Phase 2? Cdn natural gas producers hope so as this would mean more Cdn natural gas will be tied to Asian LNG markets and not competing in the US against Henry Hub.

Total declares force majeure on Mozambique LNG, Yesterday, Total announced [LINK] "*Considering the evolution of the security situation in the north of the Cabo Delgado province in Mozambique, Total confirms the withdrawal of all Mozambique LNG project personnel from the Afungi site. This situation leads Total, as operator of Mozambique LNG project, to declare force majeure. Total expresses its solidarity with the government and people of Mozambique and wishes that the actions carried out by the government of Mozambique and its regional and international partners will enable the restoration of security and stability in Cabo Delgado province in a sustained manner".* Total is working Phase 1 is ~1.7 bcf/d (Train 1 + 2, 6.45 mtpa/train) and was originally expected to being LNG deliveries in 2024. There was no specific timeline for Phase 2 of 1.3 bcf/d (Train 3 + 4, 5.0 mtpa/train), but was expected to follow Phase 1 in short order to keep capital costs under control with a continuous construction process with a potential onstream shortly after 2026.

Total Mozambique Phase 1 and 2



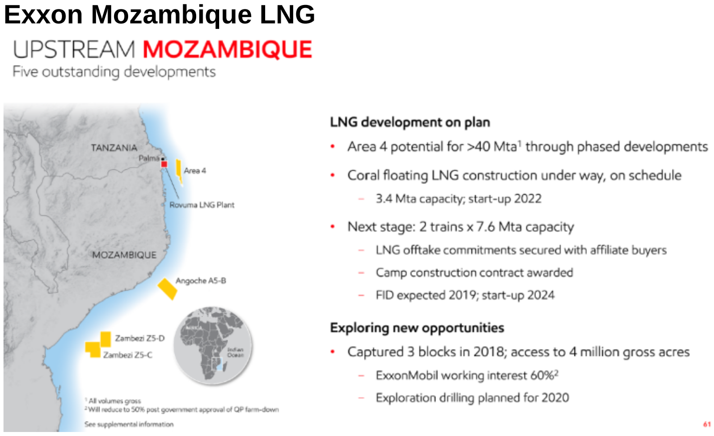
Source: Total Investor Day September 24, 2019

Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF Group posts a weekly Energy Tidbits research memo [LINK], wherein we have, in multiple weekly memos, that Total had shut down development in December for 3 months due to the violent and security risks. It restarted development on Wed March 24, violence/attacks immediately resumed for 3 consecutive days, and then Total suspended development on Sat March 27. Local violence/attacks shut development down in Dec, the situation gets settled enough for Total to restart in March, only to be shut down 3 days thereafter. No one should be surprised especially with Total's need to see security and stability "in a sustained manner".

Does anyone really think Total will risk another quick 2-3 month restart or even in 2021? The Mozambique government will be working hard to convince Total to restart soon. We just find it hard to believe Total board will risk a replay of March 24-27 in 2021. Unfortunately, Mozambique has had internal conflict for years. It reached a milestone to the positive in August 2019. Our SAF Group August 11, 2019 Energy Tidbits memo [LINK] highlighted the signing of a peace pact between Mozambique President Nyusi and leader of the Renamo opposition Momade. This was the official end to a 2013 thru 2016 conflict following a failure to hold up the prior peace pact. At that time, FT reported [LINK] "Mr Nyusi has said that "*the government and Renamo will come together and hunt" rebels who fail to disarm. The government has struggled to stem the separate insurgency in the north, which has killed or displaced hundreds near the gas-rich areas during the past two years. While the roots of the conflict remain murky, it is linked to a local Islamist group and appears to be drawing on disaffection over sharing gas investment benefits, say analysts*." This is just a reminder this is not a new issue. LNG is a game changer to Mozambique's economic future. It is, but also has been, a government priority to have the security and safety for Total and Exxon to move on their LNG developments. Its hard to believe the Mozambique government will be able to quickly convince Total and Exxon boards that they can be comfortable there is a sustained security/safety situation and they can send their people back in to develop the LNG. Total's board would allow any resumption of development before year end 2021. The last thing Total wants is a replay of March 24-27. The first question is how long will it take before the Total board is convinced its safe to restart. Could you imagine them doing a replay of what just happened? Wait three months, restart development and have to stop again right away? We have to believe that could lead the Total board to believe it is unfixable for years. We just don't think they are to prepared to risk that decision in 3 months. Its why we have to think there isn't a restart approval until at least in 2022 at the earliest ie. why we think the likely scenario is a delay of 2-3 years, and not a matter of months.

Mozambique's security issues pushes back 5.0 bcf/d of new LNG supply at least a couple years. The global LNG issue is that 5 bcf/d of new Mozambique LNG supply (apart from the Eni Coral FLNG of 0.45 bcf/d) won't start up in 2024 and continuing thru the 2020s. And we believe all LNG forecasts included this 5.0 bcf/d to be in service in the 2020s as Mozambique had been considered the best positioned LNG supply to access Asia after Australia and Papua New Guinea. (i) Eni Coral Sul (Rovuma Basin) FLNG of 0.45 bcf/d planned in service in 2022. [LINK] This is an offshore floating LNG vessel that is still expected to be in service in 2022. (ii) Total Phase 1 to add 1.7 bcf/d with an in service originally planned for 2024. We expect the in service data to be pushed back to at least 2026 assuming Total gives a development restart approval in Dec 2021. In theory, this would only be a 1 year loss of time. However, Total has let services go, the project will be idle for 9 months, it isn't clear if the need to get people out quickly let them do a complete put the project on hold, and how many people will be on site maintaining the status of the development during the force majeure. Also what new procedures and safety will be put in place for a restart. These all mean there will be added time needed to get the project back to where it was when force majeure was declared ie. why we think a 12 month time delay will be more like an 18 month project delay. (iii) Exxon's Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was expected to be in service in 2025. We believe the delays related to security and safety at Total are also going to impact Exxon. We find it highly unlikely the Exxon board would take a different security and safety decision than Total. Pre-pandemic, Exxon's March 6, 2019 Investor Day noted their operated Mozambique Rovuma LNG Phase 1 was to be 2 trains each with 1.0 bcf/d capacity for total initial capacity of 2.0 bf/d with FID expected in 2019 and first LNG deliveries in 2024. The 2019 FID expectation was later pushed to be expected just before the March 2020 investor day. But the pandemic hit, and on March 21, 2020, we tweeted [LINK] on the Reuters story "*Exclusive: Coronavirus, gas slump put brakes on Exxon's giant Mozambique LNG plan"* [LINK] that noted Exxon was expected to delay the Rovuma FID. There was no timeline, but the expectation was that FID would now be in 2022 (3 years later than original timeline0 and that would push first LNG likely to 2027. (iv) Total Phase 2 was to add 1.3 bcf/d. There was no firm in service date but it was expected to follow closely behind Phase 1 to maintain services. That would have put it originally in the 2026/2027 period. But if Phase 1 is pushed back 2 years, so will Phase 2 so more likely 2028/2029.. (v) Total Phase 1 + 2 and Exxon Rozuma Phase 1 total 5.0 bcf/d and would have been (and still are) in all LNG supply forecasts for the 2020s. (vi) We aren't certain if the LNG supply forecasts include Exxon Rozuma Phase 2 ,which would be an additional 2.0 bcf/d on top of the 5.0 bcf/d noted above. Exxon Rozuma has always been expected to be at least 2 Phases. This has been the plan since the Anadarko days given the 85 tcf size of the resource on Exxon's Area 4. There was no firm in service data for Phase 2, but it was expected they would also closely follow Phase 1 to maintain services. We expect that original timeline would have been 2026/2027 and that would not be pushed back to 2029/2030. (vii) It doesn't matter if its only 5 bcf/ of Mozambique that is delayed 2 to 3 years, it will cause a bigger LNG supply gap and sooner. The issue for LNG markets is this is taking projects that are in development effectively out of the queue for some period.

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

Won't LNG and natural gas get hit by Biden's push for carbon free electricity? Yes, in the US. For the last 9 months, we have warned on Biden's climate change plan that were his election platform and now form his administration's energy transition map. We posted our July 28, 2020 blog "*Biden To Put US On "Irreversible Path to Achieve Net-Zero Emissions, Economy-Wide" Is a Major Negative To US Natural Gas in 2020s* "[LINK] on Biden's platform "*The Biden Plan to Build a Modern, Sustainable Infrastructure and an Equitable Clean Energy Future*" [LINK]. Biden's new American Jobs Plan

[LINK] lines up with his campaign platform including to put the US "*on the path to achieving 100 percent carbon-free electricity by 2035*.". Our July 28, 2020 blog noted that it would require replacing ~60% of US electricity generation with more renewable and it could eliminate ~40% (33.5 bcf/d) of 2019 US natural gas consumption. If Biden is 25% successful by 2030, it would replace ~6.3 bcf/d of natural gas demand. It would be a negative to US natural gas and force more US natural gas to export markets. The wildcard when does US natural gas start to decline if producers are faced with the reality of natural gas being phased out for electricity. The other hope is that when Biden says "carbon-free", its not what ends up in the details of any formal policy statement ie. carbon electricity will be allowed with Biden's push for CCS.

Will Cdn natural gas be similarly hit by if Trudeau move to "emissions free" and not "net zero emissions" electricity? Yes and No. Our SAF Group April 25, 2021 Energy Tidbits memo [LINK] was titled ""*Bad News For Natural Gas, Trudeau's Electricity Goal is Now 100% "Emissions Free" And Not "Net Zero Emissions*". On Thursday, PM Trudeau spoke at Biden's global climate summit [LINK] and looks like he slipped in a new view on electricity than was in last Monday's budget and his Dec climate plan. Trudeau said "*In Canada, we've worked hard to get to over 80% emissions-free electricity, and we're not going to stop until we get to 100%."* Speeches, especially ones made on a global stage are checked carefully so this had to be deliberate. Trudeau said "*emissions free*" and not net zero emissions electricity. It seems like this language is carefully written to exclude any fossil fuels as they are not emissions free even if they are linked to CCS. Recall in Liberals big Dec 2020 climate announcement [LINK], Liberals said ""*Work with provinces, utilities and other partners to ensure that Canada's electricity generation achieves net-zero emissions before 2050*." There is no way Trudeau changed the language unless he meant to do so. And this is a major change as it would seem to indicate his plan to eliminate all fossil fuels used for electricity. If so this would be a negative to Cdn natural gas that would be stuck within Western Canada and/or continuing to push into the US when Biden is trying to switch to carbon free electricity. We recognize that there is still some ambiguity in what will be the details of policy and the Liberals aren't changing to no carbon sourced electricity at all. Let's hope so. But let's also be careful that politicians don't change language without a reason or at least with a view to setting up for some future hit. Plus Trudeau had a big warning in that same speech saying "*we will make it law to respect our new 2030 target and achieve net-zero emissions by 2050*". They plan to make it the law that Canada has to be on track for the Liberals 2030 emissions targets. This means that the future messaging will be that the Liberals have no choice but to take harder future emissions actions as it is the law. They will be just obeying the law as they will be obligated to obey the law. Everyone knows the messaging will be we have to do more get to Net Zero, that in itself will inevitably mean it will be the law if he actually does move to eliminate any carbon based electricity. So yes it's a negative, that is unless more Cdn natural gas can be exported via LNG to Asia. We believe this would be a plus to be priced against global LNG instead of Henry Hub.

Biden's global climate summit reminded there is too much risk to skip over natural gas as the transition fuel. Apart from the US and Canada, we haven't seen a sea shift to eliminating natural gas for power generation, especially from energy import dependent countries. There is a strong belief that hydrogen and battery storage will one day be able to scale up at a competitive cost to lead to the acceleration away from fossil fuels. But that time isn't yet here, at least not for energy import dependent countries. One of the key themes from last week's leader's speeches at the Biden global climate summit – to get to Net Zero, the world is assuming there wilt be technological advances/discoveries that aren't here today and that have the potential to immediately ramp up in scale. IEA Executive Director Faith Birol was blunt in his message [LINK] saying "*Right now, the data does not match the rhetoric – and the gap is getting wider*." And "*IEA analysis shows that about half the reductions to get to net zero emissions in 2050 will need to come from technologies that are not yet ready for market. This calls for massive leaps in innovation. Innovation across batteries, hydrogen, synthetic fuels, carbon capture and many other technologies.* US Special Envoy for Climate John Kerry said a similar point that half of the emissions reductions will have to come from technologies that we don't yet have at scale. UK PM Johnson [LINK] didn't say it specifically, but points to this same issue saying "*To do these things we've got to be constantly original and optimistic about new technology and new solutions whether that's crops that are super-resistant to drought or more accurate weather forecasts like those we hope to see from the UK's new Met Office 1.2bn supercomputer that we're investing in*." It may well be that the US and other self sufficient energy countries are comfortable going on the basis of assuming technology developments will occur on a timely basis. But, its clear that countries like China, India, South Korea and others are not prepared to do so. And not prepared to have the confidence to rid themselves of coal power generation. This is why there hasn't been any material change in the LNG demand outlook

We expect the IEA's blunt message that the gap is getting wider will be reinforced on May 18. We have had a consistent view on the energy transition for the past few years. We believe it is going to happen, but it will take longer, be a bumpy road and cost more than expected. This is why we believe the demise of oil and natural gas won't be as easy and fast as hoped for by the climate change side. The IEA's blunt warning on the gap widening should not be a surprise as they warned on this in June 2020. Birol's climate speech also highlighted that the IEA will release on May 18 its roadmap for how the global energy sector can reach net zero by 2050. Our SAF Group June 11, 2020 blog "*Will The Demise Of Oil Take Longer, Just Like Coal? IEA and Shell Highlight Delays/Gaps To A Smooth Clean Energy Transition*" [LINK] feature the IEA's June 2020 warning that the critical energy technologies needed to reduce emissions are nowhere near where they need to be. In that blog, we said "there was an excellent illustration of the many significant areas, or major pieces of the puzzle, involved in an energy transition by the IEA last week. The IEA also noted the progress of each of the major pieces and the overall conclusion is that the vast majority of the pieces are behind or well behind where they should be to meet a smooth timely energy transition. It is important to note that these are just what the IEA calls the "*critical energy technologies*" and does not get into the wide range of other considerations needed to support the energy transition. The IEA divides these "critical energy technologies "into major groupings and then ranked the progress of each of these pieces in its report "*Tracking Clean Energy Progress*" [LINK] by on track, more efforts needed, or not on track". Our blog included the below IEA June 2020 chart.

IEA's Progress Ranking For "Critical Energy Technologies" For Clean Energy Transition

🔴 Power	🟡 Renewable Power	🔴 Geothermal
	🟢 Solar PV	🔴 Ocean Power
	🟡 Onshore Wind	🔴 Nuclear Power
	🟡 Offshore Wind	🟡 Natural Gas-Fired Power
	🟡 Hydropower	🔴 Coal-Fired Power
	🟢 Bioenergy Power Generation	🔴 CCUS in Power
	🔴 Concentrating Solar Power	
🔴 Fuel Supply	🔴 Methane Emissions from O&G	🔴 Flaring Emissions
🟡 Industry	🟡 Chemicals	🟡 Pulp and Paper
	🟡 Iron and Steel	🟡 Aluminum
	🟡 Cement	🔴 CCUS in Industry and Transformation
🟡 Transport	🟢 Electric Vehicles	🔴 Transport Biofuels
	🟢 Rail	🟡 Aviation
	🔴 Fuel Consumption of Cars and Vans	🟡 International Shipping
	🟡 Trucks and Busses	
🔴 Buildings	🔴 Building Envelopes	🟢 Lighting
	🔴 Heating	🟡 Appliances and Equipment
	🟡 Heat Pumps	🟢 Data Centres and Data Transmission Networks
	🟡 Cooling	
🟡 Energy Integration	🟡 Energy Storage	🟡 Demand Response
	🟡 Hydrogen	🟡 Direct Air Capture
	🟡 Smart Grids	

Source: IEA

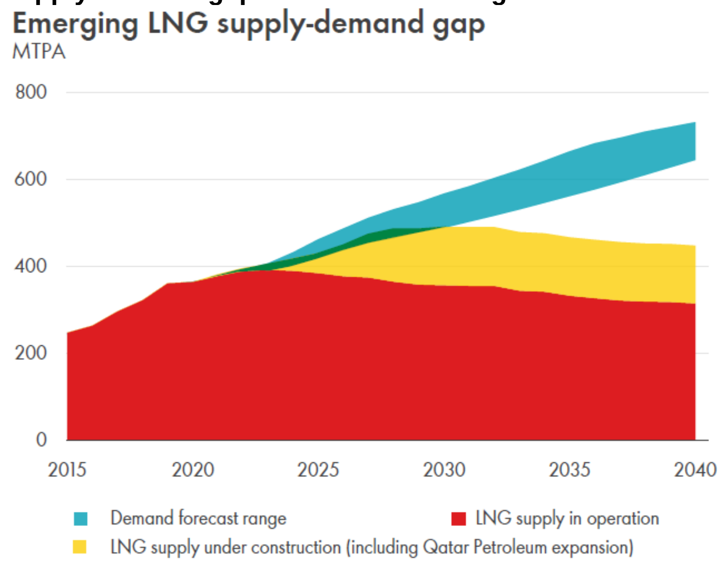
🟢 On Track 🟡 More Efforts Needed 🔴 Not on Track

Source: IEA Tracking Clean Energy Progress, June 2020

We are referencing Shell's long term outlook for LNG We recognize there are many different forecasts for LNG, but are referencing Shell' LNG Outlook 2021 from Feb 25, 2021 for a few reasons. (i) Shell's view on LNG is the key view for when and what decision will be made for LNG Canada Phase 2. (ii) Shell is one of the global leaders in LNG supply and trading. (iii) Shell provides on the record LNG outlooks every year so there is the ability to compare and make sure the outlook fits the story. It does. (iv) Shell, like other supermajors, has had to make big capex cuts post pandemic and that certainly wouldn't put any bias to the need for more capex.

Shell's March 2021 long term outlook for LNG demand was basically unchanged vs 2020 and leads to a LNG supply gap in mid 2020s Shell does not provide the detailed numbers in their Feb 25, 2021 LNG forecast. We would assume they would have reflected some delay, perhaps 1 year, at Mozambique but would be surprised if they put a 2-3 year delay in for the 5 bcf/d from Total Phase 1 +2 and Exxon Rozuma Phase 1. Compared to their LNG Outlook 2020, it looks like there was no change for their estimate of global natural gas demand growth to 2040, which looked relatively unchanged at approx. 5,000 bcm/yr or 484 bcf/d. Similarly, long term LNG demand looked unchanged to 2040 of ~700 mm tonnes (92 bcf/d) vs 360 mm tonnes (47 bcf/d) in 2020. In the 2021 outlook, Shell highlighted that the pandemic delayed project construction timelines and that the "*lasting impact expected on LNG supply not demand"*. And that Shell sees a LNG "*supply-demand gap estimated to emerge in the middle of the current decade as demand rebounds*". Comparing to 2020, it looks like the supply-demand gap is sooner.

Supply-demand gap estimated to emerge in the middle of the current decade



Source: Shell LNG Outlook 2021, Feb 25, 2021

<u>Mozambique delays are redefining the LNG markets for the 2020s: Delaying 5 bcf/d of Mozambique new LNG supply 2-3 years means a much bigger supply gap starting in 2025..</u> Even if the optimists are right, there are now delays to all major Mozambique LNG supply from LNG supply forecasts. We don't have the detail, but we believe all LNG forecasts, including Shell's LNG Outlook 2021, would have included Total's Phase 1 and Phase 2 and Exxon Rozuma Phase 1. As noted earlier, we believe that the likely impact of the Mozambique security concerns is that these forecasts would likely have to push back 1.7 bcf/d from Total Phase 1 to at least 2026, 2.0 bcf/d Exxon Rozuma Phase 1 to at least 2027, and 1.3 bcf/d Total Phase 2 to at least 2028/2029 with the real risk these get pushed back even further. 5.0 bcf/d is equal to 38 mtpa. These delays would mean there is an increasing LNG supply gap in 2025 and increasingly significantly thereafter. And even if a new greenfield LNG project is FID's right away, it wouldn't be able to step in to replace Total Phase 1 prior startup timing for 2024 or likely the market at all until at least 2027. Its why the decision on filling the gap will fall on brownfield LNG projects.

<u>And does this bigger, nearer supply gap force LNG players to look at what brownfield LNG projects they could advance?</u> A greenfield LNG project would likely take at least until 2027 to be in operations. Its why we believe the Mozambique delays will effectively force major LNG players to look to see if there are brownfield LNG projects they should look to advance. Prior to the just passed winter, no one would think Shell or other major LNG players would be considering any new LNG FIDs in 2021. All the big companies are in capital reduction mode and debt reduction mode. But Brent oil is now solidly over $60 and LNG prices hit record levels in Jan and the world's economic and oil and gas demand outlook are increasing with vaccinations. And we are starting to see companies move to increasing capex with the higher cash flows. We would not expect any major LNG players to move to FID right away. But we see them watching to see if 2021 plays out to still support this increasing LNG supply gap. And unless new mutations prevent vaccinations from returning the world to normal, we suspect that major LNG players, like other oil and gas companies, will be looking to increase

capex as they approve 2022 budgets. The outlook for the future has changed dramatically in the last 5 months. The question facing Shell and others, should they look to FID new LNG brownfield projects in the face of an increasing LNG supply gap that is going to hit faster and harder than expected a few months ago. We expect these decisions to be looked at before the end of 2021. LNG prices will be stronger, but we expect the limiting cap in Asia will be that thermal coal will be used to mitigate some LNG price pressure.

Back to Shell, does increasing LNG supply gap provide the opportunity to at least consider a LNG Canada Phase 2 FID over the next 9 months? Shell is no different than any other major LNG supplier in always knowing the market and that the oil and gas outlook is much stronger than 6 months ago. No one has been or is talking about this Mozambique impact and how it will at least force major LNG players to look at if they should FID new brownfield LNG projects to take advantage of this increasing supply gap. We don't have any inside contacts at Shell or LNG Canada, but that is no different than when we looked at the LNG markets in September 2017 and saw the potential for Shell to FID LNG Canada in 2018. We posted a September 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]. Last time, it was a demand driven supply gap, this time, it's a supply driven supply gap. We have to believe any major LNG player, including Shell, will be at least looking at their brownfield LNG project list and seeing if they should look to advance FID later in 2021. Shell has LNG Canada Phase 2, which would add 2 additional trains or approx. 1.8 bcf/d. And an advantage to an FID would be that Shell would be able to commit to its existing contractors and fabricators for a continuous construction cycle following on LNG Canada Phase 1 ie. to help keep a lid on capital costs. No one is talking about the need for these new brownfield LNG projects, but, unless Total gets back developing Mozambique and keeps the delay to a matter of months, its inevitable that these brownfield LNG FID internal discussions will be happening in H2/21. Especially since the oil and gas price outlook is much stronger than it was in the fall and companies will be looking to increase capex in 2022 budgets

A LNG Canada Phase 2 would be a big plus to Cdn natural gas. A LNG Canada Phase 2 FID would be a big plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against Asian LNG prices and not against Henry Hub. And it would provide demand offset versus Trudeau if he moves to make electricity "emissions free" and not his prior "net zero emissions". Mozambique may be in Africa, but, unless sustained peace and security is attained, it is a game changer to LNG outlook creating a bigger and sooner LNG supply gap. And with a stronger tone to oil and natural gas prices in 2021, the LNG supply gap will at least provide the opportunity for Shell to consider FID for its brownfield LNG Canada Phase 2 and provide big support to Cdn natural gas for back half of the 2020s. And perhaps if LNG Canada is exporting 3.6 bcf/d from two phases, it could help flip Cdn natural gas to a premium to US natural gas especially if Biden is successful in reducing US domestic natural gas consumption for electricity. The next six months will be very interesting to watch for LNG markets.

Highlights for the month

•	The consumption of petroleum products during April-Aug 2022 with a volume of 90.6 MMT reported a growth of 14.5% compared to the volume of 79.1 MMT during the same period of the previous year. This growth was led by 11.6% growth in MS, 13.0% in HSD & 57.0% in ATF consumption during the quarter. The consumption of petroleum products during Aug 2022 recorded a growth of 16.3% with a volume of 17.8 MMT compared to the same period of the previous year.
•	Indigenous crude oil and condensate production during August 2022 was down by 3.3 % than that of August 2021 as compared to a de-growth of 3.8 % during July 2022. OIL registered a growth of 3.7 % and ONGC registered a de-growth of 1.0 % during August 2022 as compared to August 2021. PSC registered de-growth of 12.2 % during August 2022 as compared to August 2021. De-growth of 1.1 % was registered in the total crude oil and condensate production during April - August 2022 over the corresponding period of the previous year.
•	Total Natural Gas Consumption (including internal consumption) for the month of August 2022 was 5198 MMSCM which was 10.0% lower than the corresponding month of the previous year. The cumulative consumption of 26321 MMSCM for the current year till August 2022 was lower by 3.8 % compared with the corresponding period of the previous year.
•	Crude oil processed during August 2022 was 19.5 MMT, which was 5.9 % higher than August 2021 as compared to a growth of 10.5 % during July 2022. Growth of 12.3 % was registered in the total crude oil processing during April- August 2022 over the corresponding period of the previous year.
•	Production of petroleum products saw a growth of 7.0% during August 2022 over August 2021 as compared to a growth of 6.2% during July 2022. Growth of 10.7 % was registered in the total POL production during April- August 2022 over the corresponding period of the previous year.
•	Ethanol blending with Petrol was 9.12% during Aug 2022 and cumulative ethanol blending during December 2021- Aug 2022 was 10.03%.

•	Gross production of natural gas for the month of August 2022 was 2896 MMSCM which was lower by 1.0% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 14332 MMSCM for the current financial year till August 2022 was higher by 2.5% compared with the corresponding period of the previous year.
•	LNG import for the month of August 2022 (P) was 2369 MMSCM which was 18.9% lower than the corresponding month of the previous year. The cumulative import of 12340 (P) MMSCM for the current year till August 2022 was lower by 10.2% compared with the corresponding period of the previous year.
•	Crude oil imports increased by 0.9% and 17.0% during August 2022 and April-August 2022 respectively as compared to the corresponding period of the previous year. The net import bill for oil & gas was $11.6 billion in August 2022 compared to $9.0 billion in August 2021. In this the crude oil imports constitutes $13.1 billion, LNG imports $1.2 billion and the exports were $4.9 billion during August 2022.
•	POL products imports increased by 13.7% and 14.5% during August 2022 and April-August 2022 respectively as compared to the corresponding period of the previous year. Increase in POL products imports during April-August 2022 were due to increase in imports of all products except aviation turbine fuel (ATF) and fuel oil (FO) etc.
•	Exports of POL products increased by 9% during August 2022 and by 7.3% April-August 2022 respectively as compared to the corresponding period of the previous year. Increase in POL products exports during April-August 2022 were due to increase in exports of all products except superior kerosene oil (SKO), fuel oil (FO) and vacuum gas oil (VGO) etc.
•	The price of Brent Crude averaged $99.99/bbl during August 2022 as against $112.70/bbl during July 2022 and $70.81/bbl during August 2021. The Indian basket crude price averaged $97.40/bbl during August 2022 as against $105.49/bbl during July 2022 and $69.80 /bbl during August 2021.

2. Crude oil, LNG and petroleum products at a glance									
	Details	**Unit/ Base**	**2020-21**	**2021-22 (P)**	**Aug**		**April-Aug**	
					2021-22 (P)	**2022-23 (P)**	**2021-22 (P)**	**2022-23 (P)**
1	Crude oil production in India#	MMT	30.5	29.7	2.5	2.4	12.5	12.3
2	Consumption of petroleum products*	MMT	194.3	204.2	15.3	17.8	79.1	90.5
3	Production of petroleum products	MMT	233.5	254.3	19.6	20.9	100.2	111.0
4	Gross natural gas production	MMSCM	28,672	34,024	2,926	2,896	13,989	14,332
5	Natural gas consumption	MMSCM	60,815	63,907	5,773	5,198	27,375	26,321
6	Imports & exports:							
	Crude oil imports	MMT	196.5	212.0	17.4	17.5	83.8	98.1
		$ Billion	62.2	120.4	9.1	13.1	42.2	76.9
	Petroleum products (POL) imports*	MMT	43.2	42.1	3.2	3.6	15.6	17.8
		$ Billion	14.8	25.2	1.9	2.2	8.4	12.2
	Gross petroleum imports (Crude + POL)	MMT	239.7	254.0	20.6	21.2	99.4	115.9
		$ Billion	77.0	145.7	11.0	15.3	50.5	89.1
	Petroleum products (POL) export	MMT	56.8	62.7	4.8	5.2	24.7	26.5
		$ Billion	21.4	44.4	2.9	4.9	14.7	28.5
	LNG imports*	MMSCM	33,031	30,776	2,920	2,369	13,745	12,340
		$ Billion	7.9	13.4	1.2	1.0	4.5	5.6
	Net oil & gas imports	$ Billion	63.5	114.7	9.2	11.5	40.3	66.2
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	19.5	23.8	24.4	24.7	23.1	28.0
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	7.3	10.6	8.7	14.3	8.9	14.7
9	Import dependency of crude oil (on POL consumption basis)	%	84.4	85.6	84.2	87.1	84.9	86.5

#Includes condensate; *Private direct imports are prorated for the period April'22 to Aug'22 for POL & Natural Gas. Total may not tally due to rounding off.

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2020-21	2021-22 (P)	Aug			April-Aug		
			2021-22 (P)	2022-23 Target*	2022-23 (P)	2021-22 (P)	2022-23 Target*	2022-23 (P)
ONGC	19.1	18.5	1.6	1.6	1.5	7.7	8.0	7.8
Oil India Limited (OIL)	2.9	3.0	0.3	0.3	0.3	1.2	1.4	1.3
Private / Joint Ventures (JVs)	7.1	7.0	0.6	0.8	0.5	3.0	3.4	2.7
Total Crude Oil	**29.1**	**28.4**	**2.4**	**2.8**	**2.3**	**11.9**	**12.8**	**11.8**
ONGC condensate	1.1	0.9	0.08	0.0	0.1	0.4	0.0	0.4
PSC condensate	0.3	0.30	0.03	0.0	0.03	0.13	0.0	0.11
Total condensate	**1.4**	**1.2**	**0.11**	**0.0**	**0.1**	**0.5**	**0.0**	**0.5**
Total (Crude + Condensate) (MMT)	**30.5**	**29.7**	**2.5**	**2.8**	**2.4**	**12.5**	**12.8**	**12.3**
Total (Crude + Condensate) (Million Bbl/Day)	0.61	0.60	0.60	0.65	0.58	0.60	0.61	0.59

*Provisional targets inclusive of condensate.

4. Domestic oil & gas production vis-à-vis overseas production

Details	2020-21	2021-22 (P)	Aug		April-Aug	
			2021-22 (P)	2022-23 (P)	2021-22 (P)	2022-23 (P)
Total domestic production (MMTOE)	59.2	63.7	5.4	5.3	26.5	26.7
Overseas production (MMTOE)	21.9	21.7	1.9	1.6	9.2	8.1
Overseas production as percentage of domestic production	**37.0%**	**34.1%**	**35.3%**	**30.7%**	**34.9%**	**30.4%**

Source: ONGC Videsh, GAIL, OIL , IOCL, HPCL & BPRL

5. High Sulphur (HS) & Low Sulphur (LS) crude oil processing (MMT)

Details		2020-21	2021-22 (P)	Aug		April-Aug	
				2021-22 (P)	2022-23 (P)	2021-22 (P)	2022-23 (P)
1	High Sulphur crude	161.4	185.0	13.9	15.0	71.3	83.2
2	Low Sulphur crude	60.3	56.7	4.5	4.5	23.8	23.5
Total crude processed (MMT)		**221.8**	**241.7**	**18.4**	**19.5**	**95.1**	**106.8**
Total crude processed (Million Bbl/Day)		4.45	4.85	4.36	4.62	4.55	5.11
Percentage share of HS crude in total crude oil processing		**72.8%**	**76.5%**	**75.4%**	**76.7%**	**75.0%**	**78.0%**

6. Quantity and value of crude oil imports

Year	Quantity (MMT)	$ Million	Rs. Crore
2020-21	196.5	62,248	4,59,779
2021-22 (P)	212.0	120,445	8,99,312
April-Aug 2022(P)	98.1	76,861	6,00,500

7. Self-sufficiency in petroleum products (Million Metric Tonnes)

Particulars		2020-21	2021-22 (P)	Aug		April-Aug	
				2021-22 (P)	2022-23 (P)	2021-22 (P)	2022-23 (P)
1	Indigenous crude oil processing	28.0	27.1	2.2	2.2	11.0	11.5
2	Products from indigenous crude (93.3% of crude oil processed)	26.1	25.3	2.1	2.0	10.3	10.7
3	Products from fractionators (Including LPG and Gas)	4.2	4.1	0.3	0.3	1.7	1.5
4	Total production from indigenous crude & condensate **(2 + 3)**	30.3	29.3	2.4	2.3	12.0	12.2
5	Total domestic consumption	194.3	204.2	15.3	17.8	79.1	90.5
% Self-sufficiency (4 / 5)		**15.6%**	**14.4%**	**15.8%**	**12.9%**	**15.1%**	**13.5%**

8. Refineries: Installed capacity and crude oil processing (MMTPA / MMT)

Sl. no.	Refinery	Installed capacity (01.01.2022) MMTPA	Crude oil processing (MMT)							
			2020-21	2021-22 (P)	Aug			April-Aug		
					2021-22 (P)	2022-23 (Target)	2022-23 (P)	2021-22 (P)	2022-23 (Target)	2022-23 (P)
1	Barauni (1964)	6.0	5.5	5.6	0.3	0.6	0.6	2.3	2.6	2.8
2	Koyali (1965)	13.7	11.6	13.5	1.1	1.2	1.3	5.3	5.8	6.6
3	Haldia (1975)	8.0	6.8	7.3	0.7	0.7	0.7	3.3	3.5	3.5
4	Mathura (1982)	8.0	8.9	9.1	0.6	0.7	0.6	3.5	3.8	3.9
5	Panipat (1998)	15.0	13.2	14.8	1.1	1.4	1.2	6.2	6.2	6.0
6	Guwahati (1962)	1.0	0.8	0.7	0.06	0.1	0.1	0.13	0.4	0.5
7	Digboi (1901)	0.65	0.6	0.7	0.06	0.05	0.06	0.3	0.3	0.3
8	Bongaigaon(1979)	2.70	2.5	2.6	0.2	0.2	0.2	1.1	1.0	1.0
9	Paradip (2016)	15.0	12.5	13.2	0.7	0.7	0.002	5.1	4.6	5.3
	IOCL-TOTAL	**70.1**	**62.4**	**67.7**	**4.9**	**5.6**	**4.8**	**27.3**	**28.1**	**29.9**
10	Manali (1969)	10.5	8.2	9.0	0.6	0.9	0.9	3.5	4.3	4.8
11	CBR (1993)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	**10.5**	**8.2**	**9.0**	**0.6**	**0.9**	**0.9**	**3.5**	**4.3**	**4.8**
12	Mumbai (1955)	12.0	12.9	14.4	1.3	1.1	1.2	6.0	5.5	5.4
13	Kochi (1966)	15.5	13.3	15.4	1.1	1.4	1.4	5.5	6.9	6.9
14	Bina (2011)	7.8	6.2	7.4	0.6	0.6	0.4	2.8	3.3	3.0
	BPCL-TOTAL	**35.3**	**32.4**	**37.2**	**3.0**	**3.1**	**3.0**	**14.2**	**15.6**	**15.3**
15	Numaligarh (1999)	3.0	2.7	2.6	0.2	0.2	0.3	1.1	1.2	1.3

Sl. no.	Refinery	Installed capacity (1.01.2022) (MMTPA)	Crude oil processing (MMT)							
			2020-21	2021-22 (P)	Aug			April-Aug		
					2021-22 (P)	2022-23 (Target)	2022-23 (P)	2021-22 (P)	2022-23 (Target)	2022-23 (P)
16	Tatipaka (2001)	0.066	0.081	0.075	0.007	0.006	0.004	0.029	0.025	0.028
17	MRPL-Mangalore (1996)	15.0	11.5	14.9	1.0	1.2	1.2	5.2	6.3	6.9
	ONGC-TOTAL	**15.1**	**11.6**	**14.9**	**1.0**	**1.2**	**1.2**	**5.2**	**6.3**	**7.0**
18	Mumbai (1954)	9.5	7.4	5.6	0.3	0.8	0.8	1.1	3.7	4.1
19	Visakh (1957)	8.3	9.1	8.4	0.5	0.8	0.6	3.0	3.6	3.6
20	HMEL-Bathinda (2012)	11.3	10.1	13.0	1.1	1.0	1.0	5.4	4.8	5.4
	HPCL- TOTAL	**29.1**	**26.5**	**27.0**	**1.9**	**2.5**	**2.3**	**9.5**	**12.2**	**13.1**
21	RIL-Jamnagar (DTA) (1999)	33.0	34.1	34.8	2.9	2.9	3.0	13.9	13.9	15.1
22	RIL-Jamnagar (SEZ) (2008)	35.2	26.8	28.3	2.2	2.2	2.1	12.0	12.0	11.8
23	NEL-Vadinar (2006)	20.0	17.1	20.2	1.7	1.7	1.8	8.4	8.4	8.6
All India (MMT)		**251.2**	**221.8**	**241.7**	**18.4**	**20.5**	**19.5**	**95.1**	**102.0**	**106.8**
All India (Million Bbl/Day)		**5.02**	**4.45**	**4.85**	**4.36**	**4.84**	**4.62**	**5.71**	**6.13**	**6.41**

Note: Provisional Targets; Some sub-totals/ totals may not add up due to rounding off at individual levels.

9. Major crude oil and product pipeline network (as on 01.09.2022)

Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,284	1,193	688	1,017	5,301	937			**10,420**
	Cap (MMTPA)	60.6	9.0	10.7	11.3	48.6	7.8			**147.9**
Products	Length (KM)		654			9,661	2,596	3,775	2,386	**19,072**
	Cap (MMTPA)		1.7			48.0	23.0	34.1	9.4	**116.2**

*Others include GAIL and Petronet India. HPCL and BPCL lubes pipeline included in products pipeline data

11. Production and consumption of petroleum products (Million Metric Tonnes)

Products	2020-21		2021-22 (P)		Aug 2021		Aug 2022 (P)		Apr-Aug 2021		Apr-Aug 2022 (P)	
	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons
LPG	12.1	27.6	12.2	28.3	0.9	2.3	1.0	2.4	4.9	11.2	5.3	11.4
MS	35.8	28.0	40.2	30.8	3.1	2.7	3.3	3.0	15.4	12.1	17.9	14.6
NAPHTHA	19.4	14.1	19.9	14.3	1.6	0.9	1.4	1.2	8.2	5.8	7.5	5.3
ATF	7.1	3.7	10.3	5.0	0.7	0.4	1.2	0.6	3.5	1.6	5.7	2.9
SKO	2.4	1.8	1.9	1.5	0.2	0.1	0.0	0.0	0.8	0.6	0.5	0.2
HSD	100.4	72.7	107.1	76.7	8.3	5.6	8.9	6.3	42.7	30.1	47.7	35.1
LDO	0.7	0.9	0.8	1.0	0.08	0.08	0.04	0.07	0.3	0.4	0.3	0.3
LUBES	1.1	4.1	1.2	4.6	0.1	0.4	0.1	0.3	0.4	1.7	0.5	1.8
FO/LSHS	7.4	5.6	8.9	6.3	0.8	0.5	1.0	0.6	3.4	2.4	4.4	2.8
BITUMEN	4.9	7.5	4.7	7.9	0.2	0.3	0.2	0.5	1.9	2.8	1.9	3.1
PET COKE	12.0	15.6	14.7	15.8	1.2	1.0	1.2	1.2	5.9	5.5	6.4	6.4
OTHERS	30.2	12.8	32.2	12.1	2.4	0.9	2.6	1.6	12.8	4.7	13.0	6.7
ALL INDIA	**233.5**	**194.3**	**254.3**	**204.2**	**19.6**	**15.3**	**20.9**	**17.8**	**100.2**	**79.1**	**111.0**	**90.5**
Growth (%)	**-11.0%**	**-8.9%**	**8.9%**	**5.1%**	**9.1%**	**6.4%**	**7.0%**	**16.3%**	**12.3%**	**11.7%**	**10.7%**	**14.5%**

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)

LPG category	2020-21	2021-22	Aug			April-Aug		
			2021-22	2022-23 (P)	Growth (%)	2021-22	2022-23 (P)	Growth (%)
1. PSU Sales :								
LPG-Packed Domestic	25,128.1	25,501.6	2,076.0	2,136.8	2.9%	10,197.6	10,224.3	0.3%
LPG-Packed Non-Domestic	1,886.0	2,238.8	198.6	212.4	6.9%	790.9	915.9	15.8%
LPG-Bulk	361.9	390.9	30.5	29.8	-2.2%	149.7	146.8	-1.9%
Auto LPG	118.4	122.0	11.6	9.2	-20.7%	45.2	46.4	2.6%
Sub-Total (PSU Sales)	27,494.3	28,253.3	**2,316.7**	**2,388.1**	**3.1%**	**11,183.4**	**11,333.4**	**1.3%**
2. Direct Private Imports*	64.2	82.0	6.90	6.4	-7.8%	37.1	31.8	-14.3%
Total (1+2)	27,558.4	28,335.3	**2,323.6**	**2,394.5**	**3.1%**	**11,220.5**	**11,365.2**	**1.3%**

*Apr -Aug 2022 DGCIS data is prorated

16. LPG marketing at a glance

Particulars (As on 1st of April)	Unit	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	1.09.22 (P)
LPG Active Domestic Customers	(Lakh)					1486	1663	1988	2243	2654	2787	2895	3053	3117
	Growth						11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.5%	6.3%
LPG Coverage (Estimated)	(Percent)					56.2	61.9	72.8	80.9	94.3	97.5	99.8	-	-
	Growth						10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	-	-
PMUY Beneficiaries	(Lakh)							200	356	719	802	800.4	899.0	949.7
	Growth								77.7%	101.9%	11.5%	-0.2%	12.2%	18.5%
LPG Distributors	(No.)	10541	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25269	25318
	Growth	8.8%	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	0.7%	0.7%
Auto LPG Dispensing Stations	(No.)	604	652	667	678	681	676	675	672	661	657	651	601	570
	Growth	12.7%	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-8.5%	-13.2%
Bottling Plants	(No.)	183	184	185	187	187	188	189	190	192	196	200	202	203
	Growth	0.5%	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	1.0%	2.0%

Source: PSU OMCs (IOCL,BPCL and HPCL)

1.Growth rates as on 01.09.2022 are with respect to figs as on 01.09.2021. Growth rates as on 1 April of any year are with respect to figs as on 1 April of previous year.

