SAF GROUP

Energy Tidbits

Norway's Wealth Fund is Another Major Investor, Like CPPIB, to Keep Investing in Oil & Gas Stocks

Produced by: Dan Tsubouchi

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Dan Tsubouchi
Principal, Chief Market Strategist
dtsubouchi@safgroup.ca

Ryan Dunfield
Principal, CEO
rdunfield@safgroup.ca

Aaron Bunting
Principal, COO, CFO
abunting@safgroup.ca

Ryan Haughn
Principal, Energy
rhaughn@safgroup.ca

More U.S. LNG Cargoes Head to Gas-Hungry Europe, Easing Prices
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By Sergio Chapa
(Bloomberg) -- The number of tankers crossing the Atlantic with U.S. liquefied natural gas that declared Western European ports as their destinations jumped 50% in just 24 hours as the continent's energy crisis deepens.
They are now 15, up from 10 on Wednesday, shipping data compiled by Bloomberg show.
Plus, there are another 11 U.S. LNG cargoes with undeclared destinations whose paths suggest they're headed for Europe, including the Minerva Chios, which left Cheniere Energy's Sabine Pass LNG export terminal in Louisiana in mid-November and was in the Indian Ocean when it was rerouted towards Europe last week.
Europe's energy crises has intensified in recent days after halted nuclear reactors in France and low wind power output in Germany worsened a shortage that's forcing countries to burn more coal and even oil to keep the lights on and homes warm.
News of U.S. LNG cargoes heading to the continent and providing relief sent benchmark European gas prices dropping from record levels.

Some 15 U.S. LNG cargoes have declared destinations in natural gas-starved Europe while another 11 appear to be on a path to the continent
Source: Bloomberg

Of the 15 LNG tankers that declared their ports, the U.K., France and Spain are the destinations of four each, with the Netherlands, Gibraltar and Malta getting one each.
In addition, an LNG tanker whose destination was undeclared is moored at the Milford Haven anchorage in the U.K.

To contact the reporter on this story:Sergio Chapa in Houston at schapa2@bloomberg.net

Schedule 1 - Directions

Direction 1

Carry out a review or reviews of the incidents and associated consequences that occurred at the Prelude FLNG facility from 2-6 December 2021, including the issues identified in the NOPSEMA investigation report dated 23 December 2021. Present to NOPSEMA the findings of these reviews once complete.

Direction 2

Based on the findings of the reviews from Direction 1, develop a detailed plan, schedule and commitment to timely implementation of all necessary corrective actions. Present the plan to NOPSEMA once complete.

Direction 3

Prior to hydrocarbon production commencing, demonstrate to NOPSEMA's satisfaction that the facility can safely recover essential power and associated essential services following a loss of power, and that the safety systems and essential support systems operate to maintain safety of personnel.

Direction 4

On the first business day of each month commencing March 2022 provide an update to NOPSEMA detailing progress under Directions 1 and 2 until NOPSEMA is satisfied under Direction 3.

Explanatory Statement

Offshore Petroleum and Greenhouse Gas Storage Act 2006

Background

- At around 22:40 on 2 December 2021, the Shell Australia Pty Ltd owned and operated Prelude FLNG facility experienced an unplanned event that resulted in a complete loss of power at the facility, which subsequently led to unreliable and intermittent power availability over 3 days. Multiple attempts during this period were made to re-establish reliable power.
- The following morning, NOPSEMA commenced an investigation. Regular contact was established with Shell onshore management for updates on the offshore emergency situation and the activities underway to respond and recover, as the loss of power had impacted the habitation and working conditions of the personnel on the facility.
- By 6 December 2021, the failure to restore reliable power was seen to represent an ongoing impact and risk to the health and safety of the personal on the facility and NOPSEMA arranged to visit the facility.
- The Inspectors were mobilised at the first available opportunity on 8 December 2021, returning on 10 December.
- The Inspectors concluded that the operator did not have a sufficient understanding of the risks of the power system on the facility, including failure mechanisms, interdependencies and recovery.
- The power failures commencing on 2 December 2021 directly impacted:
  - Emergency response capability, operation of safety critical equipment (e.g., communications, access to safety critical documentation and information, Permit to Work System) and evacuation of personnel by helicopter or boat.
  - Habitability of the facility for the personnel on board. Essential services such as lighting, safety systems, communication systems, potable water systems, sewage treatment and HVAC were affected (seven people were treated for heat related conditions).
  - Functionality of process equipment required to effectively manage the LNG inventory
- NOPSEMA is aware that a Shell investigation is planned to determine the cause(s) of the power system issues that led to this incident, however, the proposed scope of the investigation does not provide for:
  - a thorough review of the evidence and root cause analysis of the entire series of events experienced during the incident on 2 December 2021; and
  - a review of the risks for future similar incidents and actions to mitigate them.

LNG Supply FIDs Starting to Happen, Does Shell Need to Get LNG Canada Phase 2 FID in the Queue To Protect Its Brownfield Advantages?

Posted 4pm on November 23, 2021

Asian LNG buyers and now LNG suppliers are responding to the abrupt change in LNG supply/demand outlook in April. Unplanned delays to the start up of 5.0 bcf/d of Mozambique LNG put a major hole in all LNG supply plans/forecasts for the 2020s creating a new and larger LNG supply gap. This first drove Asian LNG buyers to abruptly pivot to lock in stable long term LNG supply and now, LNG suppliers are taking FIDs (ie. Woodside on Scarborough yesterday) and looking at the next round of potential FIDs on both brownfield and greenfield LNG projects to fill that gap. This increase is happening at a time of increasing competition/demand for global fabricators, metals, and services that are also being impacted by the general global supply chain stresses. There has been no chatter that Shell will be considering FID on the brownfield LNG Canada Phase 2 (capacity 1.8 bf/d). But, unfortunately for LNG Canada Phase 2 or any major industrial project, these global/domestic stresses reduce the time to think about any FID. We think this means the timing is likely in the next few months for Shell to look at FID on LNG Canada Phase 2 if it wants to get in the queue to ensure it can maintain its brownfield cost advantages. LNG markets have seen the cost and timing advantages of a continuous construction cycle ie. like Cheniere does at Sabine Pass LNG. By now, we mean within the next few months, and not the next year. Any FID is a major undertaking and far from certain especially for a leader in the Energy Transition like Shell. But, we think the answer to the question is more likely a Yes, than a No. And if so, it would be huge for the value of Canadian natural gas.

The reality check at COP26 meant there is no clear phase out of fossil fuels, especially natural gas. COP26 was extended an extra day to end on Saturday but did result in an agreement signed by over 200 countries. The deal was universally viewed as far less than the aspirations leading up to COP26. It seemed that reality won or at least delayed the aspirations. One highly notable item was the watering down of "get rid of coal" to" phase out" of coal to the approved text of a phase down. The best description came from COP26 President Alok Sharma (UK) concluding media statement. He said "*I would say, however, that this is a fragile win. We have kept 1.5 alive. That was our overarching objective when we set off on this journey two years ago, taking on the role of the COP presidency designate. But I would still say that the pulse of 1.5 is weak."* It is important to remember that the actual commitments made by some key countries will be much less than the commitments in the already criticized Glasgow Climate Pact [LINK] because there are always side deals or understandings that aren't public that were made just to get countries to sign on to the Glasgow Climate Pact so there can be a global commitment.

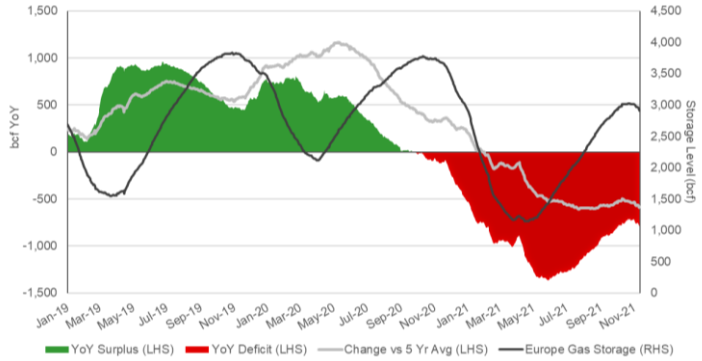
Rather more world Energy Transitiony leaders are either directly or indirectly saying the energy transition plan isn't working. Perhaps the best sign that the energy transition plan isn't working is that the Net Zero leaders are changing their messaging. They want to be able to be on record in the future that they warned people. (i) Its not working and the reality that the plan needs to change. The most vocal is Macron who warns the energy transition aspiration has to be modified/reduced or else there will be years of an energy crisis. Even more importantly, he wants to bring a more pragmatic Energy Transition plan to the EU. On Nov 9, we tweeted [LINK] on Macro's address to the nation [LINK] that closed with his call for a more practical approach to the CO2 emissions and one that will include Europe. Macron said "*But France will not be strong alone. With the European Union:➔ We will be able to build a credible strategy for reducing our CO2 emissions, compatible with our industrial and technological sovereignty."* The Macron release had at the bottom a reminder "*Next January, it is a new model of investment and growth that the President will defend with the French presidency of the Council of the European Union."* The day before COP26 started, we tweeted [LINK] on Macron's comments to the FT [LINK] that was a clear view on higher fossil fuel prices for the foreseeable future. Macron said, "*on demand for fossil fuels isn't going away for the foreseeable future*." Macron said "*What is happening now is ironic, because we are building a system where in the medium and long term fossil energy will cost more and more, that's what we want [to fight climate change]."* he said," Japan is another calling for a pragmatic time frame. On Nov 9, we tweeted [LINK] on Japan's release [LINK] on its conference with IEA Executive Director Faith Birol. Japan wrote "*The two sides also exchanged views on acceleration of decarbonization efforts following COP26, and shared the importance on measures with pragmatic time frame based on individual circumstances that each countries face including its renewable energy potentials".* (ii) Others just want to be able to say they warned people it would be expensive for years to come. The US is the best example. On Nov 8, we tweeted [LINK] on Energy Secretary Granholm's MSNBC Morning Joe comments. Biden never warned votes that the energy transition will happen but will lead to higher prices on oil, natural gas, and

electricity for years to come. We created a transcript of her saying "*So the long-term strategy is that. and yes we have a short term cost issue because the economy is still coming back on. we have a supply, demand that does not, the supply doesn't meet the demand. that is an issue we are going through. The president is all over this both in the short term and in the long term*."

COP26 did not hurt the outlook for natural gas, rather Europe is helping the financing for natural gas. One of our COP26 themes was that pro Net Zero companies and governments would wait until after COP26 to announce or approve items that wouldn't go over well at COP26. One of the climate change side criticisms of the EU is that the EU is shifting their relaxed position on nuclear and natural gas. On November 4, there was an excellent interview in Belgian news, L'Echo with Frans Timmermans, VP of the European Commission, who they describe as the "Mr. Climate" of the European Executive. Timmermans pointed to the shifting position on nuclear and natural gas so both could be considered as green investments for financing purposes. L'Echo asked "*The Commission must clarify its position on the taxonomy which defines the investments which can be categorized as "green". According to a press leak, nuclear and gas are in the project: will they stay there?"* Timmermans replied "*We have not yet made a decision, we will do so in a few weeks. Nuclear power is by no means green in the sense that it would be sustainable: there is a necessary fuel and waste. The principle of green energy is that it does not need fuel and does not produce waste. As for natural gas, your country is a good example: if you want renewable energies, in the transition you may need natural gas. You need to define its importance as transitional equipment, and you also need to avoid being locked into natural gas forever."*

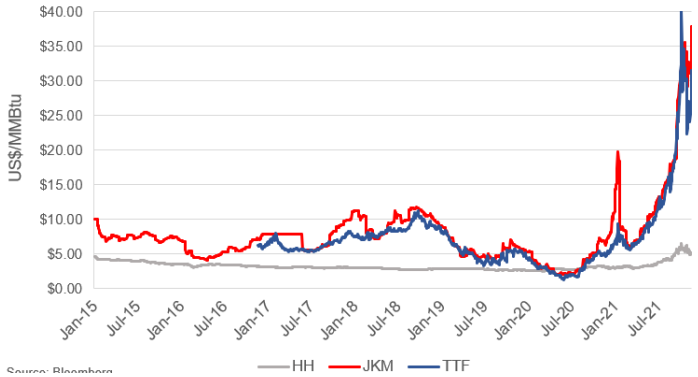
It's been a great year for LNG prices and LNG supply/demand looks strong thru 2030. We feel for the Net Zero fans the Europe energy/natural gas crisis just happened to show up in 2021 ahead of COP26 and Europeans realized that intermittent wind/solar can lead to big electricity and natural gas spikes, and even return to coal. It was also the year that natural gas followers realized the linkage of global natural gas markets and how Europe gas storage is the key indicator for the near-term direction of LNG and natural gas prices. It was a cold winter and Europe gas storage never caught up and still hasn't caught up. We first described this concept back in September 2017 and said Europe is the dumping ground for surplus LNG cargoes. When Europe isn't getting a lot of LNG cargoes, it means those LNG cargoes are wanted/needed in other parts of the world. It was the highest linkage of oil to natural gas markets to electricity markets in a long time. Natural gas and LNG prices hit records and are still exceptionally strong and winter hasn't even started. The outlook for LNG looks strong through the 2030 for the reasons noted later in the memo. Below we pasted Cheniere's current LNG long term supply outlook and most long-term outlooks are similar. LNG markets are very tight thru 2025 and need new supply thereafter. The problem with tight supply is that if anything disrupts supply, there are price spikes. Here is what Cheniere said on its Q3 call "*We now estimate that this tight market could extend well through 2025 and potentially tighter seasonal swings over the midterm period, especially for production from legacy plans remains inelastic and the current constraints on the coal supply cycle persist*."

Europe Gas Storage as of Nov 12, 2021



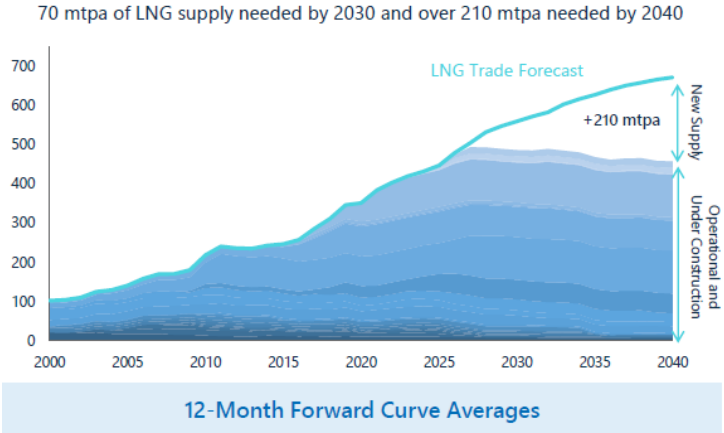
Source: Bloomberg

JKM, TTF and HH Prices



Source: Bloomberg

Global LNG Supply Outlook



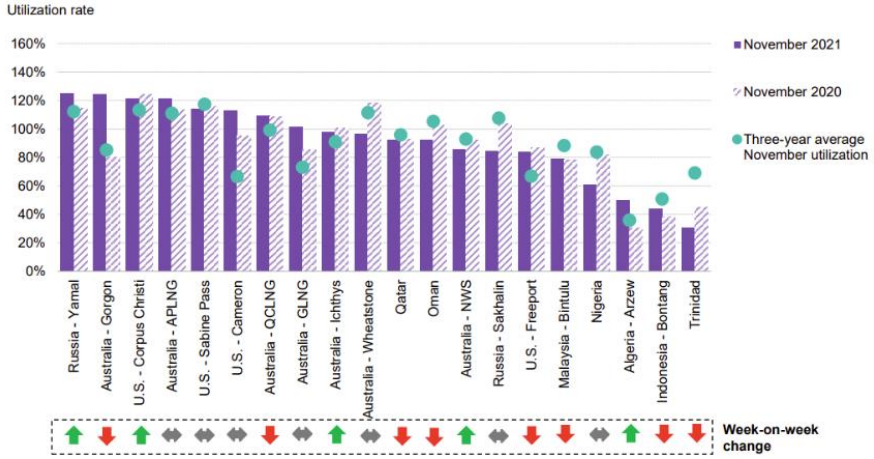
Source: Cheniere Q3/21 Call Investor Presentation

There are no strategic LNG reserves or immediate fix to draw upon if any existing LNG supply goes down, or under construction LNG supply gets delayed. Earlier today, the US and others drew up their strategic oil reserves ie. the oil reserves that are stored away never to be touched unless there is an emergence supply shortage. These strategic reserves are separate from working commercial crude oil inventories. There are no such "strategic" reserves for LNG. The only way to replace a negative LNG supply surprise is to draw on existing LNG commercial storage, existing LNG supply capacity elsewhere or cut back on demand. There is no such thing as having new replacement LNG supply show up in a year or two or three. Rather new replacement LNG supply takes at least 3 or 4 years to hit the market and that is only if there is an existing brownfield expansion that is effectively ready to go like a Cheniere Corpus Christi LNG Phase.

A number of unplanned supply interruptions from in-service LNG supply projects help create the today's tight LNG market. There have been many interruptions in the past year from existing LNG supply projects. No surprise, it seems to happen to older LNG supply projects. These are temporary so only impact the near term LNG supply/demand balance, but it also reminds that most older LNG supply projects export well below capacity. They also remind Asian LNG buyers that there is risk to existing LNG supply. Lastly, it is important to remember that the issue for all older LNG supply projects is that, unless they are drilling to add more reserves, the natural gas reserves supply the LNG will eventually come to an end. A few examples of interruptions. (i) Equinor's Melkoeya 0.63 bcf/d in Norway was shut down for 18 months due to a fire. A massive fire led to the Sept 28, 2020 shutdown of the 0.63 bcf/d Melkoeya LNG facility in Norway. The original restart date was Oct 1, 2021 but that was revised to March 31, 2022 with the caveat *"there is still uncertainty related to how the*

Covid-19 development will impact the project progress." (ii) Algeria's 0.5 bcf/d Skikda LNG Plant had an unplanned 8-week shut down due to failure of gas turbine control mechanism. Skikda also had an unplanned 6-mnth shut down in 2020. (iii) Petronas Bintulu LNG in Malaysia, there have been multiple reports that Petronas has been seeking approval for the cancellation of some winter cargoes due to upstream natural gas quality issues. (iv) Chevron Gorgon LNG. This was the high profile unplanned outages that caused each of the three trains to have unplanned repairs staring in H1/20. Even another one last week. On Nov 16, Reuters reported ""*Train 1 was shut down due to a small gas leak," the spokesperson said, adding that it was too early to tell how long the unit would be down. "We are preparing plans for investigation and repairs." The leak was detected on piping associated with the dehydration unit on Train 1 and the unit was shut down as a precautionary measure.* As of this morning, still no word on how long it will be down. The three trains have a total capacity of ~2.3 bcf/d. Gorgon produced ~2.3 bcf/d in 2019 but was down to 2.0 bcf/d in 2020. (v) Last November, the 1.03 bcf/d Qatargas LNG Train 1 had a 3-week unplanned shut down for a compressor repair. (vi) There have been many more LNG supply interruptions or reduced LNG cargoes from in-service LNG supply projects, whether it be from hurricanes, or production issues at Chevron Wheatstone or, even yesterday Bloomberg reported that the 0.9 bcf/d capacity Brunei LNG export project "*requested to reduce volumes for winter delivery to long-term buyers due to an upstream natural gas production issue, according to traders with knowledge of the matter."*

LNG Plant Utilization Rates (As of November 14, 2021)



Source: Bloomberg

<u>The game changer for LNG supply was the delay of 5.0 bcf/d of Mozambique LNG that was originally expected to start exporting in 2024.</u> We think the market didn't appreciate the full impact of TotalEnergies April 26 declaration of force majeure on its 1.7 bcf/d Mozambique LNG Phase 1. Surprisingly, markets didn't look to the broader implications, which is why we posted our 7-pg Apr 28 blog "*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*" [LINK] We highlighted that Mozambique LNG delays were actually 5 bcf/d, not 1.7 bcf/d. This 5 bcf/d of Mozambique LNG supply was built into all, LNG supply forecasts. The delay in TotalEnergies Phase 1 would lead to a commensurate delay in its Mozambique LNG Phase 2 of 1.3 bcf/d. TotalEnergies 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. The original in-service for Phase 1 was 2024, which was then pushed back to 2025. In the Sept investor outlook, TotalEnergies said "*This forecast of upstream production in 2026 includes Mozambique LNG production only in 2026. This relies on the assumption that the project activity will review in 2022.*" In its Oct 28 Q3 call, TotalEnergies seemed to suggest any restart wouldn't be in early 2022. Mgmt said "*we remain fully committed to develop this project, the resource coming from Area 1. But only of course when the condition will allow. We, for obvious reasons, a stable and peaceful environment to be able to mobilize our staff. And its not possible at the present time. We will see if it will be possible next year, in 2022, and if it's the case, production could be there in 2026, exactly what we indicated in September during the investor day. So we are committed to this project. It's there of course, so now we have to be patient and see how the situation will improve in the coming months".* If

Phase 1 is pushed back 2 years to at least 2026 so will the follow up Phase 2, so more likely, it will be at least 2028/2029. The assumption for most, if not all, LNG forecasts was that Phase 2 would follow Phase 1. Exxon Rozuma Phase 1 of 2.0 bcf/d continues to be pushed back in timeline especially following Total Phase 1. Exxon's Mozambique Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was originally expected to be in service in 2025 but was always expected to follow TotalEnergies Phase 1. In the Oct 29 Q3 call, Exxon mgmt gave no indication of any movement on its Rozuma LNG with mgmt saying *"paused simply because of the security situation on the ground, which we will continue to look at and revisit over time".* If we assume the same one-year delay, it would put Exxon Rozuma at 2027/2028 at the earliest instead of its original 2025. What this all means is that the Mozambique LNG delays are not 1.7 bcf/d, but 5.0 bcf/d of projects that were in all, if not most, LNG supply forecasts.

Mozambique force majeure didn't attract the big attention because the major LNG suppliers didn't highlight the Mozambique impact for the first two months. It was difficult for markets to see the bigger issue when the major LNG suppliers weren't making a big deal of Mozambique for the first two months. In our May 9, 2021 Energy Tidbits memo, we said we had to chuckle when we saw Cheniere's response in the Q&A to its Q1 call on May 4, that they only know what we know from reading the Total releases on Mozambique and its impact on LNG markets. It's why we tweeted [LINK] "*Hmm! $LNG says only know what we read on #LNG market impact from $TOT $XOM MZ LNG delays. Surely #TohokuElectric & other offtake buyers are reaching out to #Cheniere. MZ LNG delays is a game changer to LNG in 2020s, see SAF Group blog. Thx @olympe_mattei @TheTerminal #NatGas".* We previously wrote how could Cheniere not be talking to LNG buyers for Total and /or Exxon Mozambique LNG projects. In the Q1 Q&A, mgmt was asked about Mozambique and didn't know any more than what you or I have read. Surely, they were speaking to Asian LNG buyers who had planned to get LNG supply from Total Mozambique or Exxon Rozuma Mozambique, or both. Mgmt is asked "*wanted to just kind of touch on the color use talking about for these supply curve. And are you able to kind of provide any thoughts on the Mozambique and a deferral with the project of that size on 13 and TPA being deferred by we see you have you noticed any impact to the market has is there any impact for stage 3 with that capacity? Thanks*." Mgmt replies "*No. Look, I only know about the Mozambique delay with what I read as well as what you read that from total and an Exxon. And it's a sad situation and I hope everybody is safe and healthy that were there to experience that unrest but no I don't think it's, again it's a different business paradigm than what we offer. So, we offer a full value product, the customer doesn't have to invest in equity, customer doesn't have to worry about the E&P side of the business because, we've been able to both the by at our peak almost 7 Dee's a day of US NAT gas from almost a 100 different producers on 26 different pipelines and deliver it to our to facilities. So we take care of a lot of what the customer needs".*

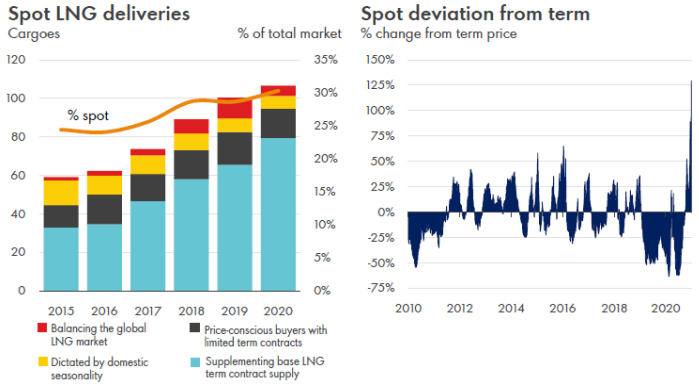
But at the end of June, major LNG suppliers came out with bullish mid/long term talk or action. (i) Our July 4, 2021 Energy Tidbits memo noted that it looks like Cheniere has stopped playing stupid with respect to the strengthening LNG market in 2021. We can't believe they thought they were fooling anyone, especially their competitors. That week, they came out talking about how commercial discussions have picked up in 2021 and it's boosted their hope for a Texas (Corpus Christi) LNG expansion. On Wednesday, Platts reported "*Pickup in commercial talks boosts Cheniere's hopes on mid-scale LNG project*" [LINK] Platts wrote "*Cheniere Energy expects to make a "substantial dent" by the end of 2022 in building sufficient buyer support for a proposed mid-scale expansion at the site of its Texas liquefaction facility, Chief Commercial Officer Anatol Feygin said June 30 in an interview." "As a result, he said, " The commercial engagement, I think it is very fair to say, has really picked up steam, and we are quite optimistic over the coming 12-18 months to make a substantial dent in that Stage 3 commercialization."* Platts also reported that Cheniere noted this has been a tightening market all year (ie would have been known by the May 4 Q1 call). Platts wrote "*We obviously find ourselves at the beginning of this year and throughout in a very tight market where prices today into Asia and into Europe are at levels that we frankly haven't seen in a decade-plus," Feygin said. "We've surpassed the economics that the industry saw post the Fukushima tragedy in March 2011, and that's happened in the shoulder period."* It's a public stance as to a more bullish LNG outlook. (ii) On June 23, Qatar Petroleum was clear that they saw an LNG supply gap. We tweeted [LINK] "*1/3. #LNGSupplyGap coming. big support for @qatarpetroleum expansion to add 4.3 bcf/d LNG. but also say "there is a lack of investments that could cause a significant shortage in gas between 2025-2030" #NatGas #LNG".* And importantly, this is after QPC accounts for their big LNG expansion. The QPC release said "*However, His Excellency Al-Kaabi voiced concern that during the global discussion on energy transition, there is a lack of investment in oil and gas projects, which could drive energy prices higher by stating that "while gas and LNG are important for the energy transition, there is a lack of*

investments that could cause a significant shortage in gas between 2025-2030, which in turn could cause a spike in the gas market."

Markets felt reassured by Qatar's massive expansion without realizing India alone needs 3x the Qatar expansion LNG capacity. Qatar's LNG expansion is huge and plans to add 4.3 bcf/d capacity. However, India alone needs 3x that amount of LNG. On Oct 22, Petronet CEO Singh presented at the India Energy Forum on Friday. As soon as we saw the reports, we tweeted [LINK] "*Bullish for #LNG #NatGas in 2020s. #Petronet CEO fcasts India LNG imports +12.4 bcfd to reach 15.8 bcfd (120 MTPA) in 2030. In line with his June est, see below SAF Group June 20 Energy Tidbits #Petronet sees LNG imports +13 bcfd to 2030. Thx @JournoDebjit @rajeshsing13 #OOTT".* Bloomberg's India energy team reported "*India's import of natural gas is expected to hit 120 million tons/year by 2030 as the nation targets an energy mix goal, Akshay Kumar Singh, CEO of Petronet LNG, said at the India Energy Forum by CERAWeek. NOTE: India aims to boost use to natural gas to 15% of primary energy mix from about 6% now. * India's current annual LNG import is about 26 million tons".* Singh is forecasting India's LNG imports to grow from current 26 MTPA (3.4 bcf/d) to 120 MTPA (15.8 bcf/d) in 2030. That is an increase of 12.4 bcf/d to 2030. This is 3x the massive Qatar expansion capacity.

The late June/early July sea change in Asian LNG buyers contracting is the best validation of the LNG supply gap and gamechanger for LNG supply FIDs. Analysts can make forecasts, but the best evidence of the supply gap is Asian LNG buyers are putting money up to change their contracting moving away from spot/short term to locking in long term LNG supply through 2030. This is an abrupt turn from Asian LNG buyers contracting strategy in 2019 and 2020, when the Asian LNG buyer weren't trying to extend long term contracts, rather, the push was to try to renegotiate down its long-term LNG deals. The reason was clear, as spot prices for LNG were less than long term contract prices. This led to their LNG contracting strategy – move to increase the proportion of spot LNG deliveries out of total LNG deliveries. Shell's LNG Outlook 2021 was on Feb 25, 2021 and showed this pre-Mozambique force majeure trend. But post Mozambique LNG force majeure, clearly Asian LNG buyers did the math, saw a new, sooner and larger LNG supply gap and were working the phones in March/April/May trying to lock up long term supply. They were clearly working the phones with a new priority to lock up long term LNG supply. Major long-term deals don't happen overnight, so it makes sense that we started to see these new Asian long term LNG deals start at the end of June. Its why wrote our 8-pg July 14 blog, "Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs" that started off "The last 7 days has shown there is a sea change as Asian LNG buyers have made an abrupt change in their LNG contracting and are moving to lock in long term LNG supply. This is the complete opposite of what they were doing pre-Covid, when they were trying to renegotiate Qatar LNG long term deals lower and moving away from long term deals to spot/short term sales. Why? We think they did the same math we did in our April 28 blog "Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?" and saw a much bigger and sooner LNG supply gap driven by the delay of 5 bcf/d of Mozambique LNG that was built into most, if not all LNG supply forecasts. Asian LNG buyers are committing real dollars to long term LNG deals, which we believe is the best validation for the LNG supply gap." Since late June, there have been at least nine Asian LNG buyer long term deals with total volumes of 2.57 bcf/d with an average term of 15 years. In addition, there are reports of Asian LNG buyers about to join this group such as Hokkaido Gas who is looking for 5-10 year LNG supply starting after 2025. Note that in addition to the Asian LNG buyers deals, there have been European long-term deals including PGNiG (Poland) agreement to purchase an additional 2 mtpa (0.26 bcf/d) for 20 years from Venture Global.

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

Asian LNG Buyers Long Term Deals Signed Since July 1, 2021

Signed Long-Term Asian LNG Deals Since July 1, 2021					
Date	Buyer	Seller	Country	Volume	Duration
			Buyer / Seller	(bcf/d)	Years
July 7, 2021	CNOOC	Petronas	China / Canada	0.30	10.0
July 9, 2021	CPC	Qatar Petroleum	Taiwan / Qatar	0.16	15.0
July 9, 2021	Guangzhou Gas	BP	China / US	0.13	12.0
July 12, 2021	Korea Gas	Qatar Petroleum	Korea / Qatar	0.25	20.0
September 29, 2021	CNOOC	Qatar Petroleum	China / Qatar	0.50	15.0
October 11, 2021	ENN	Cheniere	China / US	0.12	13.0
November 4, 2021	Unipec	Venture Global LNG	China / US	0.46	20.0
November 4, 2021	Sinopec	Venture Global LNG	China / US	0.53	20.0
November 5, 2021	Sinochem	Cheniere	China / US	0.12	17.5
Total Asian LNG Buyers New Long Term Contracts Since Jul/21				**2.57**	
*Excludes Asian short term/spot deals					
*Excludes non-Asian long term deals ie. Poland's PGNiG new 20-yr deal for 0.26 bcf/d from Venture Global					

Source: Bloomberg

An even stronger validation when the world's largest LNG importer, Japan's JERA, is paying $2.5b to buy 25.7% in Freeport LNG to secure stable LNG supply. Entering into long term supply contracts is a big validator but there was an even bigger validation on last Monday Nov 15, when Japan's JERA announced [LINK] it was spending $2.5b to acquire a 25.7% interest n Freeport LNG "to secure a stable LNG supply". This is an even stronger validation that a long term contract. JERA is the world's largest LNG buyer. JERA announced it "*JERA will not only be involved in the entire existing Freeport LNG project (three trains with an annual production capacity of approximately 15.45 mtpa) but will also work with FLNG to advance new LNG projects including production capacity expansion and the development of Train 4.*" The existing three LNG trains capacity is 2.0 bcf/d.,

Long term LNG supply deals provide the needed anchor for new LNG FIDs. The return of long-term LNG supply deals provides the financing capacity or financial comfort to commit to new LNG supply FIDs. These are critical for the independent LNG supply players who will not FID without a certain minimum long term contract coverage. We recognize supermajors, like Shell, have their own financial capacity and do not need the financing potential of long-term LNG deals to FID a project. Rather the long-term contracts provide the financial comfort to make a FID. Whether is financial comfort or capacity, the abrupt change for Asian LNG buyers to commit to long-term LNG supply deals are a game changer for LNG markets and sets the stage for LNG FIDs.

And it looks like we are seeing the start of FIDs on both brownfield LNG and stalled greenfield LNG - we expect more in the coming months. It looks like LNG supply projects, both brownfield and greenfield, are now moving to FID or are trying to get to FID in the coming months. Yesterday, Woodside Petroleum announced it made FID on its $12.0 billion LNG development at Scarborough/Pluto Trains to add up to 1.05 bcf/d with first LNG cargo in 2026. Woodside highlighted they

estimated >13.5% IRR and payback of 6 years. Prior to this FID, over the past few months there were clear comments/signals from other LNG players on the potential for near term FIDs on new LNG supply. In our July 14 blog, we said "*We expect these decisions to be looked at before the end of 2021 for 2022 capex budget/releases. One wildcard that could force these decisions sooner is the already stressed out global supply chain. We have to believe that discussion there will be pressure for more Asian LNG buyer long term deals sooner than later*." More on the supply chain later, but we did not expect to see any major LNG announcements during COP26. Rather we expect the window is for the next few months.

- Cheniere Corpus Christi Stage 3. Cheniere has been publicly calling for FID in 2022 with most expectations being for early in 2022.

- Cheniere Corpus Christi Stage 4. In the Q&A of the Q3 call on Nov 4, Cheniere was asked if they are even thinking about the Corpus Christi Stage 4 at this point. Mgmt replied Yes.

- Woodfibre LNG. We look at Woodfibre LNG as the British Columbia LNG supply project that minds its own business and just keeps advancing to FID. There is one train with capacity of 0.3 bcf/d and is supported by 15-yr sales contracts with BP. Earlier today, Woodfibre announced [LINK] that it signed an EPFC contract with McDermott International. In the release, Woodfibre said "*In addition to the EPFC work, McDermott will also be responsible for commissioning and start-up services. Pre-installation work for the project is planned for early 2022 and will gradually ramp up to September 2023, when major construction is targeted to begin. Major works will continue through to substantial completion, expected in Q3 2027.*"

- Tanzania. Perhaps the best indicator of how Mozambique force majeure changed the LNG outlook. Tanzania LNG went off the radar when Equinor wrote off its investment in 2019. Post Mozambique force majeure Equinor and Shell wrote Tanzania that there was a limited window if Tanzania is to have a change at resurrecting the LNG potential. On Nov 8, Tanzania Energy Minister Makamba tweeted [LINK] he has started negotiations with Shell, Equinor, Pavillion, ExxonMObil and Ophir to work to an LNG FID in the next 6 months. Its not clear if they were working for a broader LNG area but, prior to this year, the Equinor/Shell potential Tanzania project was a potential 1.3 bcf/d LNG export project.

- BP Mauritania FLNG Phase 2. In the Q&A of the BP Q3 call, mgmt replied "*And Tortue, we're going well with Phase one. And we're taking a look at Phase two and trying to come to agreement with partners, government and our own engineers on what is the right thing to do. So stay tuned."* Mauritania is a 4-phase FLNG, Phase 1 is 0.33 bcf/d capacity.

- Tellurian Driftwood LNG. We have trouble following the public comments and videos from mgmt, but we continued to see reports that FID is now expected to be in H1/22.