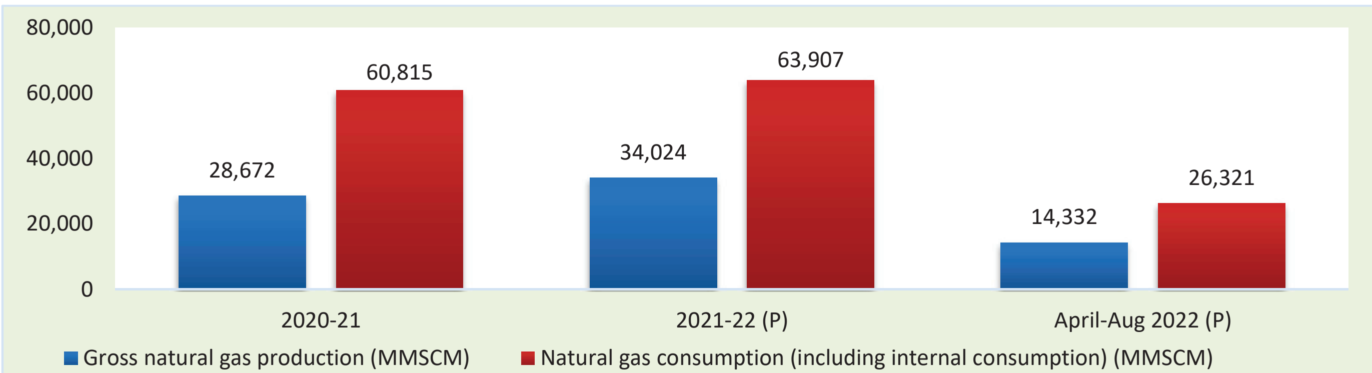
2. The LPG coverage is calculated by PSU OMCs based upon the active LPG domestic connections and the estimated number of households. The number of households has been projected by PSU OMCs based on 2011 census data. Factors like increasing nuclearization of families, migration of individuals/ families due to urbanization and reduction in average size of households etc. impact the growth of number of households. Due to these factors, the estimated no. of households through projection of 2011 census data may slightly differ from the actual no. of households in a State/UT. Further, this methodology does not include PNG (domestic) connections.

18. Natural gas at a glance

(MMSCM)

Details	2020-21 (P)	2021-22 (P)	Aug 2021-22 (P)	Aug 2022-23 (Target)	Aug 2022-23 (P)	April-Aug 2021-22 (P)	April-Aug 2022-23 (Target)	April-Aug 2022-23 (P)
(a) Gross production	28,672	34,024	2,926	2,982	2,896	13,989	14,748	14,332
- ONGC	21,872	20,629	1,744	1,697	1,662	8,526	8,471	8,411
- Oil India Limited (OIL)	2,480	2,893	257	316	265	1,180	1,557	1,271
- Private / Joint Ventures (JVs)	4,321	10,502	926	968	969	4,282	4,719	4,650
(b) Net production (excluding flare gas and loss)	27,784	33,131	2,853		2,829	13,630		13,981
(c) LNG import#	33,031	30,776	2,920		2,369	13,745		12,340
(d) Total consumption including internal consumption (b+c)	60,815	63,907	5,773		5,198	27,375		26,321
(e) Total consumption **(in BCM)**	60.8	63.9	5.8		5.2	27.4		26.3
(f) Import dependency based on consumption (%), {c/d*100}	54.3	48.2	50.6		45.6	50.2		46.9

April - Aug 2022 DGCIS data prorated.



19. Coal Bed Methane (CBM) gas development in India (July 2022)

Prognosticated CBM resources		91.8	TCF
Established CBM resources		10.4	TCF
CBM Resources (33 Blocks)		62.8	TCF
Total available coal bearing areas (India)		32760	Sq. KM
Total available coal bearing areas with MoPNG/DGH		17886**	Sq. KM
Area awarded		16598	Sq. KM
Blocks awarded*		32	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)		10669.55**	Sq. KM
Production of CBM gas	April-Aug 2022 (P)	286.52	MMSCM
Production of CBM gas	Aug 2022 (P)	58.50	MMSCM

*ST CBM Block awarded & relinquished twice- in CBM Round II and Round IV -Area considered if any boreholes were drilled in the awarded block.

** MoPNG offered 8458 sq.km. area for 15 CBM Blocks under Special CBM Bid Round-2021. The award of the Blocks is under progress.

20. Common Carrier Natural Gas pipeline network as on 30.06.2022

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	9,602	2,695	1,459	143	107	304	73	42	24				**14,449**
	Capacity	167.2	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				**333**
Partially commissioned#	Length	4,519			166						1,131	365		**6,180**
	Capacity				-						-	-		-
Total operational length		**14,121**	**2,695**	**1,459**	**309**	**107**	**304**	**73**	**42**	**24**	**1,131**	**365**	**0**	**20,629**
Under construction	Length	5,404	100		1,265						1,201	1,666	3,550	**13,186**
	Capacity	-	3.0		-						-	-	149.0	-
Total length		**19,524**	**2,795**	**1,459**	**1,574**	**107**	**304**	**73**	**42**	**24**	**2,332**	**2,031**	**3,550**	**33,815**

Source: PNGRB; Length in KMs ; Authorized Capacity in MMSCMD; *Others-APGDC, HEPL, IGGL, IMC, Consortium of H-Energy

Total authorized Natural Gas pipelines including Tie-in connectivity, dedicated & STPL is 33501 Kms (P)

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.09.2022	% Capacity utilisation (April-July 2022)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	87.6
Hazira	Shell Energy India Pvt. Ltd.	5.2 MMTPA	47.0
Dabhol	Konkan LNG Limited	*5 MMTPA	23.6
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	16.8
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	13.0
Mundra	GSPC LNG Limited	5 MMTPA	18.2
Total Capacity		**42.7 MMTPA**	

* To increase to 5 MMTPA with breakwater. Only HP stream of capacity of 2.9 MMTPA is commissioned

22. Status of PNG connections and CNG stations across India (Nos.), as on 31.07.2022(P)

State/UT (State/UTs are clubbed based on the GAs authorised by PNGRB)	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Andhra Pradesh	140	238,088	385	28
Andhra Pradesh, Karnataka & Tamil Nadu	24	339	0	2
Assam	1	44,748	1,292	434
Bihar	56	80,413	43	1
Bihar & Jharkhand	0	5,347	0	0
Chandigarh (UT), Haryana, Punjab & Himachal Pradesh	23	23,243	101	18
Dadra & Nagar Haveli (UT)	7	9,456	53	53
Daman & Diu (UT)	4	5,085	44	37
Daman and Diu & Gujarat	13	709	3	0
Goa	10	10,127	14	22
Gujarat	956	2,766,452	21,543	5,707
Haryana	274	270,114	718	1,258
Haryana & Himachal Pradesh	9	0	0	0
Haryana & Punjab	16	0	0	0
Himachal Pradesh	7	2,828	0	0
Jharkhand	52	88,820	2	0
Karnataka	214	353,474	447	256
Kerala	90	19,987	16	13
Kerala & Puducherry	9	0	0	0
Madhya Pradesh	181	165,388	270	376
Madhya Pradesh and Chhattisgrah	3	0	0	0
Madhya Pradesh and Rajasthan	21	68	0	0
Madhya Pradesh and Uttar Pradesh	15	0	0	0
Maharashtra	587	2,426,096	4,638	641
Maharashtra & Gujarat	48	130,502	2	11
National Capital Territory of Delhi (UT)	458	1,288,880	3,223	1,737
Odisha	41	70,975	4	0
Puducherry & Tamil Nadu	7	23	0	0
Punjab	163	42,496	186	182
Rajasthan	183	163,540	47	180
Tamil Nadu	136	0	0	5
Telangana	122	170,178	69	88
Tripura	18	55,998	503	62
Uttar Pradesh	655	1,218,426	1,945	2,310
Uttar Pradesh & Rajasthan	36	18,958	34	340
Uttar Pradesh and Uttrakhand	16	6,263	0	0
Uttrakhand	29	63,384	44	72
West Bengal	40	0	0	0
Total	**4,664**	**9,740,405**	**35,626**	**13,833**

Source: PNGRB

Note: 1. All the GAs where PNG connections/CNG Stations have been established are considered as Operational, 2. Under normal conditions. Operation of any particular GA commences within around one year of authorization. 3. State/UTs wherever clubbed are based on the GAs authorised by PNGRB.

23. Domestic natural gas price and gas price ceiling (GCV basis)

Period	Domestic Natural Gas price in US$/MMBTU	Gas price ceiling in US$/MMBTU
November 2014 - March 2015	5.05	-
April 2015 - September 2015	4.66	-
October 2015 - March 2016	3.82	-
April 2016 - September 2016	3.06	6.61
October 2016 - March 2017	2.5	5.3
April 2017 - September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.3
April 2018 - September 2018	3.06	6.78
October 2018 - March 2019	3.36	7.67
April 2019 - September 2019	3.69	9.32
October 2019 - March 2020	3.23	8.43
April 2020 - September 2020	2.39	5.61
October 2020 - March 2021	1.79	4.06
April 2021 - September 2021	1.79	3.62
October 2021 - March 2022	2.9	6.13
April 2022 - September 2022	6.1	9.92

24. CNG/PNG prices

City	CNG (Rs/Kg)	PNG (Rs/SCM)	Source
Delhi	75.61	50.59	IGL website (15.09.2022)
Mumbai	80.00	48.50	MGL website (15.09.2022)

Indian Natural Gas Spot Price for Physical Delivery

IGX Price Index Month	Avg. Price		Volume (MMSCM)	Source
	INR/MMBtu	$/MMBtu		
Aug 2022	2375	29.86	65.40	As per IGX website: www.igxindia.com

*Prices are weighted average prices | $1=INR79.54 | 1 MMBtu=25.2 SCM https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen.msg-id-90491.html

Energy: The Federal Council recommends the switchover of dual-fuel plants

Bern, 23.09.2022 - The Federal Department of Economic Affairs, Education and Research (EAER) and the Federal Department of the Environment, Transport, Energy and Communications (DETEC) recommend switching from dual-fuel plants to heating oil operation from 1 October 2022. The Federal Council was informed of this at its meeting on 23 September 2022. The recommendation is intended to make a significant contribution to achieving the voluntary gas savings target of 15 percent. In order to be able to continue to ensure the supply of mineral oil products, the compulsory stocks for automotive gasoline, diesel and heating oil as well as aviation petroleum will be released from 3 October 2022.

The energy crisis triggered by the war in Ukraine and the Russian gas supply freeze to Europe can lead to supply bottlenecks. The Federal Council is therefore doing everything in its power to avoid this as far as possible and to ensure that the population and companies are supplied with sufficient energy in the coming winter months. Operators of dual-fuel plants can make a valuable contribution to ensuring security of supply by switching from gas to heating oil.

At its meeting on 23 September 2022, the Federal Council was informed that the Federal Department of Economic Affairs, Education and Research (EAER) and the Federal Department of the Environment, Transport, Energy and Communications (DETEC) recommend switching from dual-fuel plants to heating oil operation from 1 October 2022. With the implementation of this recommendation, significant amounts of gas can be saved quickly. This will make a significant contribution to achieving the voluntary gas savings target of 15 percent, which Switzerland is aiming for from October 2022 to March 2023, in line with the EU.

In order to facilitate the changeover, on 16 September 2022 the Federal Council issued temporary simplifications for dual-fuel plants in the Air Pollution Control Ordinance and the CO2 Ordinance. In heating oil operation, dual-fuel plants cannot always comply with the limit values of the Air Pollution Control Ordinance, especially for nitrogen oxides. Between 1 October 2022 and 31 March 2023, less stringent limit values for nitrogen oxides and carbon monoxide apply to dual-fuel plants for the recommended or later switch from gas to heating oil. In the case of dual-fuel systems that switch to heating oil, maintenance of the burner must be carried out. An emission measurement must also be carried out by the service specialist and the measurement results must be sent to the responsible enforcement authority. For plants with a reduction obligation for CO2 that emit more CO2 in the years 2022 until the end of the 2024 commitment period on the basis of this recommendation or an arrangement of natural gas on heating oil, the operators can submit an application to the Federal Office for the Environment (FOEN) so that the additional emissions for the duration of the recommendation or order are not taken into account when assessing compliance with the emission or measure targets. This application can be submitted as part of the annual monitoring (31 May of the following year).

When switching, the limited logistics capacities are a particular challenge, as more heating oil is needed than usual. In order to ensure the delivery capacities for this winter, it is recommended - also to the population - to fill the heating oil tanks now.

Release of compulsory mineral oil stocks

In order to be able to ensure Switzerland's supply of mineral oil products from October 2022 onwards, the compulsory stocks for automotive gasoline, diesel and heating oil as well as aviation fuel will be released. This is due to the limited capacities on the Rhine and logistical problems with foreign rail transports The corresponding regulation will enter into force on 3 October 2022.

The economic national supply WL has already decided twice this year to fall back on the compulsory stocks. This was done with so-called underruns of the compulsory stock quantity in the amount of almost 20 percent. The compulsory stocks for automotive gasoline, diesel oil and heating oil cover around 4.5 months of normal consumption. In the case of aviation petrol, the reserves are sufficient for around 3 months. The compulsory stocks serve to support the market in the event that it can no longer meet the demand for logistical reasons. The regulation, which was issued by the EAER at the request of the WL delegate, will remain in force for as long as the situation absolutely requires. The compulsory stocks for petroleum products were last released in 2005, 2010 and 2019.

https://wam.ae/en/details/1395303086451
Sun 25-09-2022 15:21 PM

UAE President and German Chancellor witness signing of new Energy Security and Industry Accelerator Agreement

ABU DHABI, 25th September, 2022 (WAM) -- UAE President, His Highness Sheikh Mohamed bin Zayed, and German Chancellor, Olaf Scholz, have witnessed the signing of a new Energy Security and Industry Accelerator (ESIA) Agreement that will accelerate projects of joint interest between the UAE and Germany in energy security, decarbonization and climate action.

The agreement was signed by Dr. Sultan Ahmed Al Jaber, UAE Minister of Industry and Advanced Technology, UAE Climate Special Envoy, and Managing Director and Group CEO of the Abu Dhabi National Oil Company (ADNOC), and Dr. Franziska Brantner, Parliamentary State Secretary at the Federal Ministry for Economic Affairs and Climate Action.

The agreement signing ceremony was attended by H.H. Lt. General Sheikh Saif bin Zayed Al Nahyan, Deputy Prime Minister and Minister of the Interior; H.H. Sheikh Mansour bin Zayed Al Nahyan, Deputy Prime Minister and Minister of the Presidential Court; H.H. Sheikh Hamed bin Zayed Al Nahyan, Member of Abu Dhabi Executive Council; H.H. Sheikh Hamdan bin Mohamed bin Zayed Al Nahyan; Sheikh Mohammed bin Hamad bin Tahnoun Al Nahyan, Advisor of Special Affairs at the Ministry of Presidential Court; Suhail bin Mohammed Al Mazrouei, Minister of Energy and Infrastructure; Mariam bint Mohammed Almheiri, Minister of Climate Change and the Environment; Dr. Anwar Gargash, Diplomatic Adviser to the UAE President; and Khaldoun Khalifa Al Mubarak, Chairman of the Executive Affairs Authority; and members of the delegation accompanying the German Chancellor, as well as a number of ministers and senior officials.

As part of the agreement, Abu Dhabi National Oil Company (ADNOC) has entered into an LNG supply agreement with RWE AG (RWE), with ADNOC providing an LNG cargo for delivery in late 2022, to be used in the commissioning of Germany's floating LNG import terminal at Brunsbüttel. In addition, ADNOC has reserved a number of further LNG cargos exclusively for German customers in 2023.

ADNOC has also entered into a number of agreements with German customers, including Steag GmbH (Steag) and Aurubis AG (Aurubis) for demonstration cargos of low-carbon ammonia, a carrier fuel for hydrogen that can play a critical role in decarbonizing hard-to-abate industry sectors. The first of these cargoes arrived in Hamburg earlier this month. Under the proposed ESIA, both countries anticipate to explore further opportunities to accelerate growth and collaboration across the hydrogen value chain.

Furthermore, Masdar, the UAE's renewable energy champion, will be actively exploring opportunities in the offshore wind markets in the North Sea and Baltic Sea in Germany that could generate up to 10GW of renewable energy production capacity by 2030 subject to the necessary German policy and regulatory requirements being met between the two nations.

Finally, it was announced that ADNOC had completed the UAE's first ever direct diesel delivery to Germany in September 2022, and has agreed the terms with Wilhelm Hoyer GmbH & Co. KG (Hoyer) to supply up to 250,000 tons of diesel per month in 2023.

Olaf Scholz said: "I welcome the signing of the joint declaration of intent on the "Energy Security and Industry Accelerator - ESIA". Through ESIA, we enable the swift implementation of strategic lighthouse projects on the focus areas of renewable energies, hydrogen, LNG and climate action."

Dr. Sultan Al Jaber said: "This landmark new agreement reinforces the rapidly growing energy partnership between the UAE and Germany. As we embrace the energy transition, ADNOC is fully committed to accelerate and invest in projects of energy security, decarbonization and climate action as we continue to be a responsible and reliable provider and trusted exporter of low-carbon energy."

Robert Habeck, Vice Chancellor and Federal Minister for Economic Affairs and Climate Action, said: "We highly welcome the acceleration of joint lighthouse projects in the field of climate action, decarbonisation and energy security. We look forward to closely collaborate on offshore wind, other renewables and hydrogen in the UAE and in Germany."

ADNOC has long been a responsible and reliable provider of energy products to customers globally. The company was the first LNG producer in the Middle East and has over 40 years' experience in the LNG market. It is currently in the midst of a major expansion of its natural gas business, accelerating production to meet both domestic and international demand.

Abu Dhabi's oil and gas resources have some of the lowest carbon intensity in the world. ADNOC's flagship crude oil, Murban, has less than half the carbon intensity of the industry average and the company is delivering on its plans to reduce the carbon intensity of its operations by a further 25% by 2030. Murban crude is freely traded on the ICE Futures Abu Dhabi (IFAD) exchange, where it is sold as a destination free crude oil to buyers from around the globe.

WAM/ /Tariq alfaham

Qatari Minister: No 'Quick Fix' to EU Gas Crisis

Published: Thu, Sep 22, 2022
Author Rafiq Latta, Doha
Editor Paul Merolli

There is not much Qatar can do to alleviate Europe's gas crisis in the short term due to contractual commitments, Qatari Energy Minister Saad al-Kaabi tells Energy Intelligence -- but further out, in five to seven years, new Qatari LNG exports to Europe should be significant. In an exclusive interview, al-Kaabi said production from the Golden Pass LNG project in the US, where QatarEnergy partners with Exxon Mobil, is due on stream in 2024 and is "already earmarked for Europe." Up to half of new output from Qatar's 48 million ton per year North Field mega-expansion could also go West of Suez when it starts up from 2026. Al-Kaabi also serves as head of state-owned QatarEnergy, which is in active discussions with customers for the new supplies. Significantly, targeted contract durations are shorter than the 20-year deals seen in Qatar's original LNG expansion, reflecting European reluctance to lock into gas supplies long-term. "I think 10-15-year deals are probably what are most acceptable to both sides. But for us, the long-term deal, it's not just about duration, it's about price," he said. Even with such supplies, al-Kaabi expressed skepticism about Europe's ability to completely wean itself off Russian gas. Europe will find it "very difficult" to completely forgo Russian pipeline gas for more than two winters. Despite storage, fuel switching and active efforts to expand LNG imports, "a quick fix" to the EU's dependency on Russian gas does not exist.

Qatar's North Field expansion is attracting enormous interest from foreign investors, with TotalEnergies tipped to become the first of the Phase-2 partners to be selected later this month. But investors in existing Qatari projects face a rocky ride when contracts on current joint ventures expire, as Exxon and Total discovered when their prized Qatargas-1 contract was not renewed last year. Al-Kaabi revealed that QatarEnergy came close to going it alone on the North Field expansion, too. Qatar, which is generating around 1 million barrels of oil equivalent per day of net output for Exxon, Total and Shell alone, is critical for the majors. However, "if there is no value, there is no partnership, very plain and simple," al-Kaabi said. Even if joint ventures are maintained after expiry, terms will be tougher. For Exxon, which has stakes in nine of Qatar's 14 trains, these contract renewals are especially strategic. Qatar knows the value of its LNG will likely drive a hard bargain. "An investment in Qatar is really an important downside-risk revenue maker" for partners, al-Kaabi said.

LNG is only part of a multifront, international investment drive now under way at QatarEnergy. Downstream, petrochemicals is a priority, with al-Kaabi touting QatarEnergy's planned US project with Chevron Phillips Chemical as "the largest polyethylene plant." It recently awarded construction

contracts for a 1.2 million ton/yr blue ammonia project, also tipped to be the biggest of its kind. But its global upstream drive is most significant. There were doubters when the strategy launched, but QatarEnergy has been vindicated over the past year by major exploration success in Namibia. QatarEnergy, by virtue of sizable stakes in both Total and Shell discoveries, is poised to be the largest reserves holder in a significant new oil province — Total's Venus discovery is described as the largest deepwater find ever. There have also been offshore gas discoveries in Cyprus and South Africa. And in Brazil, output at QatarEnergy's offshore Sepia field is set to more than double to 400,000 barrels per day in the next couple of years.

Despite confidence in long-term gas demand, QatarEnergy is taking steps to ensure its place in the energy transition. It is investing heavily in greenhouse gas emission mitigation technology at projects. Over $250 million is being spent on such measures at the LNG expansion alone — principally carbon capture and storage (CCS) and solar power. Some 11 million tons/yr of CCS is planned by 2035. "From an overall value chain, Qatari LNG will be the least carbon footprint LNG you can get," al-Kaabi said. "We think that our buyers, and our investors that have joined us in [North Field East expansion], see this as the Rolls-Royce of projects." Transition pressures are feeding into the urgency for developing projects. "I am a believer that you need to monetize what you can because the market conditions change, and there is a competitive advantage to go ahead of others," al-Kaabi stated.

For more coverage of the Ukraine crisis, visit Ukraine Crisis: Energy Impact

Colombian gas production in July 2022 was the highest since January of the same year

September 20, 2022. Minenergía, Bogotá.
Sector: Hydrocarbons

Gas production sold during the seventh month of the year was 1,120.61 million cubic feet per day (mcfd), which represented an increase of 1.64% compared to June 2022.

- The increase in the production of commercialized gas was explained by the reestablishment in the production of some fields and the increase in the demand for the fuel.
- The average controlled oil production in July 2022 was 748,096 barrels per day (bpd), which represented an increase of 2.30% compared to the same month last year.

Minenergy. Bogotá, September 20, 2022.- The National Hydrocarbons Agency (ANH) reported that the average production of commercialized gas was 1,120.61 million cubic feet per day (mcfd) during July 2022, which represented a decrease in 0.17% compared to the same month of 2021.

The production of gas marketed during the seventh month of 2022 is the highest recorded since January of this year, when it was 1,123 mcfd.

Compared to June 2022, gas production sold in July increased 1.64%, going from 1,102.57 mcfd to 1,120.61 mcfd.

The increase in gas production is explained by the reestablishment of operations in some fields, especially the Nelson and Chuchupa fields, and the rise in gas demand. The fields in which there was an increase in gas production were Nelson (Pueblo Nuevo- Córdoba), Corrales (Corrales-Boyacá), Chuchupa (Manaure-Guajira), Provincia (Sabana de Torres-Santander), Recetor West (Aguazul - Casanare).

On the other hand, the ANH also reported that the controlled oil production during July of this year was 748,096 average barrels per day (bopd), 2.30% more than that registered in the same month of 2021 when it was 731,256 bopd.

Now, when making the monthly comparison in crude oil production, it decreased 0.56%, going from 752,294 bodp in June 2022 to 748,096 bpd in July. This decrease was due to public order problems in the departments of Meta, Putumayo and Casanare, and electrical failures in the fields of the department of Arauca.

Lastly, during the month of July, 127.89 kilometers of exploratory seismic were carried out, for a cumulative total of 1,546.14 km for the year. Likewise, during the year to date, 421 wells have been drilled, of which 377 are development and 44 are exploratory.

https://www.aramco.com/en/news-media/speeches/2022/remarks-by-amin-h-nasser-at-schlumberger-digital-forum

Remarks by CEO Amin H. Nasser at Schlumberger Digital Forum 2022

SWITZERLAND, September 20, 2022

Amin H. Nasser, Saudi Aramco President & CEO

Good morning, Ladies and Gentlemen.

Thank you Olivier for inviting me to join your Forum, here in beautiful Luzern.

After two summers lost to Covid, I hope everyone has enjoyed a well-earned break with family and friends. This week, however, autumn begins, and the global energy crisis promises a colder, harder winter, particularly in Europe.

Unfortunately, the response so far betrays a deep misunderstanding of how we got here in the first place, and therefore little hope of ending the crisis anytime soon. So this morning I would like to focus on the real causes as they shine a bright light on a much more credible way forward.

When historians reflect on this crisis, they will see that the warning signs in global energy policies were flashing red for almost a decade. Many of us have been insisting for years that if investments in oil and gas continued to fall, global supply growth would lag behind demand, impacting markets, the global economy, and people's lives.

In fact, oil and gas investments crashed by more than 50% between 2014 and last year, from $700 billion to a little over $300 billion. The increases this year are too little, too late, too short-term.

Meanwhile, the energy transition plan has been undermined by unrealistic scenarios and flawed assumptions because they have been mistakenly perceived as facts. For example, one scenario led many to assume that major oil use sectors would switch to alternatives almost overnight, and therefore oil demand would never return to pre-Covid levels.

In reality, once the global economy started to emerge from lockdowns, oil demand came surging back, and so did gas. By contrast, solar and wind still only account for 10% of global power generation, and less than 2% of global primary energy supply. Even electric vehicles comprise less than 2% of the total vehicle population and now face high electricity prices.

Perhaps most damaging of all was the idea that contingency planning could be safely ignored.

Because when you shame oil and gas investors, dismantle oil- and coal-fired power plants, fail to diversify energy supplies (especially gas), oppose LNG receiving terminals, and reject nuclear power, your transition plan had better be right.

Instead, as this crisis has shown, the plan was just a chain of sandcastles that waves of reality have washed away. And billions around the world now face the energy access and cost of living consequences that are likely to be severe and prolonged.

These are the real causes of this state of energy insecurity: under-investment in oil and gas; alternatives not ready; and no back-up plan. But you would not know that from the response so far.

For example, the conflict in Ukraine has certainly intensified the effects of the energy crisis, but it is not the root cause. Sadly, even if the conflict stopped today (as we all wish), the crisis would not end. Moreover, freezing or capping energy bills might help consumers in the short-term, but it does not address the real causes and is not the long-term solution. And taxing companies when you want them to increase production is clearly not helpful.

Meanwhile, as Europe aggressively promotes alternatives and renewables technologies to reduce one set of dependencies it may simply be replacing them with new ones. As for conventional energy buyers, who expect producers to make huge investments just to satisfy their short-term needs, they should lose those expectations fast. And diverting attention from the real causes by questioning our industry's morality does nothing to solve the problem.

That is why the world must be clear about the real causes and face up to their consequences. For example, as investments in less carbon intensive gas have been ignored, and contingency planning disregarded, global consumption of coal is expected to rise this year to about 8 billion tonnes.

This would take it back to the record level of nearly a decade ago. Meanwhile, oil inventories are low, and effective global spare capacity is now about one and a half percent of global demand.

Equally concerning is that oil fields around the world are declining on average at about 6% each year, and more than 20% in some older fields last year. At these levels, simply keeping production steady needs a lot of capital in its own right, while increasing capacity requires a lot more.

Yet, incredibly, a fear factor is still causing the critical oil and gas investments in large, long-term projects to shrink. And this situation is not being helped by overly short-term demand factors dominating the debate. Even with strong economic headwinds, global oil demand is still fairly healthy today.

But when the global economy recovers, we can expect demand to rebound further, eliminating the little spare oil production capacity out there. And by the time the world wakes up to these blind spots, it may be too late to change course.

That is why I am seriously concerned.

Let me be clear: we are not saying our global climate goals should change because of this crisis.

All of us have a vested interest in climate protection. And investing in conventional sources does not mean that alternative energy sources and technologies should be ignored. But the world deserves a much better response to this crisis.

This is the moment to increase oil and gas investments, especially capacity development. And at least this crisis has finally convinced people that we need a more credible energy transition plan.

In turn, I believe that requires a new global energy consensus built on three rock-solid and long-term strategic pillars:

- Recognition by policy makers and other stakeholders that supplies of ample and affordable conventional energy are still required over the long term;
- Further reductions in the carbon footprint of conventional energy, and greater efficiency of energy use, with technology enabling both;
- And new, lower carbon energy, steadily complementing proven conventional sources.

At Aramco, we are addressing all three.

We are working to increase our oil production capacity to 13 million barrels per day by 2027. We are also growing our gas production, potentially increasing it by more than half through 2030 with a mix of conventional and unconventional gas.

At the same time, we are working to lower our upstream carbon intensity, our gas flaring, and our methane intensity, which are already among the lowest in the world. We are also intensifying efforts to advance key enabling technologies, particularly CCUS which is mission-critical to a sustainable future.

Meanwhile, chemicals will become a much larger and more strategic part of our portfolio, showcasing the non-combustible uses of oil.

Importantly, we are steadily adding new, lower carbon energy to our own portfolio such as blue hydrogen and blue ammonia, renewables, and electro-fuels. This is our plan to be part of a practical, stable, and inclusive energy transition; others need theirs.

But transforming the massive existing worldwide energy system, and delivering a secure and sustainable future for everyone, is a truly formidable task. So the entire global energy ecosystem and its stakeholders have to work as an “industry plus” team.

We must partner to drive innovation and value on an unprecedented scale and speed to successfully deliver results across the three pillars. In my view, technologies of the Fourth Industrial Revolution are ripe for such partnerships, especially the rapid digital transformation of our industry. Because the right digital investments now could help deliver greater efficiency, lower costs, lower emissions, higher reliability, and higher profits over decades.

For example, at Aramco we have deployed machine learning techniques to predict and prevent safety hazards, monitor emissions, avoid breakdowns, optimize energy use, and predict potential cyber threats. These AI-powered systems are saving us time and money. And improving our ability to reliably supply energy to our customers.

But we want to go further, and we are stronger when we act as a network. That is why I am proud to announce that Aramco and Schlumberger are working on a smart sustainability platform that could commercialize a number of digital solutions and support our net-zero ambitions.

It is the latest chapter in our shared history which goes back to 1941. And I hope it inspires similar projects that will connect a bright future for our industry and the world.

Ladies and Gentlemen, as the pain of the energy crisis sadly intensifies, people around the world are desperate for help. In my view, the best help that policy makers and every stakeholder can offer is to unite the world around a much more credible new transition plan, driving progress on the three strategic pillars I have outlined this morning.

The new plan will not be perfect. In life, nothing ever is.

But that is how we deliver a more secure and more sustainable energy future, with our industry still at its heart. That is how we can ease people's pain.

And that is how spring will come again.
Thank you.

Exxon's Math Calls For Overall Global Oil Decline Rate of ~7%, A Very Bullish Argument For Post 2020 Oil Prices

Posted: Thursday June 20, 2019. 5:30pm Mountain

We believe Exxon presented a very bullish argument for oil prices beyond 2020 and that it has been overlooked because most readers only flip thru a slide deck and don't listen to or read transcripts of management's spoken words. Exxon's spoken words highlighted one of the forgotten (and perhaps most important) oil supply/demand concerns for post 2020 - the mid term challenge to replace increasing rate of overall global oil declines. And what is eye opening is Exxon's estimated overall global oil decline rate, which is way higher than any we can ever remember seeing. Its impossible to tell from the small oil supply/demand graph in the slide deck, but Exxon's spoken words says long term oil demand is 0.7% per year and then "*When you factor in depletion rates, the need for new oil grows at close to 8% per year and new gas at close to 6% per year*." Exxon may not specifically say what the global decline rate is, but their math is that the world needs new oil supply to grow annually at close to 8% to meet the 0.7% annual increase in oil demand and offset declines ie. an overall global decline rate of approx. 7%. This is an overall global oil decline rate for OPEC and non-OPEC. This compares to BP's estimate of overall global oil decline rate of 4.5% and we expect most are probably assuming something around 5%, certainly not above 6%. No one should be surprised by the increased decline rate given that high decline US shale and tight oil have increased by ~2.5 mmb/d in the last ~2 years. But an implied ~7% overall global oil decline rate is way higher than expectations. There is a big difference between needing to offset oil declines of ~7 mmb/d vs declines of ~4.5 mmb/d ie. an additional 2.5 mmb/d of new oil supply every year. Even if the implied difference was to 6%, it would still be an additional 1.5 mmb/d of new oil supply and that would also be very bullish for post 2020 oil. We recognize that the 2019/2020 oil supply demand story is the need for OPEC+ to keep cuts thru 2020, but Exxon's math implying ~7% overall global oil decline rate sets up a very bullish view for oil post 2020. We believe the reality to replace oil declines post 2020 is overlooked.

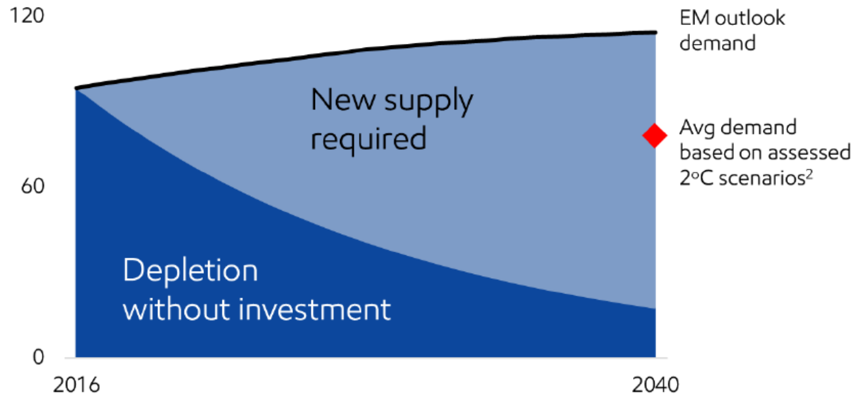
<u>The 2019/2020 oil story - oil inventories still above the 5 yr ave and OPEC+ need to work together in 2020.</u> There is increasing geopolitical risk to oil in a range of regions (Iran/Saudi Arabia, Libya, Venezuela, etc.) yet the prevailing tone to oil in the past month is negative with the concerns on trade wars/lower economic growth leading to weakness in oil demand. This was reinforced in the past week with the view that there is the need for OPEC+ to continue to work together in H2/19 and in 2020. Our SAF June 16, 2019 Energy Tidbits memo [LINK] reviewed the IEA's new monthly Oil Market Report [LINK], which included (i) "*OECD oil stocks remain at comfortable levels 16 mb above the five-year average*", (ii) the EIA lowered its 2019 oil demand growth rate by 0.1 mmb/d to +1.2 mmb/d, and (iii) a negative first look at 2020 oil supply/demand. The EIA's first 2020 forecast puts more pressure on OPEC+ to continue with cuts through 2020. IEA says oil demand growth rate will grow from +1.2 mmb/d in 2019 to +1.4 mmb/d in 2020. This is a positive, however, it is more than offset as the IEA forecasts another year of big non-OPEC oil supply growth of +2.3 mmb/d in 2020. In theory a lesser call on OPEC of 0.9 mmb/d. The IEA writes "*A clear message from our first look at 2020 is that there is plenty of non-OPEC supply growth available to meet any likely level of demand, assuming no major geopolitical shock, and the OPEC countries are sitting on 3.2 mb/d of spare capacity".*

<u>Exxon sees modest annual growth in oil demand, but peak oil demand sometime after 2040.</u> Exxon presented at a US sellside energy conference on Tues. We expect a big reason why Exxon's oil outlook was ignored was that the presentation was almost all about providing a great detailed look at the Guyana oil play. Plus its headline annual growth rate for oil demand of 0.7% per year wouldn't have made anyone bullish, if anything maybe even more so so on oi. Exxon only provided some brief comments on their oil supply and demand outlook. Exxon said *"In this scenario, oil demand is expected to grow 0.7% per year, driven by commercial transportation and chemical"*. This compares to 2018 oi demand growth of 1.45% and even this year's lower oil demand growth rates of 1.15%. However, we recognize it is tough to get data from a small graph, but a positive tn the graph is that it seems to indicate that peak oil demand doesn't happen before 2040.

<u>However, Exxon says new oil supply of 8% per year is needed to meet demand growth and offset decline rates.</u> On one hand, we continue to be surprised that Exxon's view on new oil supply has received no attention. On the other, it makes sense because the vast majority of readers only flip thru a slide deck so will miss the spoken word that gives numbers and context to a slide. That was clearly the case with the Exxon presentation. If Exxon is anywhere near right, this is a hugely bullish view for mid/long term oil ie post 2020 oil. Exxon highlighted one of the forgotten oil supply/demand concerns is

the mid term challenge to replace global oil declines. And what is eye opening is Exxon's estimated decline rate, which is way higher than any we can ever remember seeing. Exxon says long term oil demand is 0.7% per year and then says "*When you factor in depletion rates, the need for new oil grows at close to 8% per year and new gas at close to 6% per year*." Exxon didn't specifically say that the overall global decline rate was ~7%, but the math looks straightforward. The world needs new oil supply to growth at close to 8% per year to meet 0.7% annual demand growth and to offset declines in global (OPEC and non-OPEC) oil production ie. the overall global oil decline rate is approx. 7%. This is an overall OPEC and non-OPEC global decline rate.

Oil Supply/Demand (moebd)

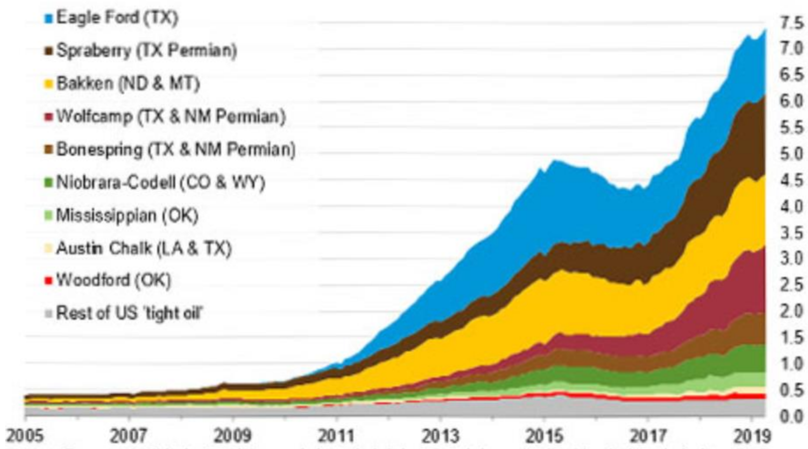


Source: Exxon US Sellside Conference Presentation June 18, 2019

Implies a huge overall global decline rate of ~7% - way higher than other estimates. It may well be the case that forecasters haven't updated their global oil decline models to reflect the impact of the US adding ~2.5 mmb/d of high decline shale and tight oil in the past two years. But we aren't aware of anyone who is using an overall global oil decline rate as high as 7%. We have seen estimates for 7% for decline rates for non-OPEC oil, but not for the decline rates overall for global oil. Rather, we expect that most have been assuming overall global oil decline rates of 4% to 5%. Later in the blog, we note our peak oil demand comment from Nov 6, 2017 (prior to the big ramp up in US shale and tight oil) that used Core Laboratories spring 2017 estimate for overall global oil decline of ~3.3%.

Exxon's global leadership position, especially in shale, is why we should pay attention to this view of significantly higher global oil decline rates. Everyone knows Exxon is the largest public international oil company and is in all major oil regions and all types of plays from conventional, oil sands, middle east, deepwater oil and shale oil, We believe that Exxon is viewed as the global leader in the Permian, and this shale oil leadership is critical to understand as we believe that the growth of US shale is the key reason for the increasing overall global oil decline rates. Exxon's shale oil leadership is why we should be paying attention to this estimate. The game changer to global oil decline rates has been the increasing oil production from high decline US shale and tight oil. The EIA estimates [LINK] that US shale and tight oil plays are up over 6 mmb/d this decade and ~2.5 mmb/d n the past two years alone.

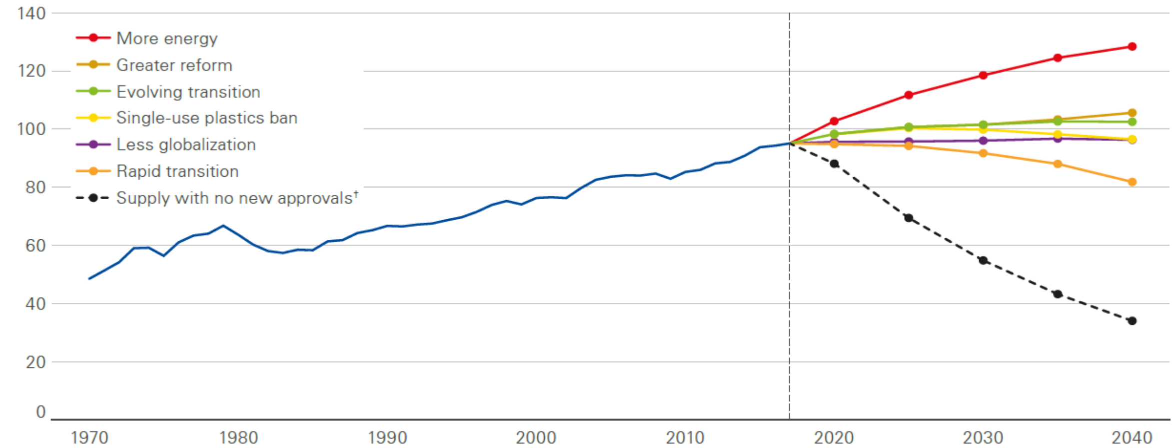
US Tight Oil Production – Selected Plays (Million barrels of oil per day)



Source: EIA

<u>BPs recent forecast for overall global oil decline rate is 4.5% per year.</u> BP's Energy Outlook 2019 Edition (Feb 14, 2019) [LINK] included their outlook for oil supply and demand and specifically on overall global oil decline rates. BP wrote "*Second, significant levels of investment are required for there to be sufficient supplies of oil to meet demand in 2040. If future investment was limited to developing existing fields and there was no investment in new production areas, global production would decline at an average rate of around 4.5% p.a. (based on IEA's estimates), implying global oil supply would be only around 35 Mb/d in 2040."* Below is the graph from their Energy Outlook 2019 Edition report.

Demand and Supply of Oil (Mbd)



Source: BP Energy Outlook 2019 Edition

<u>If Exxon is anywhere close, this is a hugely bullish signal for mid/long term oil ie. post 2020 oil</u>. We recognize that this significantly higher than expected overall global oil decline rate will take a year or two to work thru the current supply/demand fundamentals given where markets are today. However, over the mid term, the need to add ~7 mmb/d of new oil supply is a huge challenge for the world. The difference between an Exxon type view of ~7% declines vs BP's 4.5% declines is approx. 2.5 mmb/d of an additional new oil supply every year is needed to balance the markets. In reality, even if Exxon's implied overall global decline rate was ~6%, it would still be very bullish for mid/long term oil as this means an additional ~1.5 mmb/d of new global oil supply per year.

Its even more bullish for post 2020 oil than we thought in our Nov 6, 2017 peak oil demand blog. We have always been in the camp that believes peak oil demand is coming, but we have also been of the view that the post 2020 challenge to replace oil declines would be getting tougher. We believe Exxon's view of higher global oil decline rates is consistent with the ~2.5 mmb/d increase in US shale and tight oil in the past two years. And is way more bullish than we wrote in our Nov 6, 2017 blog "*Peak Oil Demand Is Coming, But >4 Mmb/d Of New Oil Supply Will Be Needed Every Year To Replace Declines To Get There*" [LINK], and "*We buy into the narrative of peak oil demand, believe it is inevitable, its visible and will happen before 2030. Peak oil demand will be from the cumulative impact of a number of factors including EVs, battery/storage, LNG for power, LNG for transportation, increased energy efficiency, etc. But the peak oil demand narrative forgets the most basic fundamentals of oil – industry has to add new oil supply every year to replace declines just to keep production flat. Even after today's big oil rally, long dated strips are still under $52 from 2020 thru 2025. We don't believe long dated 2020 thru 2025 strips are predictive of future prices or indicative of the marginal supply costs to add 4 to 5 million b/d every year in 2020 to 2025 or to add >3 million b/d every year once peak oil demand is reached and is in plateau. We believe these marginal supply costs are significantly higher and >$60. We believe oil can quickly move to a base of >$60 with this supply challenge and there will be longevity to this call as markets appreciate this challenge and that the marginal supply cost to add this much new oil production every year is well over $60. Peak oil demand won't take away from the challenge to add significant new oil production every year.*" Note that our Nov 6, 2017 blog was based on the spring 2017 Core Laboratories estimate that the global world wide annual decline rate in oil was then 3.3%. But to Core Laboratories support, this estimate would have been before the ~2.5 mmb/d of added US shale and tight oil in the past two years.

https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/09/21/remarks-by-president-biden-before-the-77th-session-of-the-united-nations-general-assembly/

Remarks by President Biden Before the 77th Session of the United Nations General Assembly

SEPTEMBER 21, 2022•SPEECHES AND REMARKS

United Nations Headquarters
New York, New York

11:08 A.M. EDT

THE PRESIDENT: Thank you.

Mr. President, Mr. Secretary-General, my fellow leaders, in the last year, our world has experienced great upheaval: a growing crisis in food insecurity; record heat, floods, and droughts; COVID-19; inflation; and a brutal, needless war — a war chosen by one man, to be very blunt.

Let us speak plainly. A permanent member of the United Nations Security Council invaded its neighbor, attempted to erase a sovereign state from the map.

Russia has shamelessly violated the core tenets of the United Nations Charter — no more important than the clear prohibition against countries taking the territory of their neighbor by force.

Again, just today, President Putin has made overt nuclear threats against Europe and a reckless disregard for the responsibilities of the non-proliferation regime.

Now Russia is calling — calling up more soldiers to join the fight. And the Kremlin is organizing a sham referenda to try to annex parts of Ukraine, an extremely significant violation of the U.N. Charter.

This world should see these outrageous acts for what they are. Putin claims he had to act because Russia was threatened. But no one threatened Russia, and no one other than Russia sought conflict.

In fact, we warned it was coming. And with many of you, we worked to try to avert it.

Putin's own words make his true purpose unmistakable. Just before he invaded, Putin asserted — and I quote — Ukraine was "created by Russia" and never had, quote, "real statehood."

And now we see attacks on schools, railway stations, hospitals, wa- — on centers of Ukrainian history and culture.

In the past, even more horrifying evidence of Russia's atrocity and war crimes: mass graves uncovered in Izyum; bodies, according to those that excavated those bodies, showing signs of torture.

This war is about extinguishing Ukraine's right to exist as a state, plain and simple, and Ukraine's right to exist as a people. Whoever you are, wherever you live, whatever you believe, that should not — that should make your blood run cold.

That's why 141 nations in the General Assembly came together to unequivocally condemn Russia's war against Ukraine. The United States has marshaled massive levels of security assistance and humanitarian aid and direct economic support for Ukraine — more than $25 billion to date.

Our allies and partners around the world have stepped up as well. And today, more than 40 countries represented in here have contributed billions of their own money and equipment to help Ukraine defend itself.

The United States is also working closely with our allies and partners to impose costs on Russia, to deter attacks against NATO territory, to hold Russia accountable for the atrocities and war crimes.

Because if nations can pursue their imperial ambitions without consequences, then we put at risk everything this very institution stands for. Everything.

Every victory won on the battlefield belongs to the courageous Ukrainian soldiers. But this past year, the world was tested as well, and we did not hesitate.

We chose liberty. We chose sovereignty. We chose principles to which every party to the United Nations Charter is beholding. We stood with Ukraine.

Like you, the United States wants this war to end on just terms, on terms we all signed up for: that you cannot seize a nation's territory by force. The only country standing in the way of that is Russia.

So, we — each of us in this body who is determined to uphold the principles and beliefs we pledge to defend as members of the United Nations — must be clear, firm, and unwavering in our resolve.

Ukraine has the same rights that belong to every sovereign nation. We will stand in solidarity with Ukraine. We will stand in solidarity against Russia's aggression. Period.

Now, it's no secret that in the contest between democracy and autocracy, the United States — and I, as President — champion a vision for our world that is grounded in the values of democracy.

The United States is determined to defend and strengthen democracy at home and around the world. Because I believe democracy remains humanity's greatest instrument to address the challenges of our time.

We're working with the G7 and likeminded countries to prove democracies can deliver for their citizens but also deliver for the rest of the world as well.

But as we meet today, the U.N. Charter — the U.N. Charter's very basis of a stable and just rule-based order is under attack by those who wish to tear it down or distort it for their own political advantage.

And the United Nations Charter was not only signed by democracies of the world, it was negotiated among citizens of dozens of nations with vastly different histories and ideologies, united in their commitment to work for peace.

As President Truman said in 1945, the U.N. Charter — and I quote — is "proof that nations, like men, can state their differences, can face them, and then can find common ground on which to stand." End of quote.

That common ground was so straightforward, so basic that, today, 193 of you — 193 member states — have willingly embraced its principles. And standing up for those principles for the U.N. Charter is the job of every responsible member state.

I reject the use of violence and war to conquer nations or expand borders through bloodshed.

To stand against global politics of fear and coercion; to defend the sovereign rights of smaller nations as equal to those of larger ones; to embrace basic principles like freedom of navigation, respect for international law, and arms control — no matter what else we may disagree on, that is the common ground upon which we must stand.

If you're still committed to a strong foundation for the good of every nation around the world, then the United States wants to work with you.

I also believe the time has come for this institution to become more inclusive so that it can better respond to the needs of today's world.

Members of the U.N. Security Council, including the United States, should consistently uphold and defend the

U.N. Charter and refrain — refrain from the use of the veto, except in rare, extraordinary situations, to ensure that the Council remains credible and effective.

That is also why the United States supports increasing the number of both permanent and non-permanent representatives of the Council. This includes permanent seats for those nations we've long supported and permanent seats for countries in Africa, Latin America, and the Caribbean.

The United States is committed to this vital work. In every region, we pursued new, constructive ways to work with partners to advance shared interests, from elevating the Quad in the Indo-Pacific; to signing the Los Angeles Declaration of Migration and Protection at the Summit of the Americas; to joining a historic meeting of nine Arab leaders to work toward a more peaceful, integrated Middle East; to hosting the U.S.-Africa Leaders' Summit in — this December.

As I said last year, the United States is opening an era of relentless diplomacy to address the challenges that matter most to people's lives — all people's lives: tackling the climate crisis, as the previous spoker [sic] — speaker spoke to; strengthening global health security; feeding the world — feeding the world.

We made that priority. And one year later, we're keeping that promise.

From the day I came to office, we've led with a bold climate agenda. We rejoined the Paris Agreement, convened major climate summits, helped deliver critical agreements on COP26. And we helped get two thirds of the world GDP on track to limit warming to 1.5 degrees Celsius.

And now I've signed a historic piece of legislation here in the United States that includes the biggest, most important climate commitment we have ever made in the history of our country: $369 billion toward climate change. That includes tens of billions in new investments in offshore wind and solar, doubling down on zero emission vehicles, increasing energy efficiency, supporting clean manufacturing.

Our Department of Energy estimates that this new law will reduce U.S. emissions by one gigaton a year by 2030 while unleashing a new era of clean-energy-powered economic growth.

Our investments will also help reduce the cost of developing clean energy technologies worldwide, not just the United States. This is a global gamechanger — and none too soon. We don't have much time.

We all know we're already living in a climate crisis. No one seems to doubt it after this past year. We meet — we meet — much of Pas- — as we meet, much of Pakistan is still underwater; it needs help. Meanwhile, the Horn of Africa faces unprecedented drought.

Families are facing impossible choices, choosing which child to feed and wondering whether they'll survive.

This is the human cost of climate change. And it's growing, not lessening.

So, as I announced last year, to meet our global responsibility, my administration is working with our Congress to deliver more than $11 billion a year to international climate finance to help lower-income countries implement their climate goals and ensure a just energy transition.

The key part of that will be our ~~PEPFAR~~ [PREPARE] plan, which will help half a billion people, and especially vulnerable countries, adapt to the impacts of climate change and build resilience.

This need is enormous. So let this be the moment we find within ourselves the will to turn back the tide of climate demastation [sic] — devastation and unlock a resilient, sustainable, clean energy economy to preserve our planet.

On global health, we've delivered more than 620 million doses of COVID-19 vaccine to 116 countries around the world, with more available to help meet countries' needs — all free of charge, no strings attached.

And we're working closely with the G20 and other countries. And the United States helped lead the change to establish a groundbreaking new Fund for Pandemic Prevention, Preparedness, and Response at the World Bank.

At the same time, we've continued to advance the ball on enduring global health challenges.

Later today, I'll host the Seventh Replenishment Conference for the Global Fund to Fight AIDS, Tuberculosis, and Malaria. With bipartisan support in our Congress, I have pledged to contribute up to $6 billion to that effort.

So I look forward to welcoming a historic round of pledges at the conference resulting in one of the largest global health fundraisers ever held in all of history.

We're also taking on the food crisis head on. With as many as 193 million people around the world experiencing acute — acute food insecurity — a jump of 40 million in a year — today I'm announcing another $2.9 billion in U.S. support for lifesaving humanitarian and food security assistance for this year alone.

Russia, in the meantime, is pumping out lies, trying to pin the blame for the crisis — the food crisis — onto sanctions imposed by many in the world for the aggression against Ukraine.

So let me be perfectly clear about something: Our sanctions explicitly allow — explicitly allow Russia the ability to export food and fertilizer. No limitation. It's Russia's war that is worsening food insecurity, and only Russia can end it.

I'm grateful for the work here at the U.N. — including your leadership, Mr. Secretary-General — establishing a mechanism to export grain from Black Sea ports in Ukraine that Russia had blocked for months, and we need to make sure it's extended.

We believe strongly in the need to feed the world. That's why the United States is the world's largest supporter of the World Food Programme, with more than 40 percent of its budget.

We're leading support — we're leading support of the UNICEF efforts to feed children around the world.

And to take on the larger challenge of food insecurity, the United States introduced a Call to Action: a roadmap eliminating global food insecurity — to eliminating global food insecurity that more than 100 nation member states have already supported.

In June, the G7 announced more than $4.5 billion to strengthen food security around the world.

Through USAID's Feed the Future initiative, the United States is scaling up innovative ways to get drought- and heat-resistant seeds into the hands of farmers who need them, while distributing fertilizer and improving fertilizer efficiency so that farmers can grow more while using less.

And we're calling on all countries to refrain from banning food exports or hoarding grain while so many people are suffering. Because in every country in the world, no matter what else divides us, if parents cannot feed their children, nothing — nothing else matters if parents cannot feed their children.

As we look to the future, we're working with our partners to update and create rules of the road for new challenges we face in the 21st century.

We launched the Trade and Technology Council with the European Union to ensure that key technologies — key technologies are developed and governed in the way that benefits everyone.

With our partner countries and through the U.N., we're supporting and strengthening the norms of responsibility — responsible state behavior in cyberspace and working to hold accountable those who use cyberattacks to threaten international peace and security.

With partners in the Americas, Africa, Europe, and the Middle East, and the Indo-Pacific, we're working to build a new economic ecosystem while — where every nation — every nation gets a fair shot and economic growth is resilient, sustainable, and shared.

That's why the United States has championed a global minimum tax. And we will work to see it implemented so major corporations pay their fair share everywhere — everywhere.

It's also been the idea behind the Indo-Pacific Economic Framework, which the United States launched this year with 13 other Indo-Pacific economies. We're working with our partners in ASEAN and the Pacific Islands to support a vision for a critical Indo-Pacific region that is free and open, connected and prosperous, secure and resilient.

Together with partners around the world, we're working to ser- — secure resilient supply chains that protect everyone from coercion or domination and ensure that no country can use energy as a weapon.

And as Russia's war rolls [sic] — riles the global economy, we're also calling on major global creditors, including the non-Paris Club countries, to transparently negotiate debt forgiveness for lower-income countries to forestall broader economic and political crises around the world.

Instead of infrastructure projects that generate huge and large debt without delivering on the promised advantages, let's meet the enormous infrastructure needs around the world with transparent investments — high-standard projects that protect the rights of workers and the environment — keyed to the needs of the communities they serve, not to the contributor.

That's why the United States, together with fellow G7 partners, launched a Partnership for Global Infrastructure and Investment. We intend to collectively mobilize $600 billion in investment through this partnership by 2027.

Dozens of projects are already underway: industrial-scale vaccine manufacturing in Senegal, transformative solar projects in Angola, first-of-its-kind small modular nuclear power plant in Romania.

These are investments that are going to deliver returns not just for those countries, but for everyone. The United States will work with every nation, including our competitors, to solve global problems like climate change. Climate diplomacy is not a favor to the United States or any other nation, and walking away hurts the entire world.

Let me be direct about the competition between the United States and China. As we manage shifting geopolitical trends, the United States will conduct itself as a reasonable leader. We do not seek conflict. We do not seek a Cold War. We do not ask any nation to choose between the United States or any other partner.

But the United States will be unabashed in promoting our vision of a free, open, secure, and prosperous world and what we have to offer communities of nations: investments that are designed not to foster dependency, but to alleviate burdens and help nations become self-sufficient; partnerships not to create political obligation, but because we know our own success — each of our success is increased when other nations succeed as well.

When individuals have the chance to live in dignity and develop their talents, everyone benefits. Critical to that is living up to the highest goals of this institution: increasing peace and security for everyone, everywhere.

The United States will not waver in our unrelenting determination to counter and thwart the continuing terrorist threats to our world. And we will lead with our diplomacy to strive for peaceful resolution of conflicts.

We seek to uphold peace and stability across the Taiwan Straits.

We remain committed to our One China policy, which has helped prevent conflict for four decades. And we continue to oppose unilateral changes in the status quo by either side.

We support an African Union-led peace process to end the fight in Ethiopia and restore security for all its people.

In Venezuela, where years of the political oppression have driven more than 6 million people from that country, we urge a Venezuelan-led dialogue and a return to free and fair elections.

We continue to stand with our neighbor in Haiti as it faces political-fueled gang violence and an enormous human crisis.

And we call on the world to do the same. We have more to do.

We'll continue to back the U.N.-mediated truce in Yemen, which has delivered precious months of peace to people that have suffered years of war.

And we will continue to advocate for lasting negotiating peace between the Jewish and democratic state of Israel and the Palestinian people. The United States is committed to Israel's security, full stop. And a negotiated two-state solution remains, in our view, the best way to ensure Israel's security and prosperity for the future and give the Palestinians the state which — to which they are entitled — both sides to fully respect the equal rights of their citizens; both people enjoying equal measure of freedom and dignity.

Let me also urge every nation to recommit to strengthening the nuclear non-proliferation regime through diplomacy. No matter what else is happening in the world, the United States is ready to pursue critical arms control measures. A nuclear war cannot be won and must never be fought.

The five permanent members of the Security Council just reaffirmed that commitment in January. But today, we're seeing disturbing trends. Russia shunned the Non-Proliferati- — -Proliferation ideals embraced by every other nation at the 10th NPT Review Conference.

And again, today, as I said, they're making irresponsible nuclear threats to use nuclear weapons. China is conducting an unprecedented, concerning nuclear buildup without any transparency.

Despite our efforts to begin serious and sustained diplomacy, the Democratic People's Republic of Korea continues to blatantly violate U.N. sanctions.

And while the United States is prepared for a mutual return to the Joint Comprehensive Plan of Action if Iran steps up to its obligations, the United States is clear: We will not allow Iran to acquire a nuclear weapon.

I continue to believe that diplomacy is the best way to achieve this outcome. The nonproliferation regime is one of the greatest successes of this institution. We cannot let the world now slide backwards, nor can we turn a blind eye to the erosion of human rights.

Perhaps singular among this body's achievements stands the Universal Declaration of Human Rights, which is the standard by which our forebears challenged us to measure ourselves.

They made clear in 1948: Human rights are the basis for all that we seek to achieve. And yet today, in 2022, fundamental freedoms are at risk in every part of our world, from the violations of — in Xinjiang detailed in recent reports by the Office of U.N. — U.S. — reports detailing by the ~~U.S.~~ [U.N.] High Commissioner, to the horrible abuses against pro-democracy activists and ethnic minorities by the military regime in Burma, to the increased repression of women and girls by the Taliban in Afghanistan.

And today, we stand with the brave citizens and the brave women of Iran who right now are demonstrating to secure their basic rights.

But here's what I know: The future will be won by those countries that unleash the full potential of their populations, where women and girls can exercise equal rights, including basic reproductive rights, and contribute fully to building a stronger economies and more resilient societies; where religious and ethnic minorities can live their lives without harassment and contribute to the fabric of their communities; where the LGBTQ+ community individuals live and love freely without being targeted with violence; where citizens can question and criticize their leaders without fear of reprisal.

The United States will always promote human rights and the values enshrined in the U.N. Charter in our own country and around the world.

Let me end with this: This institution, guided by the U.N. Charter and the Universal Declaration of Human Rights, is at its core an act of dauntless hope.

Let me say that again: It's an act of dauntless hope.

Think about the vision of those first delegates who undertook a seemingly impossible task while the world was still smoldering.

Think about how divided the people of the world must have felt with the fresh grief of millions dead, the genocidal horrors of the Holocaust exposed.

They had every right to believe only the worst of humanity. Instead, they reached for what was best in all of us, and they strove to build something better: enduring peace; comity among nations; equal rights for every member of the human family; cooperation for the advancement of all humankind.

My fellow leaders, the challenges we face today are great indeed, but our capacity is greater. Our commitment must be greater still.

So let's stand together to again declare the unmistakable resolve that nations of the world are united still, that we stand for the values of the U.N. Charter, that we still believe by working together we can bend the arc of history toward a freer and more just world for all our children, although none of us have fully achieved it.

We're not passive witnesses to history; we are the authors of history.

We can do this — we have to do it — for ourselves and for our future, for humankind.

Thank you for your tolerance, for listening to me. I appreciate it very much. God bless you all. (Applause.)

11:37 A.M. EDT

https://www.straitstimes.com/business/iran-ready-to-slash-oil-prices-to-counter-russias-growing-sales-to-china

Iran ready to slash oil prices to counter Russia's growing sales to China

Teheran faces fierce competition from Russia, which has in recent months emerged as the top crude oil supplier to China. PHOTO: REUTERS

Luke Pachymuthu Senior Energy Correspondent

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SINGAPORE - Iran is ready to cut prices of its sanctioned crude stored on ships anchored in international waters just off Singapore, in a bid to defend its market share in China, industry sources tell The Straits Times.

Teheran faces fierce competition from Russia, which has in recent months emerged as the top crude oil supplier to China, according to data by Refinitiv, a unit of the London Stock Exchange Group.

The Straits Times understands that Iran is offering the crude in tankers anchored in Malaysia and Indonesian waters at discounts of around US$5 to US$7 to Russian cargoes.

"The amount of Iranian oil sitting on water in Asia is a good indication of how optimistic Teheran might have been over the revival of the nuclear deal," said Ms Vandana Hari, founder of Vanda Insights, a provider of global oil markets macro-analysis.

"Trying to get rid of it by offering steep discounts is the clearest signal that it has given up the hope of being relieved of US sanctions, at least for the time being."

Recent negotiations with members of the European Union to revive a 2015 nuclear deal first made with global powers fell through earlier this month, with officials saying the agreement - known as Joint Comprehensive Plan of Action (JCPOA) - is on hold.

The aim of the JCPOA is to keep Iran from expanding its nuclear programme, which many in the west suspect is for the sole purpose of developing nuclear weapons.

Before Russia invaded Ukraine in late February, around half of Russia's crude and petroleum product exports went to Europe, according to the International Energy Agency.

Now Russia - whose oil is shunned by the EU - is the third largest supplier of crude oil to Asia after Saudi Arabia and the United Arab Emirates, after it began to divert shipments elsewhere at discounted rates.

Russia has become the largest supplier to China, having sold close to 1.74 million barrels per day in August, representing 20 per cent of that nation's market.

According to Ms Emma Li, senior analyst at data intelligence firm Vortexa, Iranian oil in ships anchored off Malaysia and Indonesia appears to be moving to China at a much slower rate because of the Russian manoeuvres.

Demand from China has also taken a hit from its zero Covid-19 strategy which has resulted in local lockdowns.

Ms Li also noted that demand for sanctioned Venezuelan crude appears to be flowing into China at a much quicker pace and more frequently.

China has not purchased Venezuelan crude directly from the producer since 2019 after Washington tightened sanctions on the South American exporter over various crises there. But oil continued to find its way to China via traders who rebranded the fuel as Malaysian.

But last month it was reported that China had tasked a state company to ship millions of barrels of Venezuelan oil, as part of a deal to offset Caracas' billions of dollars of debt to Beijing.

Mr Homayoun Falakshahi, a senior analyst at commodity data intelligence firm Kpler, said Iran has more than 90 million barrels of crude stored on ships that have been deployed east of the Suez, with around 37 million barrels in anchorages off Malaysia and Indonesia.

He added that Iran had been pumping massive amounts into tankers over the past several months in anticipation that it would get relief from economic sanctions.

"I agree that the lack of an agreement on Iran's nuclear programme will obviously make it more difficult for Iran to offload these volumes, and this will get even more difficult from December as the European Union's latest sanctions package (against Russia) gets implemented," said Mr Falakshahi.

"We expect more Russian oil to make way to the east of Suez then, increasing competition for Iranian crude. In that case, the NIOC (National Iranian Oil Company) will be forced to give even more discounts."

But Dr Asif Shuja, a senior research fellow specialising in Iranian affairs at the Middle East Institute, National University of Singapore, said Iran may have another card to play with the onset of winter in Europe.

He explained: "When the poor Europeans are prone to death in fast approaching cold, and the oil and gas is stopped from coming from the traditional sources, the millions of barrels of Iranian oil floating idly would have a lot of appeal."

He added: "The Europeans will likely pressure the US to resurrect the JCPOA and lift the US sanctions, particularly as the Europeans have no personal enmity with Iran."

But Mr Mark Dubowitz, chief executive of the Foundation for Defence of Democracies (FDD), a leading think-tank based in Washington that has been involved in an advisory capacity with various White House administrations on Iran sanctions, said that to get full sanctions relief might not come that easily for the Islamic republic.

He said: “While Iran is managing to squeeze out enough illicit barrels to keep its economy from collapse, in order to sell its oil legitimately, it needs a nuclear deal with sustainable sanctions relief.

“That may be difficult given the strong bipartisan opposition to the shorter and weaker nuclear deal currently under discussion.”

Federal Reserve Chairman Jerome Powell holds a news conference, sked FINAL
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TRANSCRIPT

September 21, 2022

NEWS CONFERENCE

FEDERAL RESERVE SYSTEM BOARD OF GOVERNORS CHAIRMAN JEROME H. POWELL

FEDERAL RESERVE CHAIRMAN JEROME POWELL HOLDS A NEWS CONFERENCE

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FEDERAL RESERVE CHAIRMAN JEROME POWELL HOLDS A NEWS CONFERENCE

SEPTEMBER 21, 2022

SPEAKERS:
FEDERAL RESERVE SYSTEM BOARD OF GOVERNORS CHAIRMAN JEROME H. POWELL

POWELL: Good afternoon. My colleagues and I are strongly committed to bringing inflation back down to our two percent goal. We have both the tools we need and the resolve that it will take to restore price stability on behalf of American families and businesses.

Price stability is the responsibility of the Federal Reserve and serves as the bedrock of our economy. Without price stability, the economy does not work for anyone. In particular, without price stability, we will not achieve a sustained period of strong labor market conditions that benefit all.

Today, the FOMC raised its policy interest rate by three quarters of a percentage point, and we anticipate that ongoing increases will be appropriate. We are moving our policy stance purposefully to a level that will be sufficiently-restrictive to return inflation to two percent.

In addition, we are continuing the process of significantly reducing the size of our balance sheet. I will have more to say about today's monetary policy actions after briefly reviewing economic developments.

The U.S. economy has slowed from the historically-high growth rates of 2021, which reflected the reopening of the economy following the pandemic recession. Recent indicators point to modest growth of spending and production. Growth in consumer spending has slowed from last year's rapid pace, in part, reflecting lower real disposable income and tighter financial conditions.

Activity in the housing seckor -- sector has weakened significantly in large part, reflecting higher mortgage rates. Higher interest rates and slower output growth also appear to be weighing on business fixed investment, while weaker economic growth abroad is restraining exports.

As shown in our summary of economic projections, since June, FOMC participants have marked down their projections for economic activity, with the median projection for real GDP growth standing at just 0.2 percent this year and 1.2 percent next year, well below the median estimate of the longer-run normal growth rate.

Despite the slowdown in growth, the labor market has remained extremely tight, with the unemployment rate near a 50-year low, job vacancies near historical highs and wage growth elevated. Job gains have been robust, with employee -- employment rising by an average of 378,000 jobs per month over the last three months. The labor market continues to be out of balance, with demand for workers substantially exceeding the supply of available workers. The labor force participation rate showed a welcome uptick in August, but is little-changed since the beginning of the year. FOMC participants expect supply-and-demand conditions in the labor market to come into better balance over time, easing the upward pressure on wages and prices.

The median projection in the SEP for the unemployment rate rises to 4.4 percent at the end of next year, a half percentage point higher than in the June projections. Over the next three years, the median unemployment rate runs above the median estimate of its longer-run normal level.

Inflation remains well above our two percent longer-run goal.

Over the 12 months ending in July, total PCE prices rose 6.3 percent, excluding the volatile food and energy categories, core PCE prices rose 4.6 percent. In August, the 12-month change in consumer -- in the consumer price index was 8.3 percent, and the change in the core CPI was 6.3 percent.

Price pressures remain evident across a broad range of goods and services. Although gasoline prices have turned down in recent months, they remain well above year-earlier levels, in part, reflecting Russia's war against Ukraine, which has boosted prices for energy and food and has created additional upward pressure on inflation.

The median projection in the SEP for total PCE inflation is 5.4 percent this year, and falls to 2.8 percent next year, 2.3 percent in 2024 and two percent in 2025. Participants continue to see risks to inflation as weighted to the upside.

Despite elevated inflation, longer term deflation expectations appear to be - remain well anchored, as reflected in a broad range of surveys of households, businesses and forecasters, as well as measures from financial markets. But that is not grounds for complacency. The longer the current bound of - bout of high inflation continues, the greater the chance that expectations of higher inflation will become entrenched.

The Fed's monetary policy actions are guided by our mandate to promote maximum employment and stable prices for the American people. My colleagues and I are acutely aware that high inflation imposes significant hardship as it erodes purchasing power, especially for those least able to meet the higher costs of essentials, like food, housing and transportation. We are highly attentive to the risks that high inflation poses to both sides of our mandate and we are strongly committed to returning inflation to our two percent objective.

At today's meeting, the committee raised the target range for the federal funds rate by three quarters of a percentage point, bringing the target range to three to three and a quarter percent, and we are continuing the process of significantly reducing the size of our balance sheet, which plays an important role in firming the stance of monetary policy.

Over coming months, we will be looking for compelling evidence that inflation is moving down, consistent with inflation returning to two percent. We anticipate that ongoing increases in the target range for the federal funds rate will be appropriate. The pace of those increases will continue to depend on the incoming data and the evolving outlook for the economy.

With today's action, we have raised interest rates by three percentage points this year. At some point, as the stance of monetary policy tightens further, it will become appropriate to slow the pace of increases while we assess how our accumulative policy adjustments are affecting the economy and inflation. We will continue to make our decisions meeting by meeting and communicate our thinking as clearly as possible.

Restoring price stability will likely require maintaining a restrictive policy stance for some time. The historical record cautions strongly against prematurely loosening policy. As shown in the SEP, the median projection for the appropriate level of the federal funds rate is 4.4 percent at the end of this year, one percentage point higher than projected in June. The median projection rises to 4.6 percent at the end of next year and declines to 2.9 percent by the end of 2025, still above the median estimate of its longer run value.

Of course, these projections do not represent a committee decision or plan and no one knows with any certainty where the economy will be a year or more from now.

We are taking forceful and rapid steps to moderate demand so that it comes into better alignment with supply. Our overarching focus is using our tools to bring inflation back down to our two percent goal and to keep longer term inflation expectations well anchored.

Reducing inflation is likely to require a sustained period of below trend growth and there will very likely be some softening of labor market conditions. Restoring price stability is essential to - to set the stage for achieving maximum employment and stable prices over the longer run. We will keep at it until we're confident the job is done.

To conclude, we understand that our actions affect communities, families and businesses across the country. Everything we do is in service to our public mission. We, at the Fed, will do everything we can to achieve our maximum employment and price stability goals. Thank you and I look forward to your questions.

STAFF: Jeanna?

QUESTION: Hi, Chair Powell. Thank you for taking our questions. Jeanna Smialek from the New York Times. I wonder if you could give us a little detail around how you'll know when to slow down these rate increases and how you'll eventually know when to stop?

POWELL: So I will answer your - I will answer your question directly but I want to start here today by saying that my main message has not changed at all since Jackson Hole. The FOMC is strongly resolved to bring inflation down to two percent and we will keep at it until the job is done.

So the way we're thinking about this is the overarching focus of the committee is getting inflation back down to two percent. To accomplish that, we think we'll need to do two things in particular - to achieve a period of growth below trend, and also, some softening in labor market conditions to foster a better balance between demand and supply in the labor market.

So on the first, committee's forecasts and those of most outside forecasters do show growth running below its longer run potential this year and next year.

On the second, though, so far, there is only modest evidence that the labor market is cooling off. Job openings are down a bit. As you know, quits are off their all-time highs. There's some signs that some wage measures may be flattening out but not moving up. Payroll gains have moderated but not much.

And in light of the high inflation we're seeing, we think we'll need to - and in light of what - what I just said, we - we think that we'll need to bring our - our funds rate to a restrictive level and to keep it there for some time.

So what will we be looking at, I guess is your question. So we'll be looking at a few things. First, we'll want to see growth continuing to run below trend, we'll want to see movements in the labor market showing a return to a better balance between supply and demand, and ultimately, we'll want to see clear evidence that inflation is moving - moving back down to - to two percent. So that's what we'll be looking for.

In terms of - of reducing rates, I think we'd - we'd want to be very confident that inflation is moving back down to two - to two percent before we would consider that.

STAFF: Steve?

QUESTION: Thank you, Mr. Chairman. Steve Liesman, CNBC. Can you talk about how you factor in the variable lags on - in inflation and the extent to which the outlook for rates should be seen as linear, in the sense that you keep raising rates, but can you envision a time when there's a pause to kind of look at what has been wrought in the economy from the rate increases? Thank you.

POWELL: Sure. So of course monetary policy does - does famously work with long and variable lags. The way I think of it is our - our policy decisions affect financial conditions immediately. In fact, financial conditions have usually been affected well before we actually announce our decisions.

Then, changes in financial conditions begin to affect act - economic activity fairly quickly, within a few months, but it's likely to take some time to see the full - full effects of changing financial conditions on inflation.

So we are - we are very much mindful for that, and that's why

I noted in my - in my opening remarks that, at some point, as the stance of policy tightens further, it will become appropriate to slow the pace of rate hikes while we assess how our cumulative policy adjustments are affecting the economy and inflation. So that's how we think about that.

Your second question, sorry, was?

QUESTION: Is there a point in time that you could see pausing? Is it linear, do you keep raising rates, or is there - oh, I'm sorry, I should know better than to not talk with a microphone ...

POWELL: I should know better than to answer your second question.

(LAUGHTER)

QUESTION: Well, there you go. Is it linear, do you keep raising rates, or is there a pause that you could envision where you kind of figure out what - what has happened to the economy and give time to catch up in the real economy - the - the rate increase time to catch up in the real economy? Thank you.

POWELL: So -- so I think -- I think it's -- it's very hard to say with the precise certainty the way this is going to unfold. As I mentioned, what we think we need to do and should do is to move our policy rate to a restrictive level that's restrictive enough to bring inflation down to two percent, where we have confidence of that. And what you see in the SEP numbers is people's views as of -- as of today, as of this meeting as to the -- the kind of levels that will be appropriate.

Now, those -- those -- those will -- those will evolve over time, and I think we'll -- we'll -- we'll just have to -- to see how that goes. I -- I -- there -- there is a possibility, certainly, that we would go to a -- go to a certain level that we've -- we're confident in and -- and stay there for a time. But we're not at that level. Clearly today, we're -- you know, we're just -- we -- we've just moved, I think, probably into very -- the very lowest level, the -- of what might be restrictive. And -- and certainly in my view and in the view of the committee, there's a -- there's a -- a ways to go.

STAFF: OK, Rachel?

QUESTION: Hi, Chair Powell. Rachel Siegel from Washington Post. Thank you for taking our questions.

The projections show the unemployment rate rising to 4.4 percent next year, and historically, the -- that kind of rise in the unemployment rate would typically bring a recession with it. Should we interpret that to mean no soft landing? And is that kind of rise necessary to get inflation down?

POWELL: Right, so -- so you're right, in -- in the -- in the SEP, there is a -- what I would characterize as a relatively-modest increase in the unemployment rate from a historical perspective, given the expected (inaudible) to decline in inflation. Now, why is that? So really, it is -- that is what we generally expect because we see the current situation as outside of historical experience in a number of ways, and I'll -- I'll mention a couple of those.

First -- and you know these, but first, job openings are incredibly high, relative to the number of people looking for work. It's plausible, I'll say, that job openings could come down significantly, and they -- they need to, without as much of an increase in unemployment, as has happened in earlier historical episodes. So that's one thing.

In addition, in this cycle, longer-run inflation expectations are -- have generally been fairly well-anchored. I -- I -- and I -- as I've said, there's no -- no basis for complacency there. But to the extent that continues to be the case, that should make it easier to restore price stability.

And I guess the -- the third thing I would point to that's different this time is that part of this inflation is caused by this series of supply shocks that we've had, beginning with the pandemic and reeling with -- really, with the reopening of the economy, and more recently amplified and added to by Russia's invasion of Ukraine have all contributed to the sharp increase in inflation. So these are -- these are the kinds of events that are not really seen in -- in prior business cycles. And in principle, if those things start to get better -- and we do see some evidence of the beginnings of that. It's not much more than that, but it's -- it's good to see that. For example, commodity prices look like they may have peaked for now. Supply chain disruptions are beginning to resolve. Those developments, if sustained, could help ease the pressures on inflation.

So let me just say, how much these factors will turn out to really matter in -- in this -- in this sequence of events, it remains to be seen. We have always understood that restoring price stability while achieving a relatively-modest decline -- or rather, increase in unemployment and a soft landing would be -- would be very challenging, and -- and we don't know. No one knows whether this process will lead to a recession, or if so, how significant that recession would be. That's going to depend on how quickly wage and price inflection -- inflation pressures come down, whether expectations remain anchored and whether, you know, also, do we get more labor supply, which would help, as well.

In addition, the chances of a soft lending -- landing are likely to diminish to the extent that policy needs to be more restrictive or restrictive for longer. Nonetheless, we're committed to getting inflation back down to two percent because we think that a failure to restore price stability would mean far greater pain later on.

QUESTION: (inaudible) Are vacancies still at the top of your list in terms of understanding the labor market and how much room there is there?

POWELL: Yes, vacancies are still almost two-to-one ratio to unemployed people. That's a -- that and quits are -- are really very good ways to look at how tight the labor market is, and how different it is from other cycles where -- which -- where the -- generally, the unemployment rate itself is the -- is the single-best indicator. We think those things have for a -- a -- quite a time now really added value in terms of understanding where the labor market is.

STAFF: Nick?

QUESTION: Nick Timiraos of the Wall Street Journal. You said not too long ago in describing the -- the policy destination, there is still a way to go. But I -- I imagine you have to have some idea about how you're thinking about your destination, whether it's a stopping point or a pausing point. And so I was wondering if you could discuss how you are thinking about, as the data come in, where that destination is, how it's moving up if inflation doesn't perform as you expect. Do you want to have a policy rate that's above the underlying inflation rate, for example? And do you have an estimate for where you think the underlying inflation rate might be in the economy right now?

POWELL: Well, so again, we -- we believe that we need to raise our policy stance overall to a level that is restrictive, and by that, I mean is -- is meaningfully -- put -- putting mean -- meaningful downward pressure on inflation. That's what we -- that's what we need to see in -- in the stance of policy. We also know that there are -- are long and variable lines (ph), particularly as they relate to inflation. So it -- it's a challenging assessment.

So what do you look at? You look at broader financial conditions. As you know, our -- you look -- you look at where rates are, real and nominal, in some cases. You look at credit spreads. You look at -- at -- at financial conditions indexes.

We also, I would think -- and you see this in the -- this is something we talked about today in the meeting, and talk about in all of our meetings -- and you see this, I think, in -- in the committee forecast. You want to be at a place where real rates are positive across the entire yield curve, and I -- I think that would be the case if you look at the -- the numbers that we're -- that we're writing down and think about -- you -- you measure those against some sort of forward-looking assessment of inflation -- inflation expectations. I think you would see at -- at that time, you'd see positive real rates across the -- which -- across the yield curve, and that -- that is also an important consideration.

STAFF: Howard?

QUESTION: Hi. Howard Schneider with Reuters. Thanks for the opportunity. I -- I -- I just want to be clear on the -- on -- on the (inaudible). You say it's meeting-by-meeting, but it sure looks like we're going to 75/50/25. Is 75 next month's -- the baseline?

POWELL: So we -- we make one decision per meeting, and the meeting decision we made today was to raise the federal funds rate by -- by 75. You're right that a -- you know, a -- the -- the median for -- for the year-end suggests another 125 basis points in rate increases. But there's also -- there's a -- you know, there's another fairly-large group that -- that saw 100 basis points addition to where we are today, so that would be 25 basis points less. So you know, we're going to make that decision at the meeting. We had -- we didn't make that decision today. We didn't vote on that. I would say that, you know, we're committed to getting to a restrictive level of -- for the federal funds rate and getting there pretty quickly, and that's what we're thinking about.

QUESTION: So, just as a follow-up to that, I'm wondering about the sort of risk management considerations here, given there is some discussion now of overdoing it. What's the incentive to continue front-loading right now? Is it a lack of progress on inflation, seen in the CPI reports? Or is it a motivation to get as much done while the job market is still as strong as it is?

POWELL: So, what we've seen is inflation has -- we -- our expectation has been that we would begin to see inflation come down, largely because of supply-side healing. By now we would have thought to -- that we would have seen some of that. We haven't. We have seen some supply-side healing, but inflation has not really come down.

If you look at core PCE inflation, which is, you know, a good measure of where inflation is running now, if you look at it on a 3, 6 and 12-month trailing annualized basis, you'll see that inflation is at 4.8 percent, 4.5 percent and 4.8 percent. So, that's -- those -- that's a pretty good summary of where we are with inflation and that's now where we expected or wanted to be.

So, what that tells us is, that we need to continue, and we can keep doing these -- and we did today, do another large increase as we approach the level that we think we need to get to. And we're still discovering what that level is, but people are writing that down in their SEP, where they think policy needs to be. So, that's how -- that's how we're thinking about it.

STAFF: Let's go to Colby (ph).

QUESTION: Thank you. Colby (ph), "Financial Times." Chair Powell, how should we interpret the fact that core inflation is still not forecasted in the SEP to be back to target in 2025 and yet the dot plot projects cuts as early as 2024? And does that mean there's a level of inflation above the 2 percent target that the Fed is willing to tolerate?

POWELL: So, I guess core is at 2.1 in 2025 and -- in the median and headline is at 2.0. So, that's pretty close. I mean, we write down our forecasts and we figure out what the median is and we publish it. So, it's not -- I mean, I would say that if -- you know -- if actually if the economy this path this would be a pretty good outcome. But you're right. It is a tenth higher than 2 percent.

QUESTION: OK. And just as a quick follow-up, I mean, if the concern is that underlying inflation is becoming more entrenched perhaps each month then why forego the more aggressive 100 basis point increase today? And does that risk having to do more later on?

POWELL: Yes, so we -- as we -- as we said, you know, at the last press conference and in between, that when -- and this one, we said that we would make our decision based on the overall data coming in. So, if you remember, we got a -- we got a surprisingly low reading in July and then a surprisingly high -- surprisingly high reading for August. So, I think you have to -- you can't really -- you never want to overreact too much to any one data point.

So, if you look -- if you look at them together -- and as I just mentioned, if you really look at this year's inflation, 3, 6 and 12-month trailing, you see inflation is running too high. It's running 4.5 percent or above, you don't need to know much more than that. If that's the one thing you know, you know that this committee is committed to getting to a, you know, meaningfully restrictive stance of policy and staying there until we feel confident that inflation is coming down. So, that's how -- that's how we think about it.

STAFF: OK, Victoria.