- TotalEnergies Papua LNG 0.74 bcf/d is back on track. On June 8, we tweeted [LINK] *"Timing update Papua #LNG project. $OSH June 8 update "2022 FEED, 2023 FID targeting 2027 first gas". $TOT May 5 update didn't forecast 1st gas date. Papua is 2 trains w/ total capacity 0.74 bcf/d."* We followed the tweet saying [LINK] *"Bigger #LNG supply gap being created >2025. Papua #LNG originally expected FID in 2020 so 1st LNG is 2 years delayed. Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG."*

<u>Does the increasing competition/demand for global fabricators, services, etc mean Shell will have to get LNG Canada Phase 2 FID in the queue if they want to protect its brownfield cost and timing advantage.</u> We recognize that LNG Canada Phase 2 FID is not on radars and most North American LNG outlooks don't even mention it as a possibility. But we believe the continuing global supply chain stresses and movement by others to look at new FIDs are likely to have Shell consider FID for LNG Canada Phase 2 in the coming few months and not wait a year. We think the issue for Shell to FID LNG Canada Phase 2 has moved from a market risk to an execution risk ie. how/can they ensure Phase 2 can have the

cost and timing benefit of a brownfield projects. All anyone knows from the outside is that the Asian LNG buyers want security of supply and LNG suppliers are now moving now to add supply to fill the increasing supply gap. Those aren't market guesses; they are simply a reflection of what the people who have to commit capital are doing. Their financial actions/commitments are the best indicator for this increasing supply gap. Plus, the one thing that is clear from LNG supply is that the risk is almost always to downside to unplanned delays or interruptions. The LNG market looks to be there so the key risk factor Shell on LNG Canada Phase 2 is execution risk. The risk to any major construction project has heightened with the pandemic causing global fabricator, global metals, steel, experienced services, and other supply chain issues. The challenges facing major industrial projects is more than the general supply chain issues. The reason why we think Shell is faced with a near-term decision for FID on LNG Canada Phase 2 is that, if they want to have a chance to have the brownfield cost and timing benefits in a world of increasing supply chain issues, we believe they will have to have what we call a continuous construction cycle for Phase 2, ie. retain the spot in the queue for the global fabricators, global and domestic suppliers and trades from Phase 1 and move seamlessly to Phase 2. On Oct 7, LNG Canada announced [LINK] "*Three years after taking a final investment decision (FID) on Canada's first major liquefied natural gas project, the LNG Canada consortium said October 6 the C$40bn (US$31.7bn) project was more than 50% complete. "We're moving swiftly towards commissioning and start-up, and to fulfilling our promise of delivering a world-class LNG facility in Kitimat*." There are different services, trades, people, fabricators, steel, equipment, etc at different phases and LNG Canada would want to retain the options for these services if they want to have the cost advantage of brownfield costs and time to completion. And maintaining a continuous construction cycle is even more important given that there are more global LNG supply projects now moving to FID. We have to believe LNG Canada will want to exercise any options with services and maintain any overseas fabricator slots to keep alive the possibility of a continuous construction cycle. This is the model that Cheniere has used successful in delivering its LNG phases on time and on budget. Its why we believe its now the time for Shell to FID LNG Canada Phase 2. If they are unable to retain any overseas fabricator slots, international service companies and domestic services/trades, it would add to the cost and timeline of LNG Canada Phase 2 vs the costs of a continuous construction cycle. Don't forget they are looking at a much stronger LNG outlook for the 2020s today than a year ago.

LNG Canada Phase 2 will lift the overall project returns. LNG Canada Phase 2 would add two additional trains and capacity of ~1.8 bcf/d and increase the project capacity to ~3.6 bcf/d. We do not know the internal LNG Canada project returns. Phase 1 would have lesser returns as it is burdened with some one-time costs and added costs to set up for the potential of Phase 2. Phase 2 as the brownfield leg would have significantly higher returns and adding Phase 2 would bump the returns of LNG Canada in total.

Sounds like momentum on TC Energy and LNG Canada resolving their cost overrun dispute - If not, then we don't see how there will be a FID on LNG Canada Phase 2. We continue to believe that a key business issue holding back any Shell FID on LNG Canada Phase 2 has been the unresolved cost and timing dispute with TC Energy on the construction of the Coastal GasLink. This is the sole pipeline to deliver natural gas to LNG Canada. The Coastal GasLink pipeline was designed to be able to expand capacity to have enough capacity to support both Phase 1 and 2. But we have believed (and still believe) that LNG Canada would not proceed with Phase 2 until there was a resolve on the cost dispute with TC Energy. There had been no indications pointing to a resolve until the TC Energy Q3 results on Nov 5. In the Q3 report, TC Energy disclosed they had *"committed to provide additional temporary financing to the project, if necessary, of up to $3.3 billion as a bridge to a required increase in project-level financing to fund incremental cost*s." In addition, in the Q3 call Q&A mgmt gave the most optimistic comments we have noted on the potential for resolve. Mgmt said "*we can of course discuss the details of any discussions on cost and schedule in the issues between us because they're confidential. But what I can say is that we're very hopeful that ultimately we're going to reach an agreement between us on those issues and that of course will lead to the resolution of some of the temporary financing as well*." There is no guarantee of a resolve, but it seems like there is momentum to get to a resolve. And resolving this cost dispute is needed for any LNG Canada Phase 2 FID. Don't forget, similar to LNG Canada, Coastal GasLink overall economics will get a boost with the full capacity to supply Phase 2 ie. there is economic upside to TC Energy to get the expansion.

Shell has given no formal indications of looking at FID, but it feels like Shell's CEO has been showcasing LNG Canada for some reason. We often find that big companies will drop hints of some things that might come. Shell did this on LNG

Canada Phase 1, we highlighted the hints we saw coming from Shell on our expectations for FID several months ahead of others because of these hints. Shell has given no formal indication that they are considering FID of LNG Canada Phase 2. We believe Shell is one of the leaders in the Energy Transition and Shell CEO van Beurden brings a common-sense view to that leadership. Shell has highlighted how lower emission LNG will be critical to provide long term cash flow to fund the emissions reductions. So, his recent comments seemed to showcase LNG Canada as one of the key long term cash flow sources and we do not believe he would have showcased LNG Canada in this manner if it was only going to be Phase 1. It would seem to us to be disproportional showcasing.

- On Oct 6, Shell CEO van Beurden made a point of showcasing LNG Canada and saying he expected it to still exist in the 50s and later. Phase 1 starts up in the mid 2020s (most assume no later than 2025) and we don't expect he would be showcasing a 30+ year Phase 1 to be operating in the normally big company CEOs showcase a project for a reason. Platts reported [LINK] *"LNG and certainly chemicals and products are going to be relevant for a long time to come — LNG, think of it as a stayer in our portfolio," he said, adding Shell had been "proven right" in its expectation of 4% annual demand growth for LNG. "In the long run — think second half of this century — many of our LNG positions will still be in play. Building LNG Canada at the moment, I don't expect that to be wound down in the '40s, I expect it to still exist in the '50s and later," Van Beurden said. "Whatever we build, we'd better make sure it's carbon competitive, it's first quartile, it can be decarbonized, and therefore it's still relevant in a world that hopefully by then is a net-zero world."*

- In the Q&A of the Q3 call Oct 29, it seemed that CEO van Beurden showcased LNG Canada. He was asked if putting the emissions targets out there has any implications to grow the LNG business or does that imply a shift from equity volumes to be an offtaker for LNG. Van Beurden replied "*But on your other point, the LNG plants, yes, indeed, I do have a -- and sort of quantum of automations. And of course, the ones we operate, which are quite a few actually come onto our account. So we've been very clear that if we want to build new LNG plants, that better come with very competitive carbon footprints on the operational side. And we have to find ways to offset this and offset not with nature based solutions, but offset it with savings elsewhere. So I've been very clear with our organization. If we are to do another energy brands, say for instance in Canada, it needs to come either without emissions or you need to find a way to reduce emissions elsewhere, because we are on a trajectory to bring down our emissions to net zero by 2050".* We don't think van Beurden had to include his *"for instance in Canada*" in his response. It just seemed to be another example of van Buerden showcasing LNG Canada as a place for future growth in equity LNG volumes.

An LNG Canada Phase 2 would be a huge plus to Cdn natural gas. LNG Canada Phase 1 is a material natural gas development as its 1.8 bcf/d capacity represents approx. 20 to 25% of Cdn gas export volumes to the US. The EIA data showed US pipeline imports of Cdn natural gas as 6.83 bcf/d in 2020, 7.36 bcf/d in 2019, 7.70 bcf/d in 2018, 8.89 bcf/d in 2017, 7.97 bcf/d in 2016, 7.19 bcf/d in 2015 and 7.22 bcf/d in 2014. An LNG Canada Phase 2 FID would be a huge plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against pricing points other than Henry Hub. It would provide demand offset versus Trudeau if he moves to make electricity "emissions free" and not his prior "net zero emissions". Both Asian LNG buyers and LNG suppliers are making big capital commitments to secure long term LNG supply. The LNG outlook has changed and COP26 did not disrupt this outlook. An FID for LNG Canada Phase 2 would provide big support to Cdn natural gas for the back half of the 2020s. And perhaps if LNG Canada is exporting 3.6 bcf/d to Asia from two phases, it could help flip Cdn natural gas to a premium vs US natural gas especially if Biden is successful in reducing US domestic natural gas consumption for electricity. We think the next few months are likely the right time for Shell to look at FID for LNG Canada Phase 2 as, in a world of increasing supply chain shortfalls, they need to make sure they can commit to fabricators, services and trades for a continuous construction cycle to maintain brownfield costs and time to completion ie. a Cheniere type advantage. Who knows what Shell will decide, CEO van Buerden's recent showcasing of LNG Canada reminds us what happened in 2018 ahead of the LNG Canada Phase 1 FID. Just imagine the future value of Cdn natural gas if there is visibility for 3.6 bcf/d of Western Canada natural gas to be exported to Asia.

This is far from an easy decision for Shell, but we think the likely answer is Yes, and not No. We recognize that there has been no chatter that Shell is or will be considering FID on LNG Canada Phase 2 and it may not be the ideal time. Shell is

a leader in the Energy Transition but has also been extremely logical/rational in how to accelerate emissions reductions. LNG looks very strong thru 2030 and Asian LNG buyers have abruptly shifted to looking for long term LNG supply. Woodside went FID on its Scarborough/Pluto LNG project yesterday, and other LNG suppliers are pointing to FIDs on multiple brownfield and greenfield FIDs in the coming year. Shell has an advantage that LNG Canada Phase 2 is a large brownfield 1.8 bcf/d phase. The timing may not be ideal, but we believe the world of increasing demand stresses on global fabrications, services, etc mean that it will be important to get LNG Canada Phase 2 in the queue for global and domestic services/fabricators. Everyone in western Canada will hope so because a FID will be a huge game changer to western Canada natural gas valuations. LNG Supply FIDs are starting to happen, does Shell need to get LNG Canada Phase 2 FID in the queue to protect its brownfield advantages? Only Shell knows, but we believe the abrupt positive changes to the LNG market in the face of continuing global supply chain stresses mean the answer is Yes and the timing is the next few months and not the next year. This would be big to Cdn natural gas.

https://clubofmozambique.com/news/mozambiques-nyusi-says-jihadist-attacks-dropped-in-2021-207033/

Mozambique’s Nyusi says jihadist attacks dropped in 2021

9:02 CAT | 20 Dec 2021

File photo: Lusa

Mozambique’s President Filipe Nyusi Thursday said his country had witnessed fewer jihadist attacks this year than last, after Rwanda and neighbouring countries helped tackle the four-year insurgency.

The country’s gas-rich Cabo Delgado province has been rocked by attacks by Islamic State-linked militants since 2017, killing at least 3,340 people and displacing more than 800,000 others.

But since July, more than 3,100 African, European and US soldiers have been deployed to the northern province to quell the unrest.

Despite ongoing attacks against villages and civilians on a weekly basis, Nyusi told parliament that these efforts had been partially successful.

“We were able to reduce terrorist attacks by three times,” he said.

While in 2020 the country registered just over 160 attacks, that number was reduced to 52 in 2021, he said.

He said it was thanks in part to “military cooperation” with Rwanda and the 16-nation Southern African Development Community of its neighbouring countries.

Nyusi said recent operations had led to the capture of “245 suspected terrorists”, and killing of about 200 “terrorists” and 10 “terrorist leaders”.

Addressing fears the jihadists were instead spreading to territory adjacent to Cabo Delgado, he said some suspected fighters had also been captured in the province of Niassa.

Nyusi however discouraged the displaced from returning to their villages.

Source: AFP

https://www.imf.org/en/News/Articles/2021/12/20/pr21389-statement-at-the-end-of-an-imf-staff-visit-to-mozambique

Statement at the End of an IMF Staff Visit to Mozambique

December 21, 2021

End-of-Mission press releases include statements of IMF staff teams that convey preliminary findings after a visit to a country. The views expressed in this statement are those of the IMF staff and do not necessarily represent the views of the IMF's Executive Board. Based on the preliminary findings of this mission, staff will prepare a report that, subject to management approval, will be presented to the IMF's Executive Board for discussion and decision.

Washington, DC: An International Monetary Fund (IMF) staff team led by Mr. Alvaro Piris conducted discussions virtually in the context of the 2021 Article IV Consultation with Mozambique ending on December 16, 2021.

At the end of the mission, Mr. Piris issued the following statement:

" **The Mozambican economy is recovering from a sharp contraction, following several years of economic shocks.** While the authorities have managed prudently and successfully addressed COVID and security-related challenges, including with international support, concessional financing has now declined, and high public debt and tight financing constraints should be addressed through fiscal measures. A tight monetary stance has helped keep inflation in check and preserve macroeconomic stability, but limits credit growth and scope for the exchange rate to facilitate economic adjustment. Reducing fiscal financing needs through a moderate adjustment that does not impair recovery will help put debt on firm downward trajectory, and allow for a better policy balance.

"A modest but broad-based recovery is taking hold in 2021. After real GDP contracted in 2020—the first contraction in 30 years—growth resumed in early 2021 and is expected to reach 2.2 percent for the year. Robust growth in agriculture and mining was complemented by modest recovery in services as COVID-related restrictions were eased. Seasonal factors, supply-chain constraints, and international food and fuel price increases led inflation to rise to 6.8 percent (y-o-y) in November, remaining within the Bank of Mozambique's target of less than ten percent.

"The COVID pandemic, and the conflict and humanitarian emergency in the north of the country are intensifying fragility . Two large waves of COVID infections in the first and third quarters of 2021 prompted strict confinement measures, lowered incomes, and resulted in loss of schooling for an already vulnerable population. Terrorist attacks have caused thousands of deaths and displaced more than 800,000 people in the northern province of Cabo Delgado, with many in the northern region suffering food insecurity.

"The longer-term outlook is shaped by LNG production, with downside risks. Growth is expected to rise further in 2022, reflecting a broader recovery of the non-LNG economy. In the longer term, non-LNG growth is projected at 4 percent (conservative relative to historical rates, potential linkages with the LNG sector and scope for diversification). Overall growth will rise sharply as LNG projects begin production, currently expected in 2023 and 2026. While agricultural performance may be stronger than envisaged in 2022 considering expected favorable meteorological conditions, new waves of COVID infection could prompt confinement measures, while firms' (including state-owned enterprises') balance sheets have been weakened by the crisis, reducing scope for investment, and potentially weakening banking sector asset quality over time. Vulnerability to natural disasters and the effects of climate change are a recurrent vulnerability, as is renewed deterioration of the security situation that could further delay or stop the LNG projects.

“Fiscal pressures are acute. While the authorities have managed the crisis prudently so far, high debt and limited financing constrain fiscal policy. Government revenues have held up well since the start of the pandemic, but expenditure pressures have intensified due to the security and humanitarian situation in the north of the country, COVID-related spending (including the vaccine rollout) and a reform of public sector remuneration. The economic difficulties of SOEs and contingent liabilities (of about 10 percent of GDP) from the disputed debts associated with Proindicus and MAM represent risks, while exchange rate depreciation could increase public and publicly guaranteed debt.

“With little concessional financing after COVID support packages in 2020, reliance on domestic financing from banks has been heavy. With demand for further government bonds declining, domestic expenditure arrears are emerging. The 2022 budget includes spending cuts, particularly in domestically financed investment, and the authorities expect to use the SDR allocation to finance fiscal activities, but additional financing would still be required.

“Decisive policy action is needed for debt to remain on a sustainable path, reduce vulnerabilities, and free up resources for priority expenditures. On current policies, primary fiscal balance (after grants) would be reached only in 2026, after LNG revenues become more significant. Additional budgetary resources could be raised through reforms in tax policy—notably VAT exemptions, with care to minimize the impact on the most vulnerable households—and revenue administration. To rebalance expenditures towards priority areas—the security and humanitarian challenges, health, education, social and resilient infrastructure needs—savings on the public wage bill and continuing reforms in public financial management are needed.

“The Bank of Mozambique maintained a tight policy stance through 2021 to preserve macroeconomic stability. Prompted by rising inflation expectations in late 2020, the BM raised the policy rate by 300 bps to 13.25 percent in January, more than reversing cuts in 2020. With high real rates, inflation expectations have remained well-anchored despite global price pressures, the exchange rate has been very stable, and credit subdued. Cuts in reserve requirements in September 2021, enabled by the SDR allocation, led to some capital outflows as banks increased net foreign assets, and did not lead to an appreciable improvement in credit conditions.

“Gradual progress towards adopting inflation targeting continues. Reforms to the monetary policy operational framework continued and a new regulation enabled reopening the foreign exchange derivatives market in April, following a year-long suspension. Amendments to the BM Organic law will strengthen independence and institutional arrangements, but progress has been slow in the context of the pandemic. A new foreign exchange market law is in preparation, and a new intervention policy is being finalized. As fiscal policy is tightened and financing pressures abate, creating conditions for more flexibility would support better market determination of exchange rates and permit more rapid progress towards inflation targeting. Over time, a more flexible exchange rate would play a role as a macroeconomic shock absorber—important in the context of large, prospective LNG income. This could be achieved through reducing the foreign exchange sold by the BM for fuel purchases and lifting regulatory impediments to exporters in selling foreign exchange.

“Pandemic related regulatory waivers have been lifted. Banks report strong capital and liquidity positions, while nonperforming loans remain relatively stable at close to 10 percent. Waivers on provisioning requirements for restructured loans expired in June 2021, and a rise in NPLs is expected in the near- to medium-term, possibly including from financially stressed SOE’s. Regulations governing recovery and resolution planning are in preparation, and the mission encouraged the authorities to consider reforms to the creditor hierarchy in insolvency, legal safeguards in resolution, and resolution funding to further strengthen the crisis management framework.

“The authorities are completing steps to strengthen the AML/CFT framework. A recent assessment by the Eastern and Southern Africa Anti-Money Laundering Group found significant technical compliance and implementation deficiencies. Prompt action is needed to avoid inclusion on the FATF gray list after the current observation period ends in June 2022. A comprehensive action plan, elaborated with World Bank support, and a draft National Risk Assessment are close to completion. Reforms to the AML law are being developed, including to enable collection and maintenance of up-to-date beneficial ownership information. The BM is developing a risk-based supervision framework for AML/CFT with technical assistance.

“If well managed, natural resource wealth can significantly support development. Higher growth and fiscal revenue from LNG would provide scope for investing in health, education and social protection, climate change adaptation, and paying down public debt. A broad consensus across society is needed to decide on priorities, and institutions that balance investment against saving resources to reduce debt, mitigate macroeconomic distortions from high foreign exchange flows and fiscal revenue volatility, and for future generations. Noting the first revenues will begin to flow in 2023, the mission encouraged the authorities to develop a final proposal outlining priorities and arrangements for a sovereign wealth fund, and broaden the public debate around the proposal.

“Momentum on governance reforms should be maintained. The government’s *Diagnostic Report on Transparency, Governance and Corruption* lays out key policy areas and concrete measures. Significant progress has been made recently in strengthening public expenditure control, and modernizing budget programming, improving budget execution and treasury management. Areas for further reform include a revision of the public probity law, publication of beneficial ownership in mining license applications, publication of the Fiscal Transparency Evaluation, and implementation of Safeguards Assessment recommendations.

“Economic diversification is a key challenge to raise productivity and avoid excessive dependence on natural resources. The authorities recently launched the update of the National Strategy for Development (ENDE), inviting comments and contributions from a broad set of domestic and international stakeholders, including the IMF. This could be an important step towards developing the institutional framework to promote economic complexity and diversification.

“Discussions on supporting the government’s program with an Extended Credit Facility are scheduled to begin soon. A Fund-supported program could help ease financing pressures as the economic recovery takes hold, support the authorities’ agenda in poverty reduction and restoring sustainable and equitable growth, while also helping catalyze additional development financing. Staff stand ready to commence negotiations in late January 2022, in accordance with the authorities’ preferred timeline.

“The mission team thanks the authorities for their hospitality and productive discussions and expresses solidarity with the people and government of Mozambique as they respond to the COVID pandemic, and the humanitarian and conflict situation in the North of the country, among many challenges.”

IMF Communications Department

MEDIA RELATIONS

PRESS OFFICER: EVA GRAF

PHONE: +1 202 623-7100**EMAIL:** MEDIA@IMF.ORG

@IMFSpokesperson

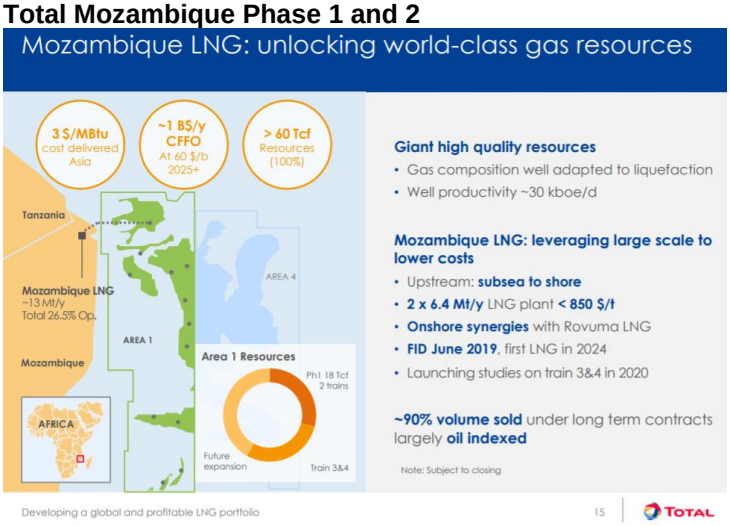
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

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

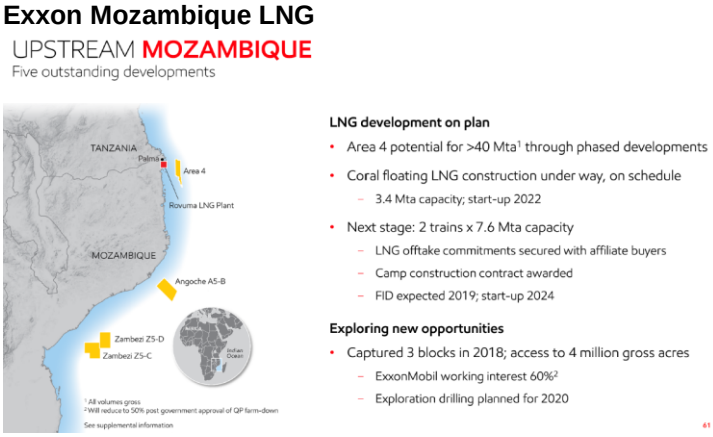
Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF 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

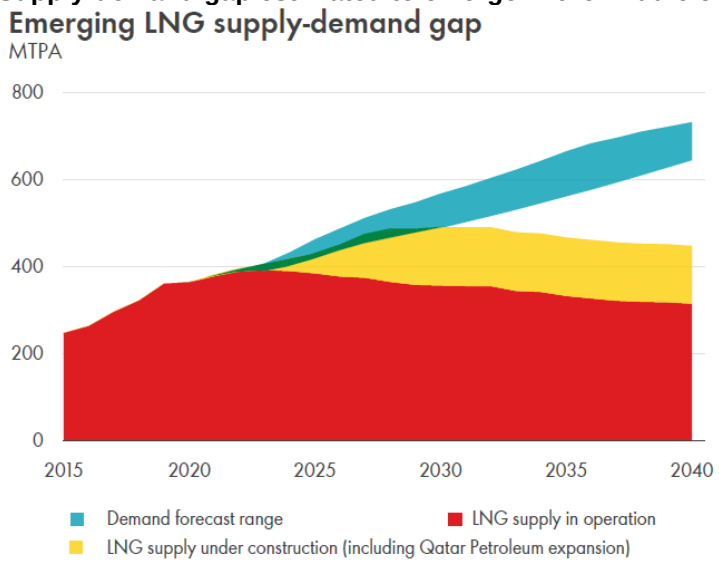
Source: IEA Tracking Clean Energy Progress, June 2020

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.

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INTERVIEW DEC 22, 00:30

Shell head in Russia: financing of energy transition is impossible without oil and gas production

Ekaterina Grushetskaya

Ekaterina Grushetskaya was appointed the new head of Shell in Russia in August 2021, she became the first Russian woman in the history of the company in this position. She told TASS in her first interview about the direction in which Shell will develop in Russia and why the energy transition is impossible if oil and gas are abandoned.

- You headed Shell's Russian business during one of the most difficult times for the oil and gas industry. How would you define the challenges ahead in the face of pressure from the climate agenda, on the one hand, and a sharp recovery in demand, on the other?

- Of course, for me it is not only a great honor, but also a very great responsibility. I am the first Russian citizen in this position. This has certain advantages and certain difficulties.

As for external conditions, the period is certainly not easy - crises, pandemic and volatility. But we understand that traditional oil and gas remain the main part of the energy balance. At the same time, our entire industry, which is on the verge of cardinal changes, is faced with a dilemma, on the successful solution of which its future depends.

- What is the dilemma?

- First of all, the need to find a balance between the energy transition agenda, on the one hand, and the traditional directions related to hydrocarbons, on the other.

Shell is committed to achieving carbon neutrality by 2050. But we should not forget that humanity will need oil and especially gas for a long time, if we do not want the world economy to stop. The world's population is growing, and the rates of decarbonization of different countries and industrial sectors differ markedly and, in general, are difficult to predict. Therefore, the demand for hydrocarbons in the coming decades will remain even under the most ambitious energy transition scenarios.

And one more point - without the extraction of traditional reserves, it is extremely difficult to finance the new climate agenda. This is how energy works. And this is very important to understand.

Shell has faced unprecedented pressure from environmental activists this year, which even led to a court ruling to cut emissions by almost half by 2030. The proceedings are still ongoing. But how could such resolutions potentially affect the mining business?

- I would not like to guess now how court verdicts can affect the business - as you know, Shell has decided to appeal. This has become a very serious precedent for the concern. At the same time, we are already actively engaged in the climate agenda, it is part of our strategy. All project decisions at Shell are made only with our climate goals in mind.

The court ruling obliging Shell to cut its own emissions was an incentive for us to accelerate the implementation of the new corporate strategy of the group, and we are ready to meet this challenge, regardless of whether we win this appeal or not. In the third quarter of this year, we made a commitment to reduce net emissions from our own operations by 50% by 2030 from 2016 levels.

Another question is that it is not clear why exactly Shell was the focus of attention in this matter. A court decision against one company cannot replace the need to develop government policies aimed at reducing emissions, but at the same time ensuring energy security and access to energy sources. As we know, not all countries have equal opportunities in this regard.

- That is, it is still premature to talk about how such a decision, if it is finally adopted, can affect the company's production projects, including in Russia?

- Yes, prematurely. We understand that there is a need for the extraction of traditional resources and it will remain for decades. There are consumers who are interested in continuing oil and gas production. Therefore, our approach is to reduce emissions across all projects while meeting demand. And again, it is this activity that finances the transformation of our business for the purposes of energy transition.

In the era of energy transition, Russia remains a very important country for Shell, both in the upstream and downstream segments. And so we are pleased that the Russian government is taking decarbonization very seriously and is paying attention to this issue at the highest level, striving to become a carbon neutral economy by 2060.

- Do you agree with the opinion that such courts against mining companies can become a trend?

- For the industry, this is undoubtedly an unpleasant precedent. But, again, most companies make decisions about certain projects, already thinking about what kind of carbon footprint they will have.

Shell is already showing real results in reducing emissions. This is our argument in this litigation.

- Does adherence to ESG criteria somehow affect the profitability of Russian projects?

- ESG criteria are already a standard, and Shell only participates in projects where they are met. Without them, we do not make decisions in principle.
Our Russian assets are quite competitive in Shell's global portfolio, including in terms of ESG criteria.
- But this was not the reason for refusing to participate in the Meretoyakhaneftegaz project?
- No way. Meretoyakhaneftegaz is a special case when, unfortunately, the situation was not very favorable for the completion of the deal, since the study was going on during a pandemic. In addition, unfavorable macroeconomic factors were superimposed. Unfortunately, in such conditions and against the background of a shift in terms, we had to make a decision to withdraw from the project.
- Does this only apply to a separate project? In general, what is your attitude towards projects in the Arctic?
- Yes, I mean only MNG. As for work in the Arctic, in principle, it is not currently a priority for Shell, and we do not plan to consider new exploration projects on the shelf beyond the Arctic Circle - we are only considering onshore.
At the end of last year, we created a joint venture for geological exploration, Gydan Energy, with Gazprom Neft in the Arctic. These are truly harsh, harsh Arctic conditions. Recently, our joint venture completed the drilling of the first well, and geological studies are now underway.
- Are the results expected to be encouraging?
- It is too early to talk about it. It is important that our partnership with Gazprom Neft is very successful, as evidenced by the work of the Salym Petroleum Development JV (since 2003 it has been developing the Salym group of oil fields in the Khanty-Mansi Autonomous Okrug - TASS note). To date, cumulative production from these fields has exceeded 100 million tons of oil since the launch of the project, and the total length of wells drilled is 5 million meters.
- Russia plans to increase LNG production several times by 2035, up to 130 million tons per year. Do your forecasts for the LNG market match this estimate?
- Russia has a huge development potential in this area, given its proximity to the promising Asian region. Now, of course, Russia is still underrepresented in the global LNG market: 19% of the world's residual gas reserves versus 8% of the world's LNG production.
At the same time, the demand for liquefied gas is growing. By 2040, it will reach about 700 million tons per year, that is, it will almost double compared to the 2020 level. And at the same time, 75% of this growth will be concentrated in Asia, in close proximity to the Russian resource base. Therefore, it is logical that Russia will occupy a significant place here. At the same time, we see that production capacity is not enough to meet this demand.
In this sense, we would like to participate in such projects in the Far East, because the Asian market, of course, is in need of this energy resource.
- That is, Shell's ambitions in the development of the LNG business lie in the Far East region?
- Not necessarily just there. I'm talking about where it makes sense to develop this area in terms of proximity to the Asian region. But we may be interested in other regions as well.
- But in the Far East the question of the raw material base is acute ...
- It's true.
- In this regard, I would like to ask, will we still see progress in expanding the raw material base for the Sakhalin-2 project?
- We are working on this, but there is no progress in these negotiations yet. The first issue now is to fill the two existing lines of the LNG plant.
- How interested are you in maintaining your participation in the Sakhalin-2 project and extending the PSA after 2041? What is the main difficulty in prolonging the agreement?
- We would like to continue to participate in this project after 2041, but this must always be economically justified.
- Are you talking about changing the economic conditions of the PSA?
- First of all, we are talking about the efficient management of the company, about ensuring the filling of production lines, about an integrated economic model of the enterprise itself from the point of view of both production and supply of LNG.
- At what stage is this question now?
- This is all discussed at the working level within the Sakhalin Energy committees (operator of the Sakhalin-2 project - TASS note). And there is constant contact with the Russian side, as this is part of the PSA management.
- Sakhalin Energy recently sold the first batch of green LNG. This is such a new story for the market. Do you think there will be a steady demand for this product? Are buyers willing to pay extra for the "clean" label?
- The question is correct, but you yourself are answering it. The demand for carbon neutral LNG is largely a consumer issue. There was an application, and Sakhalin Energy delivered such a consignment to Japan, and before that Shell, together with Gazprom, to Great Britain. I'm not ready to talk about future applications yet. But I think the future of carbon neutral LNG largely depends on government regulation in this area.
- A question about traditional fuel. This year has been very difficult for independent filling stations due to the strong rise in fuel prices. Shell is the largest independent player here. How interesting is this market to you, given the difficult situation with marginality?
- Shell's filling business is quite large, in recent years we have increased the number of stations to about 420 across the country. And they exist, as you rightly noted, in a situation of very difficult marginality, when the profitability of this business is negative due to the disparity between wholesale and retail prices.
There is another problem for fuel retail - the high bank acquiring commission, which reaches 1.5%. This does not compare with the rates in Europe 0.3–0.4%. Of course, we would like to see the dynamics in this matter. The filling business no

longer exists in its pure form, it is a range of services - shops, cafes. Therefore, we would like to see rates applied here, comparable, for example, to the restaurant business.

- Can we say that in this situation you will reduce the network of filling stations or revise plans for its development?

- No, this is out of the question. On the contrary, thanks to the development of a business like Shell Café, the last quarter was very successful. We hope to develop this area, but also look forward to working with the Russian government to improve the efficiency of the filling station market.

We will not change our plans for the development of the filling station network, we continue to increase the number of stations and regions in which we are present. But I repeat: we are now working with the government to improve the profitability of this area.

Yulia Khazagaeva

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

Posted 11am on July 14, 2021

The last 7 days has shown there is a sea change as Asian LNG buyers have made an abrupt change in their LNG contracting and are moving to lock in long term LNG supply. This is the complete opposite of what they were doing pre-Covid when they were trying to renegotiate Qatar LNG long term deals lower and moving away from long term deals to spot/short term sales. Why? We think they did the same math we did in our April 28 blog "*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*" and saw a much bigger and sooner LNG supply gap driven by the delay of 5 bcf/d of Mozambique LNG that was built into most, if not all LNG supply forecasts. Asian LNG buyers are committing real dollars to long term LNG deals, which we believe is the best validation for the LNG supply gap. Another validation, Shell, Total and others are aggressively competing to invest long term capital to partner in Qatar Petroleum's massive 4.3 bcf/d LNG expansion despite plans to reduce fossil fuels production in the 2020s. And even more importantly to LNG suppliers, the return to long term LNG contracts provides the financing capacity to commit to brownfield LNG FIDs. The abrupt change by Asian LNG buyers to long term contracts is a game changer for LNG markets and sets the stage for brownfield LNG FIDs likely as soon as before year end 2021. It has to be brownfield LNG FIDs if the gap is coming bigger and sooner. And we return to our April 28 blog point, if brownfield LNG is needed, what about Shell looking at 1.8 bcf/d brownfield LNG Canada Phase 2? LNG Canada Phase 1 at 1.8 bcf/d capacity is already a material positive for Cdn natural gas producers. A FID on LNG Canada Phase 2 would be huge, meaning 3.6 bcf/d of Cdn natural gas will be tied to Asian LNG markets and not competing in the US against Henry Hub. And with a much shorter distance to Asian LNG markets. This is why we focus on global LNG markets for our views on the future value of Canadian natural gas.

<u>Sea change in Asian LNG buyers is also the best validation of the LNG supply gap and big to LNG supply FIDs.</u> Has the data changed or have the market participants changed in how they react to the data? We can't recall exactly who said that on CNBC on July 12, it's a question we always ask ourselves. In the LNG case, the data has changed with Mozambique LNG delays and that has directly resulted in market participants changing and entering into long term contracts. We can't stress enough how important it is to see Asian LNG buyers move to long term LNG deals. (i) Validates the sooner and bigger LNG supply gap. We believe LNG markets should look at the last two weeks of new long term deals for Asian LNG buyers as being the validation of the LNG supply gap that clearly emerged post Total declaring force majeure on its 1.7 bcf/d Mozambique LNG Phase 1 that was under construction and on track for first LNG delivery in 2024. Since then, markets have started to realize the Mozambique delays are much more than 1.7 bcf/d. They have seen major LNG suppliers change their outlook to a more bullish LNG outlook and, most importantly, are now seeing Asian LNG buyers changing from trying to renegotiate long term LNG deals lower to entering into long term LNG deals to have security of supply. Asian LNG buyers are cozying up to Qatar in a prelude to the next wave of Asian buyer long term deals. What better validation is there than companies/countries putting their money where their mouth is. (ii) Provides financial commitment to help push LNG suppliers to FID. We believe these Asian LNG buyers are doing much more than validating a LNG supply gap to markets. The big LNG suppliers can move to FID based on adding more LNG supply to their portfolio, but having more long term deals provides the financial anchor/visibility to long term capital commitment from the buyers. Long term contracts will only help LNG suppliers get to FID.

<u>It was always clear that the Mozambique LNG supply delay was 5.0 bcf/d, not just 1.7 bcf/d from Total Phase 1.</u> LNG markets didn't really react to Total's April 26 declaration of force majeure on its 1.7 bcf/d Mozambique LNG Phase 1. This was an under construction project that was on time to deliver first LNG in 2024. It was in all LNG supply forecasts. There was no timeline given but, on the Apr 29 Q1 call, Total said that it expected any restart decision would be least a year away. If so, we believe that puts any actual construction at least 18 months away. There will be work to do just to get back to where they were when they were forced to stop development work on Phase 1. Surprisingly, markets didn't look the broader implications, which is why we posted our 7-pg Apr 28 blog "*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*" [LINK] We highlighted that Mozambique LNG delays were actually 5 bcf/d, not 1.7 bcf/d. And this 5 bcf/d of Mozambique LNG supply was built into most, if not all, LNG supply forecasts. The delay in Total Phase 1 would lead to a commensurate delay in its Mozambique LNG Phase 2 of 1.3 bcf/d. 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 at least 2 years, so will the follow on Phase 2, so more likely, it will be at least 2028/2029. The assumption for most, if not all, LNG forecasts was that Phase 2 would follow Phase 1. Exxon Rozuma Phase 1 of 2.0 bcf/d continues to be pushed back in timeline especially following Total Phase 1. Exxon's Mozambique Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was originally expected to be in service in 2025. The project was being delayed and Total's force majeure has added to the delays. Rozuma onshore LNG facilities are right by Total. On June 20, we tweeted [LINK] on the Reuters report "*Exclusive: Galp says it won't invest in Rovuma until Mozambique ensures security*" [LINK]. Galp is one of Exxon's partners in Rozuma. Reuters reported that Galp said they won't invest in Exxon's Rozuma LNG project until the government ensures security, that this may take a while, they won't be considering the project until after Total has reliably resumed work on its Phase 1, which likely puts any Rozuma decision until at least end of 2022 at the earliest. Galp has taken any Rozuma Phase 1 capex out of their new capex plans thru 2025 and will have to take out projects in their capex plan if Rozuma does come back to work. This puts Rozuma more likely 2028 at the earliest as opposed to before the original expectations of before 2025. 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 sometime before 2025. LNG forecasts had been assuming Exxon Rozuma would be onstream around 2025. 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 now, any FID is not expected until late 2022 at the earliest, that would push first LNG likely to at least 2028. What this means is that the Mozambique LNG delays are not 1.7 bcf/d but 5.0 bcf/d of projects that were in all, if not most, LNG supply forecasts. There is much more in our 7-pg blog. But Mozambique is what is driving a much bigger and sooner LNG supply gap starting ~2025 and stronger outlook for LNG prices

<u>One of the reasons why it went under the radar is that major LNG suppliers played stupid on the Mozambique impact.</u> It makes it harder for markets to see a big deal when the major LNG suppliers weren't making a big deal of Mozambique or playing stupid in the case of Cheniere in their May 4 Q1 call. In our May 9, 2021 Energy Tidbits memo, we said we had to chuckle when we saw Cheniere's response in the Q&A to its Q1 call on May 4 that they only know what we know from reading the Total releases on Mozambique and its impact on LNG markets. It's why we tweeted [LINK] "*Hmm! $LNG says only know what we read on #LNG market impact from $TOT $XOM MZ LNG delays*. *Surely #TohokuElectric & other offtake buyers are reaching out to #Cheniere. MZ LNG delays is a game changer to LNG in 2020s, see SAF Group blog. Thx @olympe_mattei @TheTerminal #NatGas".* How could they not be talking to LNG buyers for Total and /or Exxon Mozambique LNG projects. In the Q1 Q&A, mgmt was asked about Mozambique and didn't know any more than what you or I have read. Surely, they were speaking to Asian LNG buyers who had planned to get LNG supply from Total Mozambique or Exxon Rozuma Mozambique or both. Mgmt is asked "*wanted to just kind of touch on the color use talking about for these supply curve. And are you able to kind of provide any thoughts on the Mozambique and a deferral with the project of that size on 13 and TPA being deferred by we see you have you noticed any impact to the market has is there any impact for stage 3 with that capacity? Thanks*." Mgmt replies "*No. Look, I only know about the Mozambique delay with what I read as well as what you read that from total and an Exxon. And it's a sad situation and I hope everybody is safe and healthy that were there to experience that unrest but no I don't think it's, again it's a different business paradigm than what we offer. So, we offer a full value product, the customer doesn't have to invest in equity, customer doesn't have to worry about the E&P side of the business because, we've been able to both the by at our peak almost 7 Dee's a day of US NAT gas from almost a 100 different producers on 26 different pipelines and deliver it to our to facilities. So we take care of a lot of what the customer needs".*

<u>There are other LNG supply delays/interruptions beyond Mozambique.</u> There have been a number of other smaller LNG delay or existing supply interruptions that add to Asian LNG buyers feeling less secure about the reliability of mid to long term LNG supply. Here are just a few examples. (i) Total Papua LNG 0.74 bcf/d. On June 8, we tweeted [LINK] *"Timing update Papua #LNG project. $OSH June 8 update "2022 FEED, 2023 FID targeting 2027 first gas". $TOT May 5 update didn't forecast 1st gas date. Papua is 2 trains w/ total capacity 0.74 bcf/d."* We followed the tweet saying [LINK] *"Bigger #LNG supply gap being created >2025. Papua #LNG originally expected FID in 2020 so 1st LNG is 2 years delayed.*

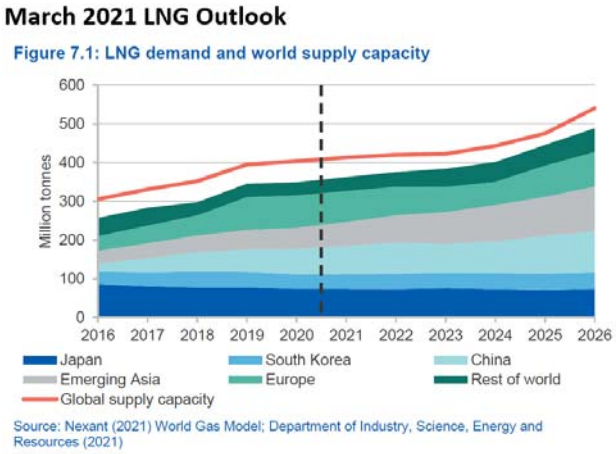
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required additional downtime for repair. Train 2 was shut on May 23 with an original restart of July 11, but the repairs to the weld quality issues meant it didn't restart until late Nov. The same issue was found in Train 1 but repairs were completed. However extended downtime for the trains led to lower LNG volumes. Gorgon produced ~2.3 bcf/d in 2019 but was down to 2.0 bcf/d in 2020. (iii) Equinor's Melkoeya 0.63 bcf/d shut down for 18 months due to a fire. A massive fire led to the Sept 28, 2020 shutdown of the 0.63 bcf/d Melkoeya LNG facility in Norway. On April 26, Equinor released "*Revised start-up date for Hammerfest LNG*" [LINK] with regard to the 0.63 bcf/d Melkoeya LNG facility. The original restart date was Oct 1, 2021 (ie. a 12 month shut down), but Equinor said "*Due to the comprehensive scope of work and Covid-19 restrictions, the revised estimated start-up date is set to 31 March 2022".* When we read the release, it seemed like Equinor was almost setting the stage for another potential delay in the restart date. Equinor had two qualifiers to this March 31, 2022 restart date. Equinor said "*there is still some uncertainty related to the scope of the work*" and "*Operational measures to handle the Covid-19 situation have affected the follow-up progress after the fire. The project for planning and carrying out repairs of the Hammerfest LNG plant must always comply with applicable guidelines for handling the infection situation in society. The project has already introduced several measures that allow us to have fewer workers on site at the same time than previously expected. There is still uncertainty related to how the Covid-19 development will impact the project progress."*

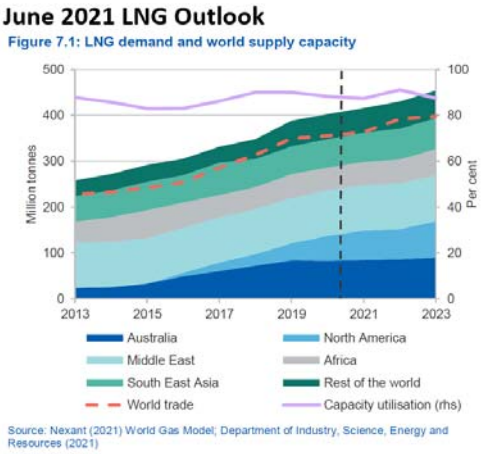
Cheniere stopped the game playing the game on June 30. Our July 4, 2021 Energy Tidbits memo noted that it looks like Cheniere has stopped playing stupid with respect to the strengthening LNG market in 2021. We can't believe they thought they were fooling anyone, especially their competitors. Bu that week, they came out talking about how commercial discussions have picked up in 2021 and it's boosted their hope for a Texas (Corpus Christi) LNG expansion. On Wednesday, Platts reported "*Pickup in commercial talks boosts Cheniere's hopes on mid-scale LNG project*" [LINK] Platts wrote "*Cheniere Energy expects to make a "substantial dent" by the end of 2022 in building sufficient buyer support for a proposed mid-scale expansion at the site of its Texas liquefaction facility, Chief Commercial Officer Anatol Feygin said June 30 in an interview." " As a result, he said, " The commercial engagement, I think it is very fair to say, has really picked up steam, and we are quite optimistic over the coming 12-18 months to make a substantial dent in that Stage 3 commercialization."* Platts also reported that Cheniere noted this has been a tightening market all year (ie would have been known by the May 4 Q1 call). Platts wrote "*We obviously find ourselves at the beginning of this year and throughout in a very tight market where prices today into Asia and into Europe are at levels that we frankly haven't seen in a decade-plus," Feygin said. "We've surpassed the economics that the industry saw post the Fukushima tragedy in March 2011, and that's happened in the shoulder period."* It's a public stance as to a more bullish LNG outlook

But we still see major LNG suppliers like Australia hinting but not outright saying that LNG supply gap is coming sooner. We have to believe Australia will be unveiling a sooner LNG supply gap in their September forecast. On June 28, we tweeted [LINK] on Australia's Resources and Energy Quarterly released on Monday [LINK] because there was a major change to their LNG outlook versus their March forecast. We tweeted "*#LNGSupplyGap. AU June fcast now sees #LNG mkt tighten post 2023 vs Mar fcast excess supply thru 2026. Why? $TOT Mozambique delays. See below SAF Apr 28 blog. Means brownfield LNG FID needed ie. like #LNGCanada Phase 2. #OOTT #NatGas".* Australia no longer sees supply exceeding demand thru 2026. In their March forecast, Australia said "*Nonetheless, given the large scale expansion of global LNG capacity in recent years, demand is expected to remain short of total supply throughout the projection period."* Note this is thru 2026 ie. a LNG supply surplus thru 2026. But on June 28, Australia changed that LNG outlook and now says the LNG market may tighten beyond 2023. Interestingly, the June forecast only goes to 2023 and not to 2026 as in March. Hmmm! On Monday, they said "*Given the large scale expansion of global LNG capacity in recent years, import demand is expected to remain short of export capacity throughout the outlook period. Beyond 2023, the global LNG market may tighten, due to the April 2021 decision to indefinitely suspend the Mozambique LNG project, in response to rising security issues. This project has an annual nameplate capacity of 13 million tonnes, and was previously expected to start exporting LNG in 2024*." 13 million tonnes is 1.7 bcf/d so they are only referring to Total Mozambique LNG Phase 1. So no surprise the change is Mozambique LNG driven but we have to believe the reason why they cut their forecast off this time at 2023 is that they are looking at trying to figure out what to forecast beyond 2023 in addition to Total Phase 1. And, importantly, we believe they will be changing their LNG forecast for more than Mozambique ie. India

demand that we highlight later in the blog. They didn't say anything else specific on Mozambique but, surely they have to also be delaying the follow on Total Phase 2 of 1.3 bcf/d and Exxon Rozuma Phase 1 of 2.0 bcf/d.

Australia's LNG Outlook: March 2021 vs June 2021 Forecasts



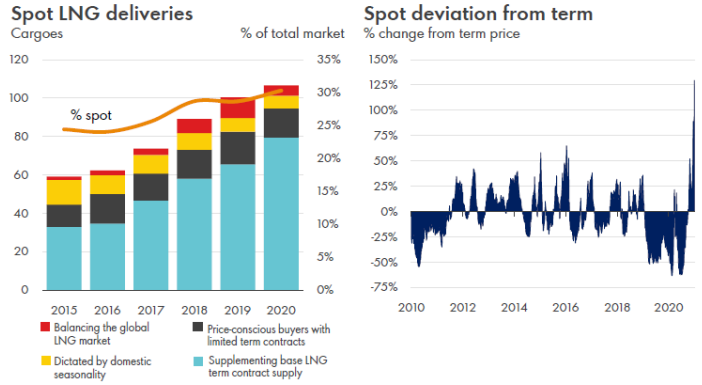


Source: Australia Resources and Energy Quarterly

Clearly Asian LNG buyers did the math, saw the new LNG supply gap and were working the phones in March/April/May trying to lock up long term supply. We wrote extensively on the Total Mozambique LNG situation before the April 26 force majeure as it was obvious that delays were coming to a project counted on for first LNG in 2024. Total had shut down Phase 1 development in December for 3 months due to the violence 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. That's why no one should have been surprised by the April 26 force majeure. Asian LNG buyers were also seeing this and could easily do the same math we were doing and saw a bigger and sooner LNG supply gap. They were clearly working the phones with a new priority to lock up long term LNG supply. Major long term deals don't happen overnight, so it makes sense that we started to see these new Asian long term LNG deals start at the end of June.

A big pivot from trying to renegotiate down long term LNG deals or being happy to let long term contracts expire and replace with spot/short term LNG deals. This is a major pivot or abrupt turn on the Asian LNG buyers contracting strategy for the 2020s. There is the natural reduction of long term contracts as contracts reach their term. But with the weakness in LNG prices in 2019 and 2020, Asian LNG buyers weren't trying to extend long term contracts, rather, the push was to try to renegotiate down its long term LNG deals. The reason was clear, as spot prices for LNG were way less than long term contract prices. And this led to their LNG contracting strategy – move to increase the proportion of spot LNG deliveries out of total LNG deliveries. Shell's LNG Outlook 2021 was on Feb 25, 2021 and included the below graphs. The spot LNG price derivation from long term prices in 2019 and 2020 made sense for Asian LNG buyers to try to change their contract mix. Yesterday, Maeil Business News Korea reported on the new Qatar/Kogas long term LNG deal with its report "*Korea may face LNG supply cliff or pay hefty price after long-term supplies run out*" [LINK], which highlighted this very concept – Korea wasn't worried about trying to extend expiring long term LNG contracts. Maeil wrote "*Seoul in 2019 secured a long-term LNG supply contract with the U.S. for annual 15.8 million tons over a 15-year period. But even with the latest two LNG supply contracts, the Korean government needs extra 6 million tons or more of LNG supplies to keep up the current power pipeline. By 2024, Korea's long-term supply contracts for 9 million tons of LNG will expire - 4.92 million tons on contract with Qatar and 4.06 million tons from Oman, according to a government official who asked to be unnamed.*"

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

Asian LNG buyers moving to long term LNG deals provide financing capacity for brownfield LNG FIDs. We believe this abrupt change and return to long term LNG deals is even more important to LNG suppliers who want to FID new projects. The big LNG players like Shell can FID new LNG supply without new long term contracts as they can build into their supply options to fill their portfolio of LNG contracts. But that doesn't mean the big players don't want long term LNG supply deals, as having long term LNG contracts provide better financing capacity for any LNG supplier. It takes big capex for LNG supply and long term deals make the financing easier.

Four Asian buyer long term LNG deals in the last week. It was pretty hard to miss a busy week for reports of new Asian LNG buyer long term LNG deals. There were two deals from Qatar Petroleum, one from Petronas and one from BP. The timing fits, it's about 3 months after Total Mozambique LNG problems became crystal clear. And as noted later, there are indicators that more Asian buyer LNG deals are coming.

> Petronas/CNOOC is 10 yr supply deal for 0.3 bcf/d. On July 7, we tweeted [LINK] on the confirmation of a big positive to Cdn natural gas with the Petronas announcement [LINK] of a new 10 year LNG supply deal for 0.3 bcf/d with China's CNOOC. The deal also has special significance to Canada. (i) Petronas said "*This long-term supply agreement also includes supply from LNG Canada when the facility commences its operations by middle of the decade*". This is a reminder of the big positive to Cdn natural gas in the next 3 to 4 years – the start up of LNG Canada Phase 1 is ~1.8 bcf/d capacity. This is natural gas that will no longer be moving south to the US or east to eastern Canada, instead it will be going to Asia. This will provide a benefit for all Western Canada natural gas. (ii) First ever AECO linked LNG deal. It's a pretty significant event for a long term Asia LNG deal to now have an AECO link. Petronas wrote "*The deal is for 2.2 million tonnes per annum (MTPA) for a 10-year period, indexed to a combination of the Brent and Alberta Energy Company (AECO) indices. The term deal between PETRONAS and CNOOC is valued at approximately USD 7 billion over ten years.*" 2.2 MTPA is 0.3 bcf/d. (iii) Reminds of LNG Canada's competitive advantage for low greenhouse gas emissions. Petronas said "*Once ready for operations, the LNG Canada project paves the way for PETRONAS to supply low greenhouse gas (GHG) emission LNG to the key demand markets in Asia.*"
>
> Qatar Petroleum/CPC (Taiwan) is 15 yr supply deal for 0.16 bcf/d. Pre Covid, Qatar was getting pressured to renegotiate lower its long term LNG contract prices. Now, it's signing a 15 year deal. On July 9, they entered in a new small long term LNG sales deal [LINK], a 15-yr LNG Sale and Purchase Agreement with CPC Corporation in Taiwan to supply it ~0.60 bcf/d of LNG. LNG deliveries are set to begin in January 2022. H.E. Minister for Energy Affairs & CEO of Qatar Petroleum Al-Kaabi said *"We are pleased to enter into this long term LNG SPA, which is another milestone in our relationship with CPC, which dates back to almost three decades. We look forward to commencing deliveries under this SPA and to continuing our supplies as a trusted and reliable global LNG provider."* The pricing was reported to be vs a basket of crudes.

BP/Guangzhou Gas, a 12-yr supply deal for 0.13 bcf/d. On July 9, there was a small long term LNG supply deal with BP and Guangzhou Gas (China). Argus reported [LINK] BP had signed a 12 year LNG supply deal with Guangzhou Gas (GG), a Chinese city's gas distributor, which starts in 2022. The contract prices are to be linked to an index of international crude prices. Although GG typically gets its LNG from the spot market, it used a tender in late April for ~0.13 bcf/d starting in 2022. BP's announcement looks to be for most of the tender, so it's a small deal. But it fit into the trend this week of seeing long term LNG supply deals to Asia. This was intended to secure deliveries to the firm's Xiaohudao import terminal which will become operational in August 2022.

Qatar/Korea Gas is a 20-yr deal to supply 0.25 bcf/d. On Monday, Reuters reported [LINK] "*South Korea's energy ministry said on Monday it had signed a 20-year liquefied natural gas (LNG) supply agreement with Qatar for the next 20 years starting in 2025. South Korea's state-run Korea Gas Corp (036460.KS) will buy 2 million tonnes of LNG annually from Qatar Petroleum".* There was no disclosure of pricing.

More Asian buyer long term LNG deals (ie. India) will be coming. There are going to be more Asian buyer long term LNG deals coming soon. Our July 11, 2021 Energy Tidbits highlighted how India's new petroleum minister Hardeep Singh Puri (appointed July 8) hit the ground running with what looks to be a priority to set the stage for more India long term LNG deals with Qatar. On July 10, we retweeted [LINK] "*New India Petroleum Minister hits ground running. What else w/ Qatar but #LNG. Must be #Puri setting stage for long term LNG supply deal(s). Fits sea change of buyers seeing #LNGSupplyGap (see SAF Apr 28 blog http://safgroup.ca) & wanting to tie up LNG supply. #OOTT".* It's hard to see any other conclusion after seeing what we call a sea change in LNG buyer mentality with a number of long term LNG deals this week. Puri tweeted [LINK] "*Discussed ways of further strengthening mutual cooperation between our two countries in the hydrocarbon sector during a warm courtesy call with Qatar's Minister of State for Energy Affairs who is also the President & CEO of @qatarpetroleum HE Saad Sherida Al-Kaabi".* As noted above, we believe there is a sea change in LNG markets that was driven by the delay in 5 bcf/d of LNG supply from Mozambique (Total Phase 1 & Phase 2, and Exxon Rozuma Phase 1) that was counted on all LNG supply projections for the 2020s. Puri's tweet seems to be him setting the stage for India long term LNG supply deals with Qatar.

Supermajors are aggressively competing to commit 30+ year capital to Qatar's LNG expansion despite stated goal to reduce fossil fuels production. It's not just Asian LNG buyers who are now once again committing long term capital to securing LNG supply, it's also supermajors all bidding to be able to commit big capex to part of Qatar Petroleum's 4.3 bcf/d LNG expansion. Qatar Petroleum received a lot of headlines following the their June 23 announcement on its LNG expansion [LINK] on how they received bids for double the equity being offered. And there were multiple reports that these are on much tougher terms for Qatar's partners. Qatar Petroleum CEO Saad Sherida Al-Kaabi specifically noted that, among the bidders, were Shell, Total and Exxon. Shell and Total have two of the most ambitious plans to reduce fossil fuels production in the 2020's, yet are competing to allocate long term capital to increase fossil fuels production. And Shell and Total are also two of the global LNG supply leaders. It has to be because they are seeing a bigger and sooner LNG supply gap.

Remember Qatar's has a massive expansion but India alone needs 3x the Qatar expansion LNG capacity. In addition to the competition to be Qatar Petroleum's partners, we remind that, while this is a massive 4.3 bcf/d LNG expansion, India alone sees its LNG import growing by ~13 bcf/d to 2030. The Qatar announcement reminded they see a LNG supply gap and continued high LNG prices. We had a 3 part tweet. (i) First, we highlighted [LINK] "*1/3. #LNGSupplyGap coming. big support for @qatarpetroleum expansion to add 4.3 bcf/d LNG. but also say "there is a lack of investments that could cause a significant shortage in gas between 2025-2030" #NatGas #LNG".* This is after QPC accounts for their big LNG expansion. The QPC release said "*However, His Excellency Al-Kaabi voiced concern that during the global discussion on energy transition, there is a lack of investment in oil and gas projects, which could drive energy prices higher by stating that "while gas and LNG are important for the energy transition, there is a lack of investments that could cause a significant shortage in gas between 2025-2030, which in turn could cause a spike in the gas market."* (ii) Second, this is a big 4.3 bcf/d expansion, but India alone has 3x the increase in LNG import demand. We tweeted [LINK] "*2/3. Adding 4.3 bcf/d is big, but dwarfed by items like India. #Petronet gave 1st specific forecast for what it means if #NatGas is to be 15%*

of energy mix by 2030 - India will need to increase #LNG imports by ~13 bcf/d. See SAF Group June 20 Energy Tidbits memo." (iii) Third, Qatar's supply gap warning is driven by the lack of investments in LNG supply. We agree, but note that the lack of investment is in great part due to the delays in both projects under construction and in FIDs that were supposed to be done in 2019. We tweeted [LINK] "3/3. *#LNGSupplyGap is delay driven. $TOT Mozambique Phase 1 delay has chain effect, backs up 5 bcf/d. See SAF Group Apr 28 blog Multiple Brownfield LNG FIDs Now Needed To Fill New #LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2? #NatGas*."

Seems like many missed India's first specific LNG forecast to 2030. Our June 20, 2021 Energy Tidbits memo highlighted the first India forecast that we have seen to estimate the required growth in natural gas consumption and LNG imports if India is to meet its target for natural gas to be 15% of its energy mix by 2030. India will need to increase LNG imports by ~13 bcf/d or 3 times the size of the Qatar LNG expansion. Our June 6, 2021 Energy Tidbits noted the June 4 tweet from India's Energy Minister Dharmendra Pradhan [LINK] reinforcing the 15% goal "*We are rapidly deploying natural gas in our energy mix with the aim to increase the share of natural gas from the current 6% to 15% by 2030."* But last week, Petronet CEO AK Singh gave a specific forecast. Reuters report "*LNG's share of Indian gas demand to rise to 70% by 2030: Petronet CEO"* [LINK] included Petronet's forecast if India is to hit its target for natural gas to be 15% of energy mix by 2030. Singh forecasts India's natural gas consumption would increase from current 5.5 bcf/d to 22.6 bcf/d in 2030. And LNG shares would increase from 50% to 70% of natural gas consumption ie. an increase in LNG imports of ~13 bcf/d from just under 3 bcf/d to 15.8 bcf/d in 2030. Singh did not specifically note his assumption for India's natural gas production, but we can back into the assumption that India natural gas production grows from just under 3 bcf/d to 6.8 bcf/d. It was good to finally see India come out with a specific forecast for 2030 natural gas consumption and LNG imports if India is to get natural gas to 15% of its energy mix in 2030. Petronet's Singh forecasts India natural gas consumption to increase from 5.5 bcf/d to 22.6 bcf/d in 2030. This forecast is pretty close to our forecast in our Oct 23, 2019 blog "*Finally, Some Visibility That India Is Moving Towards Its Target For Natural Gas To Be 15% Of Its Energy Mix By 2030*". Here part of what we wrote in Oct 2019. "*It's taken a year longer than we expected, but we are finally getting visibility that India is taking significant steps towards India's goal to have natural gas be 15% of its energy mix by 2030. On Wednesday, we posted a SAF blog [LINK] "Finally, Some Visibility That India Is Moving Towards Its Target For Natural Gas To Be 15% Of Its Energy Mix By 2030".* Our 2019 blog estimate was for India natural gas demand to be 24.0 bcf/d in 2030 (vs Singh's 22.6 bcf/d) and for LNG import growth of +18.4 bcf/d to 2030 (vs Singh's +13 bcf/d). The difference in LNG would be due to our Oct 2019 forecast higher natural gas consumption by 1.4 bcf/d plus Singh forecasting India natural gas production +4 bcf/d to 2030. Note India production peaked at 4.6 bcf/d in 2010.

Bigger, nearer LNG supply gap + Asian buyers moving to long term LNG deals = LNG players forced to at least look at what brownfield LNG projects they could advance and move to FID. All we have seen since our April 28 blog is more validation of the bigger, nearer LNG supply gap. And now market participants (Asian LNG buyers) are reacting to the new data by locking up long term supply. Cheniere noted how the pickup in commercial engagement means they "*are quite optimistic over the coming 12-18 months to make a substantial dent in that Stage 3 commercialization."* Cheniere can't be the only LNG supplier having new commercial discussions. It's why we believe the Mozambique delays + Asian LNG buyers moving to long term deals will effectively force major LNG players to look to see if there are brownfield LNG projects they should look to advance. Prior to March/April, no one would think Shell or other major LNG players would be considering any new LNG FIDs in 2021. Covid forced all the big companies into capital reduction mode and debt reduction mode. But Brent oil is now solidly over $70, and LNG prices are over $13 this summer 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. The theme in Q3 reporting is going to be record or near record oil and gas cash flows, reduced debt levels and increasing returns to shareholders. 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 8 months. The question facing major LNG players like Shell is 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 and Asian LNG buyers prepared to do long term deals. We expect these decisions to be looked at before the end of 2021 for 2022 capex budget/releases. One wildcard that could force these decisions sooner is the already stressed out global supply chain. We have to believe that discussion there will be pressure for more Asian LNG buyer long term deals sooner than later.

For Canada, does the increasing LNG supply gap provide the opportunity to at least consider a LNG Canada Phase 2 FID over the next 6 months? Our view on Shell and other LNG players is unchanged since our April 28 blog. 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 9 months ago. Even 3 months post our April 28 blog, we haven't heard any significant talks on how major LNG players will be looking at FID for new brownfield LNG projects. 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. We believe maintaining a continuous construction cycle is even more important given the stressed global supply chain. No one is talking about the need for these new brownfield LNG projects, but, unless some major change in views happen, we believe 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. LNG Canada Phase 1 is a material natural gas development as its 1.8 bcf/d capacity represents approx. 20 to 25% of Cdn gas export volumes to the US. The EIA data shows US pipeline imports of Cdn natural gas as 6.83 bcf/d in 2020, 7.36 bcf/d in 2019, 7.70 bcf/d in 2018, 8.89 bcf/d in 2017, 7.97 bcf/d in 2016, 7.19 bcf/d in 2015 and 7.22 bcf/d in 2014. A LNG Canada Phase 2 FID would be a huge plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against pricing points other than 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 has been 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 the 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 vs 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 and Cdn natural gas valuations. Imagine the future value of Cdn natural gas is there was visibility for 3.6 bcf/d of Western Canada natural gas to be exported to Asia.

https://www.thenews.com.pk/print/918251-gas-crisis-aggravates-gunvor-again-backs-out-of-lng-cargo-delivery

Gas crisis aggravates: GUNVOR again backs out of LNG cargo delivery

The non-availability of term cargo on January 10 will further worsen the ongoing gas crisis in the country.

By Khalid Mustafa

December 20, 2021

ISLAMABAD: Singapore based LNG trading company -- GUNVOR has intimated the authorities in the government that it will not be able to deliver its term LNG cargo which is due on January 10, 2022 by claiming the force majeure. However, it has not yet informed Pakistan LNG Limited as to when this term cargo will be provided, a well placed senior official at the Energy Ministry told The News.

He said that technically it will be a second default by GUNVOR in a row in the current winter season 2021-22, as it earlier defaulted from the provision of the term cargo on November 19-20, 2021. The Italian company ENI also defaulted on November 26-27, 2021 from the delivery of its term cargo. ENI had earlier backed out of its term LNG cargo in August, 2021. “And this is how both the LNG trading companies have defaulted twice. The intimation of non-availability of LNG cargo from GUNVOR comes at a time when LNG price in the spot market is hovering at $35-40 per MMBTU.”

The non-availability of term cargo on January 10 will further worsen the ongoing gas crisis in the country. From December 15, the government has already cut gas supply to the export sector in Punjab apart from shutting down the non- export industry and CNG sector. So much so, the domestic consumers are also facing massive shortages across the country even at breakfast, lunch and dinner times and people are forced to purchase food, roti, nan and even tea from hotels at higher prices.

However, the Managing Director of Pakistan LNG Limited (PLL) didn’t respond to the question when asked if GUNVOR has again defaulted from the LNG cargo which is due to be delivered on January 10, 2022.

The Energy Ministry’s top officials disclosed that the demand of gas for the domestic sector in Punjab and KPK has gone up to 800-900 mmcfd which in January is expected to further jack up to 1200 mmcfd for the domestic sector as the mercury is estimated to further the tumble in January. The system gas production has already dwindled by 1 billion cubic feet from 4200 mmcfd to just 3200 mmcfd. And because of the failure of the authorities in ensuring the 4 spot LNG cargoes (2 each in December and January) and default by GUNVOR on January 10, the gas crisis has worsened more.

Keeping in view the given situation, there is no gas available in the system enough to accommodate Textile industry in Punjab even at $9 per MMBTU, the official said. “Yes, we can accommodate the textile industry at $ 9 per MMBTU only after reducing the LNG supply to the power sector and cutting the gas to the fertilizer sector.”

In low winter, the earlier fertilizer sector was never given gas, it was only provided the gas in peak winter season.

The official said that it is high time for the government to utilize the furnace oil which is available in abundance in the country for power generation and divert the gas to export industry at $9 per MMBTU.

“We started the winter season this time with a shortfall of 360 mmcfd in Punjab and KPK.”

To a question he said that ENI and GUNVOR which earlier defaulted in the month of November has not yet given an undertaking to provide the term cargoes as replacement in other months as they are more keen to be penalized. The penalty is equaly the 30 percent of the value of the term cargo.

Under the term agreements with Pakistan LNG Limited, Italy-based ENI is bound to provide LNG cargo every month at 11.95% of the Brent and GUNVOR is also in a 5 year term agreement and bound to provide a cargo at 11.6247% of the Brent. Under the contract, in case of default, PLL can impose a penalty of 30 percent of the contractual price of one cargo to each LNG Company and both the companies are ready to pay the penalty as the profit in the spot market is so huge which has prompted them to sell Pakistan’s term cargo to the international market. PLL has inked the term agreements with both the companies to avoid purchasing of LNG cargoes at higher prices, but both the companies have backed out and defaulted the agreements twice.

Highlights for the month

- The consumption of petroleum products during April-November 2021 with a volume of 129.98 MMT reported a growth of 5.7% compared to the volume of 123 MMT during the same period of the previous year. Except SKO & petcoke all other petroleum products reported a growth in consumption during April-November 2021 compared to the same period of the previous year. The consumption of petroleum products during November 2021 recorded a de-growth of 11.4% compared to the same period of the previous year.
- Indigenous crude oil and condensate production during November 2021 was lower by 2.2 % than that of November 2020 as compared to a de-growth of 2.2 % during October 2021. OIL registered a de-growth of 0.7 % and ONGC registered a de-growth of 3.0 % during November 2021 as compared to November 2020. PSC registered de-growth of 0.7 % during November 2021 as compared to November 2020. De-growth of 2.7 % was registered in the total crude oil and condensate production during April- November 2021 over the corresponding period of the previous year.
- Total Consumption of Natural Gas (including internal consumption) for the month of November 2021 was 5024 MMSCM which was 1% lower than the corresponding month of the previous year. The cumulative consumption of 43814 MMSCM for the current year till November 2021 was higher by 8.1% compared with the corresponding period of the previous year.
- Crude oil processed during November 2021 was 21.5 MMT, which was 3.4 % higher than November 2020 as compared to a growth of 14.0 % during October 2021. Growth of 11.8 % was registered in the total crude oil processing during April-November 2021 over the corresponding period of the previous year.
- Production of petroleum products saw a growth of 4.3 % during November 2021 over November 2020 as compared to a growth of 14.4 % during October 2021. Growth of 10.6 % was registered in the total POL production during April- November 2021 over the corresponding period of the previous year.
- Ethanol blending with Petrol was 7.1% during November 2021 and cumulative during December 2020- November 2021 was 8.1%.

•	Gross production of natural gas for the month of November 2021 was 2869 MMSCM which was higher by 23.1% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 22777 MMSCM for the current financial year till November, 2021 was higher by 21.8% compared with the corresponding period of the previous year.
•	LNG import for the month of November, 2021(P) was 2226 MMSCM which was 20.8 % lower than the corresponding month of the previous year. The cumulative import of 21593 MMSCM for the current year till November, 2021 was lower by 3.7% compared with the corresponding period of the previous year.
•	Crude oil imports increased by 0.5% and 11.4% during November 2021 and April-November 2021 respectively as compared to the corresponding period of the previous year. Decrease in POL products imports during April-November 2021 was due to decrease in imports of petcoke, high speed diesel (HSD), naphtha and superior kerosene oil (SKO).
•	POL products imports decreased by 26.6% and 7.7% during November 2021 and April-November 2021 respectively as compared to the corresponding period of the previous year. Decrease in POL products imports during April-November 2021 was due to decrease in imports of petcoke, high speed diesel (HSD), naphtha and superior kerosene oil (SKO).
•	Exports of POL products increased by 26.8% and 7.1% during November 2021 and April-November 2021 respectively as compared to the corresponding period of the previous year. Increase in POL products exports during April-November 2021 (P) was due to increase in exports of all products except LOBS/Lubes and petcoke.
•	The price of Brent Crude averaged $81.44/bbl during November,2021 as against $83.66/bbl during October 2021 and $42.66/bbl during November 2020. The Indian basket crude price averaged $80.64/bbl during November 2021 as against $82.11/bbl during October 2021 and $43.34 /bbl during November 2020.