QUESTION: Hi, Victoria Guida with "POLITICO." I wanted to ask about the balance sheet. You all have left open the possibility that you might sell mortgage-backed securities, but we've seen significant slowing in the housing market and mortgage rates have gone up significantly and I'm just wondering whether conditions there might affect your plans for how quickly you have the run-off on the NBS side?

POWELL: So we -- what we said, as you know, was that we would consider that once balance sheet run-off is well underway. I would say it's not something we're considering right now and not something I expect to be considered in the near term. It's just -- it's something I think we will turn to but that time -- the time for turning to it has not come and is not close.

QUESTION: Well and -- will conditions in the housing market affect that decision?

POWELL: I think a number of things might affect that decision. Really, the main thing is we're not considering that decision and I don't expect that we will any time soon.

STAFF: Neil.

QUESTION: Thanks. Neil Irwin with "Axios." A number of commentators have come to the view and including over at the World Bank, that simultaneous global tightening around the world is -- creates a risk of a global recession that's worse than is necessary to bring inflation down. How do you see that risk? How do you think of coordination with your fellow central bankers? And is there -- is there much risk of overdoing it on a global level?

POWELL: So, we -- actually my colleagues and I, a number of my FMOC colleagues and I, just got back from a -- one of our frequent trips to Basel, Switzerland to meet with other senior central bank officials from around the world. We are in pretty regular contact and we exchange -- of course, we all serve a domestic mandate, domestic objectives in our case, the dual mandate, maximum price stability, but we regularly discuss what we're seeing in terms of our own economy and international spill-overs. And it's a very ongoing constant kind of a process. So, we are very aware of what's going on in other economies around the world and what that means for us and vice versa.

Our -- the forecast that we -- that we put together, that our staff puts together and that we put together on our own always take all of that -- try to take all of that into account. I mean, I can't say that we do it perfectly, but it's not -- it's not as if we don't think about, you know, the policy decisions, monetary policy and otherwise, the economic developments that are taking place in major economies that can have an effect on the U.S. economy. That is very much baked into our own forecast and our understanding of, you know, of the U.S. economy as best we can. It won't be perfect.

So, you know, I don't see that -- it's hard to talk about collaboration in a world where people have very different levels of interest rates. If you remember, there were coordinated cuts and raises and things like that at various times and -- but really -- really we're all -- we're in very different situations.

But, I will tell you that our contact is more or less ongoing and it's not coordination, but there's a lot of information sharing and we all, I think, are informed by what -- by what other important economies and economies that are important to the United States are doing.

STAFF: Craig.

QUESTION: Craig Torres from "Bloomberg." Chair Powell, you talked about some ways the higher interest rates are affecting the economy. But, we've also seen a resilient labor market with durable consumption, strong corporate profits. And I'm wondering what your story is on the resilience of the economy.

After all, you and your colleagues said, "Well, we started tightening in March when we were talking about interest rates in the future." And indeed, treasury rates moved up, so we should have had a lot of tightening taking effect. Why is the economy, in your view, so resilient? And does it mean that we might need a possibly higher terminal rate?

POWELL: You're right. Of course, the labor market, in particular, has been -- has been very strong. But, there are -- you know -- the sectors of the economy that are most rate-sensitive are certainly showing the effects of our tightening.

And, of course, the obvious example is housing, where you see declining activity and -- of all different kinds and housing -- price increases moving down. So, we're having an effect on interest-sensitive spending. I think through exchange rates we're having an effect on exports and imports, I think. So, all of that's happening, but you're right, it's a - and we've - we've - we've said this - you know, this is a - this is a strong, robust economy, people have savings on their balance sheet from the period when they couldn't spend and where they were getting government transfers.

There are still very significant savings out there, although not as much at the - at the lower end of the income spectrum, but still some savings out there to support growth. The - the - the states are very flush with cash. So there's good reason to think that this - this will continue to be a reasonably strong economy.

Now, the data - the data sort of are - are showing that growth is - is - is going to be below trend this year. We think of trend as being about 1.8 percent in - or in that range. We're - we - we - we're forecasting growth well below that and most forecasters are, but you're right, there is a - there's - there's certainly a possibility that - that - that growth can be stronger than that. And, you know, that's a good thing because - because that means the economy will be more resistant to - you know, to a significant downturn.

We're - you know, but of course, we are focused on the thing I started with, which is getting inflation back down to two percent. We - we can't fail to do that. If we - I mean, that's the - I - if we were to fail to do that, that would be the thing that would be most painful for the people that we serve.

So for now, that has to be our - our - our overarching focus. And you see that, I think, in the - in the SEP, in - in the levels of rates that we'll be moving to reasonably quickly, assuming things turn out roughly in line with the SEP. So that's how we think about it.

STAFF: Mike (ph)? Thank you.

QUESTION: Thank you, Mr. Chairman. In a world of euphemisms that we live in here, with "below trend growth" and "modest increase in unemployment," I'm wondering if I could ask you a couple of direct questions for the American people.

Do the odds now favor - given where you are and where you're going with interest rates, favor a recession? 4.4 percent unemployment is about 1.3 million jobs. Is that acceptable job loss? And then given that the data you look at is backward looking and the lags in your policy are forward looking and you don't know what they are, how will you know or will you know if you've gone too far?

POWELL: So I - I don't - I don't know what the odds are. I think that - that there's a very high likelihood that we'll have a - a period of what I mentioned is below trend growth, by which I mean much lower growth, and we're seeing that now.

So the median forecast I think this year for - among my colleagues and - and me was 0.2 percent growth. So that's - that's very slow growth. And - and then below trend next year, I think the median was 1.2, also well below.

So that's a slower - that's a - that's a very slow level of growth and it could give rise to increases in unemployment but I think that's - so that is something that - that we think we need to have and we think we need to have softer labor market conditions as well.

You know, we're never going to say that there are - that - that there are too many people working but the - the real point is this - inflation - what we hear from people when we meet with them is that - that they really are suffering from inflation. And if we want to set ourselves up, really - really light the way to another period of a very strong labor market, we have got to get inflation behind us.

I wish there were a - a painless way to do that. There isn't. So what we need to do is get rates up to a - to the point where we're play - putting meaningful downward pressure on inflation, and that's what we're - that's what we're doing.

And we - we don't - certainly don't - don't hope - we - we - we certainly haven't given up the idea that we can have a relatively modest increase in - in unemployment. Nonetheless, we need to complete this task.

QUESTION: But how will you know or will you know if you've gone too far?

POWELL: It's hard to - hard to hypothetically deal with that question. I mean, our - again, our - our - our really tight focus now continues to be ongoing rate increases to get the policy rate up - up where it needs to be.

And - and as I said, you can look at the - look at this SEP as today's estimate of where we think those rates would be. Of course, they will evolve over time.

STAFF: Chris Rugaber?

QUESTION: Thanks. Chris Rugaber at Associated Press. I wanted to follow up with what you just mentioned about the labor market. You've said several times that to have the labor market we want, we need price stability, and you've suggested maybe there isn't a trade-off in the long run. But in the short run, there is a lot of concern, as people have been expressing here, about higher unemployment as a result of these rate hikes or - as a result of the rate hikes.

So can you explain, though, what about high inflation now threatens the job market? I mean, you've seemed to suggest that inflation - high inflation will - you know, will eventually lead to a weaker job market. So can you spell that out a little more for the general public and how that would work?

POWELL: So for starters, people are seeing their wage increases - their - their wage increases eaten up by inflation. So if you're - if you - if your family is one where you spend most of your paycheck every paycheck cycle on gas, food, transportation, clothing, basics of life, and prices go up the way they've been going up, you're in trouble right away, you - you don't have a cushion. And this is very painful for people at the lower end of the income and wealth spectrum. So that's what we're hearing from people, is, you know, it - it - very much that inflation is really hurting.

So how do we get rid of inflation? And as I mentioned, it would be nice if there were, you know, a way to just wish it away but there isn't. We have to get supply and demand back into alignment, and the way we do that is by slowing the economy.

Hopefully, we do that by slowing the economy and we see a - some softening in labor market conditions and we see a big contribution from supply side, you know, improvements and things like that but none of that is guaranteed.

In any case, we - our job is to deliver price stability. And I think you can think of price stability as an asset that just delivers large benefits to society over a long period of time. We really saw that for a long time. The United States had two percent inflation, didn't move around much, and that was enormously beneficial to - to the public that we - that we serve.

And we have to get back to that and - and - and keep it for a - another long period of time. To - to pull back from the task of doing that is - you're just - you're just postponing. The record shows that if you postpone that, that delay is only likely to lead to more pain.

So, you know, I think we're - we're moving to - to do what we need to do and do our jobs and - and - and that's what you see us doing.

STAFF: (Inaudible)?

QUESTION: Thank you for taking the question, Mr. Chairman. Edward Lawrence of Fox Business. So you had said that Americans and businesses need to feel some economic pain as we go forward. How long from here should Americans be prepared for that economic pain?

POWELL: How long? I mean, it - it - it really depends on how long it takes for wages, and - and more than that, prices to - to come down for - for inflation to come down. And you - you - so you - what you see in our - in our projections today is that inflation moves down, you know, significantly over the course of next year and then more the next year after that.

And, you know, I think - I think once you're on that path, that's - that's a good thing, and things will start to feel better to people, they'll feel lower inflation, they'll feel that the economy's improving, and also, if our - if our projections are - are close to right, you'll - you'll - you will see that - you know, that the costs in unemployment are - they're meaningful, and they're certainly very meaningful to the people who lose their jobs, and we talk about that in our meetings quite a lot.

But at the same time we'd be setting the economy up for another long period. This -- this era has been noted for very long expansions. We've had three of the four longest in measured history since we got inflation under control.

And that's -- that's not an accident. So when inflation is low and stable, you can have these 9, 10, 11 tenure, anyway expansions and you saw -- you can see what we saw in 2018, '19, and '20; which was very low unemployment, the biggest wage gains going to people at the low end of the spectrum, the smallest racial gaps that we've seen in -- since we started keeping track of that.

So we want to get back to that but to get there we're going to have to get supply and demand back in alignment and that's going to take tight -- you know tight monetary policy for a period of time -- period of time.

QUESTION: As a follow-up, what -- what is that economic pain in your mind? Is it job losses; is it higher interest rates on credit cards? What is that economic pain?

POWELL: So it's all of those things. You know higher interest rate, slower growth and a softening labor market are -- are all painful for the public that we serve. But they're not as painful as failing to restore price stability and then having to come back and do it, you know, down the road again and doing it at a time when actually now people have really come to expect, you know, high inflation.

If the -- if the concept of high inflation becomes entrenched in people's economic thinking about their decisions then -- then sort of getting back to price stability, the cost -- the cost of getting back to price stability just rises. And so we want to avoid that. We want to -- we want to -- we want to act aggressively now and get this job done and keep at it until it's done.

STAFF: OK. Nicole from CNN.

QUESTION: Thank you, Chairman Powell. Nicole Goodkind, CNN Business. Existing home sales have fallen for seven months straight. Mortgage rates are at their highest level since 2008. Yet, mortgage demand increased this week and housing prices are still elevated.

At the end of your June press conference you mentioned plans to reset the housing market. I was wondering if you could elaborate on what you mean when you say reset and what you think it will take to actually get there?

POWELL: So when I say reset I'm not looking at a particular specific, you know, set of data or anything. What I'm really saying is that we've -- we've had a -- we've had a time of a red hot housing market all over the country where, you know, famously houses were selling to the first buyer at 10% above the ask before even seeing the house. That kind of thing.

So there was a big imbalance between supply and demand, housing prices were going up at an unsustainably fast level. So the deceleration of housing prices that we're seeing should help bring sort of prices more closely in line with rents and other housing market fundamentals.

And that's a good thing. For the longer term what we need is supply and demand to get better aligned so that housing prices go up a reasonable level at a reasonable pace and that people could afford houses again.

And I think we -- so we probably in the housing market have to go through a correction to get back to that place. There's also --

there are also longer run issues though with the housing market, as you know, where -- where, you know, it's difficult to find lots now close -- close enough to cities and things like that.

So builders are having a hard time getting zoning in lots and workers and materials and things like that. But from a sort of business cycle standpoint, this difficult correction should put the housing market back into better -- better balance.

QUESTION: (Inaudible). Thank you. Shelter made up such a large part of this hot CPI report that we saw. Do you think that there is lag and that we will see that come down in the coming months or do you think that there's still this imbalance that needs to be addressed?

POWELL: No, I think that shelter -- shelter inflation is going to remain high for some time. You know we're looking for it to come down but it's not exactly clear when that will happen. So it may take some time. So I think -- I think hope for the best, plan for the worst. So I think on shelter inflation you just go to assume that it's going to remain pretty high for a while.

STAFF: OK. We'll go to Jean for the last question.

QUESTION: Hi, Jean Yung with Market News. You've talked about the need to get real rates into positive territory and you said earlier that policy is just moving into that territory now. So I'm curious how restrictive is rates at 4.6% expected -- is that expected to be next year, how restrictive?

POWELL: So I think if you look -- you know when we get -- if -- let's assume we do get to that level, which I think is likely. You know you -- what you're going to do is you're going to adjust that for some forward measure -- looking measure of -- of -- of inflation. And that could be -- you pick your measure. It could be -- you know there -- there are all kinds of different things you could pick and you get -- what you'll get is a positive number.

In all cases you will get forward inflation expectations in the short term, I think, that are going to be -- assuming that we're doing our jobs appropriately that will be significant. That's -- so you'll have a positive federal funds rate at that point which could be 1% or so.

But I mean I don't know exactly what it would be but it would be significantly positive when we get to that level. And let me say, you know, we've written down what we think is a plausible path for the federal funds rate. The path that we actually execute will be enough. It will be enough to restore price stability.

So this is -- this is something that, as you can see, they've moved up and we're going to continue to watch incoming data and evolving outlook and ask ourselves where our -- whether our policy is in the right place as we go. Thank you very much.

END

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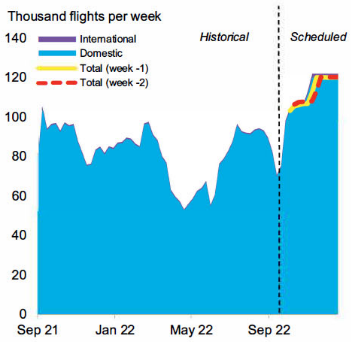
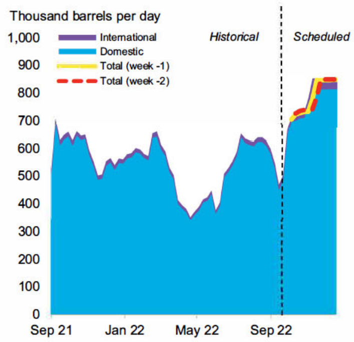
China

Scheduled number of flights



Implied jet fuel demand

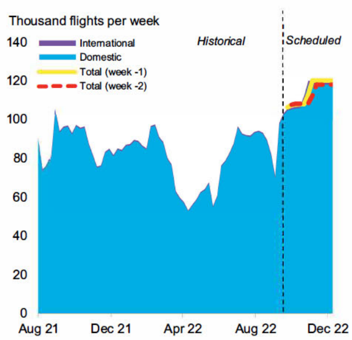


- The number of scheduled domestic flights in China for the week of September 13 stands at 69,967, a 14.5% drop from the previous week. This suggests a reduction of over 80,000 barrels per day of implied jet fuel demand.
- Over the next four weeks, the number of scheduled domestic flights is set to climb by 49.4%, to 104,562 flights per week, as travel demand ramps up and some travel regulations are eased by the Civil Aviation Administration of China (CAAC).
- However, the scheduled number of flights and implied jet fuel demand over the coming weeks may not materialize. China has routinely cut several thousands of scheduled flights a week or so before the intended departure date, and uncertainties remain over the nation's Covid Zero strategy.
- China Southern and Shenzhen Airlines are among the carriers that curtailed their flights over the past week.

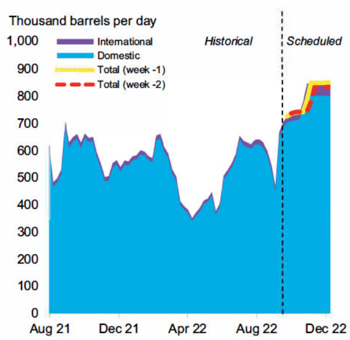
Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: Last updated September 14, 2022. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DSET FLY <GO> for further details.

China

Scheduled number of flights



Implied jet fuel demand

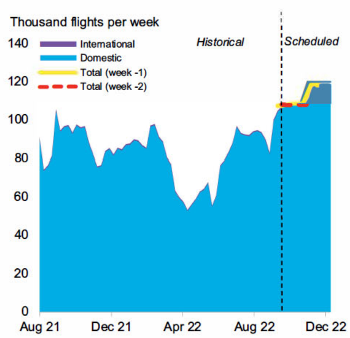


- The number of scheduled domestic flights in China for the week of September 6 stands at 81,874, an 8.06% drop from the previous week. This suggests a reduction of over 51,000 barrels per day of implied jet fuel demand.
- Over the next four weeks, the number of scheduled domestic flights is set to climb by 28.2%, to 104,945 flights per week, as travel demand ramps up and some travel regulations are eased by the Civil Aviation Administration of China (CAAC).
- However, the scheduled number of flights and implied jet fuel demand over the coming weeks may not materialize. China has routinely cut several thousands of scheduled flights a week or so before the intended departure date, and uncertainties remain over curbs from Covid-19 lockdowns.
- China Southern and Xiamen Airlines are among the carriers that curtailed their number of flights over the past week.

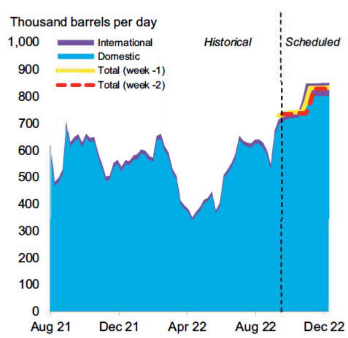
Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: Last updated September 6, 2022. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DSET FLY <GO> for further details.

Spotlight: China

Number of flights



Implied jet fuel demand



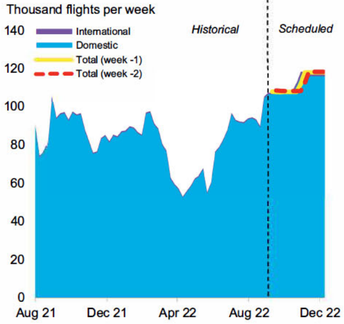
- The number of scheduled domestic flights in China for the week of August 30 stands at 89,056, a 4.03% drop from the previous week. This suggests a reduction of over 29,000 barrels per day of implied jet fuel demand.
- Over the next four weeks, the number of scheduled domestic flights is set to climb by 18.8%, to 105,841 flights per week, as travel demand ramps up and some travel regulations are eased by the Civil Aviation Administration of China (CAAC).
- However, the scheduled number of flights and implied jet fuel demand over the coming weeks may not materialize. China has routinely cut several thousands of scheduled flights a week or so before the intended departure date, and uncertainties remain over curbs from Covid-19 lockdowns.
- China Eastern, China Southern and Xiamen Airlines are among the carriers that curtailed their number of flights over the past week.

Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: Last updated August 30, 2022. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DSET FLY <GO> for further details.

Spotlight: China

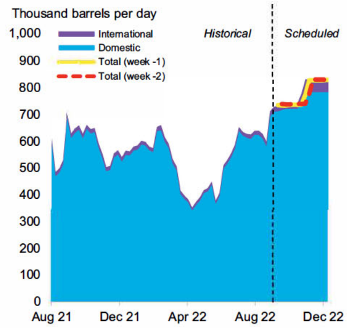
Number of flights

Thousand flights per week



Implied jet fuel demand

Thousand barrels per day



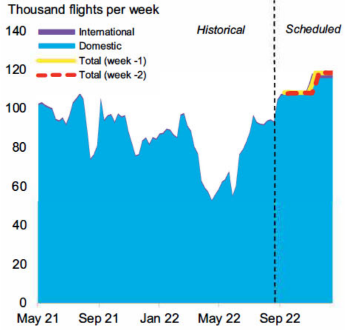
- The number of scheduled domestic flights in China for the week of August 23 stands at 92,793, a 1.15% drop from the previous week. This suggests slashing over 14,000 barrels per day of implied jet fuel demand.
- Over the next four weeks, the number of scheduled domestic flights is set to climb by 14.7% to 106,455 per week, as travel demand ramps up and some travel regulations are eased by the Civil Aviation Administration of China (CAAC).
- However, the scheduled number of flights and implied jet fuel demand over the coming weeks may not materialize, as China has routinely cut several thousands of scheduled flights a week or so before the intended departure date.
- Air China, China Southern, and Xiamen Airlines are among the carriers that reduced their number of flights over the past week.

Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: Last updated August 23, 2022. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DSET FLY <GO> for further details.

Spotlight: China

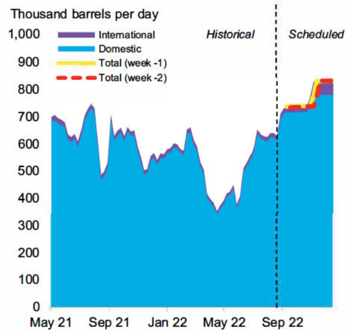
Number of flights

Thousand flights per week



Implied jet fuel demand

Thousand barrels per day



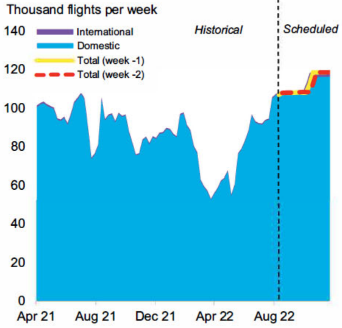
- The number of scheduled domestic flights in China for the week of August 16 stands at 94,327, a 0.63%% rise from the previous week. This signifies a jump of 14,793 barrels per day of implied jet fuel demand.
- Over the next four weeks, the number of scheduled domestic flights is set to climb by 14% to 107,068 per week, as travel demand ramps up and some travel regulations are eased by the Civil Aviation Administration of China (CAAC).
- However, the scheduled number of flights and implied jet fuel demand over the coming weeks may not materialize, as China has routinely cut several thousands of scheduled flights a week or so before the intended departure date.
- China Eastern and China Southern Airlines are among the carriers that increased their number of flights over the past week.

Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: Last updated August 16, 2022. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DSET FLY <GO> for further details.

Spotlight: China

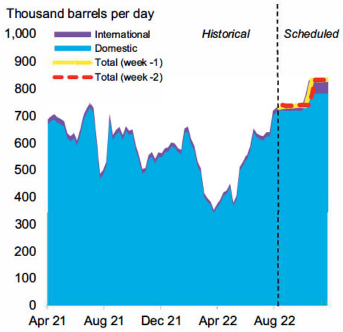
Number of flights

Thousand flights per week



Implied jet fuel demand

Thousand barrels per day



- The number of scheduled domestic flights for the week of August 9 stands at 93,299, a 2.3% rise from the previous week. This signifies a jump of 16,000 barrels per day of implied jet fuel demand.
- Over the next four weeks, the number of scheduled domestic flights is set to rise by 15.2% to 107,486 per week, as travel demand ramps up and some travel regulations are eased by the Civil Aviation Administration of China (CAAC).
- However, the scheduled number of flights and implied jet fuel demand over the coming weeks may not materialize, as China has routinely cut several thousands of scheduled flights a week or so before the intended departure date.
- China Eastern and China Southern Airlines are among the carriers that increased their number of flights over the past week.

Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: Last updated August 9, 2022. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DSET FLY <GO> for further details.

Sep 20, 2022 09:06:44

OIL DEMAND MONITOR: Fuel Demand Languishes Even as Roads Fill Up

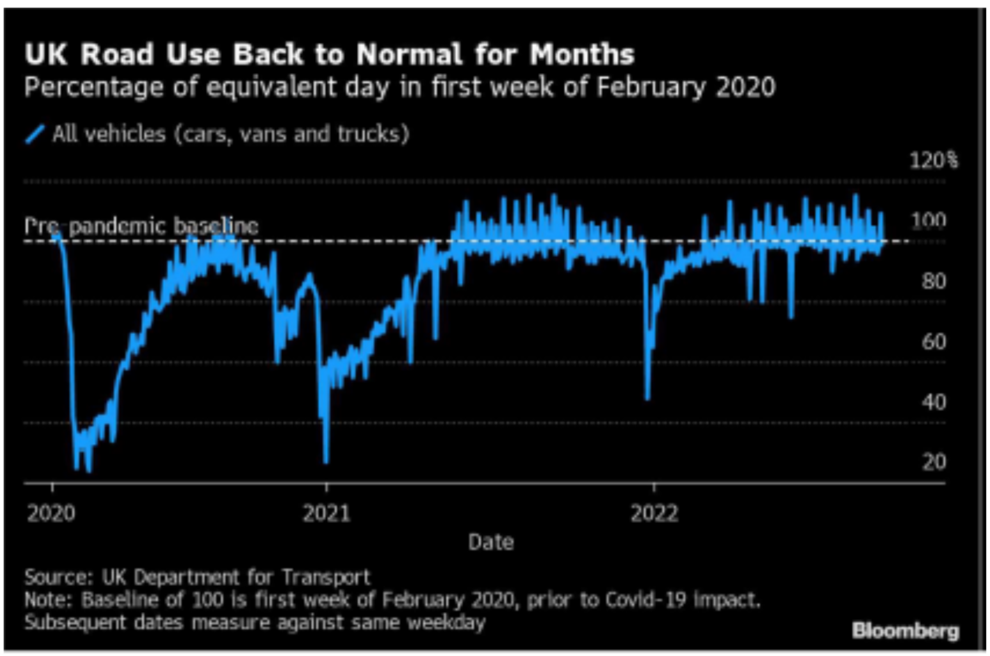
- Gasoline demand below pre-Covid in UK, US; higher in India
- Airline seat capacity down 5.6% month-on-month, OAG data shows

By Stephen Voss

(Bloomberg) -- Vehicles are trundling along UK roads much as they did before Covid struck, yet government data shows they're burning less fuel than before. China's repeated lockdowns in major cities continue to dent global oil demand.

The end of the Northern Hemisphere's summer spells a seasonal decline in vacation travel and airline activity, while relatively high retail prices remain a demand deterrent. Those factors, plus weaker Chinese growth, have coincided with a slide in oil prices in recent weeks, helping persuade some analysts that the global market is swinging from deficit to surplus, or already has.

UK road use has been back to normal for many months now, overall. Vans and trucks are consistently used more than the pre-pandemic baseline in the Department for Transport's statistics. Car use is down slightly, coming in at 5% below the baseline in the latest figures for Sept. 12.



Still, consumption of oil-based road fuels in the UK remains consistently slightly lower than preCovid times, according to a separate set of data from the Department for Business, Energy and Industrial Strategy.

That suggests either some statistical variation in the data, or a disconnect between the pick-up in vehicle use and the recovery in fuel demand. The DFT uses the first week of February 2020 as its baseline while the BEIS employs an eight-week period before the UK's first lockdown started in late March that year.

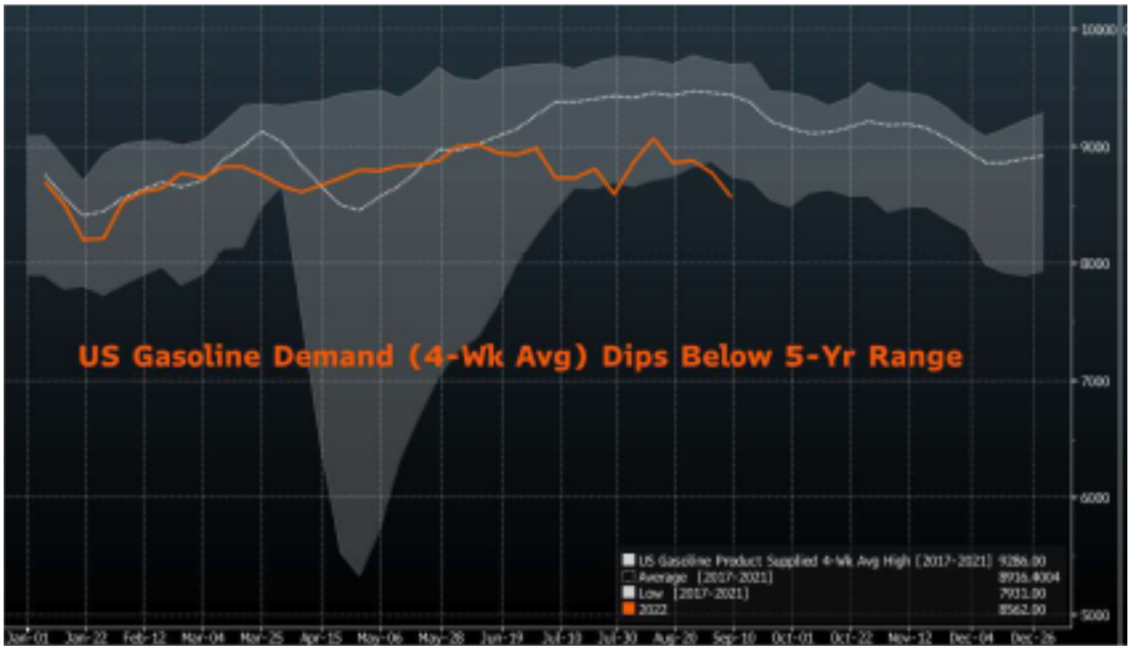
The relentless -- albeit slow -- displacement of combustion engine cars with electric vehicles will no doubt be shaving some demand for gasoline and diesel, while high prices tend to deter drivers from longer trips.

There's a similar long-term trend in Japan, where the trade ministry forecasts national demand for oil products will drop by 7.1% between fiscal 2021 and 2026. Eneos Holdings Inc., Japan's biggest oil refiner, has already announced a plan to close one of its 10 refineries next year.

READ MORE: Japan's Top Refiner Is Gearing Up for the Oil Industry's Decline

Lackluster demand readings extend to the US as well, in the latest data covering the week ended Sept. 9.

Gasoline product supplied, a rough measure of demand, dipped below 8.5 million barrels a day for the third time this summer. The trend is easier to see when viewing the four-week average for gasoline, showing demand trending below the range of the past five years, and far below the fiveyear average level.



Chinese Demand Looks Weak

Predictions of China's 2022 economic growth have weakened over the last several months. While there was an upbeat slew of August economic data on Friday, some of those gains will likely be temporary.

Oil demand in China is still constrained for now and the International Energy Agency last week said the country faces its biggest annual drop in oil demand in more than three decades.

Nationwide crude processing was about 12.69 million barrels a day in August, according to calculations based on government statistics. That's just 0.9% higher than July, which was lowest since March 2020, but still about 8% below August last year. Another measure is refinery utilization rates at the country's independent plants in the Shandong region, which dipped in August, though the swoon wasn't as deep as earlier this year, according to OilChem.

The latest megacity lockdown -- in Chengdu -- ended on Monday, now that Covid-19 cases have declined. The city's 21 million residents are now allowed to leave their homes, provided they test reguarly.

Elsewhere, India continues to buck the trend. Total oil products consumption in Asia's secondlargest consumer was 1.1% higher month-on-month and up 4% versus August 2019, government data show.

Congestion and ToU Roads

Inner-city congestion is growing stronger with the summer over, according to data from navigation technology company TomTom NV. Among the 13 major world cities regularly tracked each Monday morning in this monitor, five of them showed congestion above typical 2019 levels on Sept. 12: Taipei, New York, Los Angeles, London and Paris. The last time as many as five cities exceeded that threshold on a Monday was Nov. 15 last year.

That trend slipped on Monday Sept. 19, though, when a public holiday kept commuters off the roads in London.

In China, an aggregate congestion index for 15 cities in the country rose to 107 on Sept. 12, up some 5.3% over a four-week period. A large decline in Chengdu was offset by advances in other cities such as Chongqing, Shanghai and Beijing, according to calculations by BloombergNEF, based on Baidu data.

While the TomTom and Baidu data on individual cities is a quick way to see trends, they're not always representative of total road traffic across a nation as a whole.

Atlantia Group provides data on miles traveled on toll roads as a comparison against a year earlier and against the same month of 2019, covering several European and Latin American countries on a monthly basis.

For France, Spain, Brazil and Chile the August comparisons were all weaker than July's, while Mexico's was stronger. In general though, the Atlantia data still shows traffic levels have recovered to pre-pandemic levels. Spain was the only country, out of the six that the road operator studies, with August traffic levels lower than those of August 2019.

Heathrow Airport

Passenger numbers at London's Heathrow dipped 4% in August to just over 6 million, ending six months of consecutive increases, though it is normal to see a slight decline from July to August. The latest tally is 21% lower than August 2019, before the pandemic, a little wider than the comparable deficit for July of 19%.

Other air travel data also shows weakened activity: a seven-day average of the global number of commercial flights tracked by Flightradar24 dipped 5.4% during the past month, and, as of Sept. 19 was 16% lower than the equivalent period of 2019. When one adds private airplanes, military, government and helicopter journeys then the tally is higher and exceeds the 2019 level by 0.5%, but these additions are generally much smaller aircraft that use less fuel.

US Gulf Coast refinery utilization in the first week of September was a whopping 22 percentage points higher than a year earlier, though that margin is mainly due to reduced processing in the prior period of 2021 when several large plants in Louisiana were shut for Hurricane Ida. By comparison, this year's Atlantic hurricane season has been relatively mild so far.

The Bloomberg oil-demand monitor uses a range of high-frequency data to help identify emerging trends.

Following are the latest indicators. The first three tables shows fuel demand and road congestion, the next shows air travel globally and the fifth is refinery activity:

Demand Measure	Location	% y/y	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline product supplied	US	-4.5	+0.2	-13	-9.1	w	Sept. 9	8.49m b/d	EIA
Distillates product supplied	US	-18	+12	-18	-20	w	Sept. 9	3.13m b/d	EIA
Jet fuel product supplied	US	+8	+57	-1.9	-7.4	w	Sept. 9	1.49m b/d	EIA
Total oil products supplied	US	-3	+13	-9.9	-9	w	Sept. 9	19.31m b/d	EIA
All motor vehicle use index	UK	-1	+2.1	-1	+1	w	Sept. 12	99	DfT
Car use	UK	-1	+2.2	-5	unch	w	Sept. 12	95	DfT

Light commercial vehicle (vans)	UK	+1.8	+8.6	+14	+2.7	w	Sept. 12	114	DfT
Heavy goods vehicle use	UK	-3.7	unch	+5	+2.9	w	Sept. 12	105	DfT
Gasoline (petrol) avg sales per filling station	UK	-6.5	+0.6	-9.5	+0.7	m	Aug. 22-28	6,483 liters/d	BEIS
Diesel avg sales per station	UK	-9.5	-8	-17	-1.1	m	Aug. 22-28	8,594 liters/d	BEIS
Total road fuels sales per station	UK	-8.2	-4.5	-14	-0.4	m	Aug. 22-28	15,077 liters/d	BEIS
China 15 cities congestion	China				+5.3	d	Sept. 12	107	Baidu / BNEF
Gasoline	India	+16		+21	+6	2/m	Aug. 1-31	2.82m tons	Bberg
Diesel	India	+24		+12	-5	2/m	Aug. 1-31	6.12m tons	Bberg
LPG	India	+5		+2.5	-1	2/m	Aug. 1-31	2.44m tons	Bberg

Jet fuel	India	+51		-14	+1.1	2/m	Aug. 1-31	541k tons	Bberg
Total Products	India	+16	+24	+4	+1.1	m	August	17.8m tons	PPAC
Toll roads volume	France	+3.5		+2.1		m	August	n/a	Atlantia
Toll roads volume	Italy	-1.7		unch		m	August	n/a	Atlantia
Toll roads volume	Spain	-4.1		-3		m	August	n/a	Atlantia
Toll roads volume	Brazil	+3.6		+5.8		m	August	n/a	Atlantia
Toll roads volume	Chile	-4.7		+4.9		m	August	n/a	Atlantia
Toll roads volume	Mexico	+11		+10		m	August	n/a	Atlantia
Gasoline	Spain	+6.5			+8.3	m	August	601 m3	Exolum
Diesel (and heating oil)	Spain	+2.7			+2.7	m	August	2266k m3	Exolum
Jet fuel	Spain	+38			-2.5	m	August	631 m3	Exolum
Total oil products	Spain	+8.4			+1.5	m	August	3459 m3	Exolum
Road fuel sales	France	-2.3			-3.6	m	August	4.114m m3	UFIP
Gasoline	France	+4.8		+17		m	August	n/a	UFIP

Road diesel	France	-5		-6.3		m	August	n/a	UFIP
Jet fuel	France	+38		-16	+3.8	m	August	714k m3	UFIP
All petroleum products	France	-0.6			+2.1	m	August	4.638m tons	UFIP
All vehicles traffic	Italy	-2			-0.5	m	August	n/a	Anas
Heavy vehicle traffic	Italy	-0.6			-14	m	August	n/a	Anas
Gasoline	Portugal	-0.2	+7	-5.4	+8.4	m	July	94k tons	ENSE
Diesel	Portugal	-6.3	-3.2	-11	+3.2	m	July	393k tons	ENSE
Jet fuel	Portugal	+85	+288	-5.6	+11	m	July	158k tons	ENSE
Total fuel sales	Italy	-2.4	+4.3	-8.7	+1.7	m	July	4.6m tons	Ministry
Gasoline	Italy	-2.1	+11	+4.3	+5.6	m	July	731k tons	Ministry
Diesel /gasoil	Italy	-2.7	+4.4	-4.2	+4.4	m	July	2.403m tons	Ministry
Jet fuel	Italy	+61	+169	-21	+6.3	m	July	403k tons	Ministry

Notes: Click here for a PDF with more information on sources, methods. The frequency column shows w for data updated weekly, 2/m for twice a month and m for monthly. The column showing "vs 2020" is used for some data, such as comparing Italian jet fuel sales for July 2022 vs July 2020.
In Dfr UK daily data, which is updated once a week, the column showing versus 2019 is actually showing the change versus the first week of February 2020, to represent the pre-Covid era.

In BEIS UK daily data, the column showing versus 2019 is actually showing the change versus the average of Jan. 27-March 22, 2020, to represent the pre-Covid era. The publication frequency switched from weekly to monthly, after July 28.

Atlantia is publishing toll road data on a monthly basis, rather than the weekly format seen in 2021, and the US DoT also switched to monthly data after the week ended April 3.

City congestion:

Measure	Location	% chg vs avg 2019	% chg m/m	Sept 19	Sept 12	Sept 5	Aug 29	Aug 22	Aug 15	Aug 8	Aug 1	Jul 25	Jul 18
		(for Sept. 19)		Congestion mins added to 1 hr trip at 8am* local time									
Congestion	Tokyo	-82	-81	7	34	31	32	35	8	32	31	32	7
Congestion	Taipei	-3	+16	34	45	37	29	29	26	27	26	26	26
Congestion	Jakarta	-8	-5	36	38	37	36	38	39	37	37	34	35
Congestion	Mumbai	-21	+19	38	30	22	29	32	3	26	25	26	29
Congestion	New York	+6	+150	33	38	zero	17	13	14	17	20	17	21
Congestion	Los Angeles	+5	+13	37	38	2	35	33	31	19	18	16	20
Congestion	London	-90	-82	4	43	37	2	20	18	17	17	21	26
Congestion	Rome	+11	+1025	54	42	41	12	5	zero	8	19	25	32
Congestion	Madrid	-19	+700	29	27	17	9	4	zero	3	5	zero	11
Congestion	Paris	+3	+217	46	47	45	25	14	1	10	13	25	28
Congestion	Berlin	-18	+12	28	30	28	25	25	19	16	13	15	14
Congestion	Mexico City	-9	+21	45	47	50	44	37	37	32	26	23	23
Congestion	Sao Paulo	-29	-2	31	32	32	39	31	33	40	26	20	19

Source: TomTom. Click here for a PDF with more information on sources, methods. * 9am statistics are used for Mumbai. All other cities use 8am.

NOTE: m/m comparisons are Sept. 19 vs Aug. 22. Recent public holidays probably reduced traffic flows in the UK and Japan on Sept. 19, the US on Sept. 5 and UK on Aug. 29. The Assumption Day religious holiday likely affected traffic in Rome, Madrid and Paris on Aug. 29. TomTom has been unable to provide Chinese data since April 2021. Taipei and Jakarta were added to the table in December 2021.

Chinese City Congestion:

Measure	Location	% chg vs Jan. 2021	% chg m/m	% chg w/w	Sept. 12	Sept. 5	Aug. 29	Aug. 22	Aug. 15	Aug. 8	Aug. 1	Jul. 25	Jul. 18	Jul. 11
		(compare vs Aug. 29)												
Congestion	Beijing	+24	+11	-2.4	124	127	120	124	111	109	114	109	116	124
Congestion	Chengdu	-27	-27	-5.6	73	77	93	97	100	93	86	90	101	106
Congestion	Chongqing	+7	+29	+7.2	107	100	73	84	83	88	93	96	101	105
Congestion	Guangzhou	+18	+7	+0.7	118		121	114	111	112	109	105	103	109
Congestion	Shanghai	+28	+14	-8.4	128		123	120	112	113	108	105	103	106
Congestion	China-15	+7	+5.3	+0.8	107	107	103	105	102	103	101	101	103	106

Source: BNEF calculations based on Baidu congestion data, showing a seven-day moving average indexed against a January 2021 baseline of 100. China-15 is the weighted average of the 15 cities with the highest number of vehicle registrations. m/m comparisons are Sept. 12 vs Aug. 15

Air Travel:

Measure	Location	y/y	vs 2 yrs ago	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
		changes shown as %								
Airline passenger throughput	US	+14	+180	+18	+1.2	+1.9	d	Sept. 18	2.37m	TSA
Airline passenger throughput (7d avg)	US	+23	+204	-4.9	-1.9	+1.2	d	Sept. 18	2.14m	TSA
All flights	Worldwide	+9	+35	+0.5	-3.9	-1.1	d	Sept. 19	208,719	Flightradar24
Commercial flights	Worldwide	+7.8	+46	-16	-5.4	-2.4	d	Sept. 19	101,393	Flightradar24
Air traffic (flights)	Europe			-14	-3.9	-2.4	d	Sept. 19	29,995	Eurocontrol
Air traffic (flights)	UK			-17	-7.8	-8.9	d	Sept. 19	5,255	Eurocontrol
Air traffic (flights)	Germany			-22	+0.4	-1.4	d	Sept. 19	5,056	Eurocontrol
Seat capacity	Worldwide	+22	+70	-15	-5.6	-0.6	w	Sept. 12-18	96.73m	OAG
Seat capacity	North America			-6.7		-0.1	w	Sept. 12-18	n/a	OAG
Seat capacity	North East Asia			-30		+0.6	w	Sept. 12-18	n/a	OAG
Seat capacity	South East Asia			-28		-1	w	Sept. 12-18	n/a	OAG
Seat capacity	South Asia			-4.8		+0.3	w	Sept. 12-18	n/a	OAG
Seat capacity	Western Europe			-11		-1.5	w	Sept. 12-18	n/a	OAG
Seat capacity	Central America			+10		-2.8	w	Sept. 12-18	n/a	OAG
Heathrow airport passengers	UK	+171	+326	-21	-4.3		m	August 2022	6.04m	Heathrow

NOTE: Comparisons versus 2019 are a better measure of a return to normal for most nations, rather than y/y comparisons.