2. Crude oil, LNG and petroleum products at a glance

	Details	Unit/ Base	2019-20	2020-21 (P)	November		April-November	
					2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
1	Crude oil production in India#	MMT	32.2	30.5	2.5	2.4	20.4	19.9
2	Consumption of petroleum products*	MMT	214.1	194.3	19.3	17.1	123.0	130.0
3	Production of petroleum products	MMT	262.9	233.5	21.4	22.3	147.6	163.3
4	Gross natural gas production	MMSCM	31,184	28,672	2,331	2,869	18,704	22,777
5	Natural gas consumption	MMSCM	64,144	60,815	5,075	5,024	40,531	43,814
6	Imports & exports:							
	Crude oil imports	MMT	227.0	196.5	18.3	18.4	122.9	136.9
		$ Billion	101.4	62.2	5.5	10.6	32.5	71.7
	Petroleum products (POL) imports*	MMT	43.8	43.2	4.8	3.5	28.8	26.6
		$ Billion	17.7	14.8	1.2	2.2	8.0	15.2
	Gross petroleum imports (Crude + POL)	MMT	270.7	239.7	23.0	21.9	151.7	163.5
		$ Billion	119.1	77.0	6.7	12.8	40.4	86.9
	Petroleum products (POL) export	MMT	65.7	56.8	4.1	5.2	37.4	40.1
		$ Billion	35.8	21.4	1.5	3.7	11.8	25.4
	LNG imports*	MMSCM	33,887	33,031	2,812	2,226	22,428	21,593
		$ Billion	9.5	7.9	0.6	1.1	4.7	8.1
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	25.1	19.5	19.9	24.2	18.4	22.6
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	11.4	7.3	6.3	12.3	6.8	9.7
9	Import dependency of crude (on consumption basis)	%	85.0	84.4	86.5	85.1	83.6	84.9

#Includes condensate; *Private direct imports are prorated for the period Oct-2021 to Nov-2021

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2019-20	2020-21	November			April-November		
			2020-21	2021-22 Target*	2021-22 (P)	2020-21	2021-22 Target*	2021-22 (P)
ONGC	19.2	19.1	1.6	1.7	1.5	12.7	13.5	12.3
Oil India Limited (OIL)	3.1	2.9	0.2	0.3	0.2	2.0	2.1	2.0
Private / Joint Ventures (JVs)	8.2	7.1	0.6	0.7	0.6	4.8	5.2	4.7
Total Crude Oil	**30.5**	**29.1**	**2.4**	**2.6**	**2.3**	**19.5**	**20.8**	**19.0**
ONGC condensate	1.4	1.1	0.1		0.1	0.8		0.6
PSC condensate	0.3	0.3	0.02		0.03	0.17		0.21
Total condensate	**1.6**	**1.4**	**0.1**		**0.1**	**0.9**		**0.8**
Total (Crude + Condensate) (MMT)	**32.2**	**30.5**	**2.5**	**2.6**	**2.4**	**20.4**	**20.8**	**19.9**
Total (Crude + Condensate) (Million Bbl/Day)	0.64	0.61	0.61		0.59	0.61		0.60

*Provisional targets inclusive of condensate.

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

Details	2019-20	2020-21	November		April-November	
			2020-21	2021-22 (P)	2020-21	2021-22 (P)
Total domestic production (MMTOE)	63.4	59.2	4.8	5.3	39.1	42.6
Overseas production (MMTOE)	24.5	21.9	1.8	1.8	14.6	14.7
Overseas production as percentage of domestic production	**38.7%**	**37.0%**	**37.4%**	**33.4%**	**37.4%**	**34.4%**

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

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

	Details	2019-20	2020-21	November		April-November	
				2020-21	2021-22 (P)	2020-21	2021-22 (P)
1	High Sulphur crude	192.4	161.4	15.3	16.4	102.0	117.7
2	Low Sulphur crude	62.0	60.3	5.5	5.0	37.3	38.0
Total crude processed (MMT)		**254.4**	**221.8**	**20.8**	**21.5**	**139.3**	**155.7**
Total crude processed (Million Bbl/Day)		5.09	4.45	5.08	5.25	4.19	4.68
Percentage share of HS crude in total crude oil processing		**75.6%**	**72.8%**	**73.7%**	**76.5%**	**73.2%**	**75.6%**

6. Quantity and value of crude oil imports			
Year	Quantity (MMT)	$ Million	Rs. Crore
2019-20	227.0	1,01,376	7,17,001
2020-21	196.5	62,248	4,59,779

7. Self-sufficiency in petroleum products (Million Metric Tonnes)							
Particulars		2019-20	2020-21	November		April-November	
				2020-21	2021-22 (P)	2020-21	2021-22 (P)
1	Indigenous crude oil processing	29.3	28.0	2.4	2.4	18.6	18.0
2	Products from indigenous crude (93.3% of crude oil processed)	27.3	26.1	2.2	2.2	17.3	16.8
3	Products from fractionators (Including LPG and Gas)	4.8	4.2	0.4	0.3	2.8	2.8
4	Total production from indigenous crude & condensate **(2 + 3)**	32.1	30.3	2.6	2.5	20.2	19.6
5	Total domestic consumption	214.1	194.3	19.3	17.1	123.0	130.0
% Self-sufficiency (4 / 5)		**15.0%**	**15.6%**	**13.5%**	**14.9%**	**16.4%**	**15.1%**

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

Company	Refinery	Installed capacity (1.11.2021) MMTPA	Crude oil processing (MMT)							
			2019-20	2020-21	November			April-November		
					2020-21	2021-22 (Target)	2021-22 (P)	2020-21	2021-22 (Target)	2021-22 (P)
IOCL	Barauni (1964)	6.0	6.5	5.5	0.6	0.6	0.5	3.2	3.9	3.3
	Koyali (1965)	13.7	13.1	11.6	1.1	1.0	1.1	7.4	9.3	8.4
	Haldia (1975)	8.0	6.5	6.8	0.7	0.6	0.7	4.0	5.5	5.4
	Mathura (1982)	8.0	8.9	8.9	0.8	0.6	0.9	5.5	5.9	5.9
	Panipat (1998)	15.0	15.0	13.2	1.4	1.3	1.3	8.3	10.6	9.9
	Guwahati (1962)	1.0	0.9	0.8	0.08	0.1	0.1	0.51	0.5	0.4
	Digboi (1901)	0.65	0.7	0.6	0.06	0.06	0.06	0.4	0.4	0.5
	Bongaigaon(1979)	2.35	2.0	2.5	0.2	0.2	0.2	1.6	1.6	1.8
	Paradip (2016)	15.0	15.8	12.5	1.3	1.3	1.1	7.8	8.5	8.0
	IOCL-TOTAL	**69.7**	**69.4**	**62.4**	**6.2**	**5.7**	**6.0**	**38.8**	**46.3**	**43.5**
CPCL	Manali (1969)	10.5	10.2	8.2	0.7	0.9	0.8	4.8	6.4	5.3
	CBR (1993)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	**11.5**	**10.2**	**8.2**	**0.7**	**0.9**	**0.8**	**4.8**	**6.4**	**5.3**
BPCL	Mumbai (1955)	12.0	15.0	12.9	1.2	1.3	1.3	7.8	9.5	9.3
	Kochi (1966)	15.5	16.5	13.3	1.3	1.3	1.4	7.6	10.7	9.7
BORL	Bina (2011)	7.8	7.9	6.2	0.6	0.6	0.7	3.7	4.7	4.7
	BPCL-TOTAL	**35.3**	**39.4**	**32.4**	**3.2**	**3.1**	**3.4**	**19.0**	**24.9**	**23.7**
NRL	Numaligarh (1999)	3.0	2.4	2.7	0.2	0.2	0.2	1.7	1.8	1.8

Company	Refinery	Installed capacity (1.11.2021) (MMTPA)	Crude oil processing (MMT)							
			2019-20	2020-21	November			Apr-November		
					2020-21	2021-22 (Target)	2021-22 (P)	2020-21	2021-22 (Target)	2021-22 (P)
ONGC	Tatipaka (2001)	0.066	0.087	0.081	0.007	0.005	0.007	0.051	0.041	0.048
MRPL	Mangalore (1996)	15.0	14.0	11.5	1.0	1.4	1.5	6.1	9.4	9.1
	ONGC-TOTAL	**15.1**	**14.0**	**11.6**	**1.0**	**1.4**	**1.5**	**6.1**	**9.5**	**9.1**
HPCL	Mumbai (1954)	7.5	8.1	7.4	0.6	0.7	0.5	4.8	4.3	2.6
	Visakh (1957)	8.3	9.1	9.1	0.8	0.8	0.8	5.9	6.1	5.2
HMEL	Bathinda (2012)	11.3	12.2	10.1	1.0	0.9	1.1	7.2	7.4	8.7
	HPCL- TOTAL	**27.1**	**29.4**	**26.5**	**2.5**	**2.4**	**2.4**	**17.9**	**17.7**	**16.5**
RIL	Jamnagar (DTA) (1999)	33.0	33.0	34.1	2.9	2.9	3.0	22.7	22.7	22.9
	Jamnagar (SEZ) (2008)	35.2	35.9	26.8	2.6	2.6	2.5	17.2	17.2	19.4
NEL	Vadinar (2006)	20.0	20.6	17.1	1.5	1.5	1.7	11.0	11.0	13.5
All India (MMT)		**249.9**	**254.4**	**221.8**	**20.8**	**20.8**	**21.5**	**139.3**	**157.4**	**155.7**
All India (Million Bbl/Day)		**5.02**	**5.09**	**4.45**	**5.08**		**5.25**	**4.19**		**4.68**

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 01.12.2021)

Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,283	1,193	688	1,017	5,301	937			**10,419**
	Cap (MMTPA)	60.6	9.0	10.7	11.3	48.6	7.8			**147.9**
Products	Length (KM)		654			9,400	2,596	3,775	2,395	**18,820**
	Cap (MMTPA)		1.7			47.5	23.0	34.1	9.4	**115.7**

*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	2019-20		2020-21		November 2020		November 2021 (P)		Apr-Nov 2020		Apr-Nov 2021 (P)	
	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons
LPG	12.8	26.3	12.1	27.6	1.1	2.4	1.1	2.3	7.7	18.0	7.8	18.4
MS	38.6	30.0	35.8	28.0	3.3	2.7	3.7	2.6	22.4	17.4	25.6	20.1
NAPHTHA	20.6	14.3	19.4	14.1	1.8	1.4	1.6	1.1	12.3	9.2	13.2	9.4
ATF	15.2	8.0	7.1	3.7	0.7	0.4	1.1	0.5	3.9	1.9	6.2	3.0
SKO	3.2	2.4	2.4	1.8	0.2	0.2	0.2	0.1	1.6	1.2	1.2	1.0
HSD	111.1	82.6	100.4	72.7	9.5	7.0	9.5	6.5	63.3	44.9	69.1	48.8
LDO	0.6	0.6	0.7	0.9	0.06	0.07	0.08	0.07	0.4	0.5	0.5	0.7
LUBES	0.9	3.8	1.1	4.1	0.1	0.4	0.1	0.4	0.7	2.5	0.7	2.8
FO/LSHS	9.3	6.3	7.4	5.6	0.5	0.5	0.8	0.5	4.8	3.6	5.3	4.0
BITUMEN	4.9	6.7	4.9	7.5	0.5	0.7	0.4	0.6	2.6	4.0	2.7	4.5
PET COKE	14.6	21.7	12.0	15.6	1.1	1.1	1.3	1.0	7.7	11.3	9.3	8.8
OTHERS	31.0	11.4	30.2	12.8	2.6	2.5	2.5	1.4	20.1	8.5	21.6	8.5
ALL INDIA	**262.9**	**214.1**	**233.5**	**194.3**	**21.4**	**19.3**	**22.3**	**17.1**	**147.6**	**123.0**	**163.3**	**130.0**
Growth (%)	**0.2%**	**0.4%**	**-11.2%**	**-9.3%**	**-4.8%**	**4.5%**	**4.3%**	**-11.4%**	**-14.9%**	**-13.6%**	**10.6%**	**5.7%**

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)

LPG category	2019-20	2020-21	November			April-November		
			2020-21	2021-22 (P)	Gr (%)	2020-21	2021-22 (P)	Gr (%)
1. PSU Sales :								
LPG-Packed Domestic	23,076.0	25,128.1	2,096.0	2,102.5	0.3	16,676.3	16,604.1	-0.4
LPG-Packed Non-Domestic	2,614.4	1,886.0	201.5	194.8	-3.4	1,035.4	1,427.5	37.9
LPG-Bulk	263.5	361.9	33.1	27.6	-16.5	209.4	242.6	15.9
Auto LPG	171.9	118.4	12.0	10.9	-9.5	67.8	80.1	18.1
Sub-Total (PSU Sales)	26,125.7	27,494.3	**2,342.6**	**2,335.8**	**-0.3**	**17,988.9**	**18,354.3**	**2.0**
2. Direct Private Imports*	204.0	64.2	9.2	7.4	-19.1	37.9	58.8	55.1
Total (1+2)	26,329.8	27,558.4	**2,351.8**	**2,343.2**	**-0.4**	**18,026.8**	**18,413.1**	**2.1**

*Oct -Nov 2021 DGCIS data are prorated

16. LPG marketing at a glance

Particulars (As on 1st of April)	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	1.12.21 (P)
LPG Active Domestic Customers	(Lakh)						1486	1663	1988	2243	2654	2787	2895	3021
	Growth							11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.4%
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	880.0
	Growth									77.7%	101.9%	11.5%	-0.2%	9.8%
LPG Distributors	(No.)	9686	10541	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25181
	Growth	3.4%	8.8%	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	1.2%
Auto LPG Dispensing Stations	(No.)	536	604	652	667	678	681	676	675	672	661	657	651	634
	Growth	19.9%	12.7%	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-3.5%
Bottling Plants	(No.)	182	183	184	185	187	187	188	189	190	192	196	200	199
	Growth	0.0%	0.5%	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	0.5%

Source: PSU OMCs (IOCL,BPCL and HPCL)

1.Growth rates as on 1.12.2021 are w.r.t. figures as on 1.12.2020. All growth rates as on 1 April of any year are w.r.t. figures as on 1 April of previous year.

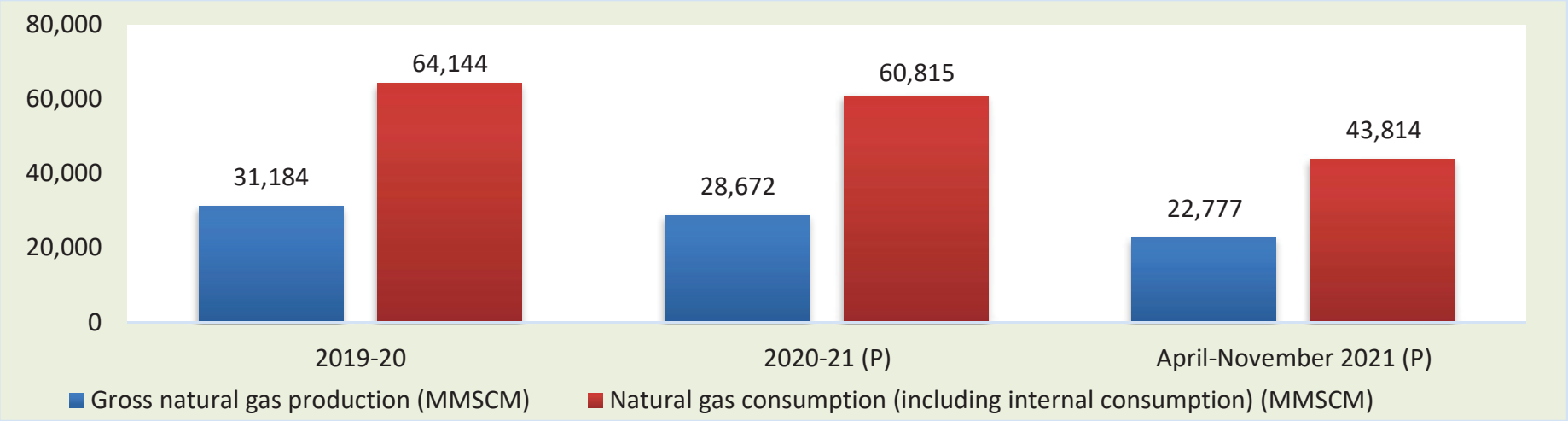
2. The methodology used for estimating LPG coverage by PSU OMC's is under review.

18. Natural gas at a glance

(MMSCM)

Details	2019-20	2020-21 (P)	November			April-November		
			2020-21 (P)	2021-22 (Target)	2021-22 (P)	2020-21 (P)	2021-22 (Target)	2021-22 (P)
(a) Gross production	31,184	28,672	2,331	3,291	2,869	18,704	24,732	22,777
- ONGC	23,746	21,872	1,824	1,946	1,727	14,687	15,480	13,785
- Oil India Limited (OIL)	2,668	2,480	204	242	249	1,668	1,972	1,949
- Private / Joint Ventures (JVs)	4,770	4,321	304	1,102	893	2,349	7,281	7,043
(b) Net production (excluding flare gas and loss)	30,257	27,784	2,263		2,798	18,103		22,222
(c) LNG import#	33,887	33,031	2,812		2,226	22,428		21,593
(d) Total consumption including internal consumption (b+c)	64,144	60,815	5,075		5,024	40,531		43,814
(e) Total consumption **(in BCM)**	64.1	60.8	5.1		5.0	40.5		43.8
(f) Import dependency based on consumption (%), {c/d*100}	52.8	54.3	55.4		44.3	55.3		49.3

#Jul 2020-Nov 2021 DGCIS data prorated



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

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		21659	Sq. KM
Area awarded		16613	Sq. KM
Blocks awarded (ST CBM Block awarded twice in CBM Round II and Round IV)		32	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)		10669.55	Sq. KM
Production of CBM gas	April-November 2021 (P)	459.62	MMSCM
Production of CBM gas	November 2021 (P)	56.45	MMSCM

20. Common Carrier Natural Gas pipeline network as on 30.06.2021

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	8,242	2,265	1,459	132	105	312	73	42	24				**12,653**
	Capacity	167.2	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				**337.3**
Partially commissioned#	Length	4,407			166						441	365		**5,379**
	Capacity													-
Total operational length		**12,649**	**2,265**	**1,459**	**298**	**105**	**312**	**73**	**42**	**24**	**441**	**365**	**0**	**18,032**
Under construction	Length	6,185			1,265						2,239	1,446	3,550	**14,685**
	Capacity	23.2											149.0	-
Total length		**18,834**	**2,265**	**1,459**	**1,563**	**105**	**312**	**73**	**42**	**24**	**2,680**	**1,811**	**3,550**	**32,717**

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

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.12.2021	% Capacity utilisation (Apr-Nov 2021)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	91.4
Hazira	Shell Energy India Pvt. Ltd.	5.2 MMTPA	70.1
Dabhol	Konkan LNG Limited	*5 MMTPA	52.3
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	22.1
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	14.0
Mundra	GSPC LNG Limited	5 MMTPA	20.5
Total Capacity		**42.7 MMTPA**	

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

https://www.newswire.ca/news-releases/venture-global-lng-and-cnooc-gas-amp-power-announce-lng-sales-and-purchase-agreements-859018356.html

Venture Global LNG and CNOOC Gas & Power Announce LNG Sales and Purchase Agreements

VENTURE GLOBAL LNG

NEWS PROVIDED BY
Venture Global LNG
Dec 20, 2021, 19:30 ET

ARLINGTON, Va., Dec. 20, 2021 /CNW/ -- Today, Venture Global LNG and CNOOC Gas & Power Group Co., Ltd., a wholly owned subsidiary of China National Offshore Oil Corporation (CNOOC), announced the execution of a 20-year Sales and Purchase Agreement (SPA). This marks the first LNG supply agreement signed by a US exporter with CNOOC, China's largest importer of LNG. Under the deal, Venture Global will supply 2 million tonnes per annum (MTPA) of LNG on a free on board (FOB) basis from its Plaquemines LNG export facility, in Plaquemines Parish, Louisiana. In addition, CNOOC Gas & Power will purchase 1.5 million tonnes (MT) of LNG from Venture Global's Calcasieu Pass LNG facility for a shorter duration.

"Venture Global is pleased to announce the expansion of our footprint in Asia through two new deals to supply the Chinese market with clean, low-cost US LNG," said **Mike Sabel, Chief Executive Officer of Venture Global LNG**. "China is critical to global climate efforts, and LNG supplied by Venture Global will serve as an important addition to their low carbon energy mix for decades. This new long-term partnership with CNOOC builds on our company's continued momentum in a very active 2021."

"As China's largest LNG importer, CNOOC is committed deeply not only to the mission of securing China's gas supply, but also to the climate goals of building a carbon-neutral China by 2060," said **Shi Chenggang, Chairman of CNOOC Gas & Power**. "We are pleased to announce our long-term LNG cooperation with Venture Global. By signing the SPAs with Venture Global, CNOOC will be able to further improve its ability to meet China's increasing gas demand, whilst provide solid support for China's energy transition pathway to build a more "beautiful China".

About Venture Global LNG

Venture Global is a long-term, low-cost provider of U.S. LNG sourced from resource rich North American natural gas basins. Venture Global is currently constructing or developing 70 MTPA of production capacity in Louisiana to provide clean, affordable energy to the world. The company is developing Carbon Capture and Sequestration (CCS) projects at each of its LNG facilities.

About CNOOC

CNOOC is China's largest LNG importer, and has imported more than 200 million tons of LNG since 2006. So far, CNOOC has made great contributions to providing a secured gas supply for China and supporting its green and low-carbon development goals. In the future, CNOOC will continue to seek reliable, flexible, competitive and diversified LNG supplies globally.

https://tass.ru/ekonomika/13290591

DEC 24, 01:10Updated by Dec 24, 03:15

Novak said Russia will increase oil production in 2022 to 540-550 million tons

The Deputy Prime Minister said that oil and gas revenues in the budget of the Russian Federation at the end of 2021 will amount to about 8.5 trillion rubles

MOSCOW, December 24. / TASS /. Russia can reach pre-pandemic levels of oil production in 2022 and increase it to 540-550 million tons. Russian Deputy Prime Minister Alexander Novak said this in an interview with the Russia-24 TV channel .

"As for Russia, we expect to reach the levels that we produced before the cuts by May. Thus, next year our industry will produce more than in 2021, we expect somewhere around 540-550 million tons," - he remarked.

Novak added that oil demand will continue to rebound as the world has learned to cope with coronavirus infection. It will reach the pre-crisis level by the end of 2022. “According to our forecasts, demand will continue to recover. Consumption is growing in the world, despite the fact that the pandemic has not gone anywhere, but it is still present in waves. Nevertheless, countries have already learned how to live in conditions of coronavirus infection. Demand in 2022, by the end next year, it will recover to the level before the pandemic, "he stressed. The cost of oil in 2022 may remain at a high level, there are few risks of its decline, Novak said.

According to the Deputy Prime Minister, the market is currently balanced in relation to supply and demand, including thanks to the joint actions of Russia and other countries in the framework of OPEC +.

Results of 2021

By the end of 2021, Russia will increase oil production by 2.1% compared to last year, gas - by almost 10%, coal - by 9.5%, and electricity generation - by 6%, Novak said.

“If we talk about indicators, the power industry will generate almost 6% more than last year, and consumption will increase by about 5%. This indicates the recovery of the economy of our country, an increase in consumption both by the population and by industrial enterprises. In the oil and gas industry, we also see positive results here. Speaking of oil production, we expect an increase in production by 2.1% by the end of 2021, we expect about 524 million tonnes of production. last year - gas production in the country will increase by almost 10% and 9.5% more will be supplied to foreign markets in 2021. Well, in terms of coal, we are also 9.5% higher than last year - 440 million tons will be mined in the coal industry, "Novak said.

The Deputy Prime Minister added that oil and gas revenues in the budget of the Russian Federation at the end of 2021 will amount to about 8.5 trillion rubles.

According to him, the main task of the fuel and energy complex in Russia is to provide the population with energy products and maintain the export potential for the formation of budget revenues.

Electricity prices in Europe

According to Novak, the cost of electricity in Europe against the background of the gas crisis soared 4-5 times. At the same time, when gas starts to be used in European countries at new prices, energy prices may rise even more.

“This artificial pressure, including political pressure, has led to a situation for which now the population, citizens living in European countries are forced to pay. Prices have increased 4-5 times and this is not the limit, because now gas is being used, which was pumped into underground gas storage facilities at old prices, and as soon as energy resources are used in full at new prices, this will lead to even greater growth. electricity prices, "- said Novak.

The Deputy Prime Minister added that electricity prices in Russia are several times lower than in Europe. According to him, currently artificial pressure is being created in Europe to abandon traditional energy sources in favor of "green" ones.

"Today, European politicians want to simultaneously resolve the issue of switching to the sun and wind, abandoning traditional energy sources. This is impossible. And the current situation on the gas market once again confirms this and emphasizes that it is impossible to artificially abandon traditional energy sources." - he stressed.

Gas supplies to the EU

According to him, the price of Russian gas for the EU countries under long-term contracts is now $ 250-300 per thousand cubic meters.

"Today, the countries that receive [gas] under long-term contracts, Germany, Serbia and other countries, they receive at about $ 250-300 [per thousand cubic meters]," he said.

The Deputy Prime Minister added that Russia has always been in favor of concluding long-term contracts, since these types of contracts maintain stability in the gas market and reduce its volatility.
The global gas market this year faced a supply crunch amid a sharp recovery in Asian demand and a shortage of LNG capacity. The increased demand for gas in Asia caused a rise in prices and pulled off the main supply of LNG, which contributed to the intensification of the crisis in Europe. There, the situation was aggravated by low reserves in gas storage facilities. Against this background, the gas price at the Dutch TTF hub this fall for the first time in history exceeded the mark of $ 1,000 per thousand cubic meters. m, and in December - and $ 2,000 per thousand cubic meters. m. However, the price of futures on the TTF hub is volatile due to the speculative factor and does not reflect the real price of physical supplies to Europe. The average gas export price under Gazprom contracts in 2021 will be $ 280 per thousand cubic meters. m.

And the most important question, of course: how do you assess the work of your 'general staff' – the Government and the Central Bank – during this 'war'?

Sorry, when I mentioned the Central Bank just now, I remembered that my questions have always referred to the Central Bank, during the past three or four news conferences, except the most recent one – it just happens.

Thank you.

Vladimir Putin: If I provide full answers to all your questions, even if I succeed in this task, I believe we could round up this news conference after that. These are very broad questions. In fact, they touch upon our main efforts, as well as those of the entire world, which, as you have mentioned, has been fighting the coronavirus.

This struggle continues, and we are aware of the dangers that Omicron, this new strain, poses. I think that we will have an opportunity to get back to this topic during today's meeting.

As you may know, a group of Russian scientists and experts is now in South Africa, where their colleagues actually discovered this new strain. They are working there, and are quite successful at that. Once again, I would like to thank our colleagues from South Africa.

As for the impact this situation has had on the Russian economy, and what we are to expect in the near future, we have spoken about this, in general terms, many times.

Faced with the challenges posed by Covid-19 and the restrictions the economy and the social sector have had to face in this connection, it is obvious that the Russian economy has been better mobilised and prepared to withstand these shocks compared to many other developed economies around the world, if we look at the top five, six, seven or ten major economies, or even twenty. I will discuss this in more detail later during our news conference today.

The Russian economy declined by three percent, which is much better than many of the world's leading economies, and we recovered faster than many others.

You know the numbers. Even last year, we could see the trends, and today I even have a chart here with me, and will share this information with you in order to be precise. GDP growth is expected at the level of 4.5 percent this year. It has added 4.6 percent as of the end of October, while manufacturing increased by 5 percent, and the processing sector grew by 5.2 percent.

Crop yields will be slightly lower in 2021 compared to the previous year, which is due to the weather. We had 133.5 million tonnes in 2020 and now have 123 million tonnes. Still, this is a very robust result which not only enables us to satisfy our needs, but also provides for a substantial export potential.

Fixed capital investment was up 7.6 percent as of November. We expect this indicator for the entire year to come in at 6 percent, up from a 1.4 percent decline in 2020.

The construction sector performed quite well, with a record high of 90 million square metres built. This is the first time we have achieved this figure in Russia's contemporary history. I would like to congratulate all those involved in the construction sector, from the top executives to on-site construction workers, with this milestone.

Thank goodness, average wages have started to grow in real terms. There are also changes in terms of real disposable income. We had a 2 percent decline in 2020, but this year we expect this figure to rise.

Of course, we will talk about inflation. We expect the inflation rate to be 8 percent.

It is much higher than the forecast. But, even adjusted for inflation, real income has still increased by 4.1 percent. Our experts estimate that real income will show a 3.5-percent annual growth. Of course, this will not be true for all

categories of citizens. Naturally, it is an average rate and I want to stress this once again, when people watch this and listen to this, they might say: it's an average again. But we have to talk in average numbers since they serve as a certain benchmark. I think we will cover the topic of personal income in more detail today.

We set a goal of returning to the pre-pandemic unemployment rate – and it did go down. The unemployment rate before the pandemic was around 4.6–4.7 percent. The current rate is 4.3 percent. It may go up a little to 4.4 percent by the end of the year. This is a very good indicator for the performance of the economy in general even though there are certain difficulties and challenges related to the labour market such as, for example, the number of people working at the construction sites we have just mentioned. It is a serious issue.

Now, I would like to speak about the trade surplus. Last year, despite all the difficulties, Russia's trade surplus amounted to 94 billion [US$]. This year, the figure has almost doubled, reaching 184 billion, which is also an excellent result.

Russia's foreign debt has slightly decreased. It is the lowest level of foreign debt in the world, around four percent.

What other important indicators speak for the quality of governance and the performance of the entire state, the Government and the Central Bank, in particular? Our international reserves have grown from US$595 to US$625.5 billion. The National Welfare Fund is growing as well and currently amounts to US$185.2 billion. All these figures are an indication of stability and good macroeconomic results.

There are issues that cannot but cause concern, including life expectancy, which has slightly decreased from 71.5 to 70.1 years. We will most likely cover this topic today as well. It is one of the negative consequences of the coronavirus pandemic.

Right. So, on the whole, I believe that both the Government and the Central Bank deserve – let us be modest – an acceptable score. The results are positive.

Now, about the growth drivers. Your question was about the potential growth drivers, and about vaccination – if we need to have the entire population vaccinated or not.

Look, we have already spoken many times about the growth drivers for our country based on the specific situation that has developed over a fairly extensive period. We can even consider the entire post-war period, since 1945. What are our challenges and what are the drivers, accordingly?

I have just spoken about an unfortunate decrease in life expectancy, an increase in mortality in our country, and in this regard, one of the most important problems, one of the most important challenges that we face is getting more acute – I am referring to demographics. It is a challenge both from a humanitarian point of view and from the geopolitical perspective as well, I mean the country's population – 146 million for such a vast territory is definitely not enough; economically too, we have a workforce shortage.

As far as I know, the working age population is now just above 81 million. We must drastically increase this figure by 2024, by 2030. This is one of the factors of economic growth, let alone – I would like to emphasise this once again – the geopolitical and humanitarian components of this most important matter.

Therefore, preserving the people that Solzhenitsyn wrote about is becoming one of our most important tasks and one of the drivers of growth.

Second. What other growth drivers? The next driver is infrastructure, infrastructure development.

In this regard, I can say that we are making very strong efforts on this track. You know that we are channeling 500 billion rubles of federal funds directly towards the development of infrastructure. Then there are the National Projects; we started with 260 billion, I believe, then more than 400 billion, and next year, we will allocate 460 or so. We plan to allocate another 2.5 trillion rubles from the National Wealth Fund in the next few years – 2.5 trillion overall.

Of course, the third growth driver is increasing labour efficiency but this includes a whole set of programmes from education and digital transformation to healthcare, which we have already mentioned. This includes an entire set of programmes. Most of them are ready, so we know what to do. We have earmarked the resources needed to move in this direction, and we provide for regular allocations. The funds to this effect are available. All we need to do is set up this work properly and achieve maximum returns on every ruble we invest in delivering on these objectives.

Finally, one of your questions was about vaccinating the entire country. Unfortunately, in Russia the vaccination rate is low, just like in many other countries – take, for example, some European countries where the low level of vaccination is also a matter of concern. This is the case for Germany with its developed healthcare, but even there the healthcare system, one of the most effective in Europe, faces a lot of criticism.

What is the vaccination rate in Russia? As of today, or maybe yesterday, it was 59.4 precent. I had no doubt that this would be one of the main topics during today's news conference, so I talked to Ms Popova and Ms Golikova. The figure of 59.4 percent is where we are in terms of achieving herd immunity in Russia. This includes both those who have recovered from the coronavirus infection, as well as those who have received the jab. Some 70 million people have received the first dose, and a little over 70 have had both.

This is not enough. We need about 80 percent of our population to be immune to achieve herd immunity. I hope that next year, at least by the end of the first quarter or in the second quarter, we will have reached this level. Some countries are already talking about the need for 90–95 percent to be immune in order to achieve herd immunity.

This is how things stand, more or less.

Thank you.

Dmitry Peskov: Thank you.

Moving on, I suggest that we go through Russia's major news agencies.

TASS news agency, please, go ahead.

Veronika Ichetkina: Good afternoon.

Veronika Ichetkina, TASS News Agency.

In a way, I would like to follow up on social spending by the state and the budget.

The state has recently increased its social spending. Judging by the budget for the next three years, as adopted recently, the state will continue doing so. It is curious that there was a lot of talk some time ago about social spending cuts next year.

Can you comment on these allegations? Overall, how would you describe the new budget? Can it be called a development budget or a budget with a social focus?

If you will allow me, I would like to finish my question. May I? Are any further increases in social spending possible during the pandemic? If this does happen, have you assessed the risk of inflation spiralling out of control, considering that it is already quite jumpy.

Thank you.

Veronika Ichetkina: I have also asked how higher social spending will affect inflation.

Vladimir Putin: Yes, right. Sorry.

You are absolutely right, and this is one of the key issues with maintaining macroeconomic stability, because many of the world's leading economies have relaxed their macroeconomic policies and have significantly accelerated their money printing presses. This is an obvious thing, and it has led to a fairly high inflation in the leading economies – this much is also obvious. Everyone sees this – these are the numbers everyone can see.

Budget deficits are growing in all leading countries, all of them, higher in the United States, slightly less in the eurozone, but still, this is a significant and unusual change.

For example, the inflation rate in the world's leading economy, the United States, is 6.1–6.2 percent, if memory serves, whereas the target figure was 2 percent. In other words, the inflation rate is three time above the target figure.

Inflation is high in Russia as well, 8 percent, while the target was 4 percent. Our inflation rate has grown twofold, whereas it has tripled in the United States. This is serious. I believe that the FRS [US Federal Reserve System] will have to do something about this.

This soft monetary policy is having an impact on macroeconomics and ultimately cancels out the positive goals of this policy, including support for the economy and the citizens. We have this problem as well, because 8 percent is too high, and we certainly need to attain the target rate of 4 percent.

Of course, we can criticise the Central Bank. I am aware of this, because I maintain daily contact with our colleagues from the real economy sector, and I know that they are criticising the Central Bank, and I know their arguments. Trust me, we meet nearly every day, although this is not reported on television. They sit three metres from me, and we discuss problems. Television only shows a small part of my contacts and meetings, when we work in front of cameras. I hold such meetings and conferences nearly every day. They just sit down further away from me, just about three metres away. But we discuss things every day.

I know that the real economy is not happy with increased interest rates. But if we do not do this, the situation will be like in Turkey. This is the problem. It is a serious matter and a major challenge. Of course, this instrument should be used carefully, but the Central Bank has an independent policy. This may seem strange to you, but I do not interfere with the Central Bank's operations. However, I have a positive view of them, and I believe that we usually manage to find a middle ground.

Why? What are the risks of raising interest rates? This can hinder growth. We must grow faster that the world's average, by 3.4–3.5 percent a year in the near future, not even as high as now – by 4.6 percent. The target of 4.4–4.5 percent would be great. But increased interest rates are decreasing the possibility of attaining this goal.

We cannot see this now, because the lending volume is not decreasing, and banking possibilities are growing. Sberbank will report 1 trillion rubles' worth of profits this year. In other words, we have found a middle ground, by and large.

Dmitry Peskov: Let us move on.

I suggest that we turn to RIA, the third of Russia's major news agencies. Mic to the central sector, please.

Yelena Glushakova: Yelena Glushakova, RIA Novosti.

Then Crimea happened. But how could we turn down the request of Sevastopol and Crimea, the people who lived there, to take them under our protection, under our wing? It was not possible. We were simply put in a situation where we could not have acted differently. Or were we supposed to just look on passively at what was happening in the southeast, in Donbass, which has only ever thought of itself as part of Russia, even during the formation of the USSR in 1922–1924? But Lenin and his comrades wedged Donbass in there by force. At first, they decided to make it part of Russia and then said the decision had to be revised.

They revised it and created a country that had never existed before. We will not talk about it now, but this is what happened then. They crammed in there the historical lands of people whom nobody asked how or where they wanted to live. All right, this is what happened, we agreed. But we had to do something in 2014 and this led to the crisis that is unfolding today.

All right, the Ukrainian authorities twice attempted to resolve the Donbass problem by force although we persuaded them not to do this. I personally persuaded Mr Poroshenko: Anything but military operations! Yes, yes, he said and then resorted to force. What was the result? Encirclement, losses and the Minsk agreements. Are they good or not? I think they are the only possible way out. So, what is the problem? There is no desire to implement them. They adopted a law on indigenous people and announced that the Russian people who lived on this land, on their own land, were not indigenous. Incidentally, the same was done to Poles, Hungarians and Romanians. Hence the disputes in Ukraine's relations with these countries. They exist. They do not get a lot of attention, but they are there.

Language came next. The Russians and the Russian-speaking population are being forced from their historical lands – that is what is happening. All right. Everyone says: Russia must abide by the Minsk agreements. We agreed. But they, the government suddenly submitted to parliament a law on a transitional period. How does it tally with the Minsk agreements? Instead of amnesty, this law provides for a ban on amnesty, all but criminal liability for amnesty. Instead of elections, this law introduces military government, and instead of amnesty – lustration. What is all this about? And they got it approved by the Venice Commission. So, how are we supposed to react to all this?

This is the domestic policy component. But then we hear: war, war, war. You could get the impression that maybe a third military operation is in the making. Moreover, they are warning us in advance: "Do not interfere, do no protect these people. If you do interfere to protect these people, certain sanctions will follow." It may well be that they are preparing for this. This is the first option we need to respond to, and act, while keeping this in mind.

The second option is, in general, to create, as I said in my article, an anti-Russia of sorts on this territory by constantly stockpiling the latest weapons there and brainwashing the local population. Just imagine how Russia must live and carry on, from a historical perspective? Do we have to live, while constantly keeping an eye on what is going on over there, and what new weapons' systems were delivered? Under the cover of these new weapons' systems radicals may well decide to settle the Donbass issue, as well as the Crimean issue, by military means. Why did they support the Crimean Platform? On the sidelines they keep saying: "Fine, let's forget about Crimea." But no! They mean to get even there.

After all, we have to be mindful of our own security, not just for today and not just for next week, but in the short term. How is Russia to live with all this? Do we always have to stay on guard, watching what happens there and when a strike might come?

This is a serious matter. I have just spoken about our plans for infrastructure development, social policy, and healthcare. But what does it all mean if we end up in the conflict you are asking about? This is not our choice, and we do not want this.

It is for this reason that I responded to President Biden's proposal, who suggested appointing responsible representatives to lead strategic stability talks. Stability and security, ensuring security on this territory and in this area is one of the key matters on today's agenda. We must understand how to ensure our security. With this in mind, we spoke

out clearly and directly against any further eastward expansion by NATO. The ball is in their court. They need to respond in one way or another.

In this connection, I would like to emphasise that the overall response we have been seeing has been quite positive. Our American partners are telling us that they are ready to launch this conversation by starting talks early next year in Geneva. Both sides have appointed representatives. I hope that the situation develops in this very direction.

Dmitry Peskov: Let us take questions from regional media.

Vladimir Putin: Mr Peskov, allow me. I see China.

Dmitry Peskov: Xinhua, I assume?

Vladimir Putin: I do not know. It says “China.” Please.

Dmitry Peskov: Please, pass the mic. Xinhua, please raise it higher.

Vladimir Putin: I meant that person though. But alright. They are not giving you the floor.

Dmitry Peskov: I apologise.

Vladimir Putin: I am sorry, they are not giving you the floor. Bureaucracy is to blame.

Ao Li: Good afternoon, Mr President.

Vladimir Putin: Good afternoon.

Ao Li: Xinhua news agency, China.

You recently held talks with President of China Xi Jinping via videoconference. You remarked that Russia–China relations are a true example of cooperation between states in the 21st century.

Today, in view of the current complicated international situation, how should we understand this description?

Thank you.

Vladimir Putin: That is exactly how you should understand it. There is no hidden meaning. Indeed, the relationship between the People’s Republic of China and the Russian Federation has evolved to be as I described it. Perhaps you

noticed that President Xi Jinping and I always address each other as “my friend.” And it is true: we have a very trusting personal relationship that helps our professional relationship as well.

In terms of the economy, first of all, Asia is a rapidly and successfully developing region, and China is the absolute leader of both the global and Asian economy. It is only natural that we are developing our economic relationship with China. Bilateral trade currently exceeds US$100 billion, which is above the pre-pandemic level. China is our biggest trade and economic partner with which we cooperate in many different fields.

In terms of energy, both China and Russia committed to achieve carbon neutrality by 2060. But before that deadline, we will be supplying all types of energy resources to China. We are willing to continue beyond the deadline because life will not stop in our countries in 2060, and there are many ways to achieve carbon neutrality, even while still using hydrocarbons, provided that they are used appropriately.

We continue to cooperate in nuclear energy, high technology and space – in almost every industry, including technology-intensive sectors.

Our people-to-people cooperation includes organising mutual years of youth exchanges, years of science, education, culture and so on. These initiatives, of course, bring people together at the most basic level, in humanitarian sphere.

We cooperate on security. The Chinese army is extensively equipped with the most advanced weapons. We even develop some technologically advanced weapons together. We cooperate in space and aviation, on both airplanes and helicopters. Finally, we promote cooperation between our armed forces through joint military exercise and international military games, joint maritime and air patrols. Ours is an overarching partnership of strategic nature that has no precedents in history, at least not between Russia and China.

This daily hard work benefits both the Chinese and Russian people. It is, of course, a strong stabilising factor in the international arena.

There is a sign saying “Children”, so we will not go further into international affairs. “Protection of children”.

Dmitry Peskov: Yes, the sign saying “Protection of Children.”

Shamil Guliyev: Good afternoon, Mr President.

I am Shamil Guliyev from Tobolskoye Vremya.

The problem of harmful content that children find on the internet remains a pressing one, as you have said before. This results in bullying at schools and various types of incitement, among other provocations.

Some time ago, the introduction of registration on social media with passport data was discussed. Could you please say if this will happen eventually? And what other measures might be taken to protect teenagers from potentially dangerous content that they might come across on social media?

Thank you.

Vladimir Putin: I totally agree with you, Shamil. This is a problem not only for Russia.

Look, this topic is being debated almost in all countries, both in the media and in representative bodies of power. This issue is being debated in the US Congress, and representatives of these global networks and global platforms are summoned there.

connecting schools to the internet and will soon start with rural areas. I believe we have allocated about 24 billion rubles for this project, and Russian Post will be involved. Despite the debate about whether a commercial organisation like Russian Post should be supported, I think it should. Then people living in rural areas will be able to use its facilities and enjoy the opportunities you mentioned.

This is not a problem. The problem is that the content should be useful. Young people should not become addicted to the internet. Browsing the internet from dawn until dusk should not be a substitute for real life. There needs to be some kind of movement, a full life, with sports, museums and theatres.

The internet opportunities you mentioned and the various networks must complement real life rather than cause people to plunge into a virtual world and live a virtual life all the time. That would indeed lead to degradation. To prevent this, representative government bodies, parliaments, public organisations and non-profits must work together to develop certain rules of behaviour.

Dmitry Peskov: Maybe we should give the floor to foreign media.

Sky News.

Diana Magnay: Thank you for taking my question. I am afraid it is in English.

You have talked a lot about security guarantees, and now we have seen your proposals. You also say you have no intention of invading Ukraine.

So, will you guarantee unconditionally that you will not invade Ukraine or any other sovereign country? Or does that depend on how negotiations go?

And another question: what is it, do you think, that the West does not understand about Russia or about your intentions?

Thank you

Vladimir Putin: Regarding your question about guarantees or whether things depend on the negotiations, our actions will not depend on the negotiation process, but rather on unconditional guarantees for Russia's security today and in the historical perspective.

In this connection, we have made it clear that any further movement of NATO to the East is unacceptable. Is there anything unclear about this? Are we deploying missiles near the US border? No, we are not. It is the United States that has come to our home with its missiles and is already standing at our doorstep. Is it going too far to demand that no strike systems be placed near our home? What is so unusual about this?

What would the Americans say if we stationed our missiles on the border between Canada and the United States, or between Mexico and the United States? Haven't Mexico and the US had territorial disputes in the past? Which country owned California? And Texas? Have you forgotten? All right, nobody is talking about this now the way they are talking about Crimea. Very well. But we are trying to avoid talking about the creation of Ukraine as well. Who created it? Vladimir Lenin did, when he established the Soviet Union. This is set out in the 1922 Treaty on the creation of the Soviet Union and in the 1924 Constitution. True, this happened after his death, but in accordance with the principles he formulated.

But the matter at hand concerns security, not history, but security guarantees. This is why it is not the negotiations themselves but the results that matter to us.

We remember, as I have mentioned many times before and as you know very well, how you promised us in the 1990s that [NATO] would not move an inch to the East. You cheated us shamelessly: there have been five waves of NATO expansion, and now the weapons systems I mentioned have been deployed in Romania and deployment has recently begun in Poland. This is what we are talking about, can you not see?

We are not threatening anyone. Have we approached US borders? Or the borders of Britain or any other country? It is you who have come to our border, and now you say that Ukraine will become a member of NATO as well. Or, even if it does not join NATO, that military bases and strike systems will be placed on its territory under bilateral agreements. This is the point.

And you are demanding guarantees from me. It is you who must give us guarantees, and you must do it immediately, right now, instead of talking about it for decades and doing what you want, while talking quietly about the need for security guarantees to everyone. This is the point. Are we threatening anyone?

Now to your second question. Repeat it, please.

Diana Magnay: What is it that you think that the West does not understand about Russia or about your intentions?

Vladimir Putin: Does the West understand or fail to understand something? You know, sometimes I get the feeling we live in different worlds. I just talked about things that are obvious. How can you not understand them? They told us: there will be no expansion, but they expanded. They promised us equal guarantees for all under several international treaties. But this equal security has failed to materialise.

Look, back in 1918, an aide to US President Woodrow Wilson said that it would be a relief for the entire world if instead of one huge Russia, that a separate state in Siberia and another four countries in the European part be created.

In 1991, we divided ourselves into 12, I believe, parts, and we did this ourselves. Still, it seems that this was not enough for our partners. They believe that Russia is too big as it is today. This is because the European countries themselves turned into small states. Instead of vast empires, they are now small states with 60 to 80 million people. However, even after the Soviet Union collapsed, and we were left with just 146 million, it is still too much for them. I believe that this is the only way to explain this unrelenting pressure.

Take the 1990s, for example. The Soviet Union did everything to build normal relations with the West and the United States. I have said this many times, and I will repeat it, so that your listeners and viewers understand. I do not recall what media outlet you represent, but this is not the point. We had representatives from American intelligence services at our nuclear, military facilities; monitoring Russia's nuclear weapons sites was their job. They went there every day and even lived there. Many advisors, including CIA staffers, worked in the Russian Government.

What else did you need? Why did they have to support terrorists in the North Caucasus and use organisations of a clearly terrorist nature in attempts to break the Russian Federation apart? But they did this, and as former Director of the Federal Security Service, I know this all too well. We worked with double agents, and they reported to us on the objectives set for them by Western intelligence services. But why? They should have treated Russia as a potential ally, and made it stronger, but it all went in the opposite direction; they wanted to break it down even further.

And then they started expanding NATO eastwards. Of course, we told them not to do this, arguing that they promised not to. But they asked us: "Do you have any paper record? No? If not, go away, we don't care about your concerns." This

Here, too, there are certain difficulties and prejudices, maybe. People are often afraid to visit medical centres like this, afraid of new infections. I want to say that our specialists, doctors are doing everything they can to ensure the health safety of people who come in for rehabilitation, for a medical examination, as well as to provide help because people who have had COVID really need it very much. We all know that COVID hits all body systems – the vascular system, the internal organs – the heart, the kidneys, the liver and brain can be affected, so patients need rehabilitation. A very good system has been created and tested. I hope it will expand, I really do. The conditions have been created for this.

Dmitry Peskov: Let us continue. Channel One, please.

Pavel Krasnov: Thank you.

Pavel Krasnov, Channel One.

Mr President, the issue of gas is dominating minds, above all in Europe, of course. We are seeing an extremely acute gas crisis. However, when it broke out and prices soared, we started to hear endless accusations directed at Gazprom and Russia in general with ever increasing frequency. Another round of accusations on restricting supplies via the Yamal-Europe pipeline came the other day. Generally speaking, the accusations are contradictory: we are accused of monopolising the market, while also not supplying enough gas.

Yesterday, our Ukrainian neighbours made some news. Naftogaz again asked the European Commission for nothing less than to compel Gazprom to offer more gas for sale. This seems funny, of course, but the Europeans are not in a laughing mood. The situation in Europe is very difficult: gas prices set an absolute record – more than $2,000. This never happened before and was impossible to even imagine. But is Gazprom to blame for this?

Mr President, here is my question: is there at least a tiny grain of truth in these accusations against Gazprom?

Vladimir Putin: Certainly not. There is no truth to them. This is like trying to say that down is up.

Our colleague here asked what the West does not understand. They lie all the time. This is why they are muddying the waters. Gazprom supplies all the gas requested by our counterparties under their contracts. Moreover, it has even increased supplies by almost 12 percent, I think, or by about 20 percent if we exclude Russia's immediate neighbours. Overall, it is increasing supplies to Europe as well.

In my opinion, this is the only country, the only global company that behaves like this. I have already said at many meetings, including international events, that American suppliers withdrew considerable amounts from Europe, from the European market, I believe. I think the total amounts to 14 million tonnes of LNG. They took it to premium markets, first to Latin America, to Brazil, and then to Asia: China, South Korea and Japan. Because they pay more for this gas. The Europeans thought they had premium markets, but no. It appears that these markets are in other places as well. Prices began to soar. There are many factors: bad weather, a long and cold spring last year, a shortage of gas in underground storage facilities and windmills failing to work. All this contributed to the shortage.

In the process, government authorities are harassing their oil and gas companies, which do not invest enough in expanding production as a result. This is how the shortage emerged. They did not pump enough gas into underground storage facilities and now they are taking it out in a big way. Of course, this is a problem. Now some Western operators are storing their gas in Ukraine's underground facilities. They are actively withdrawing it and using it in their own countries. This is understandable since the gas from underground facilities is many times cheaper than on the market.

We were saying – and I want to repeat it – that there was no point in destroying long-term contracts. The European Commission was telling us: no, it is necessary to move to market relations, the market will set it right. This is how the market made its adjustment – over $2,000 for a thousand cubic metres. Take it. No!

You are correct, just yesterday they were shouting: help, this is Russia and Gazprom expanding and taking over the market. We are not taking over anything. Indeed, we supply a lot, but we are not the only suppliers to the European market. However, we are probably the only ones who are increasing our supplies.

We are being told to pump to cover the needs of the spot market, since they need to first meet the demand of their counterparties under long-term contracts.

Look at what is happening. Germany is our largest consumer in Europe. I might have my numbers off a little, but they take about 50–51 billion cubic metres a year. We supplied an extra 5.6 billion cubic metres there, which is more than 10 percent. Listen, this is a decent amount. We supplied an extra 4.4 billion cubic metres of natural gas to Italy.

You just mentioned the Yamal–Europe natural gas pipeline. I see Russia and Gazprom accused of Gazprom failing to book capacity for gas supplies to Europe via the Yamal–Europe route for the second or third day in a row. That is disgusting, how should I put it… Well, okay. This is just totally out of line. After all, it failed to book capacity, because its counterparties and companies, mostly German and French, who buy gas from this route, failed to submit bids for purchase. What is there to transit if Gazprom has not received purchase requests? What did they do then? They turned on this route in reverse mode and have been pumping gas from Germany to Poland for several days now.

I think everyone would find it interesting. Why? Because we supply gas to Germany under long-term contracts at prices that are three, four, six, or even seven times lower than on the spot market. Should you resell even 1 billion cubic metres of gas, you will make almost a billion dollars, 900 million plus. This is business. This is my first point.

They have stocked up on gas, having received from us 5.6 billion cubic metres on top of what is provided under long-term contracts, and are now reselling it. But there is more to it. After all, they are pumping gas in reverse mode, so how can it be supplied in the other direction? Gas cannot move in both directions in one pipe at the same time. So, they: a) failed to place an order; b) turned it on in reverse mode.

But this is only a portion of the information.

There is a connecting pipe that connects the Polish pipeline system with the Ukrainian system. The volume is about 3 million cubic metres per day. This is exactly the amount that Germany is supplying to Poland. I have every reason to believe that this gas is eventually supplied to Ukraine. Consumers in Europe and Germany should know what is really happening, and, perhaps, ask certain authorities to clarify their stance.

Instead of supplying gas to Poland and then to Ukraine in an effort to help someone tide over, it would be better to continue supplies to Europe, Germany, for instance, and to reduce the spot price, because the more product on the market, the lower the price. No, they began to pump in reverse. This is the problem. How is Gazprom involved in this?

So let them tend to their business and address their issues in time and not think that they are so smart and that God fell asleep on them. They should address the problems of their own making, and we are willing to help them do so, which is what we are doing. I think I just made a convincing case for it.

Dmitry Peskov: Let us continue in this sector.

Mir Channel, please.

https://tass.ru/ekonomika/13290845
DEC 24, 01:28Updated by Dec 24, 02:40

Novak said certification of Nord Stream 2 could be completed in mid-2022

According to the Deputy Prime Minister, the gas pipeline could have worked for a long time, if not for the politicization of the project

MOSCOW, December 24. / TASS /. The Russian government expects that the Nord Stream 2 certification process will be completed by mid-2022. This was stated by the Deputy Prime Minister of the Russian Federation Alexander Novak in an interview with the TV channel "Russia-24" .

“In the summer, an application for certification was submitted. This is a rather lengthy process, although it can be shorter if desired. But, nevertheless, if we talk about those regulations that have been adopted in Europe, this is a rather lengthy process. And we hope that in By 2022, by about the middle of the year [certification] will be completed, "he said.

Novak recalled that the pipeline has not only been built, but its lines are being filled with process gas. "The pipe has already been filled with process gas on one line, the filling has begun on the second line. This will be completed in the near future. And it will be fully ready so that from the moment decisions are made the next day, gas will go to European consumers," he added.

At the same time, the Deputy Prime Minister stressed that Nord Stream 2 could have been operating for a long time and would have reduced gas prices for European consumers if there had been no politicization around the project.

“The companies that participated in investments in this infrastructure could, among other things, receive gas for European consumers through this infrastructure. There is also politicization around this project. It would have been working for a long time if there were no big politics around this project and confrontation, "he said.

Novak noted that the launch of Nord Stream 2 could help reduce gas prices for European consumers.

https://www.npd.no/en/facts/news/Production-figures/2021/production-figures-november-2021/

Production figures November 2021

21/12/2021 Preliminary production figures for November 2021 show an average daily production of 1 999 000 barrels of oil, NGL and condensate.

Total gas sales were 10.1 billion Sm^3 (GSm^3), which is an decrease of 0.4 GSm^3 from the previous month.

Average daily liquids production in November was: 1 729 000 barrels of oil, 257 000 barrels of NGL and 13 000 barrels of condensate.

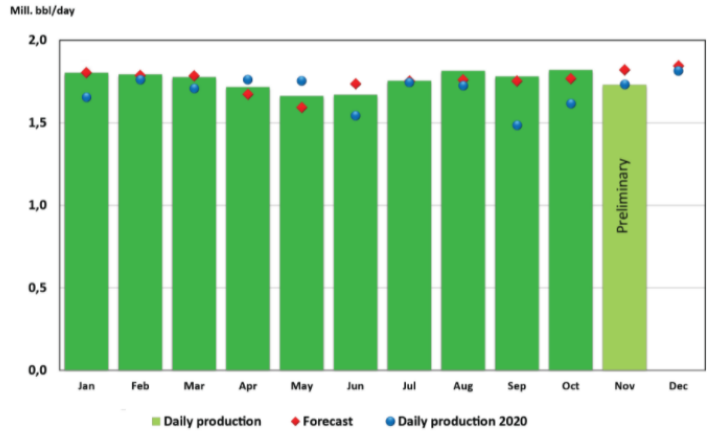
Oil production in November is 5.0 percent lower than the NPD's forecast, and 0.5 percent higher than the forecast so far this year.

The main reasons that production in November was below forecast is technical problems.

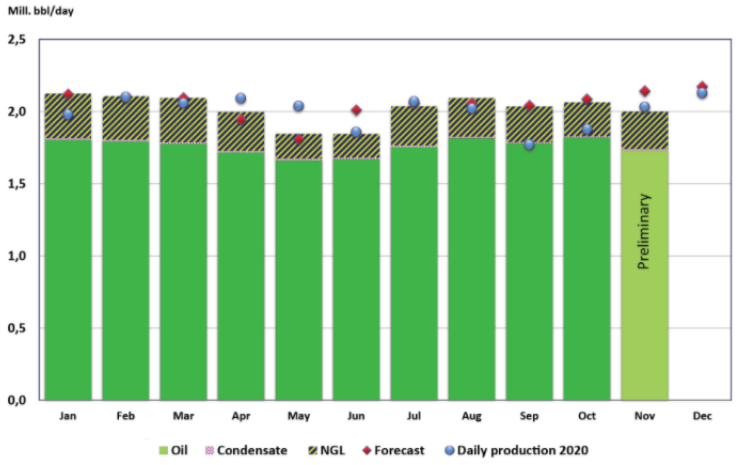
Production November 2021

		Oil	Sum liquid	Gas	Total
		mill bbl/d	mill bbl/d	MSm^3/d	MSm^3 o.e/d
Production	November 2021	1.729	1.999	337.9	0,656
Forecast for	November 2021	1.821	2.142	330.7	0,671
Deviation from forecast	November 2021	-0.092	-0.143	7.2	-0,015
Deviation from forecast in %	November 2021	-5.1%	-6.7%	2.2%	-2.2%
Production	October 2021	1.818	2.061	338.1	0.666
Deviation from	October 2021	-0.089	-0.062	-0.2	-0.010
Deviation in % from	October 2021	-4.9%	-3.0%	-0.1%	-1.5%
Production	November 2020	1.732	2.031	320.5	0.643
Deviation from	November 2020	-0.003	-0.032	17.4	0.013
Deviation in % from	November 2020	-0.2%	-1.6%	5.4%	2.0%

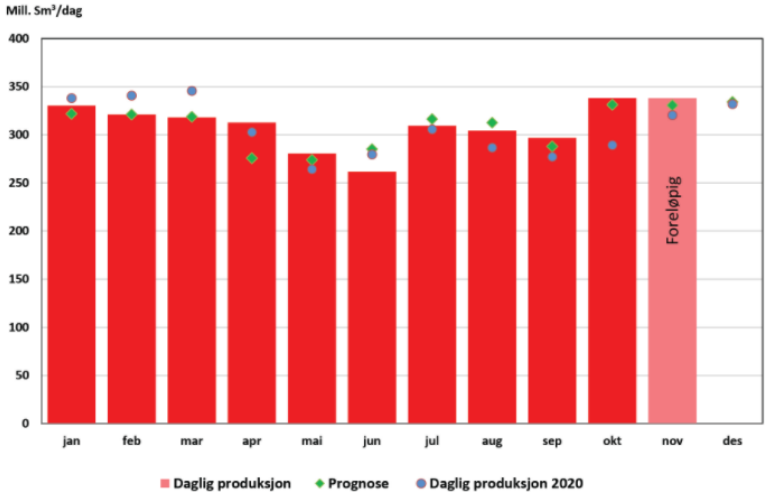
Oil production 2021



Liquid production 2021



Gas production 2021



The total petroleum production so far in 2021 is about 210,8 million Sm^3 oil equivalents (MSm^3 o.e.), broken down as follows: about 93.2 MSm^3 o.e. of oil, about 14.1 MSm^3 o.e. of NGL and condensate and about 103.6 MSm^3 o.e. of gas for sale.

The total volume is 2.8 higher than the 2020-figures.

Updated: 21/12/2021

https://www.cnn.com/2021/12/23/politics/saudi-ballistic-missiles-china/index.html

CNN Exclusive: US intel and satellite images show Saudi Arabia is now building its own ballistic missiles with help of China

By Zachary Cohen, CNN
Updated 8:34 AM ET, Thu December 23, 2021

Washington (CNN)US intelligence agencies have assessed that Saudi Arabia is now actively manufacturing its own ballistic missiles with the help of China, CNN has learned, a development that could have significant ripple effects across the Middle East and complicate the Biden administration's efforts to restrain the nuclear ambitions of Iran, the Saudis' top regional rival.

Saudi Arabia is known to have purchased ballistic missiles from China in the past but has never been able to build its own -- until now, according to three sources familiar with the latest intelligence. Satellite images obtained by CNN also suggest the Kingdom is currently manufacturing the weapons in at least one location.

US officials at numerous agencies, including the National Security Council at the White House, have been briefed in recent months on classified intelligence revealing multiple large-scale transfers of sensitive ballistic missile technology between China and Saudi Arabia, according to two sources familiar with the latest assessments.

The Biden administration is now confronted with increasingly urgent questions about whether Saudi's ballistic missile advancements could dramatically change regional power dynamics and complicate efforts to expand the terms of a nuclear deal with Iran to include restraints on its own missile technology -- a goal shared by the US, Europe, Israel and Gulf countries.

Iran and Saudi Arabia are bitter enemies and it is unlikely Tehran will agree to stop making ballistic missiles if Saudi Arabia has begun manufacturing its own.

"While significant attention has been focused on Iran's large ballistic missile program, Saudi Arabia's development and now production of ballistic missiles has not received the same level of scrutiny," Jeffrey Lewis, a weapons expert and professor at the Middlebury Institute of International Studies, told CNN.

"The domestic production of ballistic missiles by Saudi Arabia suggests that any diplomatic effort to control missile proliferation would need to involve other regional actors, like Saudi Arabia and Israel, that produce their own ballistic missiles," Lewis added.

Any US response could also be complicated by diplomatic considerations with China, as the Biden administration seeks to reengage Beijing on several other high-priority policy issues, including climate, trade and the pandemic.

"It's all a matter of calibration," a senior administration official told CNN.

The National Security Council and CIA declined to comment.

Asked if there have been any recent transfers of sensitive ballistic missile technology between China and Saudi Arabia, a spokesperson for China's Ministry of Foreign Affairs told CNN in a statement that the two countries are "comprehensive strategic partners" and "have maintained friendly cooperation in all fields, including in the field of military trade."

"Such cooperation does not violate any international law and does not involve the proliferation of weapons of mass destruction," the statement said.
The Saudi Government and embassy in Washington did not respond to CNN's request for comment.

New challenges for Biden

CNN first reported in 2019 that US intelligence agencies were aware that Saudi Arabia was collaborating with China to advance its ballistic missile program.
The Trump administration did not initially disclose its knowledge of that classified intelligence to key members of Congress, infuriating Democrats who discovered it outside of regular US government channels and concluded it had been deliberately left out of a series of briefings where they say it should have been presented.
That fueled Democratic criticism that the Trump administration was too soft on Saudi. Nuclear proliferation experts also say Trump's lack of response emboldened the Saudis to continue expanding their ballistic missile program.

"Normally, the U.S. would have pressured Saudi Arabia not to pursue these capabilities, but the first indicators that the Saudis were pursuing these capabilities indigenously emerged during the Trump era. The Trump administration, to put it lightly, was not interested in bearing down on Riyadh over these issues," according to Ankit Panda, a nuclear policy and weapons expert at the Carnegie Endowment for International Peace.
Some lawmakers have been briefed over the past few months on new intelligence about transfers of ballistic missile tech between Saudi Arabia and China, multiple sources told CNN.
The Biden administration is preparing to sanction some organizations involved in the transfers, sources told CNN, though some on Capitol Hill are concerned the White House is not willing to impose significant consequences on the Saudi government for its actions.
Given the current state of negotiations with Iran, the Saudi missile program could make an already thorny problem even more difficult.
"A robust Saudi missile program would introduce new challenges to constraining other missile programs in the region. To take just one example, Iran's missiles, which are a major concern to the U.S., would be more difficult to constrain in the future without parallel constraints on a growing Saudi program," Panda told CNN.

'First unambiguous evidence'

New satellite images obtained by CNN indicate the Saudis are already manufacturing ballistic missiles at a site previously constructed with Chinese assistance, according to experts who analyzed the photos and sources who confirmed they reflect advancements that are consistent with the latest US intelligence assessments.
Satellite photos taken by Planet, a commercial imaging company, between October 26 and November 9 show a burn operation occurred at a facility near Dawadmi, Saudi Arabia, according to researchers at the Middlebury Institute of International Studies, who told CNN this is "the first unambiguous evidence that the facility is operating to produce missiles."

New satellite images suggest Saudi Arabia is now producing ballistic missiles at the site. The key piece of evidence is that the facility is operating a "burn pit" to dispose of solid-propellant leftover from the production of ballistic missiles.

Satellite image captured on November 2 shows the facility is operating a "burn pit" to dispose of solid-propellant leftover from the production of ballistic missiles.

"The key piece of evidence is that the facility is operating a 'burn pit' to dispose of solid-propellant leftover from the production of ballistic missiles," said Lewis, a weapons expert and professor at the Middlebury Institute of International Studies who reviewed the images.

"Casting rocket motors results in leftover propellant, which is an explosive hazard. Solid-propellant missile production facilities often have burn pits where leftover propellant can be disposed of by burning. Burn operations are, therefore, a strong signature that the facility is actively casting solid rocket motors," he added.

A satellite image captured on November 9 shows the "burn pit," which is used to dispose of solid-propellant leftover from the production of ballistic missiles, post-burn cleanup.

Still, little is known about the ballistic missiles that Saudi Arabia is building at this site, including important details like range and payload.

Considering the facility in question was built with Chinese assistance and new intelligence assessments showing Saudi Arabia has recently purchased sensitive ballistic missile technology from China, it is possible that the missiles being produced there are of Chinese design, according to Lewis.

But there is also evidence Saudi Arabia has looked to other countries for help with developing a ballistic missile program in recent years, making it difficult to identify exactly which weapons system the Kingdom is now building at this facility, Lewis noted.

CNN's Natasha Bertrand and Jeremy Herb contributed to this report.

Dec 21, 2021 11:42: 10

OIL DEMAND MONITOR: Europe Air Travel Rebounds; U.S. Sets Record

- U.S. petroleum product supplied was highest since at least 1990
- Austrian flight numbers surge higher after lockdown ended

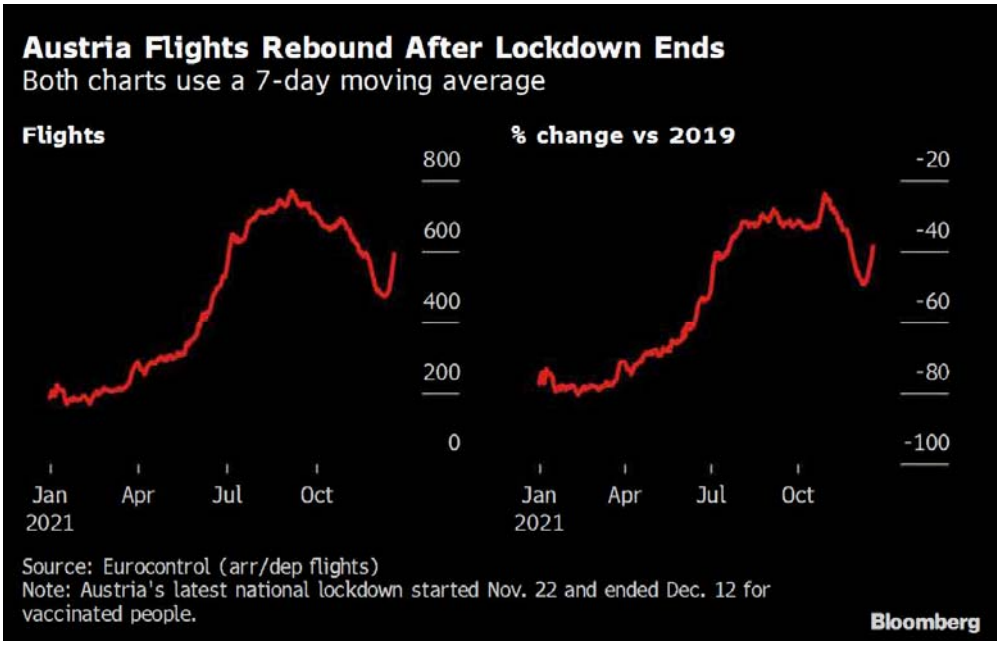
By Stephen Voss

(Bloomberg) -- A rebound in international air travel and record levels of U.S. petroleum demand are two prominent signs that the omicron variant of Covid-19 isn't yet derailing this year's recovery in global oil demand.

European air traffic and global commercial flight numbers have advanced since dipping in the second half of November, both in terms of actual flight numbers and when comparing against the same dates in 2019, according to daily tracking by Eurocontrol and FlightRadar24. That bodes well for the hardest-hit portion of the oil market: jet fuel.

The latest set of weekly estimates from the U.S. Energy Information Administration showed that the total amount of oil products leaving American refineries jumped to 23.2 million barrels a day, the most in records back to 1990. Distillate fuel consumption was 19% higher than pre-pandemic levels while gasoline was only slightly above. The next EIA report is due Wednesday. The weekly data can be erratic, leading some analysts to prefer the four-week rolling average.

The number of flights arriving and departing from Austria has climbed rapidly after the country ended a three-week national lockdown on Dec. 12, according to Eurocontrol.



Numbers are also rising from recent lows in nearby countries such as Germany. Switzerland's departures and arrivals were 22% less than the equivalent period for 2019 in the seven days ended Monday, a substantial rebound from a deficit of 36% as recently as Dec. 11, and back to levels seen in early November.

City Traffic

Among the 13 major world cities regularly measured in this monitor, all except one registered a week-on-week decline in Monday-morning congestion time and showed shorter traffic waiting times than average levels for that time of the week in 2019, according to data compiled by TomTom NV.

Commuting pressure is probably already easing as citizens start taking Christmas and end-of-year holiday breaks, and will undoubtedly remain low next week as well, affecting comparisons with yearlong average levels. The exception was Tokyo were Monday congestion was 2% higher than the pre-pandemic average. By comparison, the extra minutes added to journeys in New York and London were down 37% and 67%, respectively, versus 2019.