FlightRadar24 data shown above, and comparisons thereof, all use 7-day moving averages, except for w/w which uses single day data.

Refineries:

Measure	Location	y/y	chg vs 2019	m/m chg	Latest as of Date	Latest Value	Source
		Changes are in ppt unless noted					
Crude intake	US	+11%	-8.4%	-2.4%	Sept. 9	16m b/d	EIA
Utilization	US	+9.4	-3.6	-2	Sept. 9	91.5 %	EIA
Utilization	US Gulf	+22	-1.9	-2.2	Sept. 9	94.7 %	EIA
Utilization	US East	+10	+29	-1.4	Sept. 9	97 %	EIA
Utilization	US Midwest	-7.4	-12	-4.6	Sept. 9	88.2 %	EIA
Apparent Oil Demand	China	-9.7%	+5.5%	-6.7%	July 2022	12.16m b/d	NBS
Utilization (indep. refs)	Shandong, China	-9.9	-2.8	-9.3	Sept. 2	61.20 %	Oilchem

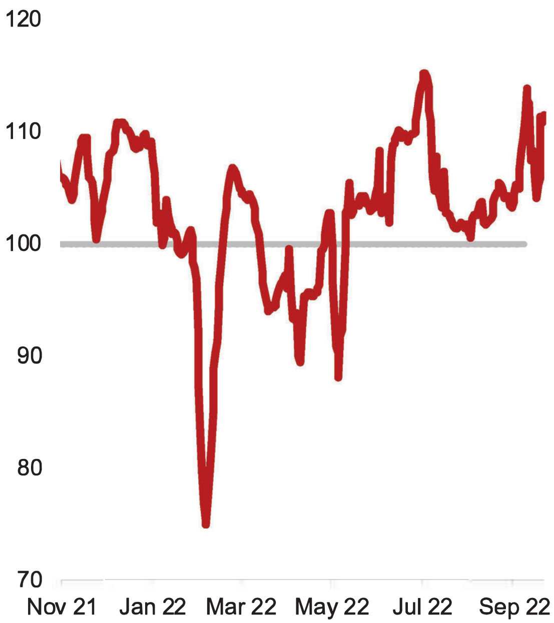
NOTE: US refinery data is weekly. China NBS apparent demand is usually monthly and China Shandong is updated twice a month. Changes are shown in percentages for the rows on crude intake and Chinese apparent oil demand, while refinery utilization changes are shown in percentage points. SCI99 data on Chinese refinery run rates was discontinued in late 2021.

Comparing the three mobility indicators

Bullish week for China and Europe

China-15 (Baidu) congestion index

Daily peak congestion levels, indexed to January 2021 (seven-day MA)

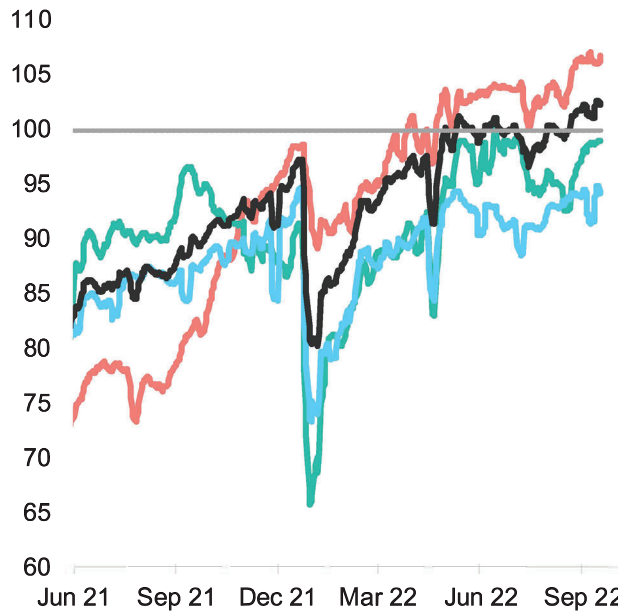


	Latest	Week Δ	Four-week Δ
China-15	**111.47**	3.70 (+3.44%)	6.54 (+6.24%)

*Source: BloombergNEF, calculated from Baidu's data. Note: Data updated to **September 21, 2022**.*

Google mobility index

Indexed to Jan – Feb 2020 (seven-day MA)

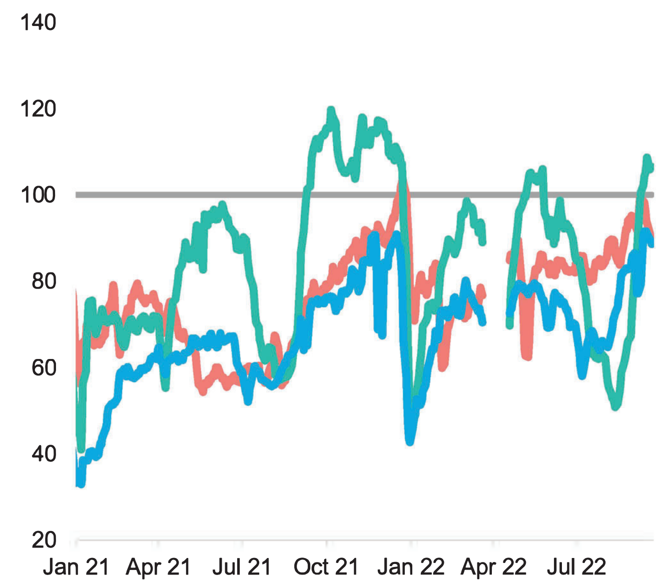


	Latest	Week Δ	Four-week Δ
Asia Pacific	**106.7**	0.6 (+0.6%)	2.8 (+2.7%)
World	**102.3**	1.2 (+1.2%)	2.2 (+2.2%)
Europe	**98.9**	0.2 (+0.2%)	6.2 (+6.7%)
Americas	**94.2**	2.61 (+2.8%)	0.4 (+0.4%)

*Source: Google Community Mobility Report, BloombergNEF. Note: **Data exclude China and Russia.** Calculation includes retail and recreation, workplaces, transport hubs. **Data updated to September 17, 2022.** The world index rating is weighted by the 2019 road fuels demand of each country.*

TomTom congestion index

Indexed to the peak congestion of the average week in 2019 (five-day weekday MA)



	Latest	Week Δ	Four-week Δ
Europe	**106.5**	1.4 (+1.4%)	43.0 (+67.6%)
Asia Pacific	**89.9**	-6.8 (-7.0%)	-2.3 (-2.5%)
North America	**88.7**	-2.7 (-2.9%)	5.7 (+6.9%)

*Source: TomTom road congestion data, BloombergNEF. Note: **Asia Pacific excludes China. Data updated to September 21, 2022.***

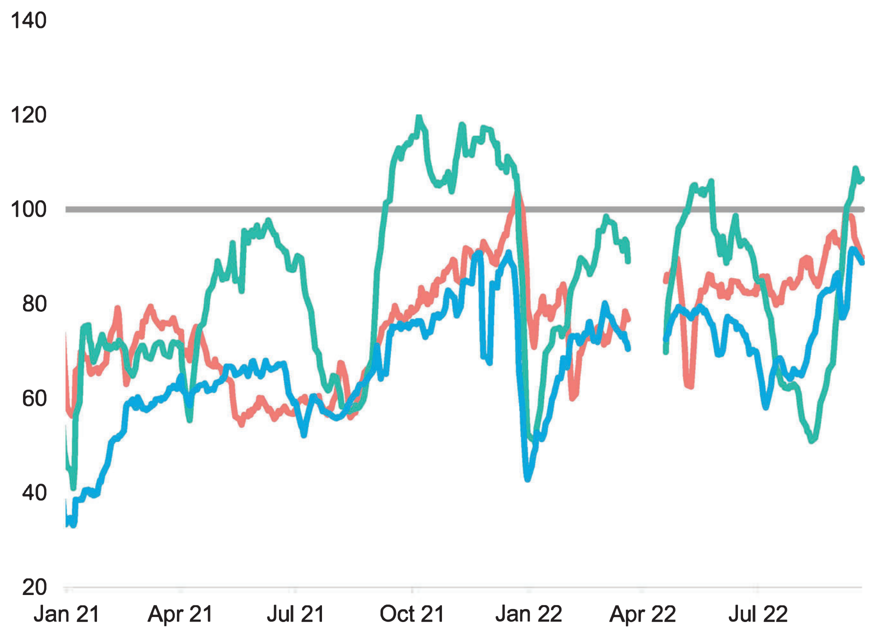
Apple Mobility reports were discontinued on April 14, 2022. We have resumed updating TomTom congestion data, which was previously updated to March 16.

TomTom congestion index

Europe continues weekly upturn while levels in other regions falter

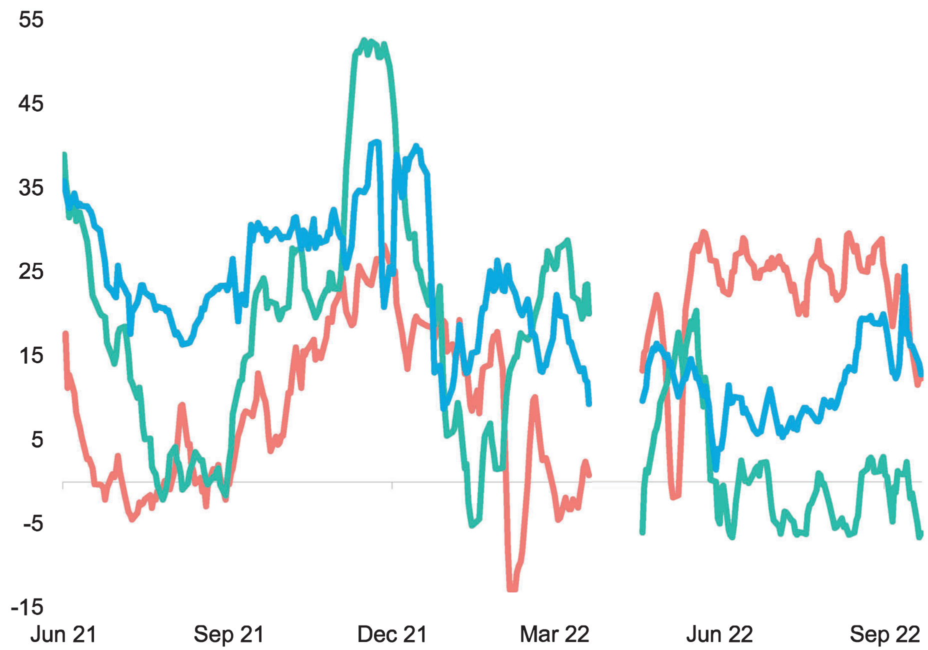
Regional road-congestion index

Indexed to the peak congestion of the average week in 2019 (five-day weekday moving average)



Index point change versus the previous year

Percentage point change vs. the year before (seven-day moving average)



	Latest	Week Δ	Four-week Δ	Index point Δ vs year before	Index point Δ vs year before (last week)
Europe	**106.5**	1.4 (+1.4%)	43.0 (+67.6%)	-4.20	-1.12
Asia Pacific	**89.9**	-6.8 (-7.0%)	-2.3 (-2.5%)	13.61	22.37
North America	**88.7**	-2.7 (-2.9%)	5.7 (+6.9%)	14.73	17.53

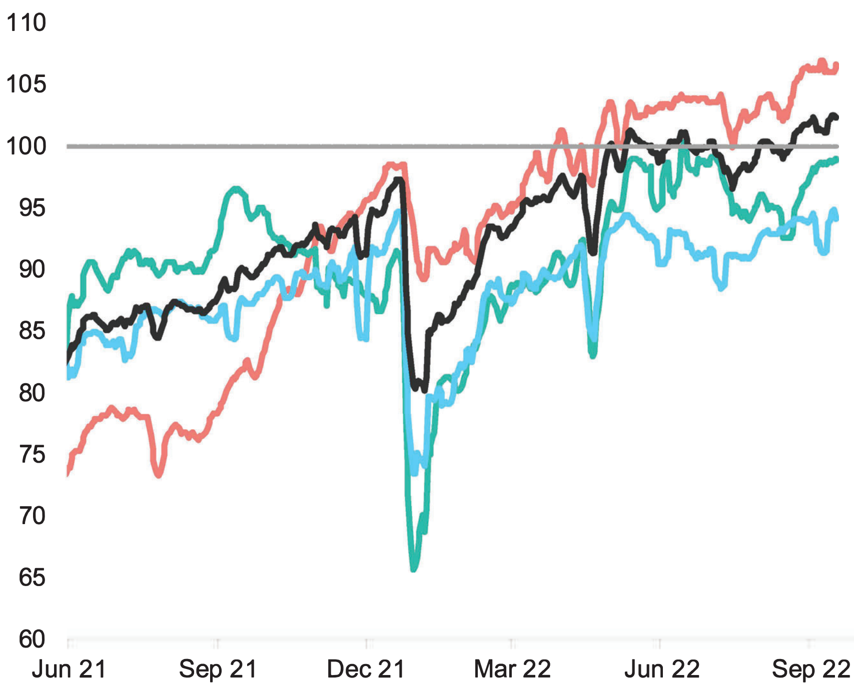
Source: TomTom, BloombergNEF. Note: ***Asia Pacific excludes China. Data updated to September 21, 2022,*** *with weekly addition from September 14, 2022. Index point change versus the previous year is obtained by averaging the latest weekly values.*

Google mobility index

Year-on-year positive margin drops despite upward trend across all regions

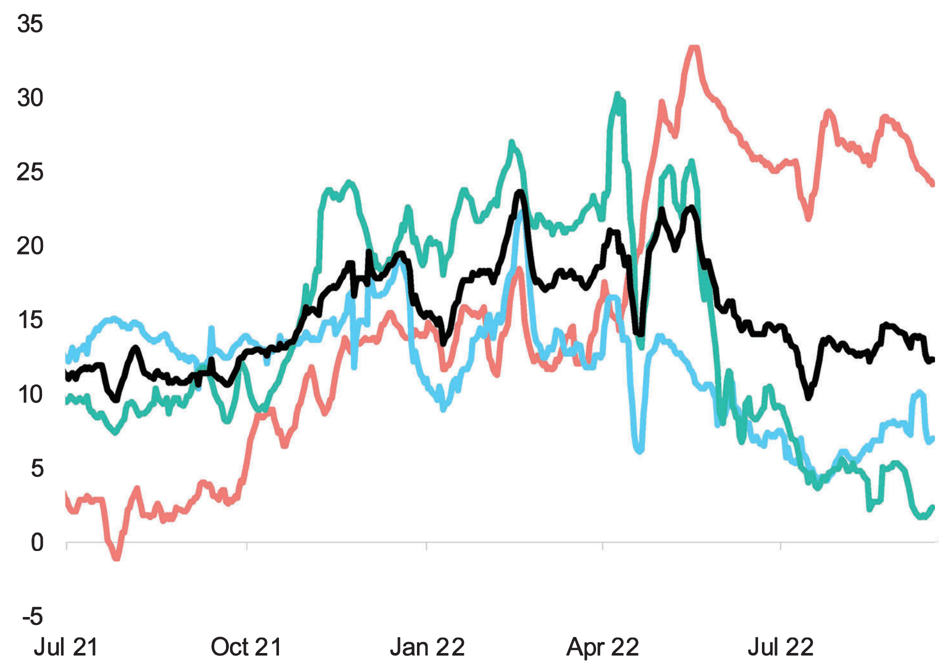
Global and regional road mobility index

Indexed to Jan – Feb 2020 (seven-day moving average)



Index point change versus the previous year

Percentage point change vs. the year before (seven-day moving average)



	Latest	Week Δ	Four-week Δ	Index point Δ vs year before	Index point Δ vs year before (last week)
Asia Pacific	**106.7**	0.6 (+0.6%)	2.8 (+2.7%)	24.7	25.9
World	**102.3**	1.2 (+1.2%)	2.2 (+2.2%)	12.8	13.7
Europe	**98.9**	0.2 (+0.2%)	6.2 (+6.7%)	2.0	2.5
Americas	**94.2**	2.61 (+2.8%)	0.4 (+0.4%)	8.0	9.1

*Source: Google Community Mobility Report, BloombergNEF. Note: **Data excludes China and Russia.** Calculation includes retail and recreation, workplaces and transport hubs. **Data updated to September 17, 2022,** with weekly addition from September 10, 2022. The world/regional index is weighted by the 2019 road fuels demand of each country. Index point change versus the previous year is obtained by averaging the latest weekly values.*

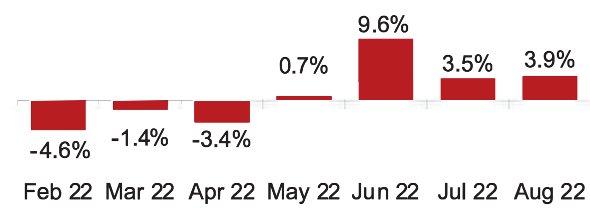
China (Baidu) congestion index

Rebound in Wuhan and Shenzhen outstrips slight fall in other major hubs

China congestion index (calculated from Baidu data)

Daily peak congestion levels, indexed to January 2021 (seven-day moving average)

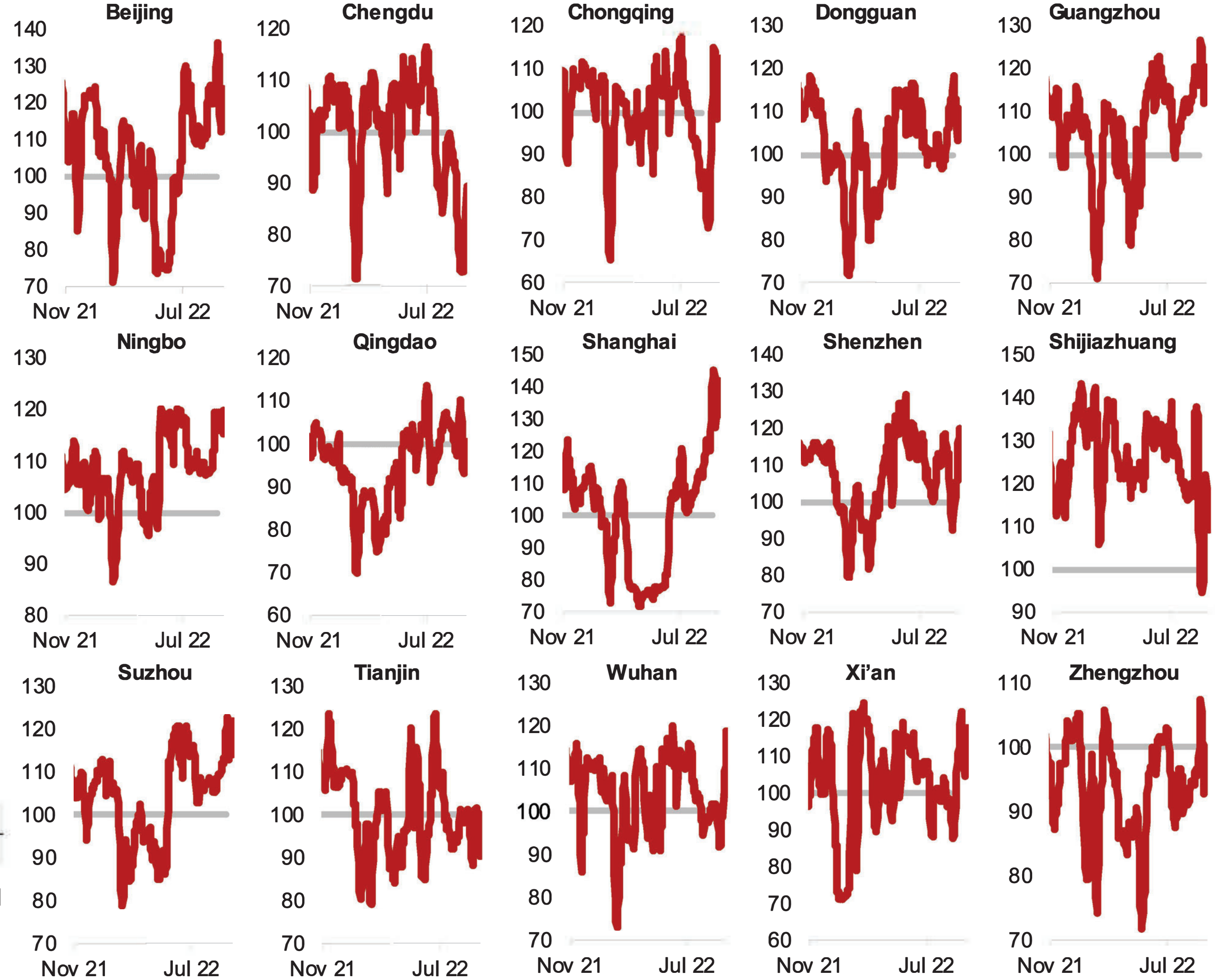
Monthly % change from January 2021 level



	Latest	Week Δ	Four-week Δ
China - 15	111.47	3.70 (+3.44%)	6.54 (+6.24%)

Road traffic in China in the week ending September 21 was up 3.70 percentage points to 111.47% of January 2021 levels.

Daily peak congestion levels, indexed to January 2021 (seven-day moving average)



Source: BloombergNEF, calculated from Baidu's data. Note: ***Data updated to September 21 2022***. *City-level charts display the 15 cities with the highest number of vehicle registrations (excluding two- and three-wheelers). The China-15 congestion level is calculated by taking the weighted average of the congestion levels in the 15 cities and their vehicle registration numbers.*

US Oil Indicators Weekly

Takeaways: West Texas Intermediate crude prices have held under $90 a barrel for more than a week now, hovering just above $85 as of Friday, September 16. Fears of a broad economic slowdown globally continue to weigh on prices, as Europe's energy crisis, China's continued Covid-19 lockdowns, and an increasingly hawkish US Federal Reserve add to the darkening economic outlook.

Gasoline demand, based on figures reported by the Energy Information Administration on Wednesday September 14, continues to surprise with week after week of poor showings. Not only is it below 2020 levels on a four-week average basis, but it has retreated to the lowest seasonal level *since 1997* – remarkable considering the number of vehicles registered has grown by nearly 50%, *or* 94 million vehicles, over the last 25 years. Crude production held steady at 12.1 million barrels last week; however, an initial slowing of drilling activity has evolved into a more substantial slowdown in recent weeks.

	Frequency	Source	Snapshot: September 16, 2022
Overall market indicators:			
Traffic activity	Daily	Google and TomTom mobility	TomTom congestion levels in North America surpassed 90% of average peak levels in 2019, hitting its highest level since the index was created in 2020
Mobility	Daily	Google, EIA	Mobility activity at places of retail and recreation, as well as grocery stores and pharmacies, has dipped significantly relative to 2021 levels this month
Crude oil prices	Daily	Bloomberg	West Texas Intermediate crude prices have held under $90 a barrel for more than a week now as backwardation remains fairly stable
Oil demand:			
Road congestion and gasoline	Weekly, Hourly	US EIA, TomTom	Gasoline demand continues to surprise with week after week of poor showings. Not only is it below 2020 levels on a four-week average basis, it has retreated to the lowest seasonal level since 1997
Air travel and jet fuel	Daily	US TSA, FlightStats	Jet fuel demand sank below 2021 seasonal levels for the first time this year despite TSA traveler throughput finally matching 2019 levels
Refinery operations	Daily	US EIA	US refinery utilization inched higher, as refinery runs grew by 93,000 barrels a day, mainly driven by a rebound in Midwest oil processing.
Crude and product inventories	Weekly	US EIA	Crude stocks rose, but by less than the market had expected; the biggest surprise was the huge build in distillates, which grew by 4.2 million barrels
Oil production	Weekly	US EIA	Crude production held steady at 12.1 million barrels last week; however, an initial slowing of drilling activity has evolved into a more substantial slowdown in recent weeks.

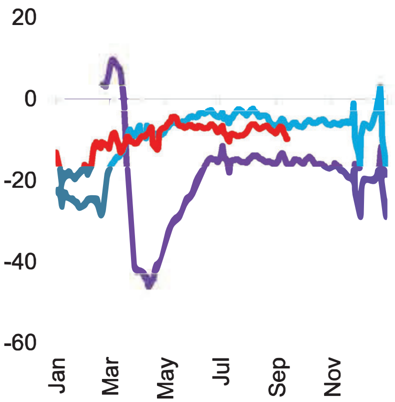
Source: BloombergNEF. Note: Green signals an upturn from the disruption caused by Covid-19, red indicates a downturn, orange indicates no or mixed change

gle mobility

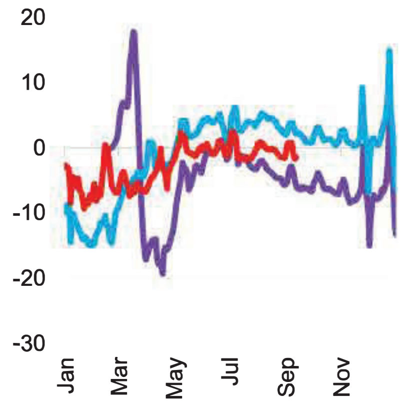
Mobility activity at places of retail and recreation, as well as at grocery stores and pharmacies, has dipped significantly this month relative to 2021 levels

Retail & recreation

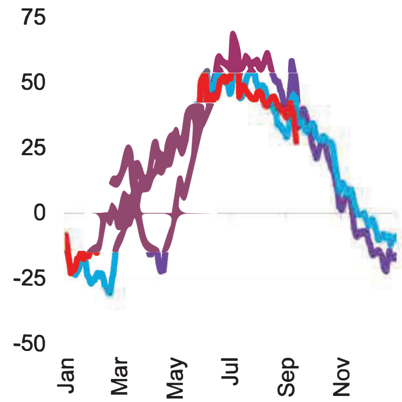
Indexed to Jan-Feb 2020 values



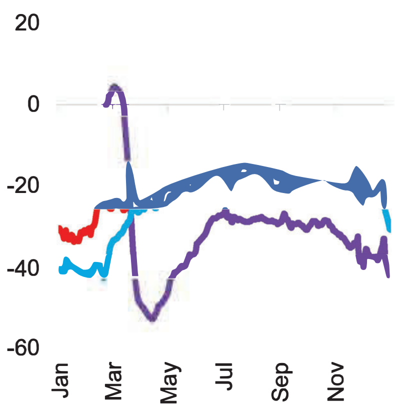
Grocery & pharmacy



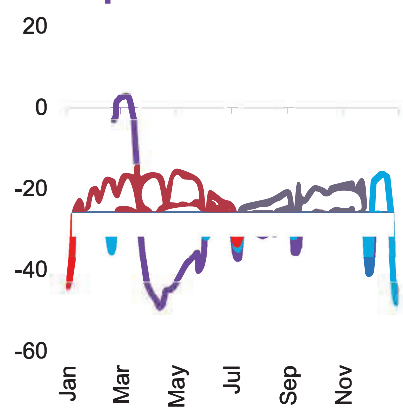
Parks



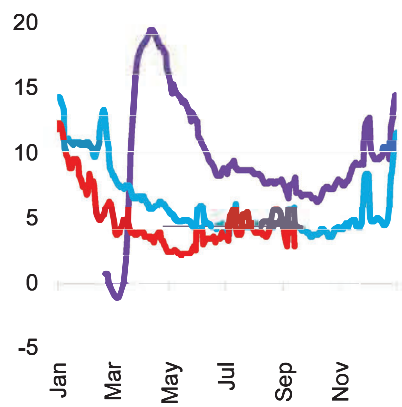
Transit stations



Workplace



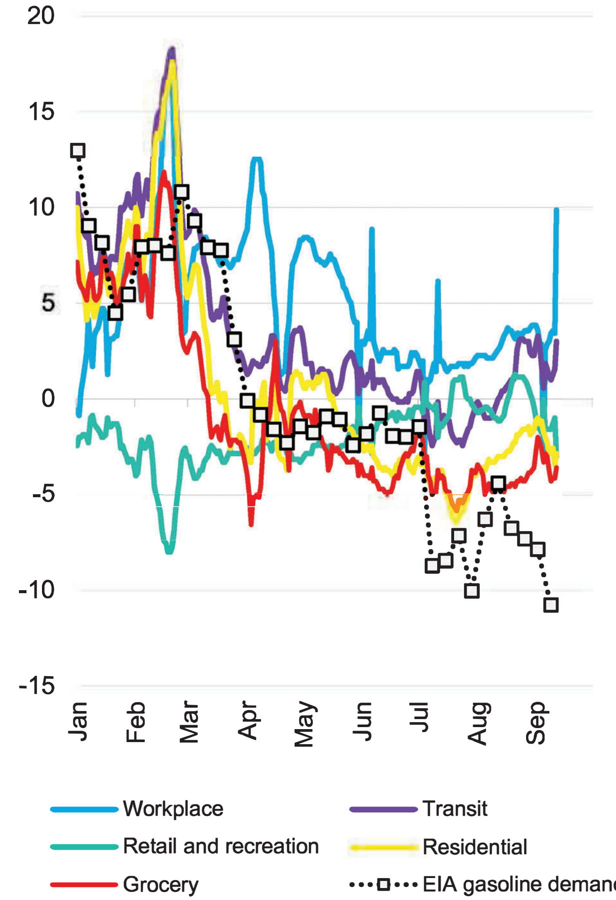
Residential



2021 2020 2022

Difference from 2021 levels

Year-over-year change in index value



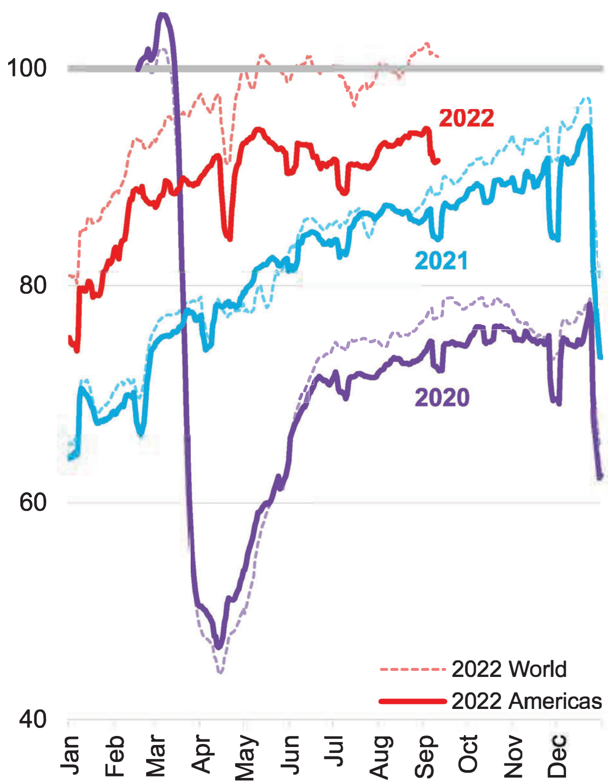
Source: BloombergNEF, Google Community Mobility Report; Note: Year-over-year change is based on the change in index value, which is relative to Jan-Feb 2020 average.

Mobility

TomTom congestion levels in North America surpassed 90% of average peak levels in 2019, hitting the highest level since the index was created in 2020

Google mobility index

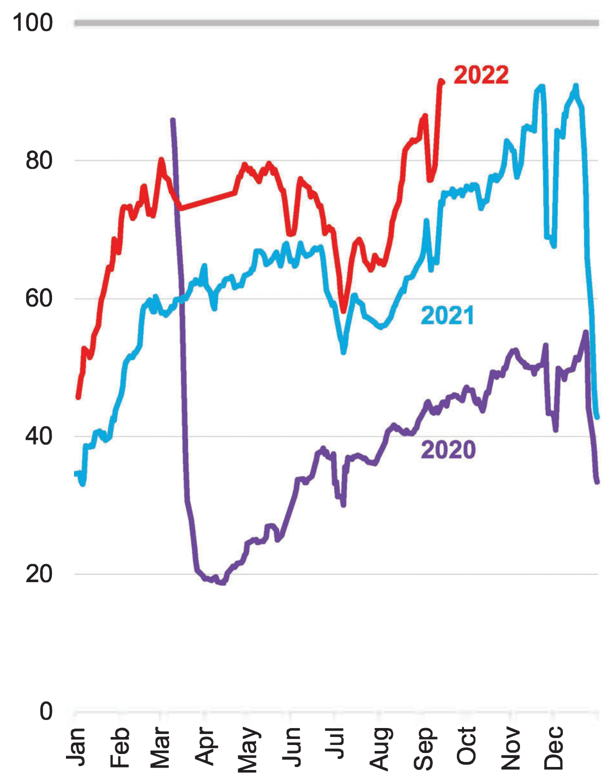
Indexed to Jan-Feb 2020



Source: Google Community Mobility Report, BloombergNEF. Note: Data exclude China and Russia. Calculation includes retail and recreation, workplaces, transport hubs. The world/regional index is weighted by the 2019 road fuels demand of each country. ***Data updated to Sept 11, 2022.***

TomTom congestion index

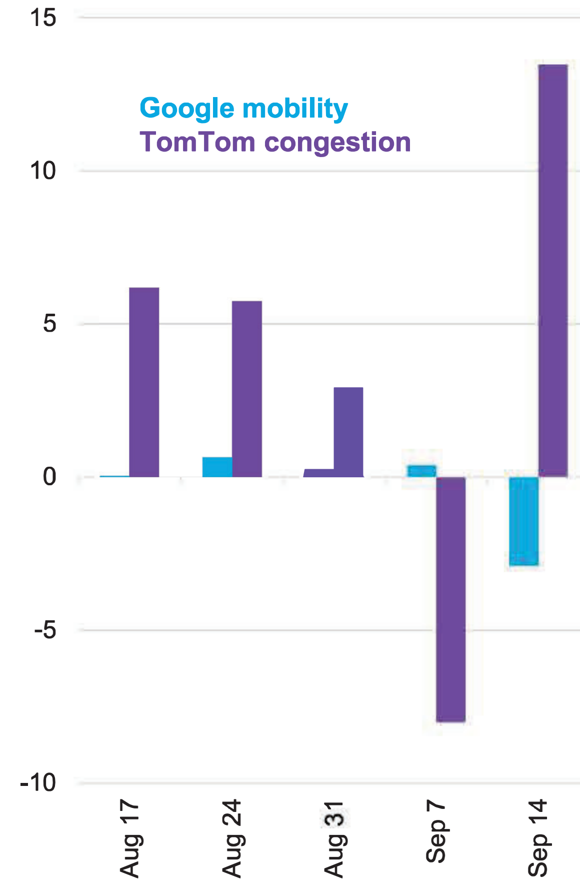
Indexed to 2019 to average peak levels



Source: BloombergNEF, TomTom Traffic Index. Note: 'Peak congestion index' is calculated by BNEF. Index is the arithmetic daily average of the hourly weekday peak congestion data of various cities in North America, compared to the 2019 average values. ***Data updated to Sept 14, 2022.***

Americas week-on-week change

Weekly change in respective indexed value



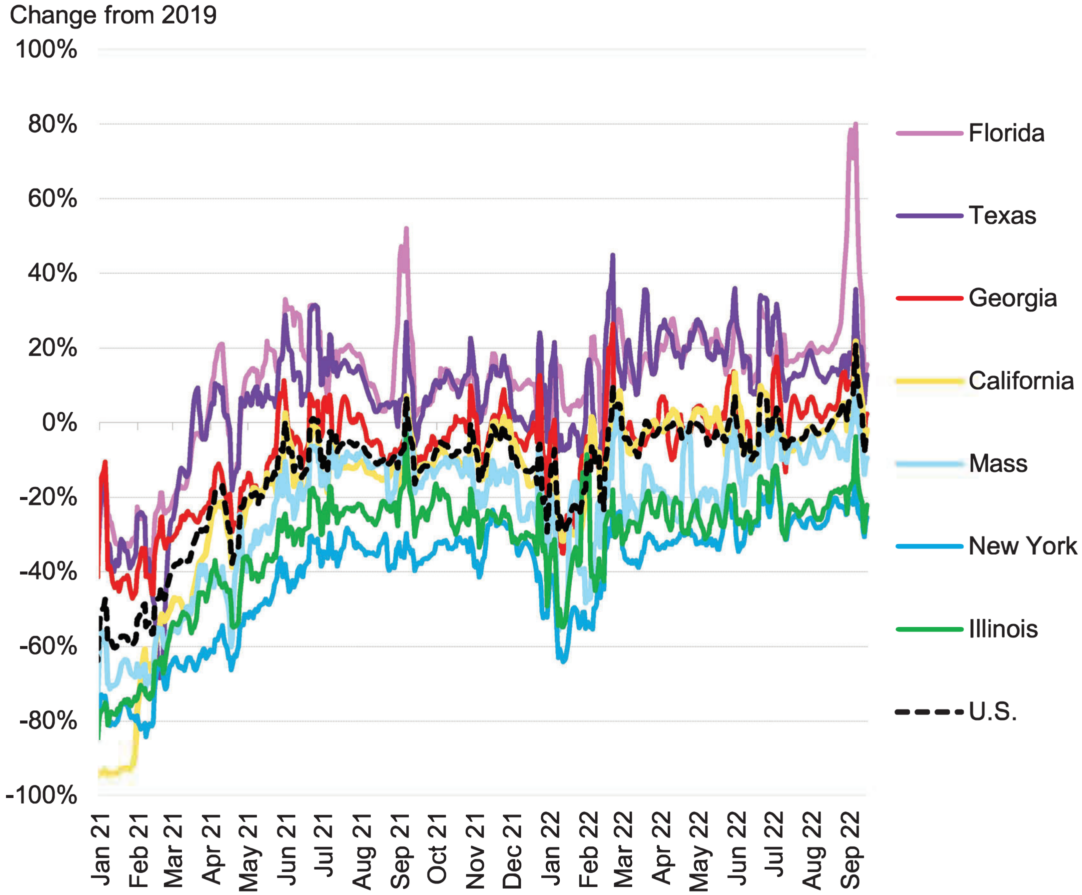
Economic activity

US restaurant ticked upwards last week, with a massive surge in Florida, according to OpenTable data, as NYC subway ridership continues to slip

Restaurant activity

Data up to September 12, 2022

ALLX OPEN <GO>

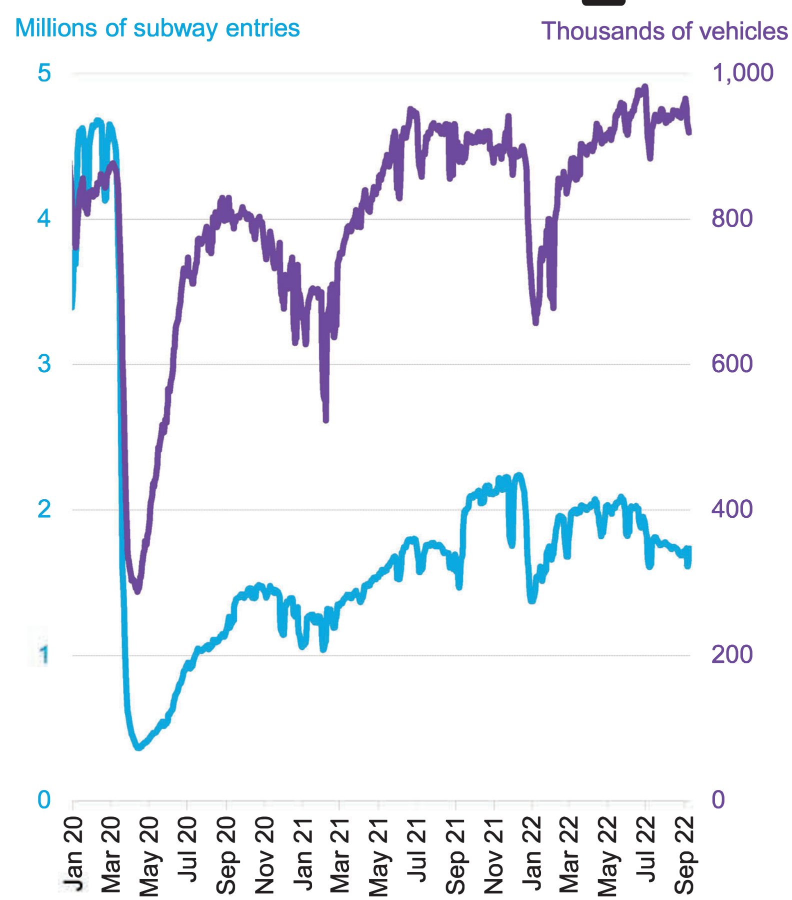


Source: BloombergNEF, OpenTable. Note: Data indicate the % change in seated diners at US restaurants in OpenTable's network compared with 2019 levels.

New York City subway, vehicle entries

Data up to September 9, 2022

ALLX MTAF



Source: BloombergNEF, ProdCo, and New York City Metropolitan Transportation Authority (MTA).