A broader measure of urban traffic covering all of last week, across 15 large European cities, showed congestion was the highest versus 2019 in 15 weeks, suggesting that the rapid growth of omicron cases hadn't yet curbed road use.

Pivoting again to another set of traffic data -- toll roads -- shows a noticeable decline in Italy, Spain and France over the past three weeks, when compared against the very same week of 2019. This data, from Atlantia Group, shows for instance, that toll road traffic in France was 3.3% higher than the 2019 equivalent in the week ended Nov. 21, then slipped to -0.2%, -3.5% and -6.6% in subsequent weeks, the last being the week ended Dec. 12.

During November, French road fuel sales were slightly above pre-pandemic levels, after being below 2019 levels in October, according to data from petroleum industry group UFIP. The sales data coincides with a trend seen in the Atlantia toll road traffic. Should the fuel sales data follow that decline, there may be another dip again when UFIP provides December sales information. The same monthly fuel sales pattern was seen in Italy too.

The Bloomberg weekly oil-demand monitor uses a range of high-frequency data to help identify trends that may become clearer later in more comprehensive monthly figures. The monitor won't be published next week, because of holidays.

Following are the latest indicators. The first two tables show fuel demand and mobility, the next shows air travel globally and the fourth is refinery activity:

Demand Measure	Location	% y/y	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline	U.S.	+19	+0.6	+2.5	w	Dec. 10	9.47m b/d	EIA
Distillates	U.S.	+22	+19	+13	w	Dec. 10	4.9m b/d	EIA
Jet fuel	U.S.	+40	-22	+16	w	Dec. 10	1.61m b/d	EIA
Total oil products	U.S.	+20	+6.3	+7.2	w	Dec. 10	23.2m b/d	EIA
All vehicles miles traveled	U.S.		-0.4		w	Dec. 12	16.1b miles	DoT
Passenger car VMT	U.S.		-2.8		w	Dec. 12	n/a	DoT
Truck VMT	U.S.		+14		w	Dec. 12	n/a	DoT
All motor vehicle use index	U.K.	+7.9	-4	unch	d	Dec. 13	96	DfT
Car use	U.K.	+9.6	-9	unch	d	Dec. 13	91	DfT
Heavy goods vehicle use	U.K.	unch	+11	unch	d	Dec. 13	111	DfT
Gasoline (petrol) avg sales per filling station	U.K.	+13	-5.9	+4.4	w	Dec. 6-12	6,857 liters/d	BEIS
Total road fuels sales per station	U.K.	+7.6	-6	+4.6	w	Dec. 6-12	16,672 liters/d	BEIS
Gasoline	India	+5.9	+16	+6.9	2/m	Dec. 1-15	1.12m tons	Bberg
Diesel	India	+3.3	-1.7	+18	2/m	Dec. 1-15	2.87m tons	Bberg
LPG	India	+3.8	+15	+9.5	2/m	Dec. 1-15	1.23m tons	Bberg
Jet fuel	India	+23	-30	+12	2/m	Dec. 1-15	238k tons	Bberg
Total Products	India	-11	-7.5	-4.1	m	November	17.1m tons	PPAC
Toll roads volume	Italy	+39	-10		w	Dec. 6-12	n/a	Atlantia
Toll roads volume	Spain	+70	-5.6		w	Dec. 6-12	n/a	Atlantia
Toll roads volume	France	+38	-6.6		w	Dec. 6-12	n/a	Atlantia
Toll roads volume	Brazil	+2.7	+0.6		w	Dec. 6-12	n/a	Atlantia
Toll roads volume	Chile	+38	+30		w	Dec. 6-12	n/a	Atlantia
Toll roads volume	Mexico	+13	+10		w	Dec. 6-12	n/a	Atlantia
Road fuel sales	France	+40	+2.9	-4.9	m	November	4.09m m3	UFIP
Total fuel sales	Italy	+15	-0.2	-4.7	m	November	4.25m tons	Ministry

Gasoline sales	Italy	+47	+6.5	-6.7	m	November	586k tons	Ministry
All vehicles traffic	Italy	+38		-6	m	November	n/a	Anas
Heavy vehicle traffic	Italy	+4.8		+1	m	November	n/a	Anas
Gasoline	Spain	+35	+3.8		m	November	448k m3	Exolum
Diesel	Spain	+16	-1.8		m	November	2402k m3	Exolum
Jet fuel	Spain	+172	-29		m	November	349k m3	Exolum

Note: Click here for a PDF with more information on sources, methods. The frequency column shows d for data updated daily, w for weekly, 2/m for twice a month and m for monthly.
* In Dff U.K. data, 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 U.K. data, which is only released once per month, 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.

City congestion:

Measure	Location	% chg vs avg 2019	% chg m/m	Dec. 20	Dec. 13	Dec 6	Nov 29	Nov 22	Nov 15	Nov 8	Nov 1	Oct 25
		(Dec. 20)		Congestion minutes added to 1 hr trip at 8am local time								
Congestion	Tokyo	+2	+26	38	37	33	35	30	38	34	33	34
Congestion	Taipei	-12	n/a	31	42	41						
Congestion	Jakarta	-29	n/a	28	30	28						
Congestion	Mumbai	-89	-46	4	5	6	6	8	6	3	5	7
Congestion	New York	-37	-41	20	26	32	28	34	33	34	31	38
Congestion	Los Angeles	-56	-13	16	27	29	29	18	32	30	25	25
Congestion	London	-67	-70	13	36	41	43	43	46	43	39	19
Congestion	Rome	-10	-10	44	50	46	53	49	56	44	0	41
Congestion	Madrid	-64	-69	13	23	0	24	41	28	10	0	32
Congestion	Paris	-59	-66	18	46	52	46	53	51	50	3	42
Congestion	Berlin	-34	-30	22	37	32	31	32	31	34	34	35
Congestion	Mexico City	-60	-38	20	31	34	31	32	1	34	14	29
Congestion	Sao Paulo	-49	-18	22	28	28	29	27	3	32	13	27

Source: TomTom. Click here for a PDF with more information on sources, methods.
NOTE: m/m comparisons are Dec. 20 vs Nov. 22. TomTom has been unable to provide Chinese data since late April. Taipei and Jakarta were added to the table in early December.

Air Travel:

Measure	Location	% chg y/y	% chg vs 2019	% chg m/m	Freq.	Latest as of Date	Latest Value	Source
Airline passenger throughput	U.S.	+120	+8.3	+0.8	d	Dec. 20	2.10m	TSA
Commercial flights	Worldwide	+26	-17	+3.7	d	Dec. 20	94,567	FlightRadar24
Air traffic (flights)	Europe		-22	+5.8	d	Dec. 20	22,561	Eurocontrol
Seat capacity	Worldwide	+36	-26		w	Dec. 13	81.4m	OAG
Seat cap.	U.S.	+51	-14		w	Dec. 13	19.2m	OAG
Seat cap.	China	-10	-14		w	Dec. 13	13.5m	OAG
Seat cap.	India	+40	-12		w	Dec. 13	3.85m	OAG
Seat cap.	Japan	+12	-38		w	Dec. 13	2.50m	OAG
Seat cap.	Brazil	+36	-16		w	Dec. 13	2.39m	OAG
Seat cap.	Spain	+122	-21		w	Dec. 13	2.08m	OAG
Seat cap.	U.K.	+134	-35		w	Dec. 13	2.06m	OAG
Seat cap.	Mexico	+34	-3.1		w	Dec. 13	1.98m	OAG
Seat cap.	France	+106	-23		w	Dec. 13	1.63m	OAG
Seat cap.	Germany	+158	-44		w	Dec. 13	1.56m	OAG
Seat cap.	Australia	+24	-41		w	Dec. 13	1.29m	OAG
Seat cap.	S. Africa	+1.4	-41		w	Dec. 13	376k	OAG
Seat cap.	Singapore	+114	-74		w	Dec. 13	226k	OAG

NOTE: Comparisons versus 2019 are a better measure of a return to normal.

Refineries:

Measure	Location/area	y/y chg	vs 2019 chg	m/m chg	Latest as of Date	Latest Value	Source
		Changes are in ppt unless noted					
Crude intake	U.S.	+10%	-5.4%	+1.8%	Dec. 10	15.7m b/d	EIA
Utilization	U.S.	+11	-0.8	+1.9	Dec. 10	89.8 %	EIA
Utilization	U.S. Gulf	+9.2	-1.8	+0.3	Dec. 10	90 %	EIA
Utilization	U.S. East	+22	+22	+6.3	Dec. 10	89.8 %	EIA
Utilization	U.S. Midwest	+13	+1.1	+6.1	Dec. 10	94.2 %	EIA
Apparent Oil Demand	China	+4.7%		+5.9%	November 2021	14.18m b/d	NBS
Indep. refs run rate	Shandong, China	-7.5	-1.4	-3.2	Dec. 10	67.9 %	SCI99
State refs run rate	East China	+1.2	+2.5	+2.5	Nov. 30	80.2 %	SCI99
State refs run rate	South China	-2	+5.4	+1.9	Nov. 30	82.6 %	SCI99

NOTE: All of the refinery data is weekly, except for SCI99 state refineries, which is twice per month, and the NBS apparent demand, which is usually monthly. Changes are shown in percentage points except for the rows on crude intake and apparent oil demand, which are shown as percent changes.

https://www.trucking.org/news-insights/ata-truck-tonnage-index-increased-13-november
Dec 21

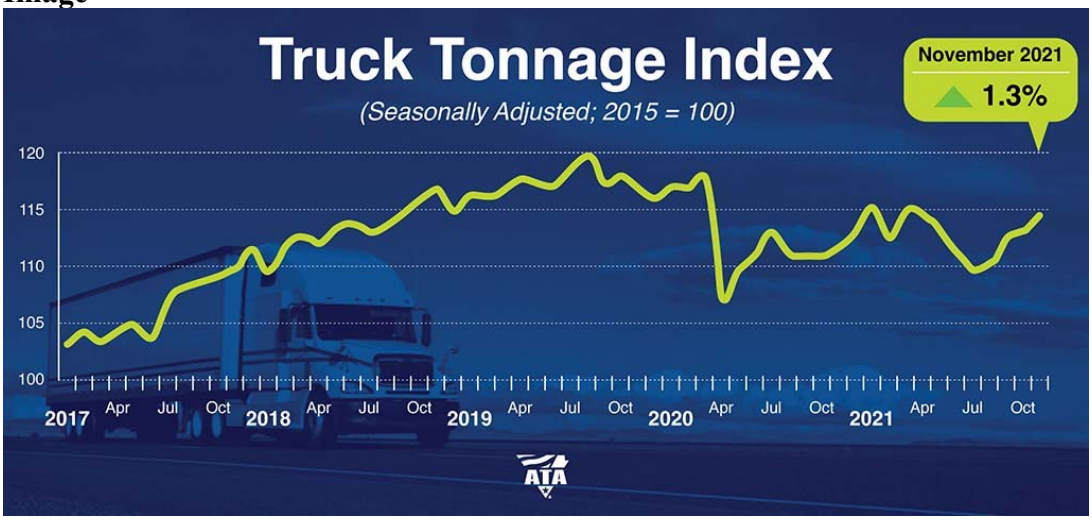
ATA Truck Tonnage Index Increased 1.3% in November

Media Contact: Sean McNally

Index 2.5% Above November 2020

Arlington, Virginia — American Trucking Associations' advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index increased 1.3% in November after rising 0.4% in October. In November, the index equaled 114.5 (2015=100) compared with 113 in October.

Image



"November's gain was the fourth straight, totaling 4.3%, and the tonnage level was the highest since April," said **ATA Chief Economist Bob Costello**. "The recent streak is very good, but it should be noted that from April through July the index fell a total of 4.6%, so we are not quite back to where we were last spring.

"With that said, the index saw the largest gain from a year earlier since May. In November, strong factory output and housing starts helped push the index higher," he said.

October's reading was unchanged from our November 23 press release.

Compared with November 2020, the SA index rose 2.5%, which was the largest year-over-year gain since May. In October, the index was up 1.8% from a year earlier. Year-to-date, compared with the same eleven months in 2020, tonnage is up 0.3%.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by the fleets before any seasonal adjustment, equaled 114.7 in November, 0.9% below the October level (115.8). 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 fifth day of each month. The report includes month-to-month and year-over-year results, relevant economic comparisons, and key financial indicators.

https://www.txoga.org/job-growth-continues-in-texas-upstream-oil-and-natural-gas-sector/

Job Growth Continues in Texas Upstream Oil and Natural Gas Sector

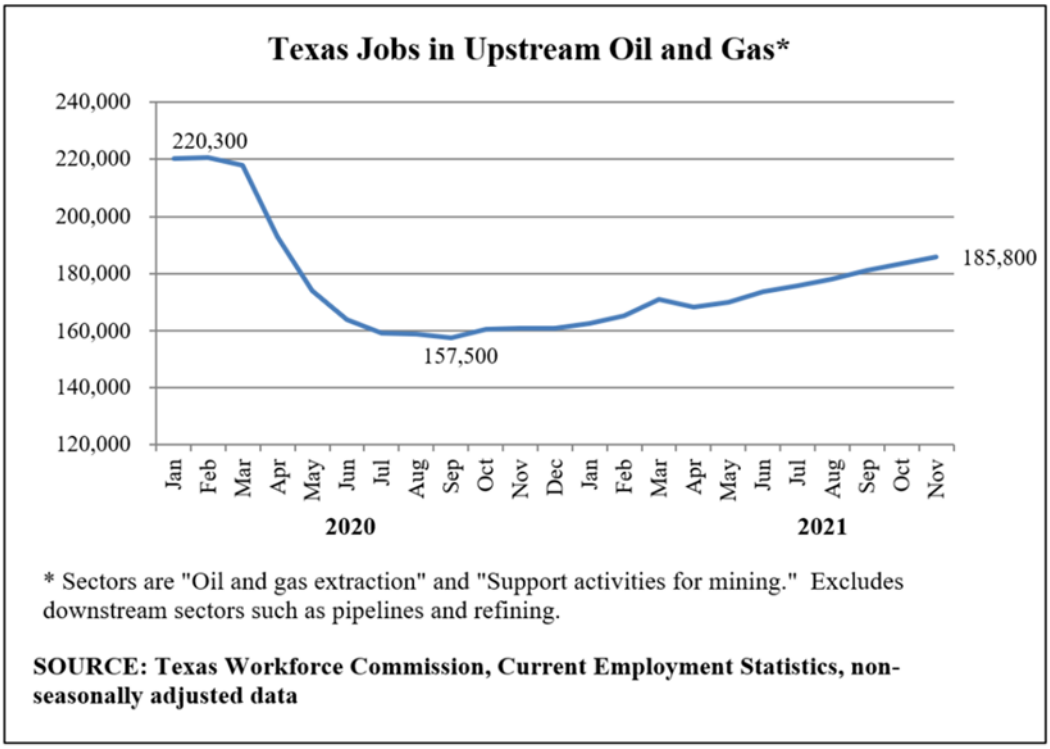
December 17, 2021

2,400 jobs added in November; employment gains have exceeded 2,000 jobs every month for past six months

AUSTIN – New Texas Workforce Commission data shows another month of job growth for Texas oil and natural gas employment, with 2,400 upstream sector jobs added in November. For the past six months in a row, employment gains have exceeded 2,000 jobs every month with the average monthly gain being 2,633.

At 185,800 upstream jobs, November 2021 jobs are up by 24,800, or 15.4%, from November of 2020. Since the low point in September of 2020, growth months have outnumbered decline months 12-to-2, with industry adding 28,300 Texas upstream jobs.

“The Texas economy continues to rebound and the upstream sector’s addition of two thousand-plus jobs every month for the past six months is a prime example of how critical this industry is to the state’s recovery,” said Todd Staples, president of the Texas Oil and Gas Association. “These jobs pay among the highest wages in Texas and the activity of this industry supports communities across the state, whether you live in the oil patch or not. These positive job numbers are good news for all Texans and Americans.”



The upstream sector involves oil and natural gas extraction and excludes other industry sectors such as refining, petrochemicals, fuels wholesaling, oilfield equipment manufacturing, pipelines, and gas utilities, which support hundreds of thousands of additional jobs in Texas. The employment shown also includes “Support Activities for Mining,” which is mostly oil and gas-related but also includes some small amount of other types of mining.

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Founded in 1919, TXOGA is the oldest and largest oil and gas trade association in Texas representing every facet of the industry.

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.

THE INVESTMENT FUNDS INSTITUTE OF CANADA | L'INSTITUT DES FONDS D'INVESTISSEMENT DU CANADA

IFIC Monthly Investment Fund Statistics – November 2021

Mutual Fund and Exchange-Traded Fund Assets and Sales

December 20, 2021 (Toronto) – The Investment Funds Institute of Canada (IFIC) today announced investment fund net sales and net assets for November 2021.

Mutual fund assets totalled $2.034 trillion at the end of November 2021. Assets increased by $3.3 billion or 0.2% compared to October 2021. Mutual funds recorded net sales of $7.5 billion in November 2021.

ETF assets totalled $335.9 billion at the end of November 2021. Assets increased by $4.0 billion or 1.2% compared to October 2021. ETFs recorded net sales of $5.1 billion in November 2021.

Mutual Fund Net Sales/Net Redemptions ($ Millions)*

Asset Class	Nov. 2021	Oct. 2021	Nov. 2020	YTD 2021	YTD 2020
Long-term Funds					
Balanced	4,357	3,290	2,761	61,438	(2,133)
Equity	2,562	1,881	3,829	36,629	3,354
Bond	629	372	250	15,733	13,686
Specialty	418	431	414	5,595	5,449
Total Long-term Funds	7,965	5,975	7,253	119,395	20,357
Total Money Market Funds	(503)	(408)	(1,060)	(7,598)	3,261
Total	7,462	5,567	6,193	111,797	23,618

Mutual Fund Net Assets ($ Billions)*

Asset Class	Nov. 2021	Oct. 2021	Nov. 2020	Dec. 2020
Long-term Funds				
Balanced	1,000.2	996.8	859.6	874.4
Equity	725.9	727.1	573.5	593.4
Bond	260.4	259.3	243.4	246.4
Specialty	21.5	21.1	34.0	34.9
Total Long-term Funds	2,008.0	2,004.3	1,710.4	1,749.1
Total Money Market Funds	26.2	26.6	35.7	34.4
Total	2,034.2	2,030.9	1,746.1	1,783.5

* Please see below for important information regarding this data.

ETF Net Sales/Net Redemptions ($ Millions)*

Asset Class	Nov. 2021	Oct. 2021	Nov. 2020	YTD 2021	YTD 2020
Long-term Funds					
Balanced	265	212	202	3,688	1,724
Equity	3,943	3,120	2,008	31,198	21,840
Bond	146	461	975	11,144	9,988
Specialty	862	472	186	7,979	1,830
Total Long-term Funds	5,216	4,265	3,371	54,009	35,382
Total Money Market Funds	(106)	134	(171)	(967)	2,214
Total	5,111	4,399	3,200	53,042	37,596

ETF Net Assets ($ Billions)*

Asset Class	Nov. 2021	Oct. 2021	Nov. 2020	Dec. 2020
Long-term Funds				
Balanced	11.7	11.4	6.8	7.2
Equity	215.6	212.9	153.6	158.4
Bond	87.8	87.6	77.9	79.3
Specialty	14.5	13.6	5.0	5.2
Total Long-term Funds	329.6	325.5	243.4	250.0
Total Money Market Funds	6.3	6.4	6.7	7.3
Total	335.9	331.9	250.1	257.3

* Please see below for important information regarding this data.

IFIC direct survey data (which accounts for approximately 91% of total mutual fund industry assets) is complemented by data from Investor Economics to provide comprehensive industry totals.

IFIC makes every effort to verify the accuracy, currency and completeness of the information; however, IFIC does not guarantee, warrant, represent or undertake that the information provided is correct, accurate or current.

*** Important Information Regarding Investment Fund Data:**

1. Mutual fund data is adjusted to remove double counting arising from mutual funds that invest in other mutual funds.
2. ETF data is not adjusted to remove double counting arising from ETFs that invest in other ETFs.
3. The Balanced Funds category includes funds that invest directly in a mix of stocks and bonds or obtain exposure through investing in other funds.
4. Mutual fund data reflects the investment activity of Canadian retail investors.
5. ETF data reflects the investment activity of Canadian retail and institutional investors.

About IFIC

The Investment Funds Institute of Canada is the voice of Canada's investment funds industry. IFIC brings together 150 organizations, including fund managers, distributors and industry service organizations, to foster a strong, stable investment sector where investors can realize their financial goals. By connecting Canada's savers to Canada's economy, our industry contributes significantly to Canadian economic growth and job creation. To learn more about IFIC, please visit www.ific.ca.

For more information please contact:

Pira Kumarasamy
Senior Manager, Communications and Public Affairs
pkumarasamy@ific.ca
416-309-2317

NCHS Data Brief ■ No. 427 ■ December 2021

Mortality in the United States, 2020

Sherry L. Murphy, B.S., Kenneth D. Kochanek, M.A., Jiaquan Xu, M.D., and Elizabeth Arias, Ph.D.

Key findings

Data from the National Vital Statistics System

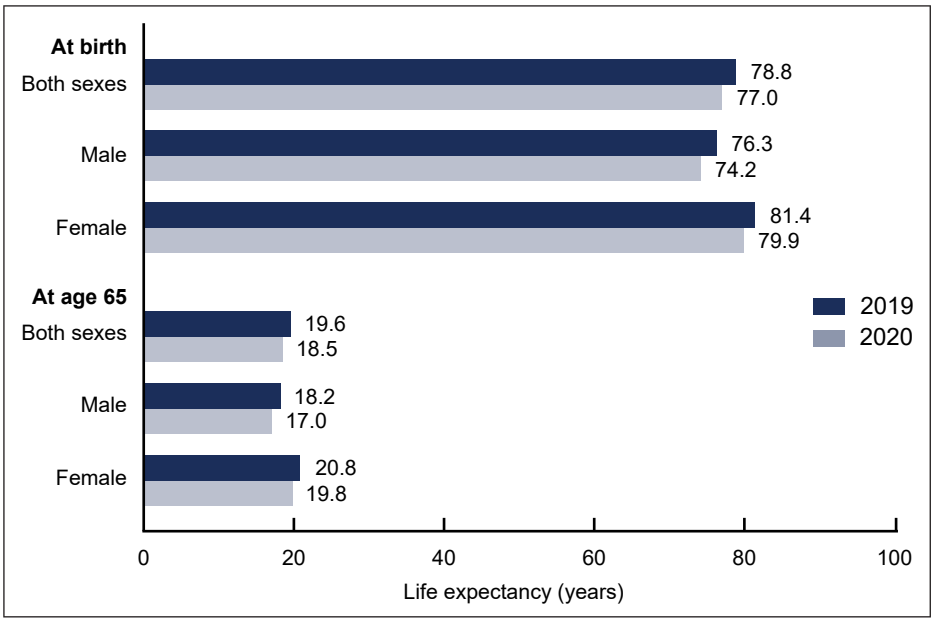
- Life expectancy for the U.S. population in 2020 was 77.0 years, a decrease of 1.8 years from 2019.
- The age-adjusted death rate increased by 16.8% from 715.2 deaths per 100,000 standard population in 2019 to 835.4 in 2020.
- Age-specific death rates increased from 2019 to 2020 for each age group 15 years and over.
- Nine of the 10 leading causes of death in 2020 remained the same as in 2019, although 5 causes switched rank; heart disease and cancer remained the top 2 leading causes, and COVID-19 became the third leading cause of death in 2020.
- The infant mortality rate decreased 2.9% in 2020 from 2019 to a record low of 541.9 infant deaths per 100,000 live births.

This report presents final 2020 U.S. mortality data on deaths and death rates by demographic and medical characteristics. These data provide information on mortality patterns in U.S. residents by variables such as sex, age, race and Hispanic origin, and cause of death. Life expectancy estimates, age-adjusted death rates, age-specific death rates, 10 leading causes of death, and 10 leading causes of infant death were analyzed by comparing 2020 and 2019 final data (1).

How long can we expect to live?

In 2020, life expectancy at birth was 77.0 years for the total U.S. population—a decrease of 1.8 years from 78.8 years in 2019 (Figure 1). For males, life expectancy decreased 2.1 years from 76.3 in 2019 to 74.2 in 2020. For females, life expectancy decreased 1.5 years from 81.4 in 2019 to 79.9 in 2020.

Figure 1. Life expectancy at birth and age 65, by sex: United States, 2019 and 2020



NOTE: Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db427-tables.pdf#1.
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

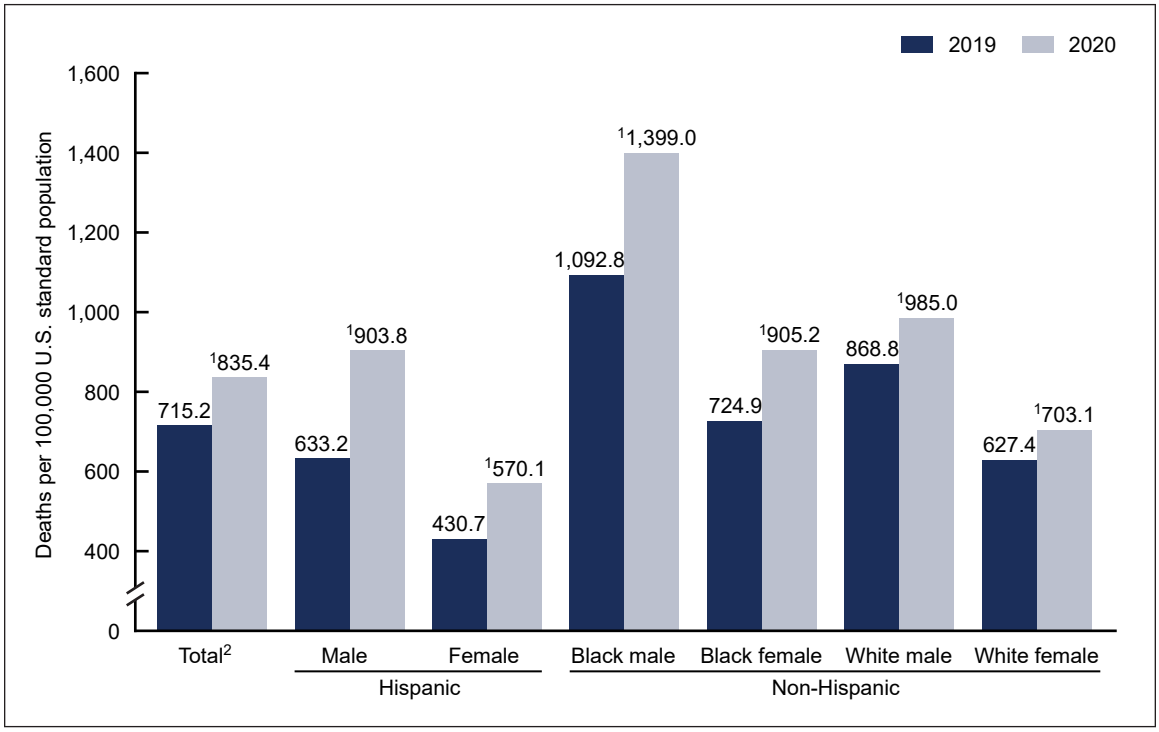
In 2020, the difference in life expectancy between females and males was 5.7 years, an increase of 0.6 year from 2019.

In 2020, life expectancy at age 65 for the total population was 18.5 years, a decrease of 1.1 years from 2019. For males, life expectancy at age 65 decreased 1.2 years from 18.2 in 2019 to 17.0 in 2020. For females, life expectancy at age 65 decreased 1.0 year from 20.8 in 2019 to 19.8 in 2020. The difference in life expectancy at age 65 between females and males increased 0.2 year, from 2.6 years in 2019 to 2.8 in 2020.

What are the age-adjusted death rates for race-ethnicity-sex groups?

The age-adjusted death rate for the total population increased 16.8% from 715.2 per 100,000 standard population in 2019 to 835.4 in 2020 (Figure 2). Age-adjusted death rates increased in 2020 from 2019 for all race-ethnicity-sex groups, increasing 42.7% for Hispanic males, 32.4% for Hispanic females, 28.0% for non-Hispanic Black males, 24.9% for non-Hispanic Black females, 13.4% for non-Hispanic White males, and 12.1% for non-Hispanic White females.

Figure 2. Age-adjusted death rates, by sex and race and ethnicity: United States, 2019 and 2020

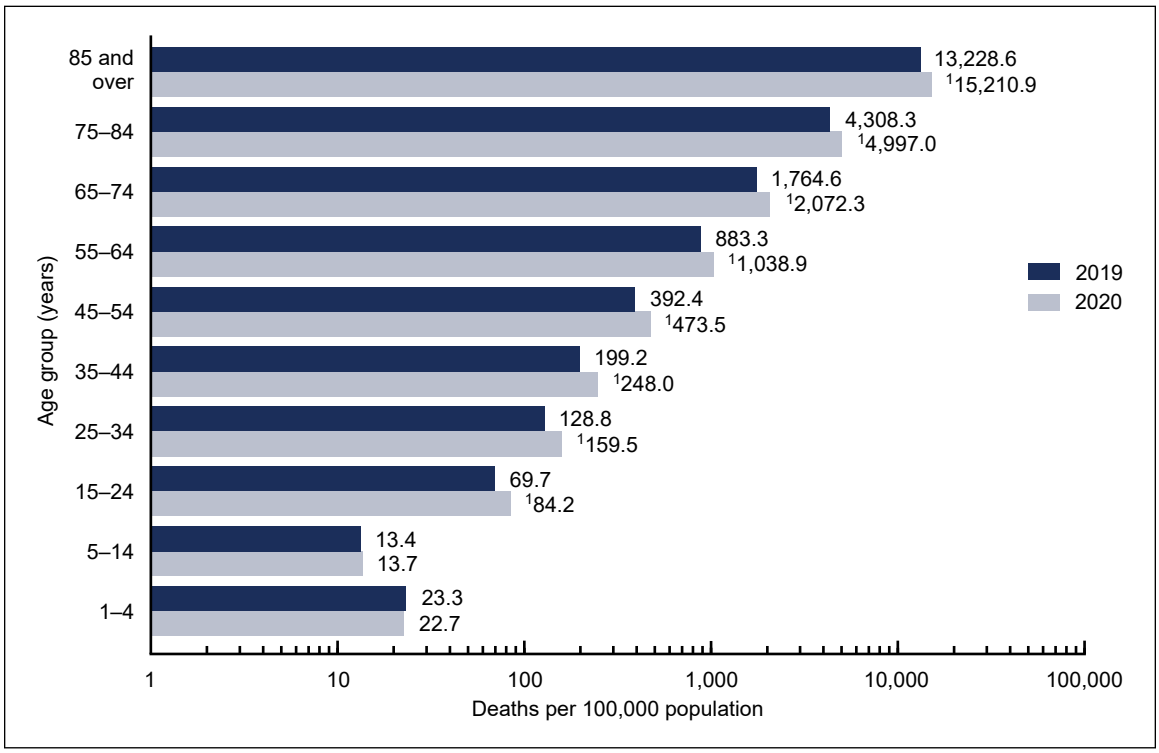


[1]Statistically significant increase in age-adjusted death rate from 2019 to 2020 ($p < 0.05$).
[2]Includes races and origins not shown separately.
NOTES: Race groups are single race. Data table for Figure 2 includes the number of deaths. Access data table for Figure 2 at: https://www.cdc.gov/nchs/data/databriefs/db427-tables.pdf#2.
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

Did age-specific death rates in 2020 change from 2019 for those aged 1 year and over?

From 2019 to 2020, death rates increased for each age group 15 years and over. Rates increased 20.8% for age group 15–24 (from 69.7 deaths per 100,000 population in 2019 to 84.2 in 2020), 23.8% for 25–34 (128.8 to 159.5), 24.5% for 35–44 (199.2 to 248.0), 20.7% for 45–54 (392.4 to 473.5), 17.6% for 55–64 (883.3 to 1,038.9), 17.4% for 65–74 (1,764.6 to 2,072.3), 16.0% for 75–84 (4,308.3 to 4,997.0), and 15.0% for 85 and over (13,228.6 to 15,210.9) (Figure 3). Rates for age groups 1–4 and 5–14 did not change significantly from 2019 to 2020.

Figure 3. Death rates for ages 1 year and over: United States, 2019 and 2020



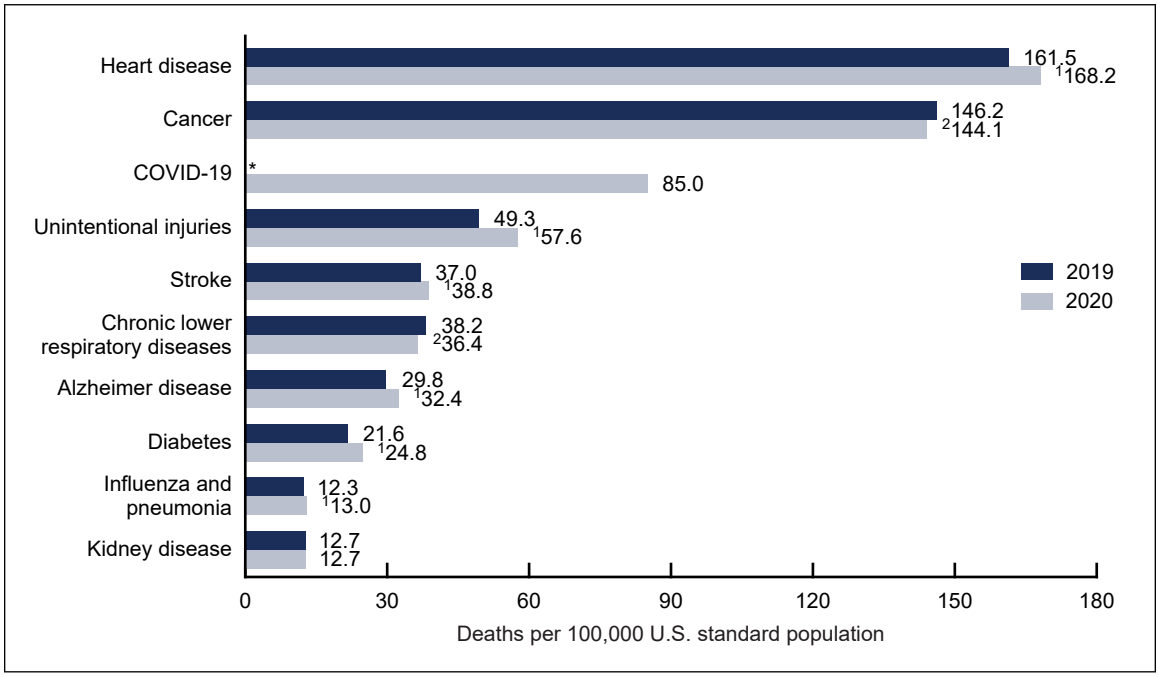
[1]Statistically significant increase in age-specific death rate from 2019 to 2020 ($p < 0.05$).
NOTES: Rates are plotted on a logarithmic scale. Data table for Figure 3 includes the number of deaths. Access data table for Figure 3 at: https://www.cdc.gov/nchs/data/databriefs/db427-tables.pdf#3.
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

What are the death rates for the 10 leading causes of death?

In 2020, 9 of the 10 leading causes of death remained the same as in 2019. The top leading cause was heart disease, followed by cancer (Figure 4). COVID-19, newly added as a cause of death in 2020, became the 3rd leading cause of death. Of the remaining leading causes in 2020 (unintentional injuries, stroke, chronic lower respiratory diseases, Alzheimer disease, diabetes, influenza and pneumonia, and kidney disease), 5 causes changed ranks from 2019. Unintentional injuries, the 3rd leading cause in 2019, became the 4th leading cause in 2020. Chronic lower respiratory diseases, the 4th leading cause in 2019, became the 6th. Alzheimer disease, the 6th leading cause in 2019, became the 7th. Diabetes, the 7th leading cause in 2019, became the 8th. Kidney disease, the 8th leading cause in 2019, became the 10th leading cause in 2020. Stroke, and influenza and pneumonia, remained the 5th and 9th leading causes, respectively (1). Suicide dropped from the list of 10 leading causes in 2020. Causes of death are ranked according to number of deaths (1). The 10 leading causes accounted for 74.1% of all deaths in the United States in 2020.

From 2019 to 2020, age-adjusted death rates increased for 6 of 10 leading causes of death and decreased for 2. The rate increased 4.1% for heart disease (from 161.5 in 2019 to 168.2 in 2020), 16.8% for unintentional injuries (49.3 to 57.6), 4.9% for stroke (37.0 to 38.8), 8.7% for Alzheimer disease (29.8 to 32.4), 14.8% for diabetes (21.6 to 24.8), and 5.7% for influenza and pneumonia (12.3 to 13.0). Rates decreased 1.4% for cancer (146.2 to 144.1) and 4.7% for chronic lower respiratory diseases (38.2 to 36.4). The rate for kidney disease remained unchanged.

Figure 4. Age-adjusted death rates for the 10 leading causes of death in 2020: United States, 2019 and 2020



* COVID-19 became an official cause of death in 2020; rates for 2019 are not applicable.
[1]Statistically significant increase in age-adjusted death rate from 2019 to 2020 ($p < 0.05$).
[2]Statistically significant decrease in age-adjusted death rate from 2019 to 2020 ($p < 0.05$).
NOTES: A total of 3,383,729 resident deaths were registered in the United States in 2020. The 10 leading causes of death accounted for 74.1% of all deaths in the United States in 2020. Causes of death are ranked according to number of deaths. Rankings for 2019 data are not shown. Data table for Figure 4 includes the number of deaths for leading causes and the percentage of total deaths. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db427-tables.pdf#4.
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

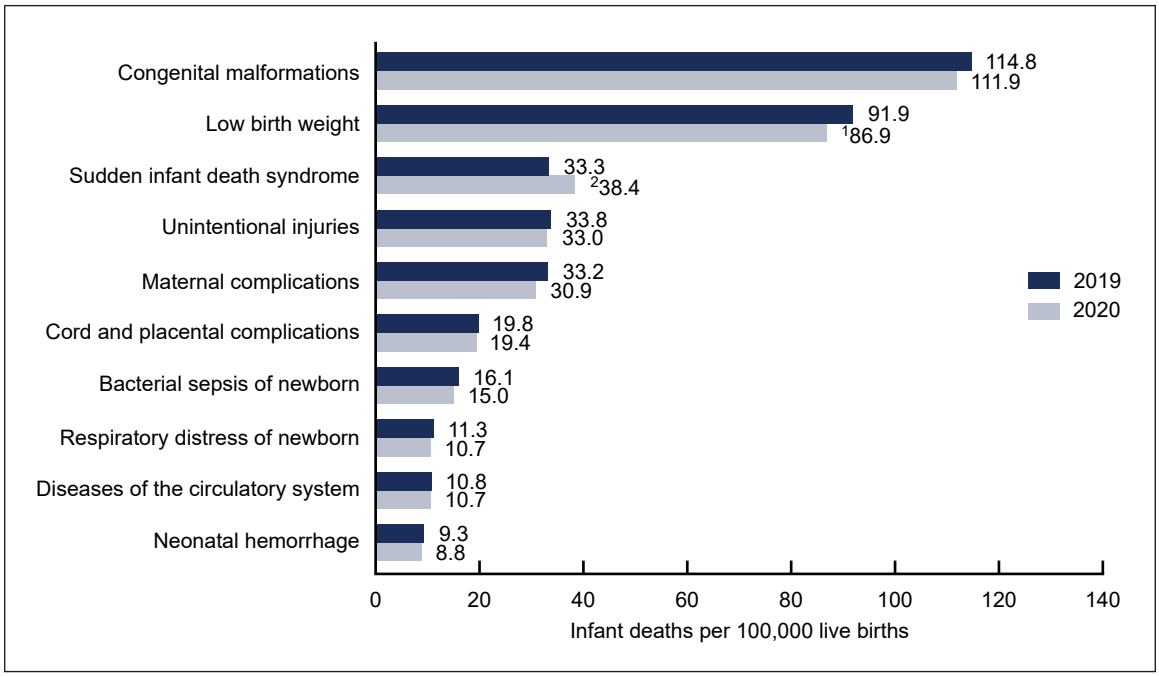
Data comparisons from 2019 to 2020 for COVID-19 are not applicable because COVID-19 was a new cause in 2020.

What are the mortality rates for the 10 leading causes of infant death?

The infant mortality rate (IMR) is the ratio of infant deaths to live births in a given year. The IMR declined 2.9% from 558.3 infant deaths per 100,000 live births in 2019 to 541.9 in 2020.

Causes of infant death are ranked according to number of infant deaths (1). The 10 leading causes of infant death in 2020 (congenital malformations, low birth weight, sudden infant death syndrome, unintentional injuries, maternal complications, cord and placental complications, bacterial sepsis of newborn, respiratory distress of newborn, diseases of the circulatory system, and neonatal hemorrhage) accounted for 67.5% of all infant deaths in the United States. Two of the leading causes of infant death exchanged ranks from 2019 to 2020 (Figure 5). Sudden infant death syndrome, the 4th leading cause in 2019, became the 3rd leading cause in 2020, while unintentional injuries, the 3rd leading cause in 2019, became the 4th leading cause in 2020. Necrotizing enterocolitis of newborn, the 10th leading cause in 2019, dropped from the list and was replaced by neonatal hemorrhage in 2020. The IMR for sudden infant death syndrome increased 15.3% from 33.3 in 2019 to 38.4 in 2020. The IMR for low birth weight decreased 5.4% from 91.9 in 2019 to 86.9 in 2020. Mortality rates for other leading causes of infant death did not change significantly.

Figure 5. Infant mortality rates for the 10 leading causes of infant death in 2020: United States, 2019 and 2020



[1]Statistically significant decrease in mortality rate from 2019 to 2020 ($p < 0.05$).
[2]Statistically significant increase in mortality rate from 2019 to 2020 ($p < 0.05$).
NOTES: A total of 19,582 deaths occurred in children under age 1 year in the United States in 2020, with an infant mortality rate of 541.9 infant deaths per 100,000 live births. The 10 leading causes of infant death in 2020 accounted for 67.5% of all infant deaths in the United States. A total of 20,921 infant deaths occurred in 2019, with an infant mortality rate of 558.3 infant deaths per 100,000 live births. Causes of death are ranked according to number of deaths. Rankings for 2019 data are not shown. Data table for Figure 5 includes the number of deaths under age 1 year for leading causes of infant death and the percentage of total infant deaths. Access data table for Figure 5 at: https://www.cdc.gov/nchs/data/databriefs/db427-tables.pdf#5.
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

Summary

In 2020, a total of 3,383,729 resident deaths were registered in the United States—528,891 more deaths than in 2019. The number of deaths for which COVID-19 was the underlying cause of death was 350,831 (10.4% of the total number of deaths in 2020). From 2019 to 2020, the age-adjusted death rate for the total population increased 16.8%. This single-year increase is the largest since the first year that annual mortality data for the entire United States became available (2). The decrease in life expectancy for the total population of 1.8 years from 2019 to 2020 is the largest single-year decrease in more than 75 years (3). Age-specific death rates from 2019 to 2020 increased for each age group 15 years and over. Age-adjusted death rates increased in 2020 from 2019 for each race and ethnicity group for both males and females.

Of the 10 leading causes of death in 2020, 9 remained the same as in 2019, although 5 causes exchanged ranks. Heart disease was the leading cause followed by cancer. COVID-19, a new cause of death in 2020, was the third leading cause. Age-adjusted death rates increased for 6 leading causes and decreased for 2. Life expectancy at birth decreased 1.8 years from 78.8 years in 2019 to 77.0 in 2020, largely because of increases in mortality due to COVID-19, unintentional injuries, heart disease, homicide, and diabetes.

In 2020, a total of 19,582 deaths occurred in children under age 1 year, which was 1,339 fewer infant deaths than in 2019. The IMR decreased 2.9% from 558.3 infant deaths per 100,000 live births in 2019 to 541.9 in 2020. Among the 10 leading causes of infant death, the IMR increased for 1 cause (sudden infant death syndrome) and decreased for 1 (low birth weight).

Data and findings in this report are based on final mortality data and may differ from provisional data and findings previously published.

Definitions

Cause of death: Based on medical information—including injury diagnoses and external causes of injury—entered on death certificates filed in the United States. This information is classified and coded in accordance with the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision* (ICD–10) (4).

Death rates: For 2020, based on population estimates for July 1, 2020, that are consistent with the April 1, 2010, census. These population estimates (as well as population figures for the 2010 census) are available on the CDC WONDER website (5). Age-adjusted death rates are useful when comparing different populations because they remove the potential bias that can occur when the populations being compared have different age structures. The National Center for Health Statistics (NCHS) uses the direct method of standardization; see Technical Notes of "Deaths: Final Data for 2019" (1) for more information.

Infant mortality rate (IMR): Computed by dividing the number of infant deaths in a calendar year by the number of live births registered for that same time period. IMR is the most widely used index for measuring the risk of dying during the first year of life.

Leading causes of death: Ranked according to the number of deaths assigned to rankable causes (6). COVID-19 was added to the list of rankable causes in 2020.

Life expectancy: The expected average number of years of life remaining at a given age. It is denoted by e_x, which means the average number of subsequent years of life for someone now aged x. Life expectancy estimates for 2020 are based on a methodology first implemented with 2008 final mortality data (7). Life expectancies for 2019 and 2020 are estimated using final Medicare data.

Data source and methods

The data shown in this report reflect information collected by NCHS for 2019 and 2020 from death certificates filed in all 50 states and the District of Columbia and compiled into national data known as the National Vital Statistics System. Death rates shown in this report are calculated based on postcensal population estimates as of July 1, 2019, and July 1, 2020, which are consistent with the April 1, 2010, census. Differences between death rates were evaluated using a two-tailed z test.

The race and Hispanic-origin groups shown in this report follow the 1997 Office of Management and Budget standards and differ from the bridged-race categories shown in reports for data years prior to 2019 (1).

About the authors

Sherry L. Murphy, Kenneth D. Kochanek, Jiaquan Xu, and Elizabeth Arias are with the National Center for Health Statistics, Division of Vital Statistics.

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7. Arias E. United States life tables, 2008. National Vital Statistics Reports; vol 61 no 3. Hyattsville, MD: National Center for Health Statistics. 2012. Available from: https://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_03.pdf.

Keywords: life expectancy • leading cause • National Vital Statistics System

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POLICY BRIEF DECEMBER 2021

CALIFORNIA POLICY LAB

Pandemic Patterns: California is Seeing Fewer Entrances and More Exits

NATALIE HOLMES AND EVAN WHITE

EXECUTIVE SUMMARY

Since the COVID-19 pandemic began, far fewer people have been moving into California from other states and more have been leaving. At the end of September 2021, entrances to California were 38% lower than at the end of March 2020.[1] Exits, following a dip in the first half of 2020, stood 12% higher at the end of September 2021 than at the end of March 2020 — representing a return to a steady pre-pandemic rate of increase of approximately 4% per year since 2016. These two trends have combined to more than double net domestic migration away from California, defined as entrances from other US states minus exits to other US states. This brief updates our spring 2021 analysis that used data through December 2020.

These trends are present throughout the state. Since the end of March 2020, new entrances to the state have dropped in every California county, and when Californians move, they are slightly more likely to leave the state than they were before the pandemic began (true for nearly every county).

But the Bay Area stands out, for several reasons. Since the end of March 2020, new entrances to Bay Area counties have dropped more quickly than in other parts of the state. Before the pandemic, San Francisco, San Mateo, and Santa Clara counties were the only net receivers of population from other US states. Today, all California counties lose population to domestic migration. In addition, whereas in every other economic region the move rate fell since the pandemic began, Bay Area residents moved (to any destination) at higher levels (up 8%, to 4.2%), driving a 21% increase in Bay Area exits.

KEY RESEARCH FINDINGS

- There is still no evidence of a pronounced exodus from the state, but *net* entrances from domestic migration — defined as entrances from other US states minus exits to other US states — have dropped significantly since the start of the pandemic. On net today, California loses more than twice as many people to domestic migration as it did before the pandemic.
- Since the start of the pandemic, entrances have decreased in all California counties (down 38% statewide).
- Exits to other US states are up 12% since the start of the pandemic, in line with pre-pandemic trends.
- In 52 of 58 counties, Californians who move are more likely to leave the state than they were before the pandemic.
- Californians from the Bay Area accounted for a larger share of those leaving the state than before the pandemic, driven by an increase in moves (to any destination) originating from the region.
- San Francisco, San Mateo, and Santa Clara counties have lost population due to domestic migration for the first time since at least 2016, the first year for which we report data.

POPULATION MATTERS

Following the 2020 decennial Census, California is slated to lose a congressional seat for the first time. Also for the first time on record, in the spring of 2021, the California Department of Finance projected that the state lost population in the previous year. Although California remains the most populous state by far, home to one in eight of all Americans, these demographic changes affect federal funding formulas and reduce the state's political power.

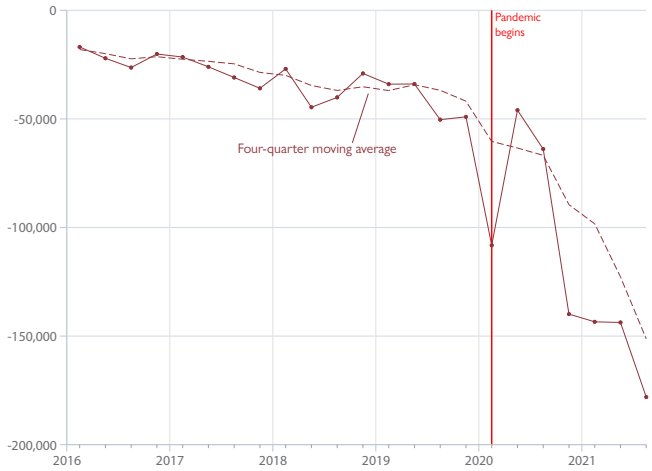
Population change occurs through a combination of "natural" factors (births and deaths) and international and domestic migration. California continues to have a positive rate of natural population increase: in 2019, 446,479 people were born in California and 268,818 people died.[2] California also continues to attract steady international in-migration, with a net inflow of 1.5 million last decade. In contrast, California has lost population to domestic out-migration for many years. Between 2010 and 2020, 1.3 million more Californians left the state than arrived from other states.[3] There has been extensive speculation about the factors driving this trend, ranging from high housing costs and adverse business conditions to the increasing prevalence of wildfires.

This brief examines domestic migration to and from California during the COVID-19 pandemic through September 2021. We measure mobility using anonymized quarterly credit records from one of the three nationwide credit bureaus. A move is defined as having a different ZIP code in the next quarter. While this is the best near-real-time data we have seen for measuring mobility, it has some disadvantages. One in ten adults does not have a credit record, and younger adults and lower-income consumers are less represented in the data.[4] Because children are also not included, our estimates of the volumes of movers are underestimates of the true volumes.[5]

NET ENTRANCES ARE DOWN STATEWIDE

California has lost population due to domestic net out-migration for many years. But that trend has accelerated during the COVID pandemic. On net, California lost over two times as many people to domestic migration. Our data show just over 60,000 net exits in Q1 2020 as compared to just over 150,000 net exits in Q3 2021, though these volumes are likely lower bounds because our sample does not include children or those without a credit history.

FIGURE 1. Net entrances to California



Source: California Policy Lab analysis of University of California Consumer Credit Panel (UC-CCP) data.

Notes: A move is defined as having a different ZIP code in the next quarter. These volumes are underestimated because the data universe for this analysis comprises adults in California with credit history, which we estimate is approximately 70% of the state's population. Domestic migration only.

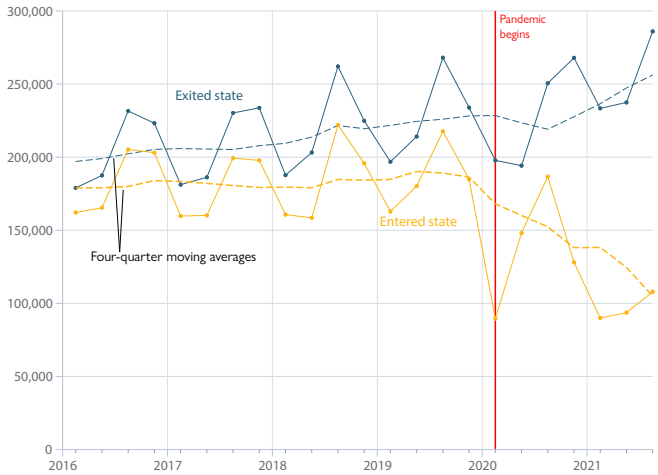
This net decline is a result of both decreased entrances to the state and increased exits from the state (Figure 2). Following a dip early in the pandemic, exits rebounded in the latter half of 2020 and have continued to increase such that they are now 12% higher than pre-COVID levels — on pace with pre-pandemic trends. Entrances likewise dipped early in the pandemic and continued to fall, such that they are down 38% compared to pre-COVID levels. This downward trend in entrances, also seen in many urban centers,[6] seems to be more significant but is garnering less media attention. We discuss entrances and exits in turn.

ENTRANCES TO CALIFORNIA ARE DOWN STATEWIDE

Before the COVID-19 pandemic began in early 2020, both the total number of new domestic entrants to California and their likelihood of settling in any given region of the state had remained stable since at least 2016 (Figure 3). Southern California, home to the largest US county (Los Angeles), typically receives 45% of all new domestic migrants to the state. Before the pandemic, the less populous 11-county Bay Area economic region typically received just over 22% of new domestic migrants to California. Since then, that share has fallen by 12% to just below 20%.

Since the start of the pandemic, entrances have declined in every economic region — but most significantly in the Bay Area. Figure 4 shows trends in out-of-state entrances to all nine economic regions, normalizing each to 0 at Q1 2020, the quarter closest to the start of the pandemic. By the end of September 2021, 45% fewer people were moving into the Bay Area from other US states than at the end of March 2020.

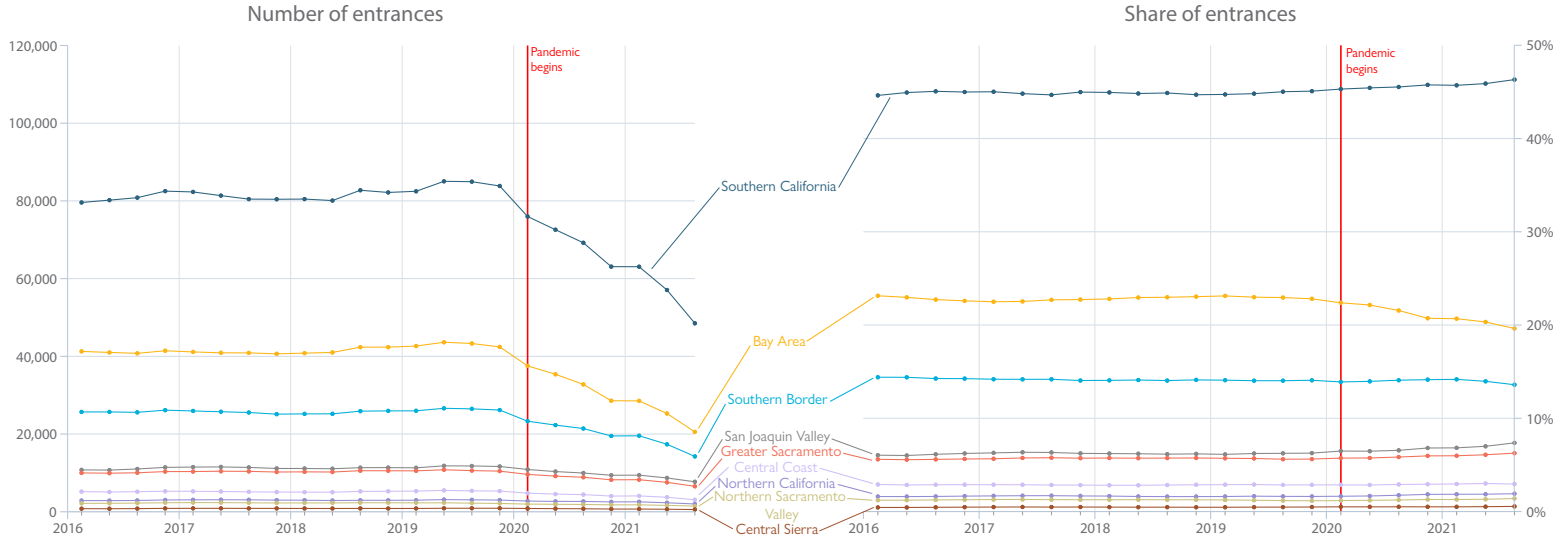
FIGURE 2. Entrances to and exits from California



Source: California Policy Lab analysis of University of California Consumer Credit Panel (UC-CCP) data.

Notes: A move is defined as having a different ZIP code in the next quarter. These volumes are underestimated because the data universe for this analysis comprises adults in California with credit history, which we estimate is approximately 70% of the state's population. Domestic migration only.

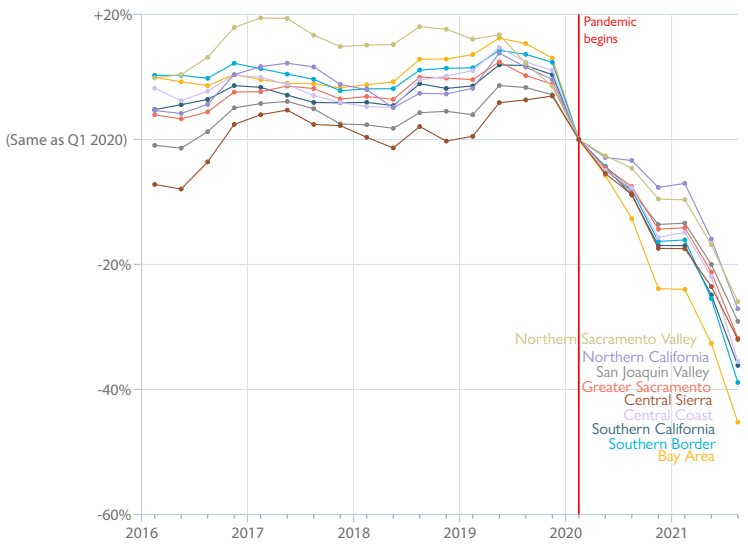
FIGURE 3. Number and percentage of entrances to California, by economic region



Source: California Policy Lab analysis of University of California Consumer Credit Panel (UC-CCP) data.

Notes: All figures reflect 4-quarter averages (ending with the indicated quarter) to smooth seasonal fluctuations. A move is defined as having a different ZIP code in the next quarter. These volumes are underestimated because the data universe for this analysis comprises adults in California with credit history, which we estimate is approximately 70% of the state's population. Domestic migration only.

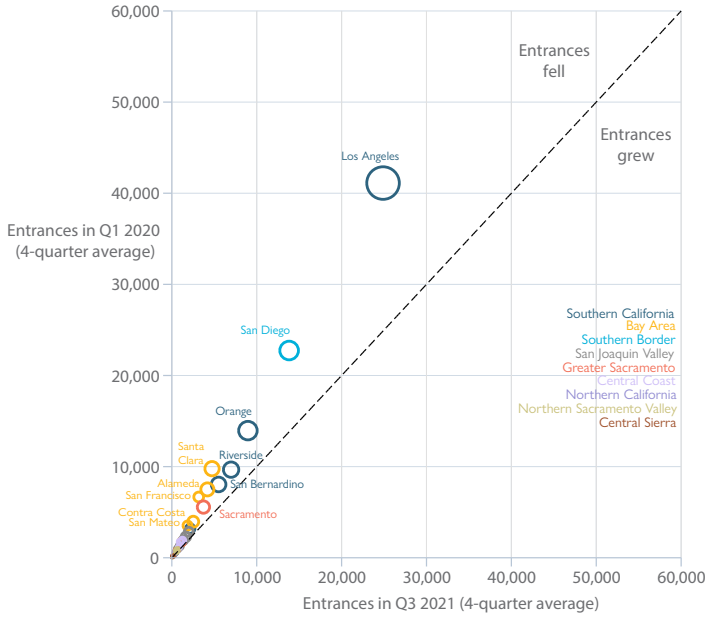
FIGURE 4. Percent change in entrances to California relative to Q1 2020, by economic region



Source: California Policy Lab analysis of University of California Consumer Credit Panel (UC-CCP) data.

Notes: All figures reflect 4-quarter averages (ending with the indicated quarter) to smooth seasonal fluctuations. A move is defined as having a different ZIP code in the next quarter. Domestic migration only.

FIGURE 5. Number of out-of-state entrances to California counties, before and during COVID-19 pandemic



Source: California Policy Lab analysis of University of California Consumer Credit Panel (UC-CCP) data.

Notes: A move is defined as having a different ZIP code in the next quarter. These volumes are underestimated because the data universe for this analysis comprises adults in California with credit history, which we estimate is approximately 70% of the state's population. Domestic migration only.

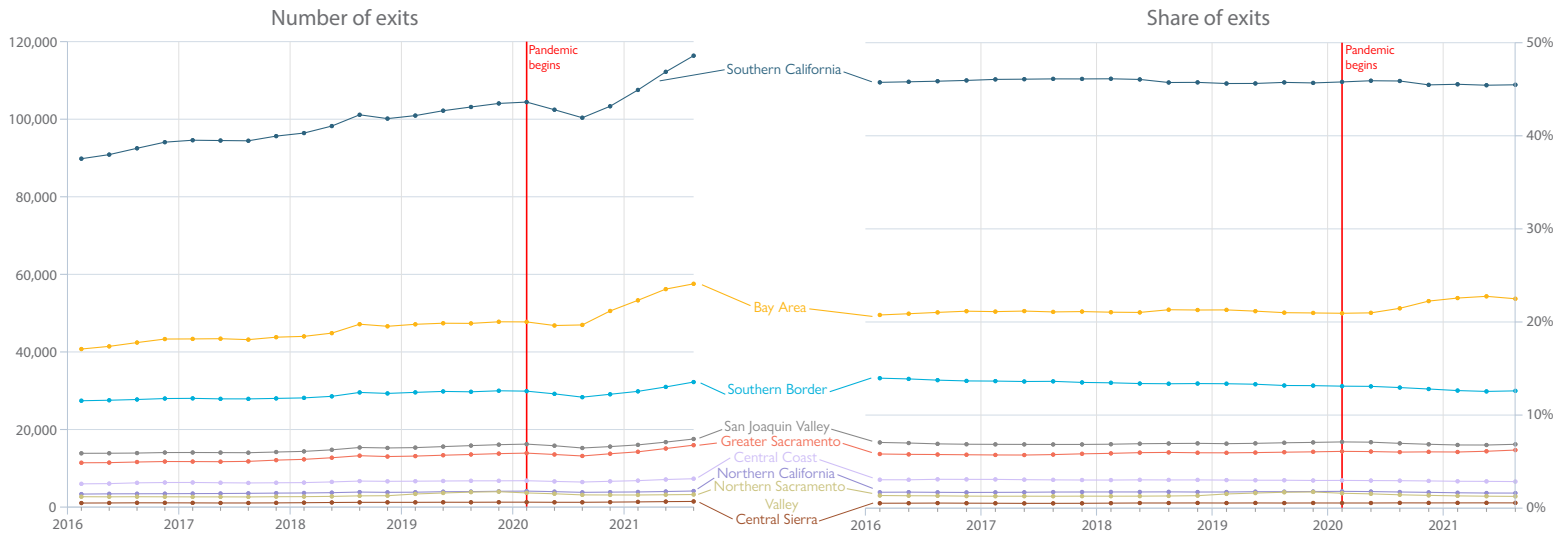
Zooming in to the county level, we see that all 58 counties have experienced a drop in out-of-state entrances since the pandemic began. The vertical axis of Figure 5 shows the four-quarter average number of entrances immediately prior to the pandemic (through Q1 2020). The horizontal axis shows the same measure six quarters after the start of the pandemic (Q3 2021). Counties with the same average number of entrances in both periods would appear on the dotted line. Those where entrances fell since the pandemic started appear above the line, while those where entrances increased since the pandemic started (there were none) would appear below it. All counties saw steep declines since COVID arrived, but declines were especially steep in San Francisco County (-53%), Santa Clara County (-52%), and San Mateo County (-48%).

The statewide drop in entrances to California accounts for the bulk of the decline in *net* entrances. Though as the next section explains, exits have ticked up to pre-pandemic trends.

EXITS FROM CALIFORNIA HAVE RETURNED TO PRE-PANDEMIC TRENDS

Exits to other states increased in most California regions since the pandemic began. There was a brief dip in mid-2020, as overall mobility stalled, but since then out-of-state exits have increased in almost every region. As with entrances, the Bay Area has experienced some of the largest movement in exits, such that by the end of September 2021 it accounted for a larger share of total exits from the state than in the pre-pandemic period (Figure 6).

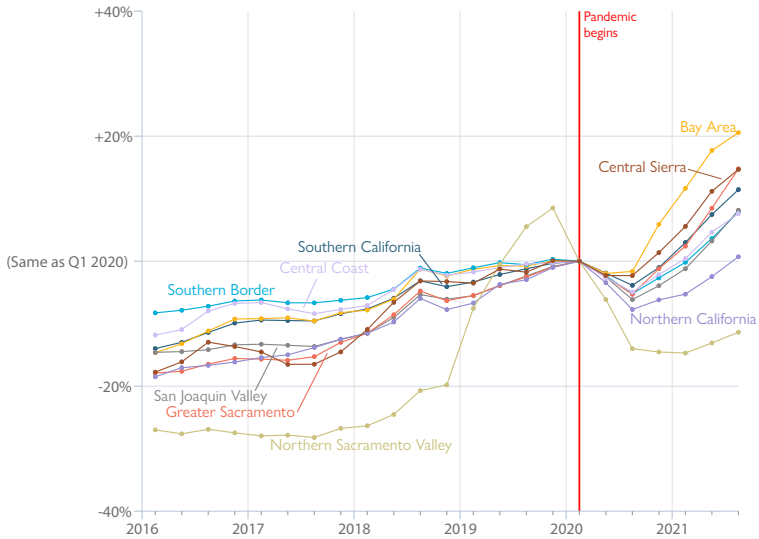
FIGURE 6. Number and percentage of exits from California by economic region



Source: California Policy Lab analysis of University of California Consumer Credit Panel (UC-CCP) data.

Notes: All figures reflect 4-quarter averages (ending with the indicated quarter) to smooth seasonal fluctuations. A move is defined as having a different ZIP code in the next quarter. These volumes are underestimated because the data universe for this analysis comprises adults in California with credit history, which we estimate is approximately 70% of the state's population. Domestic migration only.

FIGURE 7. Percent change in exits from California relative to Q1 2020, by economic region



Source: California Policy Lab analysis of University of California Consumer Credit Panel (UC-CCP) data.

Notes: All figures reflect 4-quarter averages (ending with the indicated quarter) to smooth seasonal fluctuations. A move is defined as having a different ZIP code in the next quarter. Domestic migration only. The dramatic changes in Northern Sacramento Valley derive mostly from Butte County, and may be linked to wildfire-related moves.

Out-of-state exits have increased relative to their pre-pandemic levels in every economic region except the Northern Sacramento Valley (comprising Butte, Colusa, Glenn, Shasta, and Tehama Counties), which experienced unusual fluctuations in mobility in 2019, perhaps linked to wildfires. Exits increased by a low of 1% in the Northern California region to a high of 21% in the 11-county Bay Area region.

If we look more closely at each of California's 58 counties, we see that 45 of them experienced modest increases in the number leaving the state since the start of the pandemic (Figure 8). Counties that fall below the dotted line indicate that exits were higher during the pandemic. In most counties, this had less to do with increases in move rates and more to do with increases in the share of movers that left the state, as we discuss below.

LIVING WAGE OVERVIEW

The Living Wage is a community-specific indicator related to affordability and livability. Expenses are calculated from population-level statistics and are described through a reference family (two income, two child family).

Remuneration should never be based on family composition or lifestyle. The Living Wage is not specific to an individual or to a circumstance. A reference family is used as a way to describe a community experience.

Creating and maintaining an affordable community is a shared responsibility between community, business, and all levels of government. The Living Wage is not meant to provide direction; it is a tool to understand affordability and to evaluate the impact that programs and initiatives have on affordability.

Canmore's Living Wage was developed in collaboration with the Alberta Living Wage network. The network created a standardized, Alberta-specific methodology for the Living Wage calculation. All network members calculate their Living Wage based on this methodology. A standardized methodology allows Canmore to compare their Living Wage with other municipalities in Alberta.

To learn more about other Alberta Living Wage work visit: Living Wage Alberta | Living Wage Alberta

Canmore's 2021 Living Wage: $37.40

HOW IS THE LIVING WAGE CALCULATED?

The Living Wage is calculated based on the income needs of a two-parent family with two young children. Although estimates are conservative, the calculation includes expenses that a household would need to pay to live a modest standard of living, once government transfers have been added to the family's income, and taxes have been subtracted.

The Living Wage:						
Annual Household Expenses	=	**Employment Income**	+	**Income from Government Transfers**	-	**Taxes**

The Alberta Living Wage network developed a standardized methodology for calculating the Living Wage based on the Centre for Policy Alternatives Canadian Living Wage Framework, BC Living Wage Network, Ontario Living Wage network, and in consultation with Alberta network members.

The Living Wage assumes that both parents are working full-time hours (35 hours per week). Taxes and benefits are incorporated into the calculation and are adjusted based on employment income. As recommended by Canadian Living Wage Framework, a two income, two child reference family is used to describe a common household experience.

Reference Household:	
Couple, 2 Children	• Female parent age 35 • Male parent age 36 • 1 female child age 4 • 1 male child age 9

Using the Alberta Living Wage Network methodology, the Living Wage employment income is determined based on a collection of community expenses. These expenses are divided into nine broad categories (1), and expense amounts are estimated for each category using a combination of population-level statistics and local community expenses.