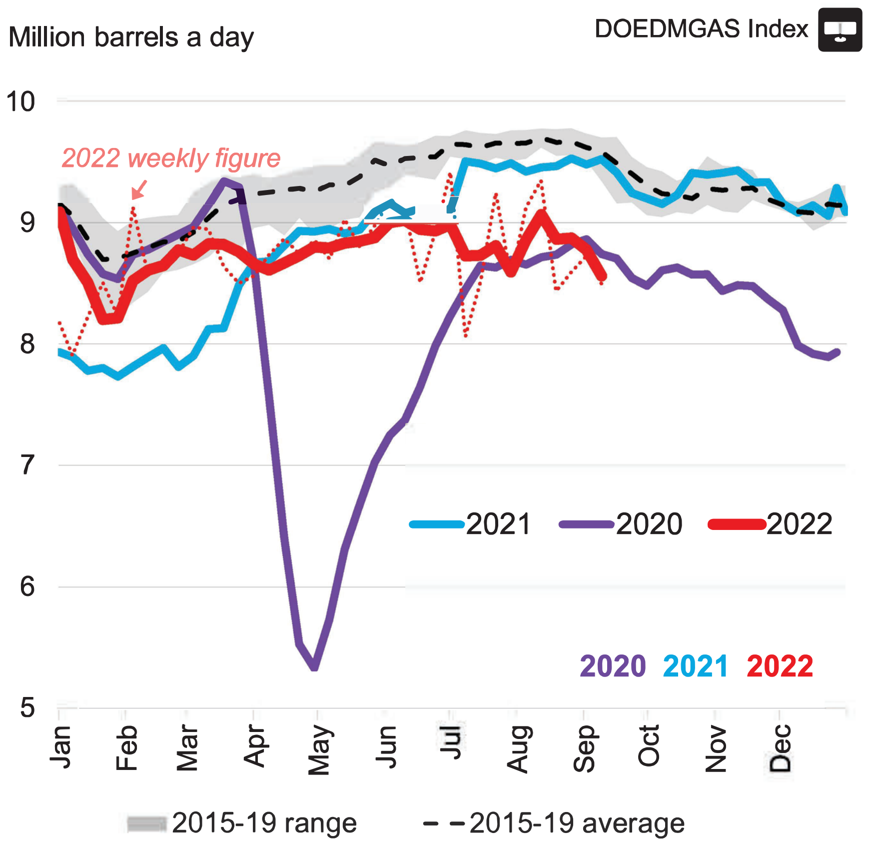
BloombergNEF

Gasoline demand

For more data on congestion around the world, see BNEF's Covid-19 Indicators: Road Traffic

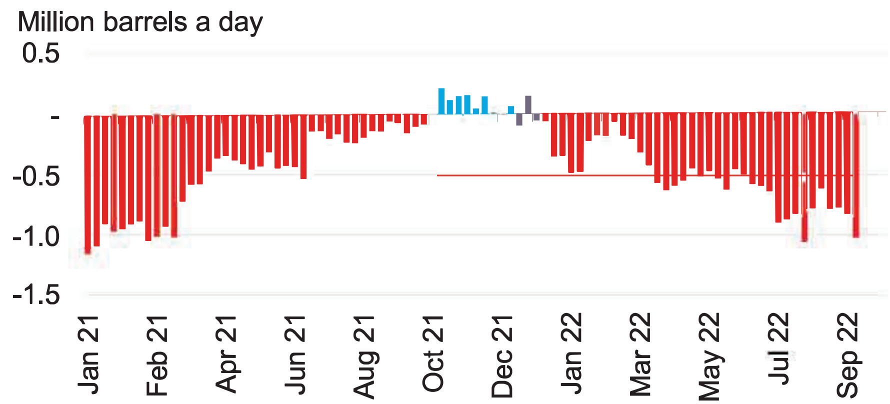
Gasoline demand continues to surprise with week after week of poor showings. Not only is it below 2020 levels on a four-week average basis, it has retreated to the lowest seasonal level since 1997

Implied gasoline demand*

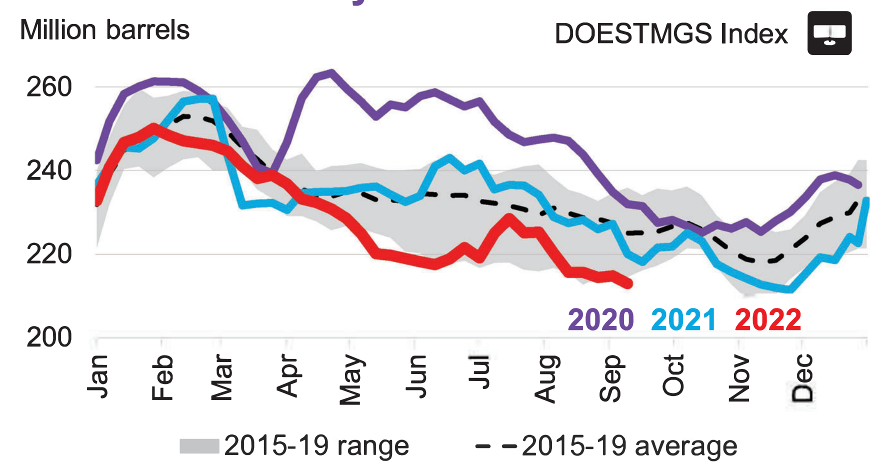


Source: BloombergNEF, US Energy Information Administration (EIA). Note: *Based on the four-week moving average, except the 2022 weekly figure.

Demand difference to five-year seasonal average



Gasoline inventory



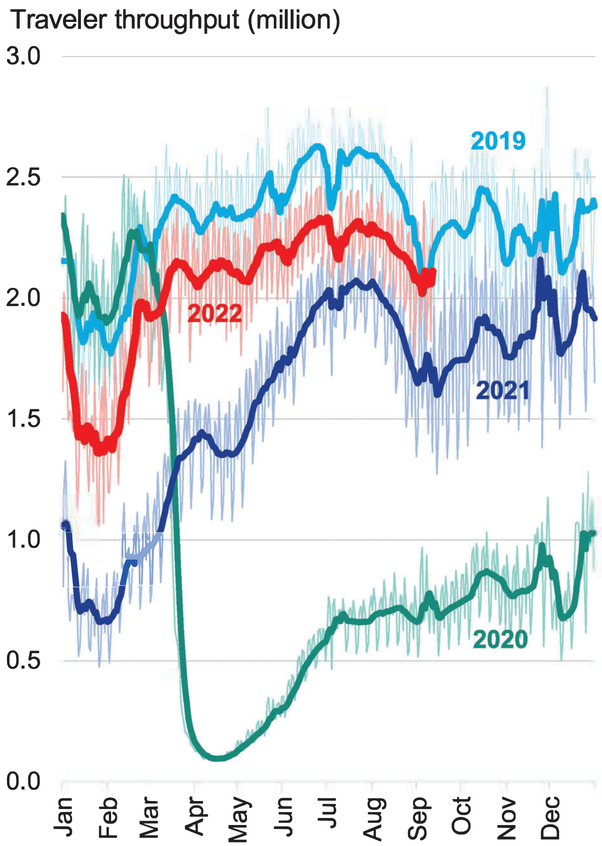
Source: BloombergNEF, US EIA

Oil markets

Jet fuel demand

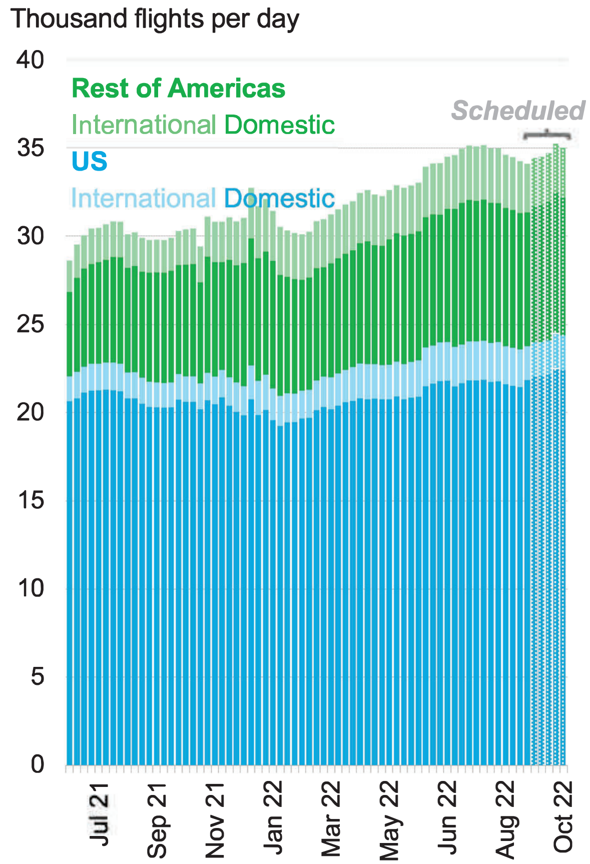
Jet fuel demand sank below 2021 seasonal levels for the first time this year, despite TSA traveler throughput finally matching 2019 levels

TSA checkpoint traffic



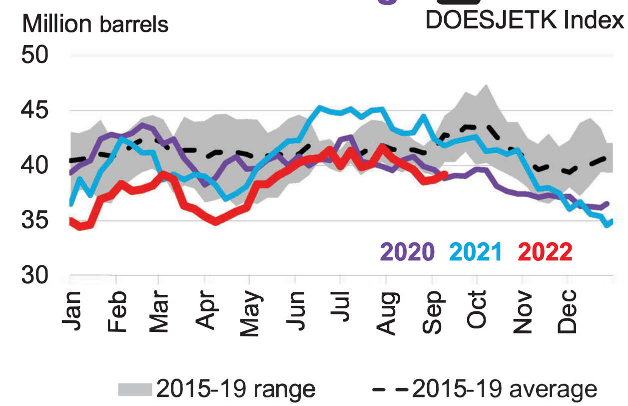
Source: BloombergNEF, US Transportation Security Administration (TSA)

Daily flight departures

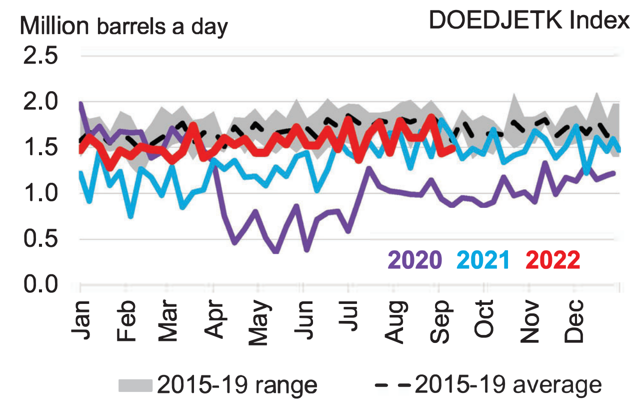


Source: BloombergNEF, FlightStats

Jet kerosene storage



Jet kerosene implied demand

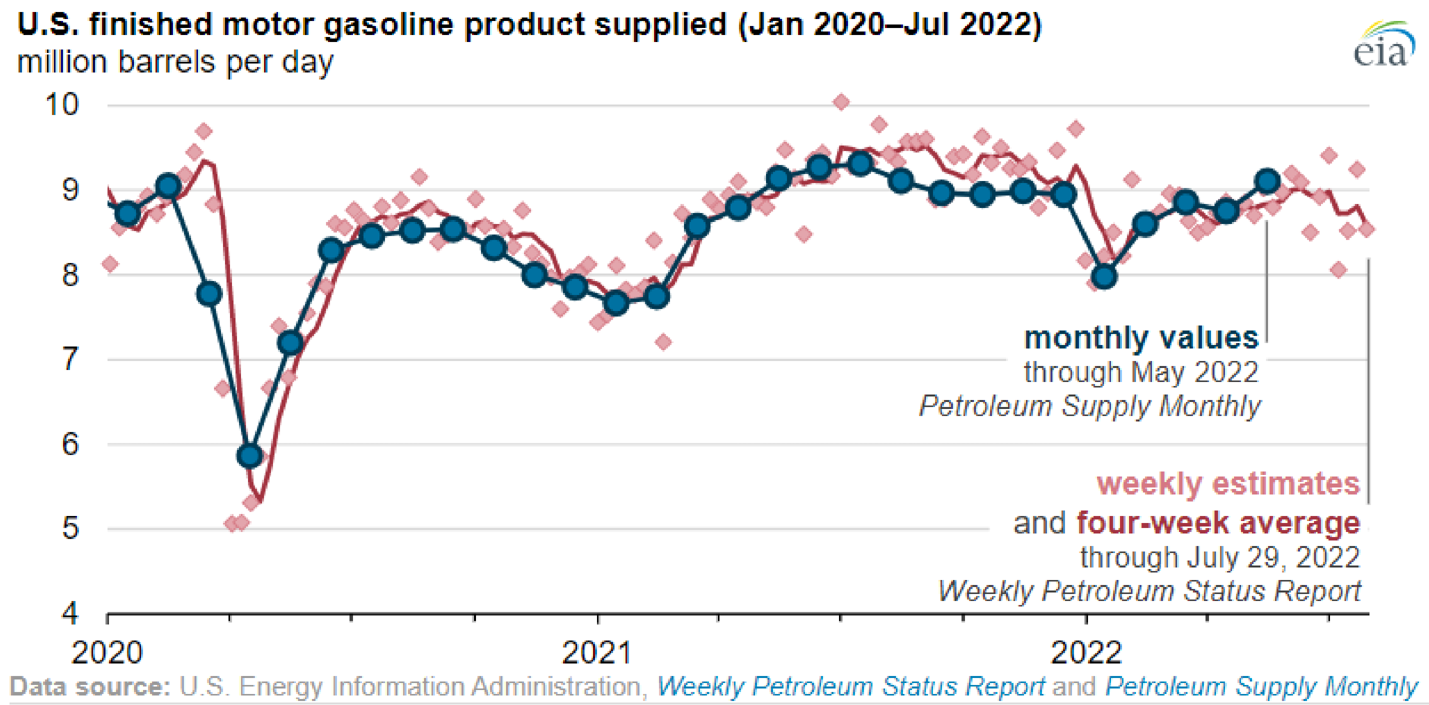


Source: BloombergNEF, US EIA

For more data on congestion around the world, see BNEF's Covid-19 Indicators: Aviation https://www.eia.gov/todayinenergy/detail.php?id=53399

AUGUST 10, 2022

EIA's Weekly Petroleum Status Report provides a snapshot of petroleum balances



EIA's *Weekly Petroleum Status Report* (WPSR) provides our most comprehensive data for weekly U.S. crude oil and refined petroleum product balances. Each week, WPSR provides detailed regional and national supply information on crude oil and major petroleum products used in the United States, including motor gasoline, distillate fuel oil, jet fuel, residual fuel, and propane. Our weekly estimates of inventories, refinery operations, and consumption are some of the most timely data series available anywhere to assess physical U.S. crude oil and petroleum product markets.

We generate weekly estimates of U.S. crude oil and petroleum product supply and disposition based on a combination of our weekly surveys, U.S. Customs and Border Protection (CBP) data, and modeled estimates. The surveys we use to develop our WPSR estimates, published on Wednesdays with information as of the previous Friday morning, collect data from about 1,200 respondents across the primary petroleum supply chain.

The weekly survey respondents are a sample selected from more than 3,000 respondents who report on our monthly surveys for data published in our *Petroleum Supply Monthly* (PSM). We consider the monthly survey data, which lag by two months, to be definitive because they capture information from all respondents as opposed to a sample used for the weekly estimates. As a result, we do not generally revise the WPSR data, which are intended to serve as a snapshot in time.

In our WPSR, we do not estimate the ultimate consumption of petroleum products by consumers. Instead, we estimate the movement of products through the wholesale distribution system before they reach the ultimate point of sale, such as retail stations. We use *product supplied* as a proxy for consumption, which is calculated as follows:

product supplied = production + imports - stock change - exports

Our surveys track production, imports, and stock changes; exports are estimated using data collected by CBP. Product supplied is the net amount inferred to move through the wholesale distribution system to retail outlets. Each term—production, imports, exports, and stock changes—carries some uncertainty, so any over- or under-estimation of these components directly affects the accuracy of our product supplied estimates.

In addition to the uncertainty in each term, our estimate of product supplied is not the same as the volume of the product sold by the retail outlets. When motor gasoline products are removed from the primary supply chain, they are then delivered to retailers who may hold them in their inventories until the products are purchased and then consumed, usually in vehicles. As a result, market events such as retail price fluctuations and anticipated spikes in refueling (such as holiday weekends) can lead to timing differences between our measure of product supplied and ultimate consumption. In summary, our measure of product supplied is a measure of product flowing to retailers, and demand is a measure of the product sold by retailers to final customers.

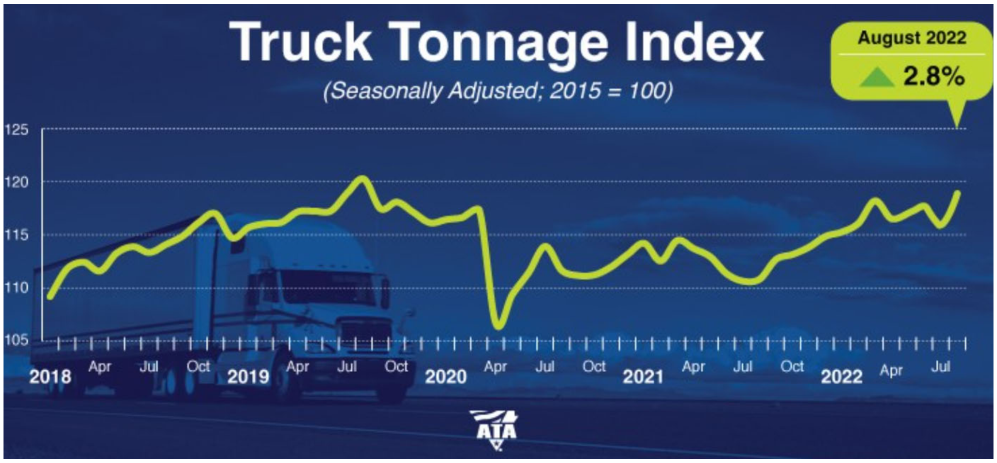
We recommend focusing on the four-week moving average given the week-to-week variability arising from our WPSR estimates. The moving average tends to represent recent market activity better than focusing on a single week's estimate. Four-week moving averages are particularly useful for data series such as imports and exports, which can vary significantly week to week and are subject to timing issues because of how they are reported. As PSM data are released, monthly statistics should serve as a benchmark against which subsequent weekly series are compared.

Principal contributors: Warren Wilczewski, Owen Comstock https://www.trucking.org/news-insights/ata-truck-tonnage-index-increased-28-august

ATA Truck Tonnage Index Increased 2.8% in August

Media Contact: Sean McNally

Washington — American Trucking Associations' advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index rose 2.8% in August after decreasing 1.5% in July. In August, the index equaled 119 (2015=100) versus 115.8 in July.



"Tonnage snapped back in August after a weaker than expected July," said ATA Chief Economist Bob Costello. "With the economy in transition to slower growth and changing consumer patterns, we may see more volatility in the months ahead. But the good news is that we continue to witness areas of freight growth in consumer spending and manufacturing, which is helping to offset the weakness in new home construction."

July's decrease was revised down from our August 23 press release.

Compared with August 2021, the SA index increased 7.4%, which was the twelfth straight year-over-year gain and the largest increase since June 2018. In July, the index was up 4.7% from a year earlier. Year-to-date through August, compared with the same period in 2021, tonnage was up 3.9%.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by fleets before any seasonal adjustment, equaled 124.6 in August, 8.2% above the July level (115.1). In calculating the index, 100 represents 2015. ATA's For-Hire Truck Tonnage Index is dominated by contract freight as opposed to spot market freight.

Trucking serves as a barometer of the U.S. economy, representing 72.5% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 10.23 billion tons of freight in 2020. Motor carriers collected $732.3 billion, or 80.4% of total revenue earned by all transport modes.

ATA calculates the tonnage index based on surveys from its membership and has been doing so since the 1970s. This is a preliminary figure and subject to change in the final report issued around the 5th day of each month. The report includes month-to-month and year-over-year results, relevant economic comparisons, and key financial indicators.

Excerpt https://www.wsj.com/articles/jennifer-granholms-de-facto-fuel-export-ban-energy-secretary-letter-refiners-oil-europe-11661379613?st=cp5j6h4wolb0ckt

- OPINION

Granholm to Europe: Tough Luck

The Energy Secretary bullies U.S. companies to reduce fuel exports.

By *The Editorial Board* Follow
Aug. 24, 2022 6:43 pm ET

Secretary of Energy Jennifer GranholmPHOTO: CHRIS KLEPONIS - POOL VIA CNP/ZUMA PRESS

America's allies in Europe are desperate for alternative supplies of fuel amid the Ukraine war, and U.S. producers are happy to provide what they can. So wouldn't you know the Biden Administration now wants to limit fuel exports.

That's the message Energy Secretary Jennifer Granholm sent last week in a letter imploring seven major refiners to limit fuel exports. We obtained a copy of the letter, which the Administration didn't release publicly. Ms. Granholm warns that gasoline inventories on the East Coast are at a near-decade low, and diesel stocks are nearly 50% below the five-year average across the region.

"Given the historic level of U.S. refined product exports, I again urge you to focus in the near term on building inventories in the United States, rather than selling down current stocks and further increasing exports," she writes.

"It is our hope that companies will proactively address this need," she adds. "If that is not the case, the Administration will need to consider additional Federal requirements or other emergency measures." In New Jersey they call that an offer you can't refuse.

This is a political escalation from President Biden's June command to refiners to immediately lower gasoline prices. As average gasoline prices nationwide have fallen to $3.88 from about $5 in mid-June, he has been taking a media victory tour. Mr. Biden can thank Americans for driving less, and crude prices have been falling amid a broader selloff in commodities.

Yet fuel storage levels are running low heading into hurricane season when it's not unusual for Gulf Coast refineries to be damaged or shut down. The Administration fears a refinery outage that causes fuel prices to spike in the runup to the November election. Hence, Ms. Granholm's threatening letter.

But the problem isn't U.S. exports. It's the political and regulatory assault on U.S. production and refining. One culprit is the 2019 closure of the Philadelphia Energy Solutions refinery, which removed about 335,000 barrels a day of refining capacity from the Northeast. This made the region more dependent on Gulf Coast and overseas refineries.

Fuel storage levels would be much higher in the Northeast if not for New York state's natural gas pipeline blockade, which has made the region more dependent on oil for energy. One-third of New England residents still use oil to heat their homes, and New York this month is generating more electricity from oil than from solar or wind.

The Granholm export threat is also a slap in the face to European allies trying to diversify energy sources from Russia. Fuel supplies are tight globally amid sanctions on Russia, which had accounted for 40% of Europe's oil imports. Europe has had to look elsewhere for diesel fuel, which some manufacturers and power generators are turning to as a substitute for natural gas. U.S. refiners have recently been exporting more fuel to Europe, but Ms. Granholm is now telling them to stop.

Restricting fuel exports is one more counterproductive Biden policy on fossil fuels that would merely drive up global fuel prices, including U.S. imports. Ms. Granholm's bullying of energy companies shows how little she understands about energy markets.

https://www.db.com/news/detail/20220907-christian-sewing-s-keynote-at-the-handelsblatt-banken-summit-2022?language_id=1

News September 7, 2022

Christian Sewing's keynote at the Handelsblatt Banken Summit 2022

- Check against delivery -

Dear Mr Matthes, Ladies and Gentlemen,

I am delighted to be with you today at a time that is more challenging than anything I have experienced in more than 30 years of banking. While the Covid pandemic proved to be a temporary shock to the world economy, Russia's war against Ukraine has destroyed a number of certainties on which we built our economic system over the past decades.

- The brakes have been applied to globalisation and, in the face of major geopolitical tensions, it is unlikely to pick up its old momentum any time soon.
- As a result, many seemingly perfect global value and supply chains have been disrupted.
- The workforce, which for a long time was thought to be available without limit, has become a bottleneck factor worldwide.
- At the same time, electricity and gas have become scarce and extremely expensive. Energy is set to stay an expensive commodity in Europe for some time. This represents a structural competitive drawback and it is a threat to our economy. In the long term, we will need to respond with structural solutions.

These points are the most important reasons for soaring inflation. As a result, we will no longer be able to avert a recession in Germany.

Yet we believe that our economy is resilient enough to cope well with this recession – provided the central banks act quickly and decisively now. Right now many people still have their savings to fall back on to pay the higher prices; many companies are still sufficiently financed. But the longer inflation remains high, the greater the strain and the higher the potential for social conflict.

Three lessons

This combination of short and longer-term challenges seems unique at this point. And while it is essential we meet the short-term needs, we also have to explore what this means for our long-term ability to compete. The greatest complexity still lies ahead of us when we begin to draw the real lessons of the past few years. In my view, there are three main lessons:

Firstly, we have seen how dangerous it is for us in Europe to become too dependent on individual countries or regions. At the moment the main focus is on energy and raw material imports from Russia – and rightly so. We must do everything we can to ensure that our cars, our heating and our factories are not only able to run when an autocrat in the Kremlin is favourably disposed towards us. All efforts by politicians and companies to change this deserve unconditional support.

That is not enough, though. When it comes to dependencies, we also have to face the awkward question of how to deal with China. Its increasing isolation and growing tensions, especially between China and the United States, pose a considerable risk for Germany.

China is a cornerstone of our economy. About 8 percent of our exports go to China and 12 percent of our imports are from the country. More than a tenth of the sales of all DAX-listed companies are from China. At the latest during the pandemic it has become clear just how much our supply chains rely on China. Reducing this dependency will require a change no less fundamental than decoupling from Russian energy.

At the same time – and this is my second lesson – we need to tackle the climate crisis with much more resolve than to date. Climate change is already causing damage of gigantic proportions. In light of Covid and the war in Ukraine, the danger is that the topic will slip down the list of priorities. That would be the biggest mistake we could make, though.

Fighting the climate crisis is a generational task that will radically change the economy and society. Every company will have to face the issue – not just out of its responsibility to society, but to secure its own continued existence. Those who fail today to put sustainability firmly at the centre of their strategy will – in ten years – have trouble selling their products, finding employees or attracting investors. They will disappear from the market.

The third lesson, I believe, is that we have been under the illusion for the past 30 years that we could live forever in an ever more globalised world with no major conflicts and with steady growth. Francis Fukuyama has often been criticised for equating the end of the Cold War with the "end of history". But de facto we acted as if this thesis was correct; we have been acting as if the world was on its way to becoming one big village where everyone is interested in economic cooperation because, after all, everyone benefits from it. That has stopped being the case for some time now, though.

The truth is that 30 years of presumed calm will now be followed by a period of heightened volatility with economic uncertainty, regular crises and geopolitical conflicts that are also likely to drag on for decades. Trouble spots are not cut off from the rest of the world; they impact other regions in a number of ways. As such, we must come up with holistic solutions that take this degree of interplay into account. Dealing with this complexity will be a great challenge for us. Good risk management is the order of the day.

"We must not leave the playing field and with it the access to global capital markets largely to foreign banks. The past few months should have taught us this. In Germany, we must not allow ourselves to add a further dependency – access to finance – to our current dependencies on gas, raw materials and supply chains."Christian Sewing, CEO

National feat of strength

Let us not delude ourselves: we certainly have our work cut out for us if we are to accomplish these three tasks – reducing dependencies, dealing with permanently higher volatility and driving the historic transformation of our economy. We will only succeed through a concerted joint effort, with politics, business and society all working closely hand in hand.
The financial sector must and can play a crucial role.

We need banks that are able to finance these mammoth tasks, while protecting their clients against risks and being reliable partners, accompanying clients worldwide.

And for this we need a domestic financial sector that stands on its own two feet and can assert itself against its global competitors. We must not leave the playing field and with it the access to global capital markets largely to foreign banks. The past few years should have taught us this. In Germany, we must not allow ourselves to add a further dependency – access to finance – to our current dependencies on gas, raw materials and supply chains.

We have the means to prevent this, but we still have much to do. As a financial sector, we have already achieved a lot: we are much more stable and resilient today than we were ten years ago. We are profitable. Our industry has foregone relatively little profit in the first half of the year and even managed to increase revenues. And the loan defaults that the industry faces in the coming months should remain manageable because banks have taken the necessary provisions.

Progress in the financial sector is far from sufficient

That is far from enough, though, if the German financial sector is to play a leading role in the long term. What we need is:

- For us banks to work harder at becoming even more efficient and focusing even more on clients, especially in digital services.
- We need reliable regulation that does not always create higher hurdles and tie up more capital than necessary – capital that is needed right now to finance the economy.
- And sooner or later we will also need consolidation, not nationally, but Europe-wide. Size counts in banking – and if we don't want to hand over the playing field to the Americans, Europe must create the right conditions for big banks. I can only repeat what I've said before: both the European banking union and the capital markets union are essential here.

The above points are not new, but they are becoming more urgent. We are actually very well equipped so there is no reason to talk ourselves down. We are operating in an economy that has shown enormous resilience and that will also navigate the upcoming recession – because corporate balance sheets are strong, and debt is low by international standards. This economy has great potential as long as we focus now on aligning ourselves for the long term and on how to minimise the threat of de-industrialisation: with less regulation, more courage and more pragmatism; this attitude is incredibly important.

And that goes for banks, too. We have proven banks can be part of the solution. We can do much more, though. Before the financial crisis of 2007, just 15 years ago, Europe's banks were more profitable than their competitors in the US. Since then, the Americans have unrelentingly left us behind. We could, of course, agonise over this. Instead, we should rather see it as an incentive to buck the trend. The dominance of American banks is no law of nature.

At Deutsche Bank, we are convinced that the way to achieve this is by being a strong partner to our clients. They need a bank that supports them in all kinds of environments, in all markets and all over the world. This is what we emphasised when we formulated our Global Hausbank aspiration. We have radically transformed our business since 2019 and strategically repositioned ourselves in line with this aspiration.

We are convinced that this strategy will be especially effective in volatile times – because now is the moment when advice and expertise are highly sought after.

And this does not apply to us alone. Despite all the differences between the banks in Germany, we have one thing in common: we were there for our clients during the pandemic, we were there for our clients when Russia invaded Ukraine and we continue to be there – in these volatile times that urgently call for sustainable transformation. We have regained a great deal of trust. Let us work together to create the conditions for renewed dynamic growth across our entire economy.

https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_5723

Speech22 September 2022Princeton

Keynote address by President von der Leyen at Princeton University

Dear Dean Jamal,

Dear Andy, Professor Moravcsik,

Thank you very much for welcoming me back to Princeton,

Distinguished members of the Princeton faculty and administration,

And most importantly, dear students,

Indeed, this is the United Nations General Assembly week right now. And you can imagine that one dominant topic was and is the war that Russia unleashed against Ukraine. It was 24 February when Russia invaded Ukraine and brought war back to Europe. I visited Kyiv for the first time since the beginning of the war round about five to six weeks after the invasion started. And I went to the town of Bucha. Before the war, Bucha was a quiet, friendly suburb on the outskirts of Kyiv. It has been occupied by Russian troops. Two days before I went to Bucha, it had been liberated by Ukrainian armed forces. When I went there, I saw mass graves; I saw the body bags lying there – men, women, children. I saw these brutal scars of missiles and bombs that had been aimed deliberately at residential areas, hospitals, schools kindergartens. So I basically saw first-hand the reality of Putin's war.

Last week, as you said, Andy, I was again in Kyiv and I was in Irpin, also on the outskirts of Kyiv. You still see the scars of the bombing of houses and hospitals and schools. I spoke, for example, to schoolchildren. And while we were speaking, when I visited that school, there was a missile alarm so we had to go to the shelter. And they told me that it was the third time on that day that they went to the shelter. That is their daily experience. But I also saw that life has come back to Kyiv. The streets were filled with people, the shops were open. People in Kyiv try to win their life back. The Ukrainian army is making impressive advances, liberating many towns and villages, and forcing the Russian army to retreat. Of course, I know that this all needs consolidation, but the success of the last days is lifting spirits – and not only the Ukrainian ones.

I know that some are calling to stop the fighting. But I must say that the reality is as follows: If Russia stops fighting, the war is over. If Ukraine stops fighting, there will be no more Ukraine. Much is at stake. Not just for Ukraine – but also for Europe, for the international community and for the global order. Russia has invaded Ukraine with the goal to wipe the country from the map – that is what Putin says and writes. So Ukrainians are fighting for their survival, but they are also fighting for global values. This is not only a war that Russia has unleashed against Ukraine. This is a war on our values; this is a war on the rules-based international order. This is an attack on the UN Charter. I mean, Russia is a permanent member of the Security Council of the United Nations, we should not forget it. This is trampling on the UN Charter. And this is a war about autocracy against democracy. And I tell you: Many, many worldwide are watching very precisely what the outcome is going to be.

From day one on, the United States and the European Union and many other friends have stood at Ukraine's side with weapons, and it is amazing to see the bravery of the Ukrainians fighting for their survival; with funds; with hospitality, on the European Union side, for more than 8.1 million refugees in seven months; and with the toughest sanctions the world has ever seen. Let me tell you that these sanctions have only been possible because of a very, very close cooperation with our friends in the United States. As you said, I have been in politics now round about 20 years, 14 of them in the government of Angela Merkel. Never ever have I experienced such an intense, trustful and detailed cooperation with the White House. And therefore, I think the saying is right: When you face a crisis, you know who your true friends are. Since last year already – it was around Christmas or New Year when Putin had started, as you might remember, to deploy 10,000 troops to encircle Ukraine –, our teams started to work on the sanctions to align the European system with the American system. They are very different but the effect of the sanctions should be the same. And we do not want extraterritorial effects but sovereign effects from the European Union but also all the other G7 members that joined us and, of course, the United States. And this intense work over weeks then had as consequence that when the invasion started – on day two, day four, day six –, we could immediately deliver three very heavy packages of sanctions that are unfolding their effect right now. The sanctions are biting. Russia has tried everything to camouflage the effects. And as this is not a free country, you can twitch and turn around facts and figures into what you want them to be. Or you can say what you want and hide what you want. But if you look at the financial sector in Russia, it is on life support now. Russia's industry is in tatters. It is very interesting to see the military complex, because the military complex now has a very hard time to replenish what is necessary for the armed forces. Because the updated technologies are missing, these are coming from our side and are no longer delivered, there is a ban on the exports. The spare parts are missing. So you observe now that the Russians are cannibalising their refrigerators and their dishwashers to get semiconductors they can use for the military complex. Basically, the Kremlin has put Russia's economy on the path to oblivion. And I want to make it very clear that the sanctions are here to stay. This is the time for resolve and not for appeasement.

The same is true for our financial support to Ukraine. So far, Europeans have provided more than EUR 19 billion in financial assistance since the beginning of the war. And that is without counting our military support. The message is: We are in it for the long haul.

I grew up in a divided country. I was lucky. I was born in West Germany, in the western part of Europe, in a free and democratic country. I vividly remember the times of the Iron Curtain. When I was your age, student age, when we wanted to drive to the island of West Berlin that was surrounded by the GDR, I remember, still today, the feeling of being terrified when you were driving on the corridor through the death zone. Because you knew, one false move and there is no rule of law anymore to protect you. So I remember this feeling very well, what the Iron Curtain and the Wall, and the death zone were all about. I also remember, of course, in 1990 the jubilant days, when the Iron Curtain came down, when the Wall in Berlin came down, and when the countries behind the Iron Curtain broke free. Indeed, the Baltics, Poland, Romania, Hungary, Slovakia, Slovenia, Bulgaria, Czechia – you name it, so many others. Today, there is the same wind of change that is once again blowing across the continent. Because Ukraine has now applied for membership in the European Union. With their decision to apply for the candidate status in order for Ukraine to join the European Union, they have very clearly chosen the path of freedom. And with our decision to grant them candidate status, we have chosen to stand by Ukraine as long as it takes.

This war will change Europe and the world fundamentally. Take energy, I want to speak a little bit about energy. At the beginning of the war, Europe was heavily dependent on Russian fossil fuels: coal, oil, gas. 60% of the Russian budgets' revenues at that time was from fossil fuels. So you can imagine how important the fossil fuel export was and is. Putin has built very strategically, and later on used, our dependency to blackmail us, basically to suffocate us, with lowering – already in hindsight, I see it – the gas supply last year to the storage to make sure that we have not enough gas in the storages to make it through the winter, and slowly but surely cutting the gas supplies to one Member State after another. At the moment, he prefers to flare the gas – that is literally burning the gas – instead of delivering it, as he should, if you look at the contracts. I guess that he obviously thought that he could intimidate us and divide us. But let me tell you that just the opposite is the case. This blackmailing has really united us. And it is a turning point, because we have decided, as a European Union: We will end our reliance on Russian fossil fuels.

Meanwhile, Europe has banned Russian coal imports completely. We have been winding down and are winding down the oil imports from Russia, down to 10% by the end of the year. Gas is interesting. Let me give you three figures: If you look at the overall global pipeline gas demand, 75% was the demand of the European Union on global pipeline gas supplies. So we are a huge client – very important. Half of it was imports from Russia. Today, we are down, on Russian imports, to 25%. One quarter is left. How are we doing this? We are diversifying away from the Russian supply towards other suppliers that are democratic friends and trustworthy. First of all, of course, our friends in the United States. I closed an agreement with President Biden on LNG imports that really, really helped us and saved us in these difficult times. It is very successful. The second point that we are doing, besides diversifying away, is saving energy. The energy that is not being used is good energy. We save it to the storage for the coming winter.

Of course, this comes at a price. So let me tell you that we all feel that the global energy market is very tight. The whole Russian supply is missing, so we are demanding energy on the global market. Therefore, the global market is really tight. Energy prices are skyrocketing, as you will observe in Europe. This is a heavy burden on people's and businesses' shoulders. We are taxing now the windfall profits of electricity-producing companies to have a targeted support for vulnerable households and vulnerable businesses. We are doing all this not only because it is necessary but also because we know that this is the way to dry out Putin's war chest. And we know that we are doing this because with energy independence and energy freedom comes greater power to defend the global rules. This is the immediate response. But there is of course a mid-term and long-term response.

Ultimately, the best way to get rid of fossil fuels is a massive investment in renewable energy. Every kilowatt-hour that we are producing electricity from sun, from wind, from hydropower, from geothermal, from biomass, from green hydrogen – you name it – is not only good for the climate – it is also good for the climate that is the most important part – but it makes us independent. It is home-grown; it is security of energy supply; it created good jobs at home. If you look at the price today of solar and wind energy, it is cheaper by now than fossil fuels. This is why, for example, we are investing heavily in offshore wind parks. The biggest one worldwide is now starting in the North Sea. When it is ready to go, it will heath 50 million European homes throughout the whole year.

So in sum, the era of Russian fossil fuels in Europe is coming to an end. And this is a big geopolitical shift, because if you look at the map, the demand and supply from Russia is coming to an end. This demand from the European Union will now switch towards the Global South. Because if we do it right, we are not only diversifying to other gas or fossil fuel suppliers, but we massively invest now in renewable energies, in regions where the resources are in abundance. If you look at the other side of the Mediterranean, in the European Union, it is the African continent: sun, wind, partially hydropower, in abundance. And if we invest in the infrastructure, we do not only gain freedom from the blackmail that we have experienced with Russia, but we are also fighting the right cause against climate change.

The fight against climate change is the biggest one. And I want us – the Europe Union and the United States – to be allies in that fight. Global warming is the real crisis that is overshadowing everything. We know that climate change is man-made. The body of evidence is overwhelming. So it is us. The impact is tangible, you know it: floods, droughts, wildfires, hurricanes, tornados, melting glaciers, rising sea levels. I had yesterday a bilateral meeting with the Prime Minister of Pakistan: three-quarter of the country is inundated – climate change, it is nothing but climate change. So it is very bad. But there is a glimpse of hope, because if it is true that climate change is man-made, we can do something about it. That is the good news and the bad news. And that is what the European Green Deal is all about. When I came into office in 2019, this was the first initiative I took. Our strategy, the European Green Deal, wants to transform our economy, so that we preserve and restore nature. We need to decarbonise our economy; we need to move towards the circular economy; we need to develop a way of life and work that gives our planet a real fighting chance for the next generation, for you. So we have, as the European Union, cast in law our goals for 2030 and climate neutrality for 2050. We want to be the first climate-neutral continent by 2050. And we are the first highly industrialised continent that has put a concrete plan on the table on how we want to get there. So pieces of legislation, legal acts to make this transformational change happen.

What are the principles? The first one is: CO2 needs a price, because nature cannot pay the price anymore. Those who emit CO2 must pay. Therefore, we have put in place an Emissions Trading System: If you want to emit CO2, you pay. If you want to avoid that, you go and innovate into clean technologies. Second principle: The transition has to be just, otherwise it will not happen. So we invest massively to support the regions that have to leapfrog forward, for example coal-abating regions that have to leapfrog forward into completely different industries. And we have a Social Climate Fund to support the small incomes and the vulnerable businesses that have no leeway to adapt to cleaner mobility, to insulated houses, to better heating systems and all that is necessary to change. The third principle is: We need massive investments in innovation and infrastructure. That is the point where NextGenerationEU comes into play. I called it NextGenerationEU because we raised EUR 800 billion on the capital markets to invest in projects that will serve the next generation. EUR 360 billion of these will go into projects of the European Green Deal. And I am very glad that the United States is matching that now. I was happy to hear that from this climate package, USD 369 billion, I think, are going into green projects, projects fighting climate change. The fourth principle is, and that follows from it, that the fight against global warming is a global one, a global task. Europe is responsible for 9% of the global emissions. We need everyone on board. Therefore, I very much welcome President Biden's strong commitment to also become climate-neutral by 2050. And last but not least, the fifth and last principle is: We consider the European Green Deal as a huge business opportunity – our new growth strategy. If we master the turnaround, those who have innovated and developed the clean solutions will be the front-runners. They will have the first-mover advantage. Then the whole world will be asking for their technologies. This is the reason why we have to prepare now if we want to be competitive in the future.

This brings me to one afterthought. I have been speaking about energy, I have been speaking about dependency, the European Green Deal or fighting climate change. The green transition but also the digital transition, I must say, will massively increase our needs for raw materials. Lithium for batteries; silicon metal for chips; rare earths to produce magnets, for example for electric vehicles. Demand for those raw materials and rare earths will presumably at least double until 2030. The good news is: That shows that the European Green Deal and the green transformation overall worldwide is progressing fast. The not-so-good news is: One country dominates the market. Out of the 30 critical raw materials, today 10 are mostly sourced from China. And China basically controls the global processing industry. Almost 90% of rare earths and 60% of lithium are processed in China. We have to avoid falling into the same trap and dependency as we did with oil and gas. So we have to be very careful not to replace one old dependency with a new one.

And that brings me back to where I started: Democracy versus autocracy. Each of our democracies is very unique and different. Because ultimately, they have been shaped by our people, by our history, by our backgrounds, our cultures, our constitutions. But in the very end, democracies in all forms come down to one single point. And that is: It gives people a voice. It gives the ability to change things at the ballot box. In democracies, we even fight for the right to be against us. That is democracy. To be able to speak you mind. To change your mind, if you want to. To be free to be yourself so that if you are different from the majority, you are equal before the law. It is the accountability to all, and not only to those who have voted for you. That is democracy. A system where power is given and taken away by the citizens and framed by checks and balances. And we see what the alternative is. At the beginning of this year, Russia and China declared an 'unlimited friendship'. And despite the fact that cracks have appeared in the last days, both continue to aim for a fundamentally different vision of the future. I believe we have to take this challenge very seriously. We need to defend the open and inclusive international order – both in the United States and the European Union, and beyond. Those who were lucky enough to be born and raised in democracies – like me – can often take the democracy just for granted. It was always there. I have always lived in a democracy. But now I realise that it is not going to be here if I do not stand up for this democracy. Those who have lived in autocracies and authoritarian regimes will know all too well how precious freedom is. In Europe, we have learnt that we must always work on improving democracy – because we know how quickly and how devastatingly history can change. We know that the opponents of democracy today are using sophisticated, new tools, modern technologies to oppress and manipulate through systematic disinformation. Disinformation is not a partisan issue, it is a societal one. Because it seeks to muddy the waters so much that truth and facts become impossible to distinguish from lies and falsehoods. So in the very end, democracy needs us – each and every one of us, explicitly. By that, I want to address you, the students, the faculty members, the administration here in this room: You have the privilege to study and work in an institution that is based on a long tradition to unveil truth through critical discourse, through evidence-based research, respect for facts and figures, the understanding of history. These are the tools and the ingredients to dismantle disinformation. You have a mission. As politicians, we have a mission, too, but you have a mission. Or in the words of Princeton's informal motto: In the nation's service and in the service of humanity.

Many thanks for your attention.

http://www.tipro.org/newsroom/tipro-news/tipro-analysis-show-continued-growth-in-upstream-jobs-and-record-levels-of-production-and-severance-taxes

SEPTEMBER 16, 2022

TIPRO ANALYSIS SHOW CONTINUED GROWTH IN UPSTREAM JOBS AND RECORD LEVELS OF PRODUCTION AND SEVERANCE TAXES

Austin, Texas - Citing the latest Current Employment Statistics (CES) report from the U.S. Bureau of Labor Statistics (BLS), the Texas Independent Producers and Royalty Owners Association (TIPRO) today highlighted new employment figures showing continued growth in monthly employment for the Texas upstream sector. According to TIPRO's analysis, direct Texas upstream employment for August 2022 totaled 201,700 an increase of 2,600 jobs from adjusted July employment numbers. Texas upstream employment in August 2022 represented an increase of 33,400 positions compared to August 2021, including an increase of 8,200 in oil and natural gas extraction and 25,200 jobs in the services sector.

TIPRO once again noted strong job posting data for upstream, midstream and downstream sectors for the month of August. According to the association, there were 11,909 active unique jobs postings for the Texas oil and natural gas industry in August, including 3,906 new job postings added in the month.

Among the 14 specific industry sectors TIPRO uses to define the Texas oil and natural gas industry, Support Activities for Oil and Gas Operations continued to dominant the rankings for unique job listings in August with 3,115 postings, followed by Crude Petroleum Extraction (1,486), and Petroleum Refineries (1,178), indicating a continued emphasis on increasing exploration and production activities in the state. The leading three cities by total unique oil and natural gas job postings were Houston (4,344), Midland (1,225) and Odessa (549), said TIPRO.

The top three companies ranked by unique job postings in August were Baker Hughes with 714 positions, KBR (481) and Energy Transfer (412), according to TIPRO's analysis. Of the top ten companies listed by unique job postings last month, five companies were in the services sector, followed by three companies in oil and natural gas extraction and two midstream companies.

Top posted industry occupations for August included heavy tractor-trailer truck drivers (648), managers (344) and maintenance and repair workers (268). Top qualifications for unique job postings included Commercial Driver's License (790), Master of Business Administration (195) and Tanker Endorsement (185). When analyzing education requirements for unique industry job postings last month, TIPRO reports that 44 percent required a bachelor's degree, 34 percent a high school diploma or GED, and 24 percent had no education requirement listed as part of the criteria.

TIPRO also highlights new data released from the Texas comptroller's office showing production taxes paid by the oil and natural gas industry to the State of Texas reached a record $10.83 billion for FY 2022. Strong growth in August came from receipts remitted by the oil and gas mining sector, which were up by nearly 80 percent compared with a year ago.

Additionally, TIPRO reports that oil and gas output in Texas is on track to reach new production records next month. Experts with the U.S. Energy Information Administration (EIA) forecast that oil production in the Permian Basin, the most nation's most prolific shale oil basin, will rise 66,000 barrels per day (bpd) to a record 5.41 million bpd in October. Oil production in the Eagle Ford Shale in South Texas is also expected to increase 26,000 bpd in October, reaching 1.25 million bpd. Further, natural gas production will rise in the Permian to record highs of 20.74 billion cubic feet per day (bcfd), according to the EIA, and in the Eagle Ford, natural gas production will grow to 7.22 bcfd.

"The continued growth in the Texas oil and natural gas industry, and its critical role in strengthening energy security for our country and allies abroad, is truly extraordinary," said Ed Longanecker, president of TIPRO. "Our organization and members remain committed to advancing energy policies at all levels of government to support domestic oil and natural gas production to meet growing global demand, and we applaud the millions of hardworking Americans in the energy sector," concluded Longanecker.

https://www.fuelseurope.eu/publication/joint-letter-to-european-policymakers-on-co2-standards-for-cars-and-vans/

FuelsEurope

JOINT LETTER TO EUROPEAN POLICYMAKERS ON CO2 STANDARDS FOR CARS AND VANS

Posted on **20/09/2022** in **Joint Statements**

CO_2 standards for cars and vans: Automakers, Auto Parts Industry and Fuel Manufacturers call for Trilogue negotiations to fully implement the outcome of Council General Approach to enable, after 2035, ICE vehicles registered to run exclusively on CO_2-neutral fuels[1].

We, automotive companies, fuels manufacturing companies and industry associations are planning our industrial future to be fully consistent with the 2050 climate neutrality goal for Europe. But our concerns are growing that the limited pathway provided by the Commission's proposal for a regulation on "strengthening the CO_2 emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition", with its current test and certification protocol, creates unnecessary risks; industrial, economic, social and in terms of delayed GHG reductions. We all fully support that electrification will be the major technology for light road transport decarbonisation. However, recent geopolitical developments have underlined the uncertainties related to the pathway to full electrification of new cars by 2035.

Since the publication of the Commission's proposal for CO_2 standards in cars and vans in July 2021, the geopolitical landscape has changed dramatically, with implications for energy and raw material dependencies. This is likely to have an impact on the speed and economic efficiency of the electrification of the new light-duty vehicles fleet. In particular:

- Increased prices of raw materials for batteries and supply constraints will jeopardise the availability of affordable cars for many citizens and therefore delay the fleet turnover. These risks extending the demand for fossil fuels and slowing down the pace of GHG emission reductions;
- Access to the necessary battery raw materials is a challenge with concerns over narrowing dependency on non-EU sources;
- In response to the energy crisis, that is reshaping the energy policy in Europe, the average GHG intensity of EU electricity is potentially increasing as coal use is expected to grow. There is no guarantee that we will have sufficient renewable electricity to satisfy the increasing demand from electrified transport, with the risk that marginal electricity consumption may even come from coal. The current vehicle standards, based solely on the tailpipe emissions, does nothing to prevent this, to the detriment of the overall GHG emissions reduction;
- The deployment of recharging infrastructure throughout Europe is increasing but a sufficiently dense charging network across the EU is not yet guaranteed. This creates uncertainty which keeps many drivers from switching to electromobility.

The Commission's impact assessment publication in September 2020[2] only briefly addressed some of these issues, although recent developments have made them critical.

The current situation requires a difficult rethink of long-held assumptions how we can best reach climate neutrality in 2050 while ensuring a just transition of the EU industry. In this light, all solutions that are able to deliver a reduction in GHG emissions should be considered.

The fuels industry has set out that production of sustainable, advanced and synthetic fossil free fuels can be ramped up[3]. A needed enabler for this to occur is the clear recognition in regulation and society that ICE, HEV and PHEV vehicles *exclusively using sustainable renewable and synthetic fuels* can be very low in GHG footprint or even fully climate neutral. Significant volumes can be made from waste and residue feedstocks and from renewable energy sourced in EU and imported. Highly credible academic studies demonstrate that this combination can equal that of the EVs in terms of decarbonisation of road transport.

An important but often neglected consideration is the resilience of the EU transport value chain: additional routes to meet the GHG targets mean lowering the associated risk brought by an exclusive electric approach. The use of sustainable renewable and synthetic fuels is an ideal complement to the electrification strategy.
The fuels industry has also set out that the strategy for renewable liquid fuels for aviation and maritime sectors *will benefit* from parallel supply to some sectors of road transport, as investment cases will be stronger, allowing a faster ramp up of investments, supply chain development, and associated job creation.

Since the transition towards a fully electric mobility will be progressive, sustainable biofuels, renewable fuels and e-fuels are a reliable solution to reduce emissions of the transport sector in the short, medium and long term, ensuring at the same time the use of the existing fleet (so-called legacy fleet) and infrastructure. **Electrification and CO_2-neutral fuels should be seen as complementary solutions.**

Finally, the EU transport value chain is already developing a methodology to certify the exclusive use of CO_2-neutral fuels in individually identified vehicles. In this way, a robust certification standard can support the implementation of Council General Approach Recital 9a to fully enable a complementary route of CO_2-neutral fuels to give maximum probability of reaching GHG reduction and unlock industrial investments. **In the revised regulation, Recital 9a should be complemented by the introduction of a new article establishing the relevant legally binding provision.**

The Trilogue is taking place in a very different world from a year ago. We are not arguing for reduction in real GHG reduction ambition. We are not arguing for an extension of the use of fossil fuels in new vehicles from 2035. We are making the case for an important additional technology route to meet Europe's industrial and social objectives as meeting climate goals.

We call on Trilogue participants to:

- Incorporate Recital 9a into the Articles of the agreement;
- Introduce a new Article to establish the content of Recital 9a as a legally binding provision;
- Set a deadline as early as possible, but at the latest one year after the entry into force of the regulation, for the Commission to present a proposal on how to register vehicles running exclusively on CO_2-neutral fuels.

[1] The term "CO_2 neutral-fuels" is included in Recital 9a of the Council General Approach on the subject regulation. In this letter such term is used to indicate non-fossil, sustainable renewable and synthetic fuels.
[2] "Impact Assessment accompanying the document Stepping up Europe's 2030 climate ambition" SWD (2020) 176 final
[3] Home – Clean Fuels for All

ABA
ADVANCED BIOFUELS COALITION LSB
aevecar
afia

FEDERCHIMICA AISPEC
FEDERCHIMICA ASSOGASLIQUIDI
Anarec
ANCERA
ANECRA
ANFIA

antargaz energies
antram
AOP
Apetro
APOREB

appa biocarburantes
APPB
ASEVAL
astic
ATLiq

AVANTIGAS
BEYFIN
Bio-E
CAPPO
cavagna group

ceeer
CLEPA
CODIGASOIL
CONFEBUS
copa cogeca

DrivkraftDenmark Industry Association for Fuel and Charging
DRIVKRAFT NORGE
FLÜSSIGGAS
EBB EUROPEAN BIODIESEL BOARD
ECFD European Confederation of Fuel Distributors

eFuel alliance
Energia
ePURE european renewable ethanol
ewaba
FACONAUTO

FETSA
Fiev ÉQUIPER LE FUTUR DE L'AUTOMOTIVE
FLAGA
FRANCE GAZ LIQUIDES
FuelsEurope

geregras
HELLENIC PETROLEUM
HUNGARIAN PETROLEUM ASSOCIATION
IVECO • GROUP
KOSANGAS

Liquid Gas Europe
mazda
METHANOL INSTITUTE
MOLGROUP
MPE

NESTE
NGVA Europe
Q8
REPSOL
SAPPO

SDCM STOWARZYSZENIE DYSTRYBUTORÓW I PRODUCENTÓW CZĘŚCI MOTORYZACYJNYCH
sernauto
UFIP Énergies et mobilités Réussir la transition
UGI INTERNATIONAL
UNITI

UniverGas
UNA
UNEM
UPEI
UPI

VDB Zukunft tanken.
VDMA
VNPI
ZAP

Santa Cruz Sentinel

EDITORIAL: Battery fire at Moss Landing a stark reminder of new technology risks

Opinion by Santa Cruz Sentinel, Calif. - 6h ago

Sep. 23—If you were trying to get into, or out of Monterey County, on Highway 1 Tuesday, then you know what it's like to be caught in gridlocked traffic.

Or if you were looking for a little peace and quiet in the final days of summer, then a sudden warning to shelter-in-place became 12 hours of anxiety.

The cause of the shelter-in-place advisory and closing Highway 1 was a battery fire at the PG&E battery storage facility in Moss Landing.

A Tesla Megapack was destroyed by the fire that was reported early Tuesday morning. Sirens at the former Moss Landing power plant started blaring sending a warning to residents in Moss Landing as firefighters showed up to put out the blaze.

The advisory was lifted and the highway reopened later in the day after Environmental Protection Agency officials said it was safe. The cause of the fire remained unknown Thursday and fortunately no injuries were reported.

The mega battery that caught fire is one of 256 Tesla batteries at the PG&E-owned Elkhorn Battery Storage facility maintained by the utility and Tesla. The PG&E plant just opened in April and according to a utility spokesman, the facility is capable of storing enough energy to power 275,000 homes for up to four hours — about the number of homes in the city of San Francisco, for instance.

The fire eventually burned out five hours after it was first reported, but it continued to smolder, raising concerns the lithium-ion batteries might be releasing toxins into the air. Lithium-ion battery fires are notoriously hard to extinguish because they burn at extremely high temperatures and produce dangerous fumes.

The fire led to the shelter-in-place order for Moss Landing and the surrounding area. Highway 1 through the area was shut down and businesses and storefronts were never allowed to open. Monterey County officials sent a message to residents to "Please shut your windows and turn off your ventilation systems."

The fire's out, but the incident raises questions about California's electric grid and the drive to move away from fossil fuels to combat climate change.

PG&E and other utilities have been installing large-scale batteries to back up renewable energy sources, to ensure power can still be provided once the sun goes down.

But batteries, we're learning, can have their own reliability issues. In Tuesday's Moss Landing event, when PG&E's massive 182.5 megawatt Tesla battery caught fire, the site had to be disconnected from the grid.

And, as news sources have reported, the PG&E facility is located adjacent to another 400 megawatt battery storage site, which has experienced two overheating incidents in the past year that forced part of the system to shut down.

The move to energy storage will continue, but the Moss Landing fire was also a reminder that battery blazes are becoming increasingly common and destructive —and safety measures, including fire drills, for residents around storage facilities will have to be put in place and widely disseminated.

For PG&E, which filed for bankruptcy in 2019 amid tens of billions of dollars in liabilities for wildfires linked to its equipment, this is another fire-and-equipment risk. So add battery storage to fire dangers —as if we don't already have enough wildfire risks in our area. A fire last July at a Tesla battery storage site in Australia required three days and a hazmat firefighting team to put out. Australians were fortunate the fire didn't occur during their summer when it might have been even harder to control.

Central Coast residents should likewise be grateful Tuesday's battery fire didn't occur during the heat wave two weeks ago when the state power supply was tight and PG&E warned blackouts might be necessary. For now, the PG&E facility is shut down indefinitely and the utility estimates the damage will exceed $50,000.

Again, the takeaway is not that utilities should stop the conversion from fossil fuels to renewables and battery storage, but that all energy sources, including solar and wind power, carry costs and risks.

https://www.beamsuntory.com/en/news/Renewable-Energy-Powered-Jim-Beam-Expansion

Beam Suntory Unveils Renewable Energy-Powered Jim Beam Expansion

As part of $400 million investment, Jim Beam's Boston, KY facility will increase capacity and reduce greenhouse gas emissions by 50%

BOSTON, KY– September 14, 2022 — Beam Suntory, a world leader in premium spirits, will invest more than $400 million to expand production at its Booker Noe distillery in Boston, KY, which produces Jim Beam®. This expansion will increase capacity by 50%, while reducing the distillery's greenhouse gas emissions by the same percentage, through the use of anaerobic digestors that will produce renewable natural gas to power the facility.

Beam Suntory has entered into an agreement with 3 Rivers Energy Partners to build a facility across the street to convert spent stillage into biogas which will be treated to renewable natural gas standards and piped directly back to the Booker Noe facility. The digestors will also produce a high-quality, low-cost fertilizer, which will be made available to local farmers, thereby supporting sustainable and regenerative agricultural practices.

Upon project completion, which is expected in 2024, the Booker Noe distillery will be 65% powered by renewable natural gas, and 35% by fossil-based natural gas.

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In addition to capacity expansion, the investment includes land, warehouses, and **51 new local jobs**. Further, this project allows the distillery to invest in high-efficiency gas boilers to make maximum use of renewable natural gas, use scrubbing technology to remove carbon dioxide from fermentation tanks, and following a purification process, facilitate the beneficial reuse of more than 100,000 metric tons of high-purity carbon dioxide annually.

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https://www.beamsuntory.com/en/news/Renewable-Energy-Powered-Jim-Beam-Expansion

Beam Suntory Unveils Renewable Energy-Powered Jim Beam Expansion

As part of $400 million investment, Jim Beam's Boston, KY facility will increase capacity and reduce greenhouse gas emissions by 50%

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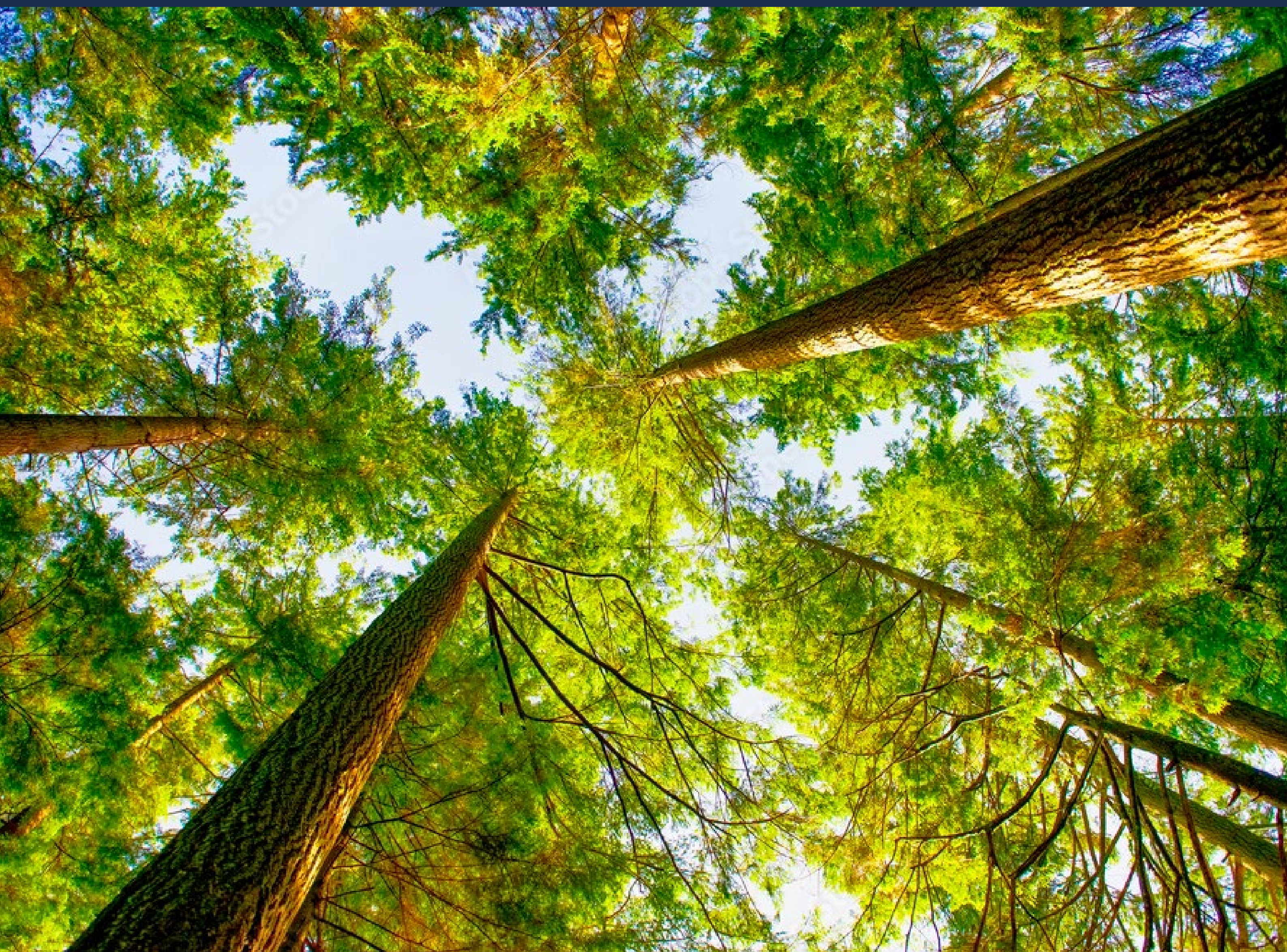
NORGES BANK INVESTMENT MANAGEMENT

2025 climate action plan

Driving our portfolio companies towards net zero 2050



As a long-term and globally diversified financial investor, our return depends on sustainable development in economic, environmental and social terms. We will be a global leader in managing the financial risks and opportunities arising from climate change.

It is the goal of our responsible investment management for our portfolio companies to align their activities with global net zero emissions in line with the Paris Agreement. On this basis, our ambition is for our portfolio companies to achieve net zero emissions by 2050.

This document describes our approach to managing climate risks and opportunities. It sets out the actions we aim to take over the period 2022-2025. These actions are targeted at improving market standards, increasing portfolio resilience, and effectively engaging with our portfolio companies. At the heart of our efforts is driving portfolio companies to net zero emissions by 2050 through credible targets and transition plans for reducing their scope 1, scope 2 and material scope 3 emissions.

Climate change and the fund

Our exposure to climate change risk and investment opportunities

Climate change is one of the defining challenges of the 21st century. Greenhouse gas emissions stemming from human activities are driving a rise in mean temperatures. This is affecting human health and well-being as well as the natural environment, and poses significant risks to the global economy and hence the companies we invest in.

The objective of the fund is to achieve the highest possible return with acceptable risk in line with the investment mandate issued by the Norwegian Ministry of Finance. We are invested in listed equities, tradable bonds, unlisted real estate and unlisted renewable energy infrastructure. Our investment mandate and our investment strategy as a long-term, global and diversified financial investor determine how we manage climate risk and opportunities.

We believe that a good long-term return for the fund depends on sustainable economic, environmental and social development, as well as on well-functioning, legitimate and efficient markets. Climate risk has long-term and systematic characteristics, and outcomes and trajectories are associated with great uncertainty. Mitigating and adapting to climate change is also associated with significant economic opportunities. Modelling from the International Energy Agency and the International Monetary Fund suggests that net zero 2050 could add 0.4 percentage point to annual global GDP growth through to 2030. Such an orderly transition requires the continued support of effective climate policies at both the global and the market level to efficiently price and restrict greenhouse gas emissions; it will not be achieved by companies and investors alone.

Our investments are exposed to two types of climate risk: physical risk and transition risk. Physical climate risk stems from the physical changes resulting from climate change, either the temperature increases themselves or associated changes in weather patterns, sea levels, ecology or human habitation. There is also uncertainty around tipping points in the climate system that – when exceeded – may lead to irreversible changes. Transition risks are generated by the economic and societal shifts towards a low-carbon economy. They can stem from policy changes to achieve climate goals, but also from new technologies and changing consumer behaviour. Producing and consuming goods and services in ways that emit less greenhouse gases also create investment opportunities.

The fund seeks to manage risks and capture investment opportunities by being broadly invested. The greenhouse gas emissions associated with portfolio companies give rise to transition risk. Their contribution to climate change may also adversely affect other companies in the fund’s portfolio, and the economy at large. Analysis of the equity portfolio’s transition risk shows that a scenario with a delayed policy response would create greater financial losses for the fund than staying on a 2°C pathway throughout. We therefore stand to benefit from an orderly transition that allows for the investment and technological advances needed for a sustainable economy, the redeployment of financial and human capital over time, and the phasing out of carbon-intensive energy provision and activities.

Safeguarding our investments through the climate transition

We have worked for more than 15 years to better understand the effects of climate change on our portfolio and to manage the associated financial risk. Our strategy addresses climate risk and opportunities at the market, portfolio and company levels.

At the market level, engaging with standard setters, climate-related initiatives and other investors is at the heart of our efforts to support global principles and standards that underpin an orderly climate transition. Inherent uncertainty and limited access to high-quality data on the climate risk faced by companies hamper the market's ability to price climate risk and allocate capital to profitable projects. Better information from companies enables better investment decisions, more purposeful company engagements and tailored voting decisions. We have promoted the development of strong reporting frameworks for corporate climate risk disclosure for over a decade. Since 2015, we have also supported academic research to advance understanding of how climate effects influence financial markets.

At the portfolio level, we have calculated our portfolio's carbon footprint since 2014, and we use scenario analysis to understand how different climate scenarios may impact the future value of the fund. We have invested more in companies that are well-positioned for the low-carbon economy, and we made our first investment in renewable energy infrastructure in 2021. To reduce risk, we have divested from selected companies with high exposure to financial risk stemming from carbon-intensive business models since 2012. With scope 1 and scope 2 emissions concentrated in specific sectors, we adopted sector policies to manage our climate risk exposure. The Ministry of Finance introduced a specific exclusion criterion for coal in 2016 under the norms-based guidelines for exclusion and observation of companies. The removal of coal companies was an important contributor to reducing the carbon intensity of our portfolio.

At the company level, engagement is the key tool for managing the fund's climate risk exposure. How companies respond to and prepare for climate change will influence the extent to which our portfolio is affected by it. Since we started raising climate risks and opportunities in our dialogues with portfolio companies in 2006, we have continuously expanded our knowledge and built up specialist expertise. We believe that voting can be a powerful tool in cases where companies fail to manage material climate risks and opportunities adequately, and we started to disclose our voting intentions ahead of shareholder meetings in 2021.

Our responsible investment efforts are underpinned by transparency. To communicate our views, we published our first investor expectations on climate change, directed at company boards, in 2009. We published our first dedicated report on our engagement activities and results in 2015. Since 2020, we have provided extensive information in accordance with the guidelines issued by the Task Force on Climate-related Financial Disclosures (TCFD).

Driving our portfolio companies towards net zero 2050

The current decade is crucial for achieving an orderly climate transition in line with the goals of the Paris Agreement. We believe that companies that understand the drivers of net zero emissions and anticipate regulatory developments will be well-positioned to capture the financial opportunities arising from a low-carbon economy. While some high-emitting companies may decline in value, others will transform their business models and grow among the greening companies supporting an orderly transition.

We believe that our engage-to-change approach will yield the best financial results for the fund. It will also contribute to improved real-world outcomes. We will scale up the breadth and depth of our climate work. We will continue our approach of addressing climate risk and opportunities across the market, portfolio and company levels. We will develop our work in line with internationally accepted principles and standards. Working towards a net zero 2050 target for our portfolio companies gives a strategic direction for all our climate activities.

We aim to be a global leader in managing climate-related risks and investment opportunities through this action plan. We will work together across the organisation to achieve our goals and aim to expand our reporting to provide a high level of transparency on our progress.

Our approach for managing climate risks and opportunities:

Market	**Elevate market standards and collaborate with other stakeholders by** • Engaging with standard-setting bodies • Supporting and following academic research • Increasing collaboration with investors and other market participants	**Elevate and collaborate**
Portfolio	**Analyse climate risk exposure and adjust the investment portfolio by** • Monitoring portfolio companies' emissions and stress-testing the portfolio • Seeking investment opportunities in the climate transition • Divesting from companies with high and unmitigated climate risks	**Analyse and adjust**
Company	**Own companies through the climate transition and engage for net zero by** • Integrating climate considerations into all active investment decisions • Engaging with companies for net zero targets, transition plans and emission reductions • Communicating our concerns through voting and reporting	**Own and engage**

2025 climate action plan

This 2025 climate action plan outlines our next steps in supporting and challenging our portfolio companies to adapt their business models and align them with net zero emissions by 2050. We expect high emitters to set net zero 2050 targets as a matter of urgency, and all companies in our portfolio to have done so by 2040 at the very latest.

Our plan describes specific actions that we will implement at the market, portfolio and company levels. The plan follows up our new mandate requirements and will be integrated into our evolving strategy for the management of the fund.

Market level

Our principles for responsible investment management are based on international standards. We support standard setters in their efforts to improve the management of climate-related risks. More efficient carbon markets and standardised climate disclosures, including on emissions targets and performance, are needed to achieve an orderly transition to a low-carbon economy. This will reduce externalities and allow investors to assess how companies are responding to the climate transition. Our goal is improved global, science-based standards that create a level playing field for companies. By 2025, we aim to have contributed to more sustainable and efficient financial markets by advocating for better corporate climate reporting, encouraging the establishment of credible transition pathways, and supporting promising academic research.

1. We will encourage regulators and standard-setting bodies to set mandatory requirements for climate-related reporting for listed and unlisted companies, and we will support the development of sustainable financial markets, including for green bonds.

2. We will share our technical expertise with standard-setting bodies and industry initiatives to support them in developing robust methodologies for climate risk management, including transition pathways to assess companies' progress in reducing their emissions over time.

3. We will support academic research on the financial impacts of climate change to strengthen the scientific foundations of the management of climate risk in the fund, and we will follow the development of benchmark indices that adjust for climate risk.

4. We will update our expectation document on climate change to sharpen our engagement with companies by asking for science-based short-term, medium-term and 2050 net zero targets and credible transition plans covering scope 1, scope 2 and material scope 3 emissions, and improved disclosures on performance.

5. We will increase our collaboration with other investors to share best practices, to develop common expectations, and to promote the fund's views more effectively.

Portfolio level

We use quantitative tools to better understand climate-related risks and opportunities and how these are valued by the market. Our processes and data interfaces ensure that climate-related insights are shared widely across the organisation. Analysis of climate risk is integrated into our investment decisions and informs our divestments. By 2025, we aim to have a comprehensive system in place for measuring our exposure to climate risks and opportunities and potential portfolio emission trajectories.

1. We will develop principles for measuring and managing climate risk, and stress-test the equity portfolio against a 1.5°C and other climate scenarios on an annual basis.

2. We will set a net zero 2050 target for our unlisted real estate portfolio and an interim target for 2030 of reducing scope 1 and 2 greenhouse gas emissions intensity by 40% (compared to 2019). We will integrate these targets into our acquisition and asset management practices.

3. We will analyse the emissions of our portfolio companies and unlisted real estate investments relative to their sector-specific emission pathways and monitor progress in reaching their emission reduction targets.

4. We will continue to increase our investments in renewable energy infrastructure.

5. We will systematically monitor climate risk in the portfolio, including equity benchmark inclusions, and divest from companies with unmitigated climate risks, especially where engagement has failed or is unlikely to succeed.

Company level

Investment

We will be an owner of companies through the climate transition and integrate climate considerations into our investment analysis to reduce risks and increase returns. We will consider sector- and company-specific climate information when evaluating ownership and investment cases. By 2025, we aim to analyse increasingly granular climate-related data to inform our investment decisions.

1. We will use our access to companies and analytical expertise to build climate knowledge and use advanced data analytics to assess climate risks and opportunities.

2. We will integrate companies' exposure to climate risks and opportunities, including through their value chains, in our investment analysis.

3. Investment mandates will target opportunities in the climate transition.

4. We will have specific net zero engagement agendas if we take large positions in companies with significant transition risks.

5. Companies whose transition plans fall significantly short of those of their peers, and which do not respond to engagement, will be candidates for assessment under the climate-related conduct exclusion criterion.[1]

1 Guidelines for Observation and Exclusion of Companies from the Government Pension Fund Global (GPFG), Section 4: "Companies may be excluded or placed under observation if there is an unacceptable risk that the company contributes to or is responsible for [...] acts or omissions that on an aggregate company level lead to unacceptable greenhouse gas emissions."

Engagement

We want to support our portfolio companies to deliver long-term financial value, adapt their business models and achieve net zero emissions. Our engagement focus list includes companies representing 70 percent of our equity portfolio's financed scope 1 and scope 2 greenhouse gas emissions, our largest holdings in sectors with significant indirect exposure to climate risk, and additional companies with elevated climate risk based on proprietary assessments. By 2025, our aim is that a significantly higher share of our portfolio companies, and in particular companies with high emissions, will have set net zero targets – putting us on a path where all companies in the portfolio have such targets by 2040.

1. We will ask companies to commit to business activities aligned with net zero 2050. We will expect them to set science-based short-, medium- and long-term emission reduction targets for their scope 1, scope 2 and material scope 3 emissions, accounting for demand and supply side risks in a net zero scenario.

2. We will ask companies to develop transition plans, define their time frames and milestones, and disclose their progress annually. We will examine the robustness of these plans, including governance structures, capital allocation frameworks, carbon price assumptions, and use of carbon offsets and their quality.

3. We will ask companies to undertake appropriate short-term actions to help mitigate global warming and reduce exposure to climate risk. For selected industries, this might include significantly reducing methane emissions or eliminating deforestation impacts from their business activities and/or value chains.

4. We will ask companies to report in line with the TCFD recommendations, including their externally verified scope 1, scope 2 and material scope 3 greenhouse gas emissions, climate risk scenarios and their underlying assumptions about scenario choice, asset coverage and emission trajectories.

5. We will communicate our concerns to boards if they fail to meet our expectations on board oversight, management and disclosure of material climate risks. We may also decide to vote against directors, climate transition plans and/or executive remuneration plans, and file shareholder proposals.

Reporting

The management of the fund is underpinned by a high level of transparency. We engage with stakeholders to receive input on our priorities and the outcomes of our work. We also want our portfolio companies to understand our engagement objectives and processes. Our management mandate makes clear that our reporting should specifically address climate risk and build on international standards. We will gradually expand our reporting on the fund's climate risk exposure, including forward-looking indicators. By 2025, we aim to have comprehensive reporting in place that describes which actions we have implemented and the results we are observing.

1. We will report the implied temperature alignment based on scope 1, scope 2 and material scope 3 emissions of our equity and corporate bond portfolios, and, as practices develop, emission trajectories and the share of our holdings in different sectors that are aligned with reaching net zero emissions by 2050.

2. We will report on our equity portfolio's estimated exposure to climate risk based on the results of stress-testing the portfolio against a 1.5°C and other climate scenarios. We will make an interactive tool available on our website allowing stakeholders to explore the fund's financed portfolio emissions.

3. We will disclose the share of companies in the equity portfolio with which we engage on climate-related issues, the names of these companies, and indicators of progress, including the adoption of science-based net zero targets.

4. We will show the share of our investments that can be classified as climate-related or environmentally sustainable according to emerging classifications and taxonomies.

5. We will publish the share of our unlisted real estate investment portfolio that is aligned with a 1.5°C decarbonisation pathways developed by the Carbon Risk Real Estate Monitor (CRREM) and report annual progress towards our net zero 2050 target.

Outlook

Our understanding of climate effects on the global economy and financial markets will continue to grow. At the same time, governments are introducing new policies, technology is evolving, consumers are changing their preferences, and companies are adapting their strategies. These developments will influence not only the fund's climate risk, but also how investors can best contribute to a successful transition within their investment mandates. Ultimately, the climate risk for the fund depends on governments fulfilling their commitments to enable an orderly transition of the global economy, and companies reaching their net zero targets.

Following the launch of this 2025 action plan, we will set up a Climate Advisory Board to challenge us and support our high ambitions. We will explore how we can get a better understanding and report on the results of our engagement and voting activities, including, as data and methods allow, outcomes such as reduced corporate emissions. By 2025, we will have more information on what we have achieved by implementing this action plan, companies' responses and whether they are on a plausible trajectory towards net zero 2050. Incorporating this information, we will formulate an updated action plan with goals for the following five-year period up to 2030. In this way, we will support the fund's financial interests, maintain leadership in this fast-moving field, and continue working towards net zero emissions with our portfolio companies.

https://www.norges-bank.no/aktuelt/nyheter-og-hendelser/Foredrag-og-taler/2021/2021-12-21-borsum/

Ownership and climate risk in the GPFG - on the instruments for managing climate risk in the GPFG

Speech by Deputy Governor Øystein Børsum, 21 December 2021.

Actual performance may differ from published text

Introduction

Climate challenges are an engaging theme.

Figure: Emissions must be reduced

The world economy, as it operates today, is not sustainable. It must be, and then emissions must go down. It concerns us all - and not least our common fund. With a broadly diversified, global portfolio and a long horizon, we are in many ways burdened with the world economy.

Norges Bank is a financial investor. We will secure and create financial value for future generations. It is our task as manager of the fund. But how the assignment is carried out can also have an impact beyond the purely financial. Among other things, in the transition to a low-emission society. What our role should be - what our work should consist of - is what I want to talk about today.

This summer, an expert group submitted a report to the Ministry of Finance with recommendations on how climate risk should be managed in the fund. During the autumn, we at Norges Bank worked to assess the proposals and look at how they can be implemented.

A couple of days ago, the Executive Board sent its response to the Ministry of Finance. In the bank's management of climate risk, a lot is already being done, and we are outlining even more ambitious plans for the future. As a long-term and global investor with ownership interests in several thousand companies, we have a financial interest in the companies adapting to the risk and opportunities that climate change entails in a good way.

We propose that Norges Bank be a driving force for the companies we are invested in to adjust to net zero emissions over time - that the companies we invest in reflect the restructuring that the world has to go through.

The fund as an investor

Our characteristics as an investor

The climate risk in the fund is related to who we are as an investor and our overall investment strategy. In short: The fund is large, broadly diversified, long-term and close to the index.

Chart: Large, broadly diversified, long-term and index-linked

Of the fund's more than 12,000 billion, 70 per cent is invested in shares. With that, we are one of the world's largest shareholders. We are owners of 9000 companies in 70 countries.

And we are long-term. By using only the real return, the fund can in principle be perpetual.

The strategy is based somewhat simply on the following: If we are to achieve the best balance between expected return and risk, we must spread the investments widely and own a little of everything in the market. There is a solid professional basis for this approach.

How climate risk is relevant to the fund

What does this way of managing the fund have to say for the fund's climate risk? By spreading the investments widely, we are protected against incidents that only affect individual companies or special sectors. But we can not protect ourselves from events or developments that affect everyone.

The fund is exposed to two types of climate risk - physical risk and transition risk.

Transition risk is about whether the *companies* we own will manage the transition to a low-emission economy. Here the challenge is very different across sectors and companies.

Chart: Transition risk and the fund

The fund's equity investments can be categorized according to transition risk as assessed by the research company MSCI today. The blue bars in the figure show shares of the fund's portfolio. The white bars show the emissions in the companies. The companies that have ended up in the category «restructuring» have high emissions and must therefore restructure significantly. They make up 14 percent of the equity portfolio. The rest are companies that are either considered to be neutrally positioned or are considered to make a positive contribution to a green transition. The latter are thus part of the solution. [1]

Physical risk is more directly linked to climate change. The easiest to think about are acute events such as extreme weather, but also more gradual changes such as warmer climates, droughts and increased sea levels can affect individual investments in both negative and positive directions.

In a scenario where the world does not succeed in the transition to a low-emission economy, the risk increases, also for the fund, because the consequences of major climate change will be felt everywhere. As owners of shares, bonds and real assets, we are invested in everything from real estate and infrastructure, forestry and the food industry to all kinds of production capital. All of these are investments that can be affected by changes in the environment, including heat waves, floods and fires. We own a little of everything.

For a large, long-term, global fund, there will be nowhere to hide.

Climate risk is a long-term and important risk that the fund must deal with.

What does a long-term goal of net zero emissions mean for the fund?

A key recommendation from the expert group is that Norges Bank's responsible management be given a long-term goal of working towards net zero emissions from the companies in which the fund is invested. Norges Bank supports this recommendation.

Some may interpret this as a plan to sell shares in companies with large emissions.

But that is not our approach, nor is it the expert group's proposal. Instead of selling ourselves out, we will through active ownership be a *driving force* for the companies to adapt. In order to influence, we must actually be owners.

And we believe that ownership work works.

It works because we are big. Norges Bank is among the ten largest owners in about half of the companies we are invested in, and we have experienced that the companies listen when we talk.

Responsible management - a chain of instruments

Figure: Responsible management - a chain of instruments

Responsible management is our foremost tool in the work with climate risk and climate-related investment opportunities. I will now consider some important parts of this work. We are already doing a lot, and now we want to do even more.

The work can be grouped into three: The work we do towards the markets, towards the companies and with the portfolio. Together, this constitutes a coherent chain of instruments. I can not take a full review of the work here, but will highlight some points.

Default setting

The first point, standard setting, is about standards for reporting and measuring companies' climate risk.

Good common standards are important. This enables us as managers to assess the companies' prospects, prioritize ownership work and make good investment decisions.

But not just us. Better reporting will make the financial markets more well-functioning and better able to allocate capital. International standards provide equal conditions across markets and set the list for all companies. We, and other major investors, have an important role to play in contributing to the development of these standards.

Among the particularly important initiatives we have supported are climate reporting from the Task Force on Climate-Related Financial Disclosures (TCFD). Such reporting has been voluntary, but we believe that it must now become a requirement. Another issue we are working on is a comprehensive standard for sustainability reporting in line with the recently launched International Sustainability Standards Board (ISSB).

We will also work for good standards for reporting on companies' indirect emissions in the value chain, so-called "framework 3". In many sectors, this is crucial for understanding the companies' climate risk. We will also work with other climate-related issues where international standards may be appropriate. The use of various forms of climate quotas can be an example of this.

Our work with the companies starts with setting clear expectations.

We have formulated our expectations in our own expectations documents. In the climate area, we already expect companies to have a climate strategy, set emission targets, report on developments and stress test their business models against different climate scenarios. Going forward, it is natural for us to emphasize the horizon towards zero emissions. This will provide a clearer direction for the exercise of ownership.

Exercise of ownership

The exercise of ownership will be central to the work to manage the fund's climate risk. Not least, the dialogue with the companies is important.

Figure: Climate is more often a theme in the dialogue

The dialogue with the companies follows our expectations. Last year we had about 3,000 meetings with the companies, and as you can see from this figure, sustainability is increasingly on the agenda.

Going forward, we will increase ownership activity on climate, both in scope and depth.

We will give particular priority to ownership activity towards the companies that have the largest emissions, towards those that have not published their own climate plans or have inadequate climate reporting. We will also strengthen the ownership activity aimed at the financial sector, which is indirectly exposed to climate risk through lending and investments.

The dialogue is adapted to the sector and situation. Steel and cement are an example. These companies currently have large emissions, but are also manufacturers of products we also need in a low-emission society. Therefore, the dialogue is precisely about transition plans, much about the technological measures and investments needed for change. We also address the need for industry standards and lobbying, which is a significant challenge.

Figure: Companies report better on climate

We see signs that the work is working. For example, when we analyze the reporting from 1,500 companies, we see that the companies we have been actively involved in have made greater progress in reporting on climate strategy than the other companies. Of course, we should not take all the credit for these advances. But there is progress.

In the future, we will report more about the dialogue with the companies, what they are about and changes we see. That it is visible is a tool in itself.

Reporting and voting

The dialogue with the companies will not succeed in all cases. We can then hold the boards responsible for their decisions through our voting. This year, we have, among other things, in six cases voted against renewed confidence in board members due to inadequate management of climate risk. This sounds small, but in the future we will work to use this tool to a greater extent than today.

We have started by announcing our voting five days before the actual voting. What we do is noticed.

Another alternative is to promote shareholder proposals, alone or together with others. In the past year, we have supported 19 shareholder proposals on climate. One of those who gained a majority led to a large international company initiating work on reporting on emissions in the value chain ("Box 3"). Going forward, we will also consider promoting our own shareholder proposals.

Risk-based divestments

A last resort, when the exercise of ownership does not succeed, is the sale. It will not be the case that we automatically sell out if the ownership work does not succeed. But in some cases it can be the result.

Norges Bank can sell out of a company on a financial basis. This is what we call risk-based divestments. These are companies that we believe handle climate risk in a very deficient way - and thus provide an increased financial risk. This is about avoiding companies that we believe do not have sustainable business models.

Figure: More than half of the sales are related to climate

Risk-based divestments are active decisions made by Norges Bank, which draw on the fund's framework for deviations from the benchmark index. In the period 2012-2020, we have made more than 300 such sales, and more than half have been linked to climate change.

We are ready to do more of this in the future.

As a continuation of risk-based divestments, we have also begun to systematically assess companies' sustainability risk before entering the fund's benchmark index.

The fund is managed close to the index. Risk-based divestments will therefore mainly be relevant for smaller companies. For larger companies, we have more limited room for maneuver, as such sales will to a greater extent draw on the framework for deviations from the benchmark index.

The behavioral criterion

Figure - Responsible management - a chain of instruments

This takes me over to the second form of divestiture, namely exclusion on ethical grounds. The fund's ethical guidelines contain both a product-based coal criterion and a behavior-based climate criterion.

The latter includes companies that are linked to serious environmental damage or to an unacceptable degree lead to greenhouse gas emissions.

The Council on Ethics advises observing or excluding a company based on this criterion. Based on their recommendations, the Executive Board of Norges Bank makes the final decision based on these recommendations. A decision on exclusion means that the company is excluded from both the portfolio and the benchmark index. It therefore does not draw on our framework for deviations.

It is our experience that the practice of this criterion is complex and that it requires broad insight and detailed information about companies' activities and plans.

Norges Bank expects that we will - in light of the work I have talked about today - gather further detailed information about the companies' climate risk and climate plans. We will share this information with the Council on Ethics.

Downsizing or exclusion is the last link in the chain of instruments, but far from the most important. We plan for Norges Bank to be a driving force for the companies in the portfolio to adjust to net zero emissions over time. Active ownership is the key tool.

End

Before I conclude, I would like to mention that we invest in companies that can contribute to solutions to the climate challenges, both through the environmental mandates and in the rest of equity management. We are now also in the process of building up a portfolio of high-quality wind and solar power plants.

The first environmental mandates were established in December 2009, and have had positive learning effects for several parts of the organization. As we write in the letter to the ministry, we will in future draw more on the competence of the managers of the environmental mandates in other parts of the administration.

Overall: Our ambition is for us to be a leader in responsible management. In collaboration with other large investors, we will contribute to the development of standards and methods for reporting. We will strengthen our dialogue with companies about climate both in scope and depth, and utilize the entire toolbox we have as an investor. We will influence companies to take the restructuring seriously. We expect concrete plans, not empty words or greenwashing! And not least - we must have a clear voice in our ownership work.

Footnote

[1] The calculations are based on the analysis company MSCI's classification of companies' transition risk. 80 per cent of the market value of the fund's equity portfolio ends up in the group of companies that are neutrally exposed to transition risk.

PUBLISHED December 21, 2021 9:00 AM

https://www.cppinvestments.com/public-media/headlines/2021/cpp-investments-highlights-importance-of-decarbonizing-hard-to-abate-sectors-in-addressing-climate-change

CPP Investments highlights importance of decarbonizing hard-to-abate sectors in addressing climate change

• CPP Investments releases position outlining investors' role in enabling an economy-wide evolution to a low-carbon future
• Introduces new investment approach that will identify, fund and support companies in their effort to decarbonize

Toronto, CANADA (December 15, 2021) – Helping essential, high-emitting businesses decarbonize is critical to addressing climate change, according to a recent perspective published by Canada Pension Plan Investment Board (CPP Investments). The perspective, "Investing to enable an economy-wide evolution to a low-carbon future," highlights the opportunity decarbonization presents for long-term investors, noting the need to address a particularly serious obstacle to decarbonization: strategic sectors that are essential, high-emitting and hard-to-abate.

The perspective also outlines CPP Investments' new investment approach which aims to identify, fund and support companies that are committed to creating value by lowering their emissions over time, consistent with CPP Investments' time horizon advantage.

"High-emitting companies that successfully navigate the economy-wide evolution to a low-carbon future will preserve and deliver embedded value for patient long-term investors like CPP Investments," said Deb Orida, Global Head of Real Assets & Chief Sustainability Officer. "This new investment approach complements the Fund's ongoing commitment to investing in companies that have the potential to develop innovative climate technologies around the world and furthers our existing capabilities in technologies that enable the energy evolution."

Strategic sectors that are essential, high emitting and hard-to-abate within this investment approach include agriculture, chemicals, cement, conventional power, oil and gas, steel and heavy transportation. The successful decarbonization of these sectors is not only essential to meet wider net-zero ambitions, but also to sustain economic growth, stability and a responsible transition. CPP Investments plans to work in partnership with like-minded companies, industry leaders, investors, and other interested parties to build out a dedicated investment approach to support current and future portfolio companies in their evolution.

CPP Investments also released a related perspective today focusing on an additional key element of sustainable investing, "Financing a greener future," highlighting green bonds as part of the Fund's approach to deploying capital for projects with environmental benefits. The paper outlines how for green bonds to go from a fast-growing niche to a mainstream offering, standards will have to grow out of a mix of evolving draft rules into something closer to the bond market's extant framework for governing how debt is rated, issued and evaluated for performance. The imperative is to improve green bond standards and practices quickly. Doing so can help the financial sector realize its enormous potential for guiding capital toward investments that support the transition to a low-carbon economy while also boosting returns. In 2018, CPP Investments was the world's first pension fund to issue green bonds and has floated six more issuances since.

For more information, the "*Investing to enable an economy-wide evolution to a low-carbon future*" perspective can be found on the CPP Investments website here. The "*Financing a greener future*" paper can be found here.

About CPP Investments

Canada Pension Plan Investment Board (CPP Investments™) is a professional investment management organization that manages the Fund in the best interest of the more than 20 million contributors and beneficiaries of the Canada Pension Plan. In order to build diversified portfolios of assets, investments are made around the world in public equities, private equities, real estate, infrastructure and fixed income.

Headquartered in Toronto, with offices in Hong Kong, London, Luxembourg, Mumbai, New York City, San Francisco, São Paulo and Sydney, CPP Investments is governed and managed independently of the Canada Pension Plan and at arm's length from governments. At September 30, 2021, the Fund totalled $541.5 billion. For more information, please visit www.cppinvestments.com or follow us on LinkedIn, Facebook or Twitter.

Dan Tsubouchi @Energy_Tidbits · 3h

#Scholz today. UAE to supply one #LNG cargo for late 2022 & reserving "a number" of further cargos exclusively for German customers in 2023. Would have been highlighted if "a number" was big. No post 2023 LNG supply deals. Every LNG cargo helps, so better than nothing. #OOTT

https://wam.ae/en/details/1395303088451
Sun 25-09-2022 15:21 PM

UAE President and German Chancellor witness signing of new Energy Security and Industry Accelerator Agreement

ABU DHABI, 25th September, 2022 (WAM) -- UAE President, His Highness Sheikh Mohamed bin Zayed, and German Chancellor, Olaf Scholz, have witnessed the signing of a new Energy Security and Industry Accelerator (ESIA) Agreement that will accelerate projects of joint interest between the UAE and Germany in energy security, decarbonization and climate action.

The agreement was signed by Dr. Sultan Ahmed Al Jaber, UAE Minister of Industry and Advanced Technology, UAE Climate Special Envoy, and Managing Director and Group CEO of the Abu Dhabi National Oil Company (ADNOC), and Dr. Franziska Brantner, Parliamentary State Secretary at the Federal Ministry for Economic Affairs and Climate Action.

The agreement signing ceremony was attended by H.H. Lt. General Sheikh Saif bin Zayed Al Nahyan, Deputy Prime Minister and Minister of the Interior; H.H. Sheikh Mansour bin Zayed Al Nahyan, Deputy Prime Minister and Minister of the Presidential Court; H.H. Sheikh Hamed bin Zayed Al Nahyan, Member of Abu Dhabi Executive Council; H.H. Sheikh Hamdan bin Mohamed bin Zayed Al Nahyan; Sheikh Mohammed bin Hamad bin Tahnoun Al Nahyan, Advisor of Special Affairs at the Ministry of Presidential Court; Suhail bin Mohammed Al Mazrouei, Minister of Energy and Infrastructure; Mariam bint Mohammed Almheiri, Minister of Climate Change and the Environment; Dr. Anwar Gargash, Diplomatic Adviser to the UAE President; and Khaldoun Khalifa Al Mubarak, Chairman of the Executive Affairs Authority; and members of the delegation accompanying the German Chancellor, as well as a number of ministers and senior officials.

As part of the agreement, Abu Dhabi National Oil Company (ADNOC) has entered into an LNG supply agreement with RWE AG (RWE), with ADNOC providing an LNG cargo for delivery in late 2022, to be used in the commissioning of Germany's floating LNG import terminal at Brunsbüttel. In addition, ADNOC has reserved a number of further LNG cargos exclusively for German customers in 2023.

ADNOC has also entered into a number of agreements with German customers, including Steag GmbH (Steag) and Aurubis AG (Aurubis) for demonstration cargos of low-carbon ammonia, a carrier fuel for hydrogen that can play a critical role in decarbonizing hard-to-abate industry sectors. The first of these cargoes arrived in Hamburg earlier this month. Under the proposed ESIA, both countries anticipate to explore further opportunities to accelerate growth and collaboration across the hydrogen value chain.

Furthermore, Masdar, the UAE's renewable energy champion, will be actively exploring opportunities in the offshore wind markets in the North Sea and Baltic Sea in Germany that could generate up to 10GW of renewable energy production capacity by 2030 subject to the necessary German policy and regulatory requirements being met between the two nations.

Finally, it was announced that ADNOC had completed the UAE's first ever direct diesel delivery to Germany in September 2022, and has agreed the terms with Wilhelm Hoyer GmbH & Co. KG (Hoyer) to supply up to 250,000 tons of diesel per month in 2023.

Olaf Scholz said: "I welcome the signing of the joint declaration of intent on the "Energy Security and Industry Accelerator - ESIA". Through ESIA, we enable the swift implementation of strategic lighthouse projects on the focus areas of renewable energies, hydrogen, LNG and climate action."

Dr. Sultan Al Jaber said: "This landmark new agreement reinforces the rapidly growing energy partnership between the UAE and Germany. As we embrace the energy transition, ADNOC is fully committed to accelerate and invest in projects of energy security, decarbonization and climate action as we continue to be a responsible and reliable provider and trusted exporter of low-carbon energy."

Robert Habeck, Vice Chancellor and Federal Minister for Economic Affairs and Climate Action, said: "We highly welcome the acceleration of joint lighthouse projects in the field of climate action, decarbonisation and energy security. We look forward to closely collaborate on offshore wind, other renewables and hydrogen in the UAE and in Germany."

ADNOC has long been a responsible and reliable provider of energy products to customers globally. The company was the first LNG producer in the Middle East and has over 40 years' experience in the LNG market. It is currently in the midst of a major expansion of its natural gas business, accelerating production to meet both domestic and international demand.

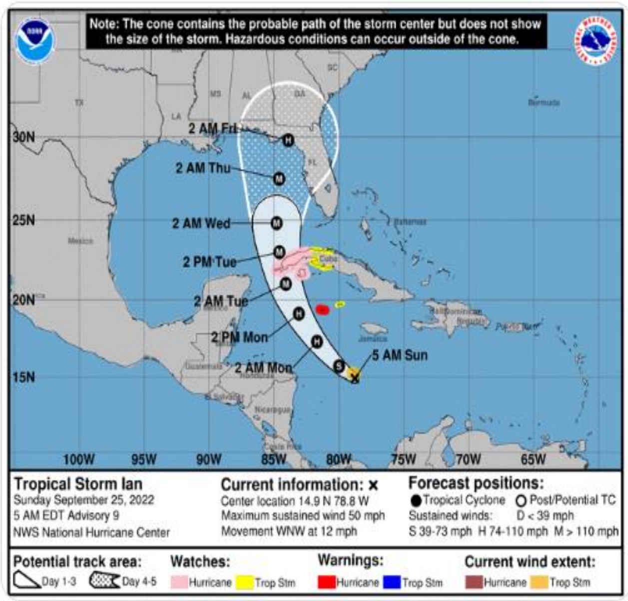
Abu Dhabi's oil and gas resources have some of the lowest carbon intensity in the world. ADNOC's flagship crude oil, Murban, has less than half the carbon intensity of the industry average and the company is delivering on its plans to reduce the carbon intensity of its operations by a further 25% by 2030. Murban crude is freely traded on the ICE Futures Abu Dhabi (IFAD) exchange, where it is sold as a destination free crude oil to buyers from around the globe.

WAM/ /Tariq alfaham

1 1

Dan Tsubouchi @Energy_Tidbits · 5h

Tropical Storm Ian, projected path still targets western Cuba and west side of Florida. Also still east of major GoM offshore #Oil #NatGas fields, and of major Gulf Coast refineries, export terminals incl LNG. Hope everyone stays safe. #OOTT



2 2

Dan Tsubouchi @Energy_Tidbits · 20h

#Vortexa crude #Oil floating storage at 09/23 est 105.37 mmb, +10.04 mmb vs revised up big +13.4 mmb 09/16 of 95.33 mmb. Other than 09/09 week, last several weeks were revised up. With revisions, floating storage is higher, mostly >100 mmb. Thx @Vortexa @business. #OOTT

Vortexa Crude Oil Floating Storage Estimate Posted Sept 24 at 1pm mt

Source: Bloomberg, Vortexa

Posted Sept 24, 1pm MT

FZWWFST VTXA Inde

09/22/2019 - 09/23/2022

	Date	FZWWFST VT... Last Px
Fr	09/23/2022	105.366k
Fr	09/16/2022	95328
Fr	09/09/2022	96979
Fr	09/02/2022	86287
Fr	08/26/2022	82484
Fr	08/19/2022	104.557k
Fr	08/12/2022	109.8k
Fr	08/05/2022	89171
Fr	07/29/2022	89908
Fr	07/22/2022	85072
Fr	07/15/2022	85720

Sept 18, 4pm MT

FZWWFST VTXA Inde

09/15/2019 - 09/16/2022

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Fr	09/09/2022	91989
Fr	09/02/2022	82464
Fr	08/26/2022	83003
Fr	08/19/2022	100.524k
Fr	08/12/2022	107.464k
Fr	08/05/2022	88461
Fr	07/29/2022	90773
Fr	07/22/2022	83754
Fr	07/15/2022	86219
Fr	07/08/2022	97950

Sept 10 at 2pm MT

FZWWFST VTXA Inde

09/08/2019 - 09/09/2022

	Date	FZWWFST VT... Last Px
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Fr	09/02/2022	84975
Fr	08/26/2022	88677
Fr	08/19/2022	102.252k
Fr	08/12/2022	109.215k
Fr	08/05/2022	91280
Fr	07/29/2022	91381
Fr	07/22/2022	84546
Fr	07/15/2022	87008
Fr	07/08/2022	99025
Fr	07/01/2022	102.525k

Source: Bloomberg, Vortexa

1 2 4

Dan Tsubouchi @Energy_Tidbits · Sep 24

Qatar can't do much to help EU in short term. But trying to get EU/DE into its #LNG expansion volumes by moving off 20-yr term, Energy Minister "i think 10-15 year deals are probably what are most acceptable to both sides". Thx @energyintel. #OOTT

energyintel.com

Qatari Minister: No 'Quick Fix' to EU Gas Crisis

There is not much that LNG powerhouse Qatar can do to alleviate Europe's gas crisis in the short term...

4 3

SAF

Dan Tsubouchi @Energy_Tidbits · Sep 24

Reminder see 👇 06/12 tweet Qatar LNG expansion is two Phases. Phase 2 North Field South adds 2.1 bcfd operational in 2027. Today, @V_Ratcliffe reporting #TotalEnergies will hold 9.375% in North Field South. Expect other partner announcements in coming days. #LNG #OOTT

(Bloomberg) -- TotalEnergies SE is investing about $1.5 billion in Qatar's latest, mammoth natural gas development, just three months after buying into another of the nation's expansion projects.

The French energy giant will hold a 9.375% stake in North Field South, Qatar Energy Minister Saad Al-Kaabi said Saturday. The project will raise Qatar's liquefied natural gas capacity to 126 million tons. Total and other international oil companies will take a 25% stake in the project, with the country holding onto the rest, Kaabi said.

Qatar is increasing its gas production and liquefaction capacity amid a global surge in demand for the fuel. Supplies were already tight before Russia's invasion of Ukraine in February sent prices rocketing.

TotalEnergies Set to Make Another Gas Investment in Qatar

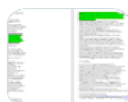
TotalEnergies was the first foreign company to take a stake in Qatar's North Field East project in June. It owns 6.25% of that 33 million ton-per-year project, which will cost $29 billion to construct.

Other energy companies may announce investments in North Field South in coming weeks.

While the expansion plans will allow Qatar to tap growing global demand for LNG, both projects will take several years to complete, leaving gas-starved businesses in Europe grappling for supplies in the meantime.

To contact the reporter on this story:
Verity Ratcliffe in Dubai at vratcliffe1@bloomberg.net
To contact the editors responsible for this story:
Paul Wallace at pwallace25@bloomberg.net

Dan Tsubouchi @Energy_Tidbits · Jun 12

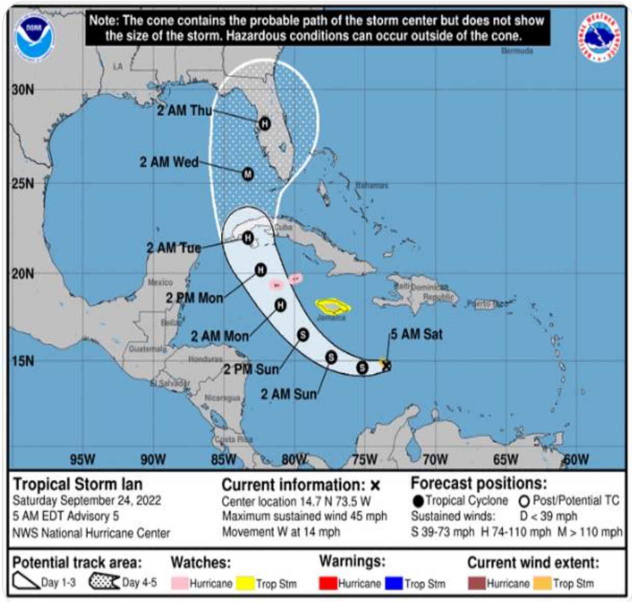


Qatar names @TotalEnergies as 1st partner. Reminder Qatar's #LNG expansion is 2 phases. Phase 1 North Field East, adds 4.4 bcfd BY 2026. Phase 2 North Field South adds 2.1 bcf operational IN 2027. Current 10.1 reaches 16.6 bcfd. Thx @SimoneFoxman @V_Ratcliff...

1 1

Dan Tsubouchi @Energy_Tidbits · Sep 24

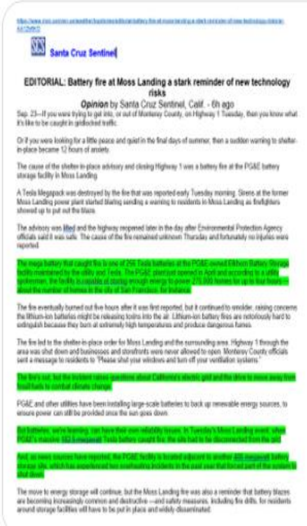
Tropical Storm Ian expected to reach hurricane strength on Mon. Path still projected to hit Cuba & Florida, and east of GoM #Oil #NatGas fields and Gulf Coast refineries and export terminals. Hope everyone can be safe. #LNG. #OOTT



2 · 10

Dan Tsubouchi @Energy_Tidbits · Sep 23

Must read! @scsentinel reports #PGE big Moss Landing battery storage shut indefinitely post fire at 1 of 256 Tesla mega batteries. Any risk to battery storage potential limits #Wind #Solar non-peak contribution & creates need for #NatGas. #OOTT santacruzsentinel.com/2022/09/23/edi ...



Santa Cruz Sentinel

EDITORIAL: Battery fire at Moss Landing a stark reminder of new technology risks

Opinion by Santa Cruz Sentinel, Calif. - 6h ago

Sep. 23—If you were trying to get into, or out of Monterey County, on Highway 1 Tuesday, then you know what it's like to be caught in gridlocked traffic.

Or if you were looking for a little peace and quiet in the final days of summer, then a sudden warning to shelter-in-place became 12 hours of anxiety.

The cause of the shelter-in-place advisory and closing Highway 1 was a battery fire at the PG&E battery storage facility in Moss Landing.

A Tesla Megapack was destroyed by the fire that was reported early Tuesday morning. Sirens at the former Moss Landing power plant started blaring sending a warning to residents in Moss Landing as firefighters showed up to put out the blaze.

The advisory was lifted and the highway reopened later in the day after Environmental Protection Agency officials said it was safe. The cause of the fire remained unknown Thursday and fortunately no injuries were reported.

[illegible]

The fire eventually burned out five hours after it was first reported, but it continued to smolder, raising concerns the lithium-ion batteries might be releasing toxins into the air. Lithium-ion battery fires are notoriously hard to extinguish because they burn at extremely high temperatures and produce dangerous fumes.

The fire led to the shelter-in-place order for Moss Landing and the surrounding area. Highway 1 through the area was shut down and businesses and storefronts were never allowed to open. Monterey County officials sent a message to residents to "Please shut your windows and turn off your ventilation systems."

[illegible]

PG&E and other utilities have been installing large-scale batteries to back up renewable energy sources, to ensure power can still be provided once the sun goes down.

[illegible]

[illegible]

The move to energy storage will continue, but the Moss Landing fire was also a reminder that battery blazes are becoming increasingly common and destructive —and safety measures, including fire drills, for residents around storage facilities will have to be put in place and widely disseminated.

For PG&E, which filed for bankruptcy in 2019 amid tens of billions of dollars in liabilities for wildfires linked to its equipment, this is another fire-and-equipment risk. [illegible]

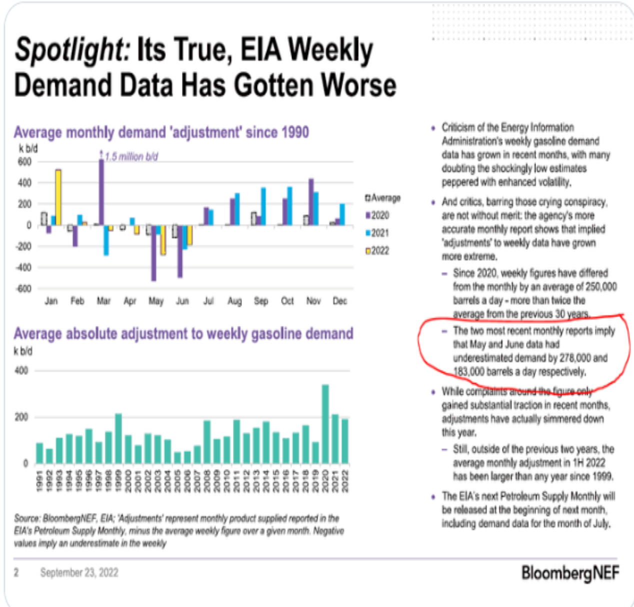
Central Coast residents should likewise be grateful Tuesday's battery fire didn't occur during the heat wave two weeks ago when the state power supply was tight and PG&E warned blackouts might be necessary. [illegible] and the utility estimates the damage will exceed $50,000.

Again, the takeaway is not that utilities should stop the conversion from fossil fuels to renewables and battery storage, but that all energy sources, including solar and wind power, carry costs and risks.

11 24

Dan Tsubouchi @Energy_Tidbits · Sep 23

Reminder, the #EIA weekly demand data has consistently underestimated demand. @BloombergNEF Danny Adkins estimates the demand was underestimated by 278,000 b/d in May and 183,000 b/d in June. #OOTT



9 31

Dan Tsubouchi @Energy_Tidbits · Sep 23

Think #Shell FIDs #LNGCanada 1.8 bcf/d Phase 2 is happening irrespective of $TELL. But doesn't hurt as Shell was taking 0.39 bcfd #DriftwoodLNG. Most of all, reminds why best operators like Shell focus on projects they operate - takes away operator execution risk. #NatGas #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Sep 15
>
> Gotta believe new #Shell CEO Sawan will be recommending FID for #LNGCanada brownfield 1.8 bcfd Phase 2. See 👇 Feb 21 thread, #LNG outlook only stronger since Sawan's showcasing of LNG Canada. What's good for LNG Canada is great for West Cdn #NatGas valuations. #OOTT twitter.com/Energy_Tidbits...

1 3 9

SAF

Dan Tsubouchi @Energy_Tidbits · Sep 23

Sounds like @bp_America Toledo 160,000 b/d Refinery will down at least thru month end. Negative to Cdn #Oil differentials as Cdn crude supplies Toledo. Thx @barbarajpowell8. #OOTT

By Barbara Powell
(Bloomberg) -- BP Plc has told contract workers to stay out of the fire-damaged BP-Husky Toledo refinery at least through next week, people familiar with operations say.
* BP didn't immediately respond to a request for comment and has not given an update on the status of the 150.8k b/d refinery in Oregon, Ohio, since early Wednesday
* Unknown if BP's own workers are at the refinery
** About 460 BP employees work at the plant
* The fire, which broke out early Tuesday evening and lasted about 4.5 hours, caused the death of two BP employees and shut down the refinery
** Multiple contractors were on site performing maintenance and were sent home about 10 hours before the fire began, the people say
* Wood Mackenzie's Genscape said the fire started at the 120k b/d Crude Unit 1, the biggest crude unit
* Refinery remains shut with no estimate for repairs or restarting
* READ: Fire at 103-Year-Old BP Refinery Kills Two, Halts Work
* READ: BP to Sell Interest in BP-Husky Toledo Refinery to Cenovus

To contact the reporter on this story:
Barbara Powell in Houston at bpowell4@bloomberg.net
To contact the editor responsible for this story:
Catherine Traywick at ctraywick@bloomberg.net

To view this story in Bloomberg click here:

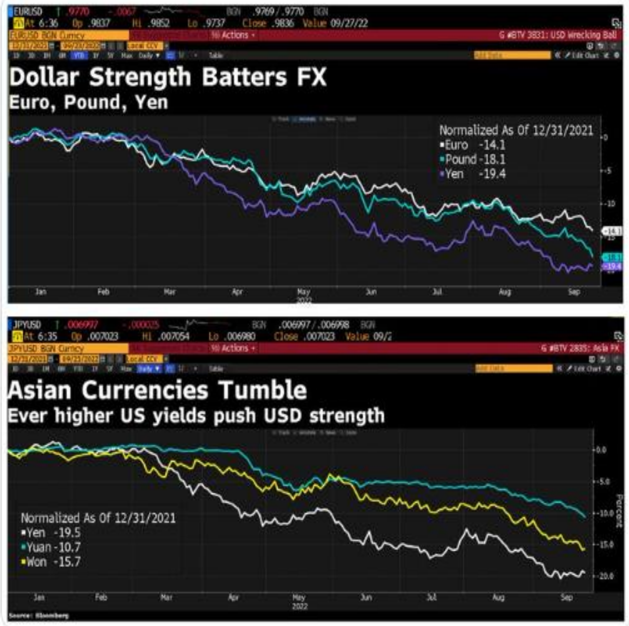
Dan Tsubouchi @Energy_Tidbits · Sep 21

Too early for ETA on how long BP Toledo Refinery will be shut. Negative to Cdn #Oil differentials as Toledo processes 160,000 b/d of Cdn crude. 08/08/22, BP agreed to sell its 50% interest to its 50% JV partner, Cenovus. #OOTT twitter.com/BigMedicine/st…

2 2

Dan Tsubouchi @Energy_Tidbits · Sep 23

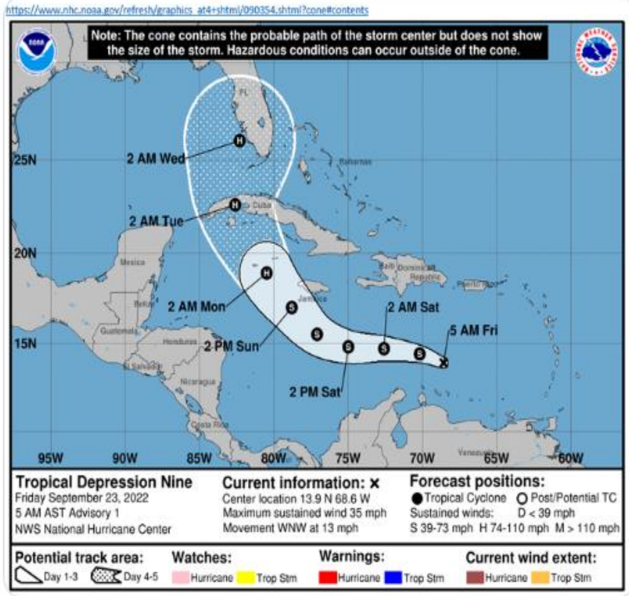
Imported cost of US$ priced #Oil #LNG & other goods keeps getting hammered by stronger and stronger US$. @BloombergTV charts this morning. #OOTT



1

Dan Tsubouchi @Energy_Tidbits · Sep 23

Expected reach Tropical Storm strength today and then up to hurricane strength when Nine hits Cuba and then Florida. For now, forecast is east of #Oil #NatGas offshore GoM fields, and major refineries, #LNG export in TX, LA. Hope people stay safe. #OOTT



7 11

Dan Tsubouchi @Energy_Tidbits · Sep 22

Unfortunately, bad assumptions = well intentioned bad decisions. See 👇 linked 05/16/21 tweet @ClimateEnvoy "50% of the reductions we have to make to get to net zero are going to come from technologies that we don't yet have. That's just a reality" #OOTT twitter.com/Energy_Tidbits...

https://twitter.com/Energy_Tidbits/status/1393900951539380226

Dan Tsubouchi
@Energy_Tidbits

#JohnKerry "I am told by scientists that 50% of the reductions we have to make to get to net zero are going to come from technologies that we don't yet have. That's just a reality". This means other reality is will need #NatGas #Oil for longer. #OTTT

theguardian.com/environment/20...

6:07 AM · May 16, 2021 · Twitter Web App

Excerpt SAF Group May 16, 2021 Energy Tidbits memo

Energy Transition – Kerry, 50% of emissions cuts to come from future technology

We recognize that the Energy Transition is going to happen, but we just wish that the politicians would at least warn people that its going to take longer, be bumpy and be more expensive for energy. People have to understand the Energy Transition is not a plan, its an aspiration and governments do not know how it will be accomplished. No one expects them to have a 100% plan, but the reality is that, at best, they have a 50% plan. Could you imagine committing to any project delivery not know how 50% of the project will be accomplished? We say 50% at best because the reality is that politicians tend to overestimate the positive. This is what US Special Presidential Envoy for Climate said a month ago at the Biden global leaders climate summit – 50% of the planned emissions cuts will have to come from technologies not yet developed. Earlier this morning the Guardian reported [LINK] on Kerry's comments in the UK. After seeing the Guardian report, we tweeted [LINK] "#JohnKerry *"I am told by scientists that 50% of the reductions we have to make to get to net zero are going to come from technologies that we don't yet have. That's just a reality". This means other reality is will need #NatGas #Oil for longer. #OTTT"* His comments on the reality check and that governments are setting real targets without knowing how it will accomplish is a reality check that the demise of natural gas and oil won't be as fast as the Energy Transition aspirations. Our Supplemental Documents package includes the Guardian report.

Source: SAF Group May 16, 2021 Energy Tidbits memo https://safgroup.ca/news-insights/

Dan Tsubouchi @Energy_Tidbits · Sep 22

EU's self-inflicted #EnergyCrisis. "current situation requires a difficult rethink of long-held assumptions how we can best reach climate neutrality in 2050" says all EU auto co's, fuels manufacturing co's & industry associations. Fits 👇 12/09/21 tweet ...

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EU's self-inflicted #EnergyCrisis. "current situation requires a difficult rethink of long-held assumptions how we can best reach climate neutrality in 2050" says all EU auto co's, fuels manufacturing co's & industry associations. Fits 👇 12/09/21 tweet #2022Predictions. #OOTT


FuelsEurope

JOINT LETTER TO EUROPEAN POLICYMAKERS ON CO2 STANDARDS FOR CARS AND VANS

> **Dan Tsubouchi** @Energy_Tidbits · Dec 9, 2021
>
> Time for #2022Predictions. My #1 is more #EnergyTransition #NetZero leaders come out of closet, have a #MacronMoment ie. have "transition" not self inflicted shortage so 2021 energy crisis isn't every year. A return to #EnergySecurity = #Oil #NatGas #LNG strong thru 2030. #OOTT twitter.com/Energy_Tidbits...

1 4 7

Dan Tsubouchi @Energy_Tidbits · Sep 22

What's great about @PresidentsCup TV coverage is that we get to see almost every shot by every player. Looking forward to watching 🇨🇦's @coreconn @TaylorPendrith on this global golf stage.

> **Presidents Cup** @PresidentsCup · Sep 22
>
> Ready to go.
>
> #PresidentsCup || #IntlTeam
>
> Show this thread

Dan Tsubouchi @Energy_Tidbits · Sep 22

Buckle Up! "People are scared shitless about energy outside of America" "their enterprises are built for static unified world of peace" @PalantirTech CEO. reminds of 👇 09/07 DeutscheBank CEO must read speech. Great interview @andrewrsorkin @BeckyQuick. #OOTT #NatGas

SAF Group created transcript of comments by Alex Karp, Palantir Co-Founder & CEO, with Andrew Ross Sorkin and Becky Quick on CNBC Squawk Box on Sept 22, 2022.

Note: this portion of the interview was not in the posted CNBC interview excerpt.

Items in "*italics*" are SAF Group created transcript

At 6:26am MT, Karp "*.. but what I do see is that people are scared shitless about energy outside of America. They're so scared about the macro, political conditions that no one wants to talk about it. Their enterprises are built for a static unified world of peace. And the balance sheets, obviously, are often not prepared for what is going to happen, which I think is going to be pretty bad the next couple years – politically, economically*".

Prepared by SAF Group https://safgroup.ca/

Dan Tsubouchi @Energy_Tidbits · Sep 7

1/2. Must Read @DeutscheBank CEO. RUS/UKR "destroyed a number of certainties on which we build our economic system over the past decades". NEXT UP, "awkward question on how to deal with China" in light of increasing CN/US isolation/tension, reducing China dependency will .. #OOTT

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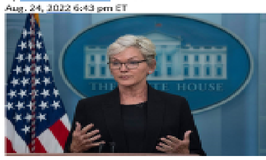
1 5 15

Dan Tsubouchi @Energy_Tidbits · Sep 21

Hmm! #Biden UN address "we're calling on all countries to refrain from banning food exports or hoarding grain while so many people are suffering"

Will same concept apply to US #LNG #PetroleumProducts exports if supply is tight this winter? Or does 👇 @SecGranholm supercede? #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Aug 26
>
> Every man for himself! @SecGranholm urges US #Oil refiners to build inventories, not sell down stocks & further increase exports. Or, Admin need to consider added Fed requirements or other emergency measures. Excerpt 👇, worth reading full @WSJ opinion. #OOTT
>
> **Excerpt** https://www.wsj.com/articles/jennifer-granholms-de-facto-fuel-export-ban-energy-secretary-letter-refiners-oil-europe-11661379613?st=cp5j6h4wolb0ckt
>
> - OPINION
>
> **Granholm to Europe: Tough Luck**
>
> **The Energy Secretary bullies U.S. companies to reduce fuel exports.**
>
> By *The Editorial Board* Follow
>
> Aug. 24, 2022 6:43 pm ET
>
> 
>
> Secretary of Energy Jennifer GranholmPHOTO: CHRIS KLEPONIS - POOL VIA CNP/ZUMA PRESS
>
> America's allies in Europe are desperate for alternative supplies of fuel amid the Ukraine war, and U.S. producers are happy to provide what they can. So wouldn't you know the Biden Administration now wants to limit fuel exports.
>
> That's the message Energy Secretary Jennifer Granholm sent last week in a letter imploring seven major refiners to limit fuel exports. We obtained a copy of the letter, which the Administration didn't release publicly. Ms. Granholm warns that gasoline inventories on the East Coast are at a near-decade low, and diesel stocks are nearly 50% below the five-year average across the region.
>
> "Given the historic level of U.S. refined product exports, I again urge you to focus in the near term on building inventories in the United States, rather than selling down current stocks and further increasing exports," she writes.
>
> "It is our hope that companies will proactively address this need," she adds. "If that is not the case, the Administration will need to consider additional Federal requirements or other emergency measures." In New Jersey they call that an offer you can't refuse.
>
> This is a political escalation from President Biden's June command to refiners to immediately lower gasoline prices. As average gasoline prices nationwide have fallen to $3.88 from about $5 in mid-June, he has been taking a media victory tour. Mr. Biden can thank Americans for driving less, and crude prices have been falling amid a broader selloff in commodities.

2 2 9

Dan Tsubouchi @Energy_Tidbits · Sep 21

For those not near their laptop, @EIAgov just released #Oil #Gasoline #Distillates inventory as of Sept 16. Table below compares EIA data vs expectations and vs @APIenergy yesterday. Prior to release, WTI was $84.44. #OOTT

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

ts Inventory Sept 16: EIA, Bloomberg Survey Expectations, A

rels)	EIA	Expectations	
	1.14	2.20	
	1.57	-0.45	
	1.23	-0.05	
	3.94	1.70	

commercial so builds in impact of 6.9 mmb draw from SPR for Se

ded in the oil data, Cushing had a build of 0.34 mm for Sept 16 we

, Bloomberg

y SAF Group https://safgroup.ca/news-insights/

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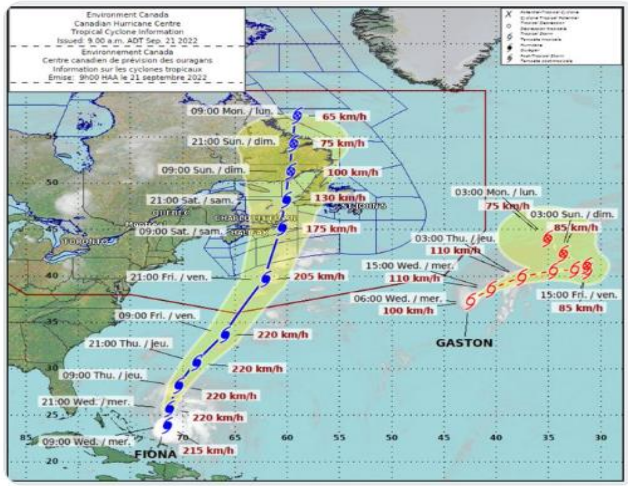
Dan Tsubouchi @Energy_Tidbits · Sep 21

Hope everyone can stay safe as #Fiona projected track shifted a little west. Now forecast to hit Nova Scotia as a 175 km/h Cat 2 hurricane on Sat am. Just below 177 km/h Cat 3 level. Haven't seen yet if any precautionary plans re offshore Newfoundland ~240,000 b/d. #OOTT



Dan Tsubouchi @Energy_Tidbits · Sep 19

It's early, but #Fiona forecast to return to hurricane strength when it hits Saturday. If path holds, likely see temporary precautionary shut down of offshore Newfoundland ~240,000 b/d. #OOTT

1 3 6

Dan Tsubouchi @Energy_Tidbits · Sep 21

Too early for ETA on how long BP Toledo Refinery will be shut. Negative to Cdn #Oil differentials as Toledo processes 160,000 b/d of Cdn crude. 08/08/22, BP agreed to sell its 50% interest to its 50% JV partner, Cenovus. #OOTT

> Hal Newman @BigMedicine · Sep 20
>
> Damn. This is close to Toledo OH. #Lucas County.
> "According to Lucas County Regional Dispatch, crews responded to the refinery in the 4100 block of Cedar Point Road in Oregon around 6:30 p.m. on Tuesday evening for reports of injuries..."
> twitter.com/rawsalerts/sta...

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Dan Tsubouchi @Energy_Tidbits · Sep 21

Putin escalates: partial mobilization to defend RUS, sovereignty, territorial integrity. In event of a threat to the territorial integrity of our country & to defend Russia & our people, we will certainly make use of all weapon systems available to us.This is not a bluff #OOTT

2 3 6

SAF

Dan Tsubouchi @Energy_Tidbits · Sep 20

EU #EnergyTransition is going to be very $$$$ with lots of casualties. @EIB President - cost to move to #Hydrogen economy "will be enormous", re Industrial destruction in EU - ".. will be terrible but we will then have to live with it". Thx @GuyJohnsonTV @adsteel. #OOTT.

Saf Group created transcript of European Investment Bank Werner Hoyer interviewed by Bloomberg's Alix Steel and Guy Johnson on Sept 20, 2022. Watch EIB President Hoyer on Nationalization, Renewables - Bloomberg

Items in "italics" are SAF Group created transcript.

At 2:15 min mark, Johnson *"in the meantime you are talking about reduced demand . that is industrial destruction in Europe. There are plenty of businesses in Germany, chemical factories, industrial sites that can't manage with the current price of energy. If we reduce demand, that's reduced jobs. That's problems in Europe this winter and potentially next. Mr. Hoyer, how do we solve that problem? we're not going to have a stable energy situation in Europe potentially for years to come?"* Hoyer *"that can very well be and will be terrible but we will then have to live with it. That means, we need to try to find alternative sources and we urgently need to reduce demand. When the whole thing began, I heard from industrial leaders that nothing would be possible, we couldn't achieve anything in terms of reduction of energy use. And now all of a sudden, it works quite well."*

At 3:50 min mark, Hoyer *"… we're moving, in my view, very quickly into a hydrogen economy. And that requires enormous investments. The problem right now is in times of crisis, in times of war, the first thing that suffers is investment. And this is why, as an investment bank in service of the public good, we need to make sure that we can foster and strengthen investments in Europe also in this very field."* Johnson *"how long is it going to take and how much is it going to cost?"* Hoyer *"The cost of course, at first glance, will be enormous. There is no doubt about that. But on the other hand, we will arrive at an energy situation that will be cheaper than we have today".*

Prepared by SAF Group News & Insights – SAF Group

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