Living Wage expenses are estimated based on below information (2):

1) Shelter- Market Basket Measure (2019*) from Statistics Canada, adjusted by Alberta Spatial Index
2) Food – Alberta Nutritious Food Basket (2019*) (Alberta Health Services), adjusted by reference family
3) Clothing and Footwear- Market Basket Measure (2019*) from Statistics Canada
4) Transportation – Market Basket Measure (2019*) from Statistics Canada and local public transit costs
5) Childcare – Average municipal childcare and afterschool costs (2021) based on reference family

6) Healthcare – Alberta Blue Cross health insurance estimation - Plan C (2021)
7) Tuition - Two undergraduate courses at Athabasca University (2021)
8) Other Household Items – Market Basket Measure (2019*) through Statistics Canada including: Telephone service, household supplies, furnishings, personal care, home entertainment, reading materials, other
9) Contingency- two week pay, adjusted based on employment income

**Expenses have been adjusted for inflation using Alberta's Consumer Price Index.*

In collaboration with Puzzle Rock Coding, the Alberta Living Wage Network designed an interactive web-based Living Wage calculator. A demo version of the online calculator can be found here:

Living Wage Calculator 2021 (puzzlerockcoding.com)

A BRIEF HISTORY OF CANMORE'S LIVING WAGE

Canmore first calculated a Living Wage in 2015. At the time, few Alberta communities completed a Living Wage, and the communities that did used different methodologies. Consequently, we could not accurately compare Canmore's Living Wage to other Alberta communities. Canmore's 2015 Living Wage was $23.40

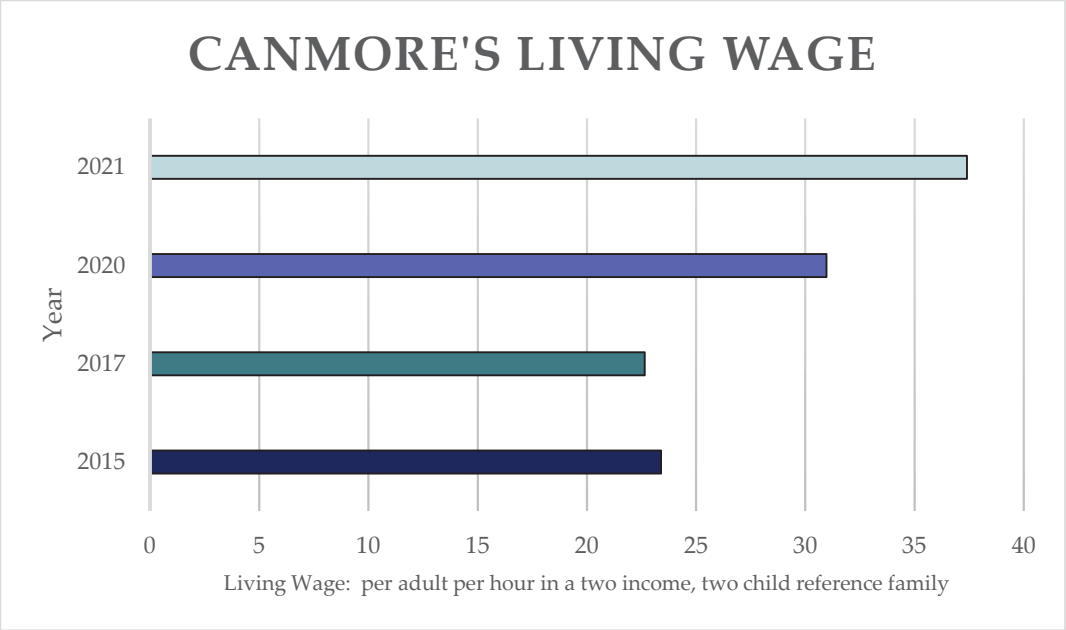
In 2017, the Town published an updated Living Wage report. Shortly after a copying error was identified in the spreadsheet that the consultant used to calculate Canmore's Living Wage. It was clear that the calculation process was error prone. As a result, the Town of Canmore piloted an on-line web-based calculator and recalculated the 2017 Living Wage. Canmore's 2017 Living Wage was $22.65. The 2017 Living wage was lower than the 2015 Living Wage because of the Town's investment in public transportation (ROAM).

In 2018, the Town of Canmore began working with Vibrant Communities Calgary and a collection of community municipalities to create a standardized methodology for calculating the Living Wage and a robust on-line Living Wage calculator that all Alberta municipalities could use.

The 2020 Canmore Living Wage was calculated using a standardized methodology and the new on-line calculator. Although the methodology was consistent across Alberta, it was not consistent with BC and Ontario Living Wage networks. In addition, certain expense assumptions were impacted by the Covid-19 pandemic. For example, the 2020 Living Wage assumed that childcare was closed for three months and that families did not use after-school care. Canmore's 2020 Living Wage was $30.97, the increase was a result of shelter costs that also included annual costs related to homeownership.

On November 1, 2021, the Alberta Living Wage Network formally launched. The Living Wage methodology that was based on the Canadian Living Wage Framework (Centre for Policy Alternatives),

BC Living Wage Network, Ontario Living Wage Network, and input from a collection of Alberta municipalities. Canmore's 2021 Living Wage is $37.40; the increase is the result of Canmore's high shelter costs, reincorporating full childcare costs into the methodology, and adjusting the work week from 40 hours per week to 35 hours per week. The graph below describes Canmore's Living Wage history (two income, two child family):



CANMORE'S 2021 LIVING WAGE

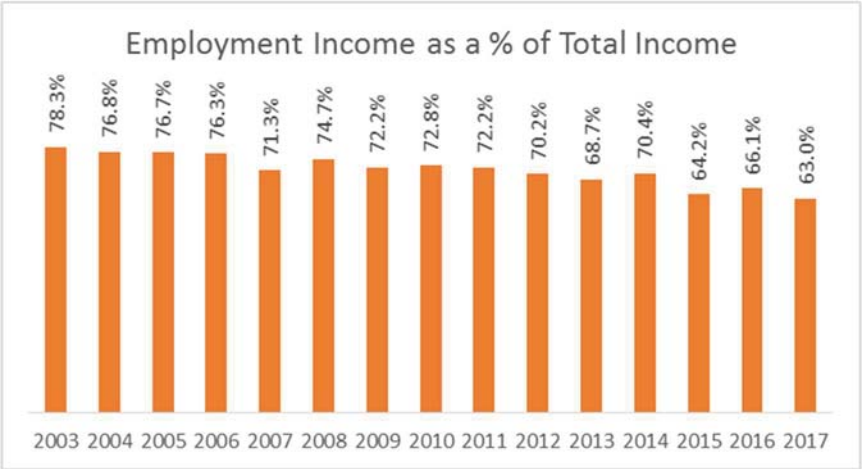
Canmore's 2021 Living Wage is $37.40 per hour, per adult. This means in order for a family of four to cover community expenses, their annual household employment income should be approximately $136,160.

Living Wage		Annual Household Expenses	=	Employment Income	+	Income from Government Transfers	-	Taxes
Couple, 2 children	**$37.40** (each parent)	$113,500		$136,160		$6,168		$28,827

Remuneration should never be based on family composition or lifestyle. The Living Wage is not meant to direct remuneration but can provide insight into the income needed to maintain a sustainable workforce.

The Town of Canmore strives to be a community that is accessible to people of diverse social-economic backgrounds. There is a risk that as our Living Wage increases, residents may leave town seeking more affordable communities. There is a concern that only those individuals who have additional income, such as investment income, can manage their expenses.

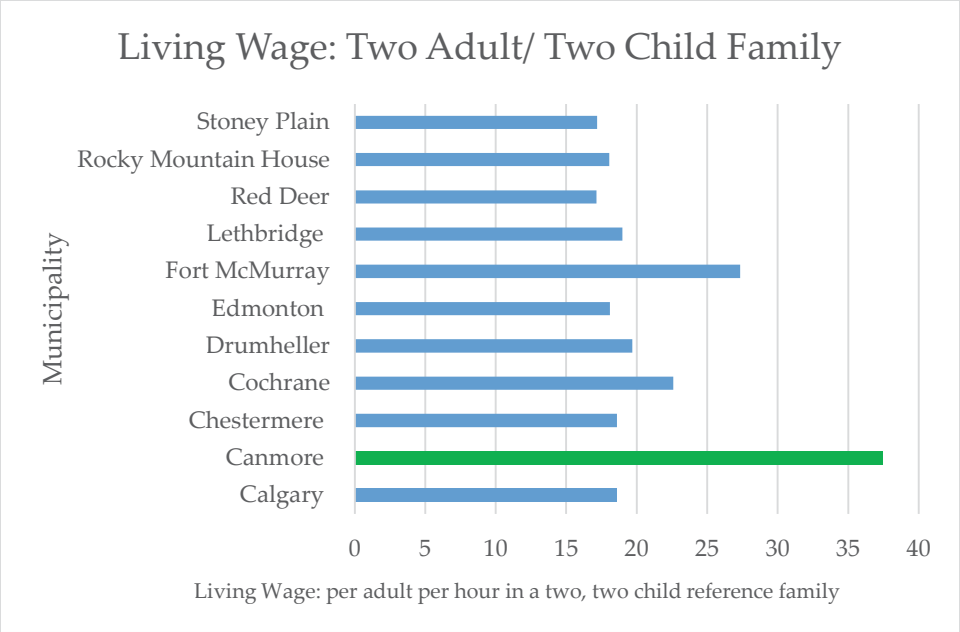
The graph below represents the percentage of employment income for residents of Canmore as compared to total income. This graph shows that the proportion of 'other' income is increasing, meaning more residents have other sources of income, besides employment. The Alberta average for employment income in 2017 is 75 percent; Canmore's average is 63 percent (12).



In 2021, Alberta Living Wage Network created a consistent calculation methodology across Alberta. This allows for direct comparison with other network members. This benchmarking provides additional context to Canmore's cost of living. For example, the Living Wage in Cochrane, which is a neighbouring Bow Valley municipality, is $22.60. There is a concern that individuals may relocate to neighbouring communities because of Canmore's comparatively high cost of living.

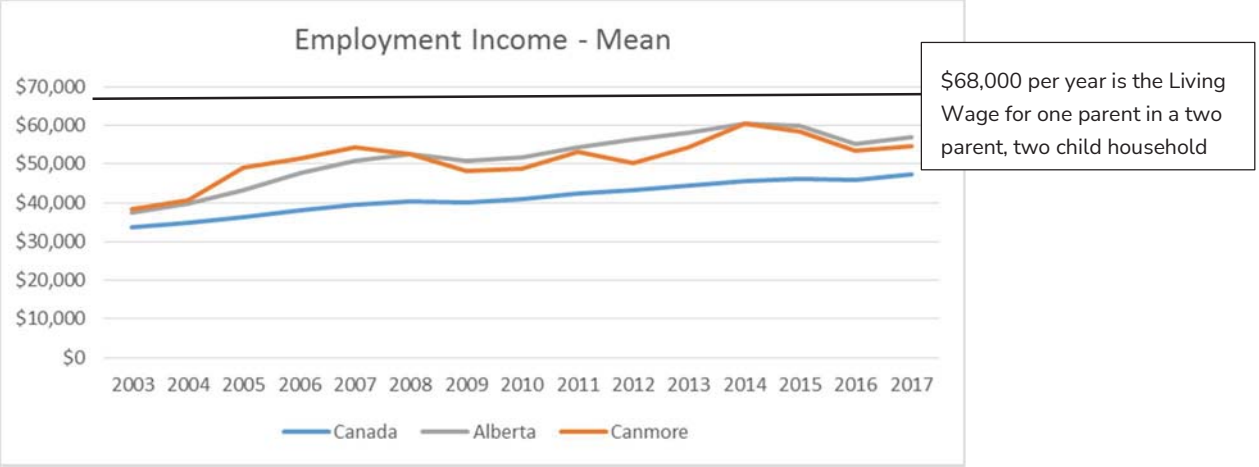
The Economic Development Situational Analysis report (3) highlighted that approximately 180 Canmore workers live in Calgary or Cochrane. It may be beneficial to continue to track this statistic as an indicator of community affordability.

The graph below outlines the Living Wage of network members across Alberta (2021).



Canmore has a high cost of living, and this high cost of living can impact community satisfaction. According to the 2021 Canmore Citizen Perspective Survey, (3) 14 percent of residents who participated in the survey responded that Canmore's high cost of living is a reason for a deteriorated quality of life.

Canmore's living wage is below Canmore's average employment income. It is important to note that the average employment income includes casual, part-time, and full-time work. The below graph compares Canmore's Living Wage to average individual employment income (12). The black bar is half of Canmore's Living Wage or the amount that one parent in a two parent, two child household would need to earn. Although Living Wage and employment income cannot be directly compared, the graph does provide some context to Canmore's high cost of living.



SINGLE ADULT WAGE

Living Wage is based on a reference family. Although remuneration should never be based on family composition and lifestyle choices, a reference family is used to understand affordability as an individual grows within their community. For an individual to grow in a community they must be able to earn a living wage during their career.

When looking at income per age group, individuals tend to earn less employment income when they are new to their career, earn their maximum employment income between the ages of 40-60, and earn less employment income when they begin to transition into retirement (4).

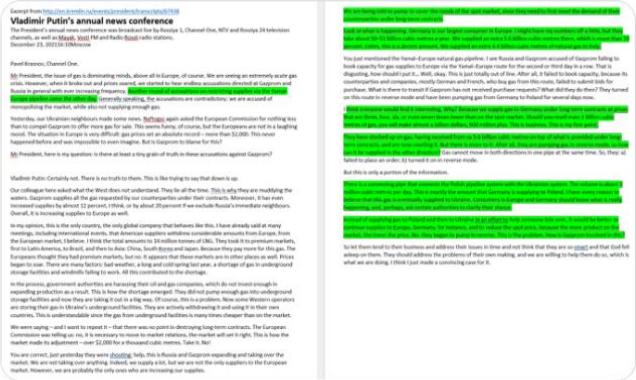
The graph below describes median employment income by age group.

As it is important to know how much an individual needs to earn to grow in their community, it is also important to know the minimum an individual needs to earn to start their career in a given community. This is referred to as the Single Adult Wage. The Alberta Living Wage Network calculated the amount a single individual, who rents their home, is without dependents, and who is building their career needs to earn in their given community. Although the single adult wage is not a Living Wage, it can provide guidance on appropriate entry-level compensation.

Canmore's Single Adult Wage = $23.70

Dan Tsubouchi @Energy_Tidbits · 1h

Re accusations RUS been reversing flow back to east instead of shipping west on #YamalEurope pipeline, Putin says #Gazprom delivered extra #NatGas under long term contract at low prices to Germany, who then resold at higher prices to send back east to Poland/Ukraine. #OOTT



Excerpt from http://en.kremlin.ru/events/president/news/66768

Vladimir Putin's annual news conference

The President's annual news conference was broadcast live by Rossiya 1, Channel One, NTV and Rossiya 24 television channels, as well as Mayak, Vesti FM and Radio Rossii radio stations.

December 23, 2021 16 Moscow

Pavel Kranov, Channel One.

Mr President, the issue of gas is dominating minds, above all in Europe, of course. We are seeing an extremely acute gas crisis. However, when it broke out and prices soared, we started to hear endless accusations directed at Gazprom and Russia in general with ever increasing frequency. Russia is accused of deliberately reversing supplies to the Yamal-Europe pipeline under the short-day. Generally speaking, the accusations are contradictory: we are accused of monopolising the market, while also not supplying enough gas.

Yesterday, our Ukrainian neighbours made some news. Naftogaz again asked the European Commission for nothing less than to compel Gazprom to offer more gas for sale. This seems funny, of course, but the Europeans are not in a laughing mood. The situation in Europe is very difficult: gas prices set an absolute record – more than $1,000. This never happened before and was impossible to even imagine. But is Gazprom to blame for this?

Mr President, here is my question: is there at least a tiny grain of truth in these accusations against Gazprom?

Vladimir Putin: Certainly not. There is no truth to them. This is like trying to say that down is up.

Our colleague here asked what the West does not understand. They lie all the time. This is why they are muddying the waters. Gazprom supplies all the gas requested by our counterparties under their contracts. Moreover, it has even increased supplies by almost 32 percent, I think, or by about 20 percent if we exclude Russia's immediate neighbours. Overall, it is increasing supplies to Europe as well.

In my opinion, this is the only country, the only global company that behaves like this. I have already said at many meetings, including international events, that American suppliers withdrew considerable amounts from Europe, from the European market, I believe. I think the total amounts to 34 million tonnes of LNG. They took it to premium markets, first to Latin America, to Brazil, and then to Asia: China, South Korea and Japan. Because they pay more for this gas. The Europeans thought they had premium markets, but no. It appears that these markets are in other places as well. Prices began to soar. There are many factors: bad weather, a long and cold spring last year, a shortage of gas in underground storage facilities and windmills failing to work. All this contributed to the shortage.

In the process, government authorities are harassing their oil and gas companies, which do not invest enough in expanding production as a result. This is how the shortage emerged. They did not pump enough gas into underground storage facilities and now they are taking it out in a big way. Of course, this is a problem. Now some Western operators are storing their gas in Ukraine's underground facilities. They are actively withdrawing it and using it in their own countries. This is understandable since the gas from underground facilities is many times cheaper than on the market.

We were saying – and I want to repeat it – that there was no point in destroying long-term contracts. The European Commission was telling us: no, it is necessary to move to market relations, the market will set it right. This is how the market made its adjustment – over $2,000 for a thousand cubic metres. Take it. No!

You are correct, just yesterday they were shooting: help, this is Russia and Gazprom expanding and taking over the market. We are not taking over anything. Indeed, we supply a lot, but we are not the only suppliers to the European market. However, we are probably the only ones who are increasing our supplies.

We are being told to pump to store the lands of the spot market, since they need to first meet the demand of their counterparties under long-term contracts.

Look at what is happening. Germany is our biggest consumer in Europe. I might have my numbers off a little, but they take about 50-55 billion cubic metres a year. We supplied an extra 1.5 billion cubic metres there, which is more than 30 percent. Listen, this is a decent amount. We supplied an extra 1.5 billion cubic metres, structured gas in fact.

You just mentioned the Yamal-Europe natural gas pipeline. I see Russia and Gazprom accused of Gazprom failing to book capacity for gas supplies to Europe via the Yamal-Europe route for the second or third day in a row. That is disgusting, how should I put it... Well, okay. This is just totally out of line. After all, it failed to book capacity, because its counterparties and companies, mostly German and French, who buy gas from this route, failed to submit bids for purchase. What is there to transit if Gazprom has not received purchase requests? What did they do then? They turned on this route in reverse mode and have been pumping gas from Germany to Poland for several days now.

Book-ended is interesting. Why? Because we supply gas to Germany under long-term contracts at prices that are three, four, six, or even seven times lower than on the spot market. Should you resell even 1 billion cubic metres of gas, you will make almost a billion dollars, 900 million plus. This is business. This is my first point.

They have stocked up on gas, having received from us 5-6 billion cubic metres on top of what is provided under long-term contracts, and are now reselling it. But there is more to it. After all, they are pumping gas in reverse mode, which can't be compared to the other direction. Gas cannot move in both directions in one pipe at the same time. So, they a[illegible] failed to place an order. So turned it on in reverse mode.

But this is only a portion of the information.

There is a connecting pipe that connects the Polish pipeline system with the Ukrainian system. The volume is about 2 billion cubic metres per day. This is exactly the amount that Germany is supplying to Poland. I have every reason to believe that this gas is eventually supplied to Ukraine. Consumers in Europe and Germany should know what is really happening, and, perhaps, ask similar authorities to clarify their stance.

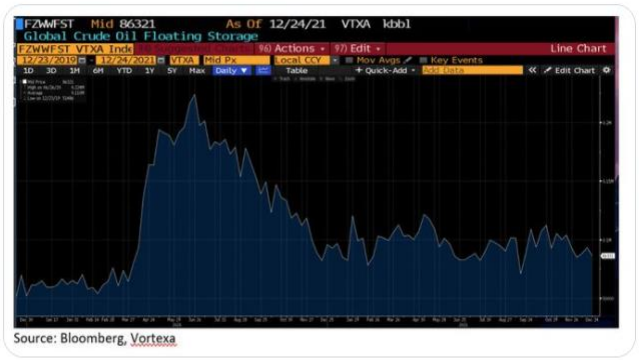
Instead of supplying gas to Poland and then to Ukraine in an efficient, fully economic way, it would be better to continue supplies to Europe, Germany, for instance, and to reduce the spot sales, because the more product on the market, the lower the price. But they began to pump in reverse. This is the problem. Now it Gazprom is to blame?

So let them tend to their business and address their issues in time and not think that they are so smart and that God fell asleep on them. They should address the problems of their own making, and we are willing to help them do so, which is what we are doing. I think I just made a convincing case for it.

1 3

Dan Tsubouchi @Energy_Tidbits · 18h

#Vortexa crude #Oil floating storage for 12/24 est 86.32 mmb, -6.98 WoW vs revised up 12/17 93.30 mmb. 12/24 is basically flat to end of June when #OPEC+ started big production increases ie. OPEC+ increased #Oil volumes are being absorbed. Thx @Vortexa @TheTerminal #OOTT



Source: Bloomberg, Vortexa

3 5 25

Dan Tsubouchi @Energy_Tidbits · 21h

we won't be seeing the canada geese for awhile at least until there is a good lasting Chinook. it's -19c in #Calgary and the last of the open water on the Elbow River in our area is about to freeze over. normally it does so well before xmas.

1 5

Dan Tsubouchi @Energy_Tidbits · Dec 25

For those who have never seen an oilfield Christmas Tree - all the equipment on top of the wellhead that are used for controlling production, safety, etc for producing wells. Merry Christmas!

Figure 1: Example of a Christmas tree valve.

Image credit: https://www.scmdaleel.com/category/wellheads-amp-x-mass-tree/106

1 1 29

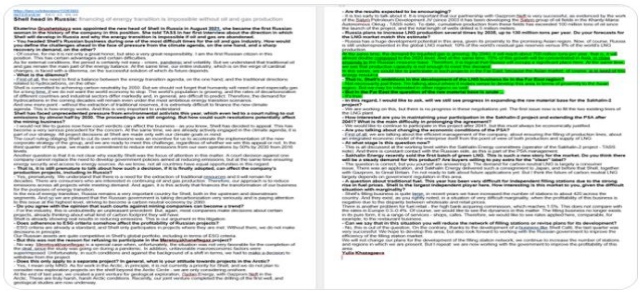
Dan Tsubouchi @Energy_Tidbits · Dec 24

looking forward to turkey dinner on xmas but Di is setting a high bar to beat with xmas eve lobster/crab wontons in lobster bisque. hope everyone has a great xmas and health, happiness and great fortune in 2022!

2 10

Dan Tsubouchi @Energy_Tidbits · Dec 24

#Shell RUS head says Shell's #LNG supply development for key Asian market is not just RUS, but "may be interested in other regions as well" that have proximity to Asia. How can this not include #LNGCanada as a potential? See SAF 11/23 blog. Great @TASS interview. #OOTT #NatGas



Dan Tsubouchi @Energy_Tidbits · Nov 23

New SAF 11- pg blog just posted "LNG Supply FIDs Starting to Happen, Does Shell Need to Get LNG Canada Phase 2 FID in the Queue To Protect Its Brownfield Advantages?" #LNG #NatGas #OOTT ...

1 2 6

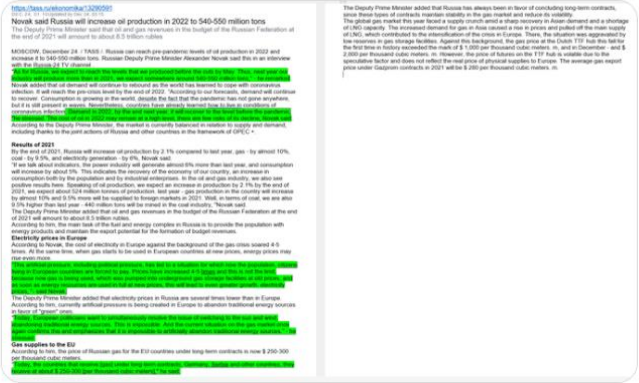
Dan Tsubouchi @Energy_Tidbits · Dec 24

1/2. "Today, European politicians want to simultaneously resolve the issue of switching to the sun and wind, abandoning traditional energy sources. This is impossible. And the current situation on the gas market once again confirms this" @TASS quotes RUS Novak. #NatGas #LNG #OOTT

1 3 5

Dan Tsubouchi @Energy_Tidbits · Dec 24

2/2 EU #NatGas "prices have increased 4-5 times & this is not the limit because now gas is being used, which was pumped into underground gas storage facilities at old prices" as soon as "used in full at new prices, this will lead to even greater growth, electricity prices. #OOTT



https://ass.ru/ekonomika/13290591

Novak said Russia will increase oil production in 2022 to 540-550 million tons

The Deputy Prime Minister said that oil and gas revenues in the budget of the Russian Federation at the end of 2021 will amount to about 8.5 trillion rubles

MOSCOW, December 24 / TASS / Russia can reach pre-pandemic levels of oil production in 2022 and increase it to 540-550 million tons. Russian Deputy Prime Minister Alexander Novak said this in an interview with the Russia 24 TV channel.

"As for Russia, we expect to reach the levels that we produced before the cuts to May. Thus, next year our industry will produce more than in 2021, we expect somewhere around 540-550 million tons," - he emphasized.

Novak added that oil demand will continue to rebound as the world has learned to cope with coronavirus infection. It will reach the pre-crisis level by the end of 2022. "According to our forecasts, demand will continue to recover. Consumption is growing in the world, despite the fact that the pandemic has not gone anywhere, but it is still present in waves. Nevertheless, countries have already learned how to live in conditions of coronavirus infection. Demand in 2022, by the end next year, it will recover to the level before the pandemic. The minimum, the lows of crisis, which now remain at a high level, there are few rates in oil markets, Novak said.

According to the Deputy Prime Minister, the market is currently balanced in relation to supply and demand, including thanks to the joint actions of Russia and other countries in the framework of OPEC +.

Results of 2021

By the end of 2021, Russia will increase oil production by 2.1% compared to last year, gas - by almost 10%, coal - by 9.5%, and electricity generation - by 6%, Novak said.

"If we talk about indicators, the power industry will generate almost 6% more than last year, and consumption will increase by about 5%. This indicates the recovery of the economy of our country, an increase in consumption both by the population and by industrial enterprises. In the oil and gas industry, we also see positive results here. Speaking of oil production, we expect an increase in production by 2.1% by the end of 2021, we expect about 524 million tonnes of production, last year - gas production in this country will increase by almost 10% and 9.5% more will be supplied to foreign markets in 2021. Well, in terms of coal, we are also 9.5% higher than last year - 440 million tons will be mined in the coal industry, "Novak said.

The Deputy Prime Minister added that oil and gas revenues in the budget of the Russian Federation at the end of 2021 will amount to about 8.5 trillion rubles.

According to him, the main task of the fuel and energy complex in Russia is to provide the population with energy products and maintain the export potential for the formation of budget revenues.

Electricity prices in Europe

According to Novak, the cost of electricity in Europe against the background of the gas crisis soared 4-5 times. At the same time, when gas starts to be used in European countries at new prices, energy prices may rise even more.

"This artificial pressure, including political pressure, has led to a situation in which now the population, ordinary European countries are forced to see. Prices have increased 4-5 times and this is not the limit, because now gas is being used, which was pumped into underground gas storage facilities at old prices. As soon as everything [illegible] will be used in full at new prices, this will lead to even greater growth, electricity prices," said Novak.

The Deputy Prime Minister added that electricity prices in Russia are several times lower than in Europe. According to him, currently artificial pressure is being created in Europe to abandon traditional energy sources in favor of "green" ones.

"Today, European countries want to conclusively resolve the issue of switching to the sun and wind, abandoning traditional energy sources. This is impossible. And the current situation on the gas market once again confirms this and emphasizes that it is impossible to artificially abandon traditional energy sources," he said.

Gas supplies to the EU

According to him, the price of Russian gas for the EU countries under long-term contracts is now $ 250-300 per thousand cubic meters.

"Today, the countries that receive (gas) under long-term contracts, Germany, Turkey and other countries, they receive at about $ 250-300 (per thousand cubic meters)," he said.

The Deputy Prime Minister added that Russia has always been in favor of concluding long-term contracts, since these types of contracts maintain stability in the gas market and reduce its volatility.

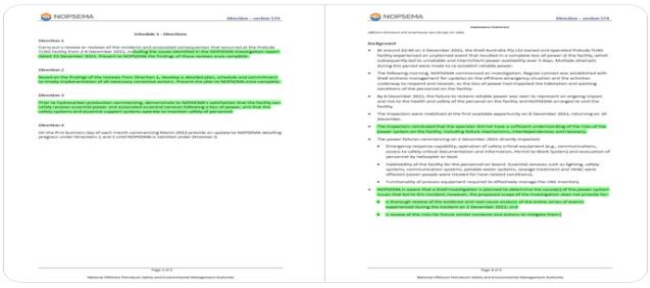
The global gas market this year faced a supply crunch amid a sharp recovery in Asian demand and a shortage of LNG capacity. The increased demand for gas in Asia caused a rise in prices and pulled off the main supply of LNG, which contributed to the intensification of the crisis in Europe. There, the situation was aggravated by low reserves in gas storage facilities. Against this background, the gas price at the Dutch TTF hub this fall for the first time rose to more than $ 1,500 per thousand cubic meters. m. in October, it fell in December - and $ 2,000 per thousand cubic meters. m. However, the price of futures on the TTF hub is widely considered - and speculative factor and does not reflect the real price of physical supplies to Europe. The average gas export price under Gazprom contracts in 2021 will be $ 280 per thousand cubic meters. m.

1 6

Dan Tsubouchi @Energy_Tidbits · Dec 24

Doesn't sound like #Shell Prelude FLNG 0.47 bcf/d will be restarting soon. down since Dec 2. Note @nopsema Direction Section 574 notes shortfalls in Shell's investigation & directions for NOPSEMA sign off prior to restart of #LNG production. #OOTT

nopsema.gov.au/sites/default/...



NOPSEMA

Schedule 1 - Directions

Direction 1

Carry out a review or review of the incidents and associated consequences that occurred at the Prelude FLNG facility from 2 a December 2021, including the issues identified in the NOPSEMA investigation report dated 24 December 2021. Present to NOPSEMA the findings of these reviews once completed.

Direction 2

Based on the findings of the reviews from Direction 1, develop a detailed plan, schedule and commitment to timely implementation of all necessary corrective actions. Ensure the plan to NOPSEMA once complete.

Direction 3

Prior to hydrocarbon production commencing, demonstrate to NOPSEMA's satisfaction that the facility can safely receive power and power and associated services following a loss power, and that the critical safety system and equipment performance is not impacted adversely or accelerated.

Direction 4

On the first business day of each month commencing March 2022 provide an update to NOPSEMA detailing progress under Directions 1 and 2 until NOPSEMA is satisfied under Direction 3.

NOPSEMA

Background

- At around 22:40 on 2 December 2021, the Shell Australia Pty Ltd owned and operated Prelude FLNG facility experienced an unplanned event that resulted in a complete loss of power at the facility, which subsequently led to unstable and intermittent power availability over 3 days. Multiple attempts during this period were made to re-establish reliable power.
- The facility was shutdown and placed into a safe operating condition. Regular contact was established with Shell onshore management for updates on the offshore emergency situation and the activities underway to respond and recover, as the loss of power had impacted the habitation and working conditions of the personnel on the facility.
- By 4 December 2021, the failure to restore reliable power was seen to represent an ongoing impact and risk to the health and safety of the personnel on the facility and NOPSEMA undertook to visit the facility.
- The inspectors were mobilised at the first available opportunity on 8 December 2021, returning on 10 December.
- The inspectors concluded that the operator derived have a sufficient understanding of the risks of the power system on the facility, including failure mechanisms, interdependencies and hazards.
- The power failures commencing on 2 December 2021 directly impacted:
  - Emergency response capability, operation of safety critical equipment (e.g., communications, access to safety critical documentation and information, Permit to Work System) and evacuation of personnel by helicopter on boat.
  - Habitability of the facility for the personnel on board. External services such as lighting, safety critical equipment and systems, Heating, Ventilation and Air Conditioning Equipment and HVAC were affected (some people were treated for heat related conditions).
  - Functionality of pressure equipment required to effectively manage the LNG inventory.
- NOPSEMA is aware that a Shell investigation is planned to determine the causes of the power system issues that led to this incident. However, the proposed scope of this investigation does not provide for:
  - A thorough review of the sentinel and root cause analysis of the entire series of events experienced during the incident on 2 December 2021; and
  - A review of the risks for future similar incidents and actions to mitigate them.

Dan Tsubouchi @Energy_Tidbits · Dec 5

An unplanned #LNG supply interruption just as peak winter #NatGas demand season is starting. #Shell Prelude FLNG is 0.47 bcf/d capacity. Thx @PeteMilne4n @SStapczynski #OOTT twitter.com/SStapczynski/s...

1 1 3

Dan Tsubouchi @Energy_Tidbits · Dec 24

Europe #NatGas price relief, at least temporarily, from US #LNG cargoes declared destinations to Europe jumped 50% to 15 on Thurs vs 10 on Wed, Plus another 11 with undeclared destinations but heading to Europe. Thx @SergioChapa for US #LNG cargo tracking. #OOTT

More U.S. LNG Cargoes Head to Gas-Hungry Europe, Easing Prices
2021-12-23 20:46:38.436 GMT

By Sergio Chapa
(Bloomberg) -- The number of tankers crossing the Atlantic with U.S. liquefied natural gas that declared Western European ports as their destinations jumped 50% in just 24 hours as the continent's energy crisis deepens.
They are now 15, up from 10 on Wednesday, shipping data compiled by Bloomberg show.
Plus, there are another 11 U.S. LNG cargoes with undeclared destinations whose paths suggest they're headed for Europe, including the Minerva Chios, which left Cheniere Energy's Sabine Pass LNG export terminal in Louisiana in mid-November and was in the Indian Ocean when it was rerouted towards Europe last week.
Europe's energy crises has intensified in recent days after halted nuclear reactors in France and low wind power output in Germany worsened a shortage that's forcing countries to burn more coal and even oil to keep the lights on and homes warm.
News of U.S. LNG cargoes heading to the continent and providing relief sent benchmark European gas prices dropping from record levels.

Some 15 U.S. LNG cargoes have declared destinations in natural gas-starved Europe while another 11 appear to be on a path to the continent
Source: Bloomberg

Of the 15 LNG tankers that declared their ports, the U.K., France and Spain are the destinations of four each, with the Netherlands, Gibraltar and Malta getting one each.
In addition, an LNG tanker whose destination was undeclared is moored at the Milford Haven anchorage in the U.K.

To contact the reporter on this story:Sergio Chapa in Houston at schapa2@bloomberg.net

4 1

Dan Tsubouchi @Energy_Tidbits · Dec 23

#ExxonBaytown update. Note fire in Reformer feed hydrotreater, used to remove sulfur from partially refined oil to help finished #Gasoline meet clean air rules ie. impact Premium gas. #Exxon reducing rates at other Baytwon facilities. Thx @barbarajpowell8 @franmagliones #OOTT

https://www.bloomberg.com/news/articles/2021-12-23/exxon-reports-blaze-at-major-u-s-oil-refinery-gasoline-gains

Exxon Reduces Rates at Baytown Refinery After Extinguishing Fire

- Four injured are in stable condition at local hospital
- Baytown, Texas, refinery is the fourth-largest in the U.S.

By *Barbara J Powell and Francesca Maglione*
December 23, 2021, 5:36 AM EST *Updated onDecember 23, 2021, 11:14 AM EST*
@barbarajpowell8 @franmagliones
+ Get alerts for Barbara J PowellFrancesca Maglione
Exxon Mobil Corp. says an overnight fire at its Baytown, Texas, refinery that injured four people has been extinguished.

The blaze occurred at 1 a.m. local time at the plant, which is the fourth-largest in the U.S., capable of processing more than half a million barrels of oil a day. Gasoline trading in New York jumped as much as 4 cents per gallon on the New York Mercantile Exchange.

The fire comes as U.S. gasoline stockpiles hit their lowest for this time of year since 2015. Gasoline futures, meanwhile, are at their highest seasonally in eight years. Prices were up 1% at 11 a.m. in New York.

The blaze broke out in a unit called a reformer feed hydrotreater, according to Wood Mackenzie's Genscape unit. Exxon spokeswoman Julie King said the company is adjusting rates at other Baytown facilities to focus on stabilizing the affected unit, but did not discuss the impact on fuel production.

Reformer feed hydrotreaters are used to remove sulfur from partially refined oil to help the finished gasoline meet clean air rules. The units process feedstock to make high-octane gasoline -- if the impact is prolonged it could affect prices of premium gasoline.

The injured workers are in stable condition after being transferred to a local hospital, said Casey Cook, a public information officer at the Baytown Fire Department.

It's the second such blaze at Baytown in the last two years. In 2019 a fire on the plastic-producing side of the industrial complex injured about 37 people.

Air quality monitoring at the site and fence line has shown no adverse impact so far, King said.

Exxon on Wednesday reported a leak at one of Baytown's sulfur-removal units, according to a filing with a state regulator. The leak was discovered at around 10 p.m. Tuesday, according to the filing.
— With assistance by Rachel Graham, and Bill Lehane
(Updates with new details throughout.)

Dan Tsubouchi @Energy_Tidbits · Dec 23

#Exxon Baytown is a huge complex, includes 2nd largest US refinery at 584,000 b/d, a chemical plant, olefins plant and plastics plant. not clear what areas will be impacted and for how long. #OOTT twitter.com/SheriffEd_HCSO...

Dan Tsubouchi @Energy_Tidbits · Dec 23

wonder what is behind highlighting "working closely with the US", hasn't this been the case? is this because getting to point where US has to be flexible if want to have breakthru? bet #Biden would love a breakthru before his 1 yr anniversary on jan 20. #JCPOA #OOTT

> **Enrique Mora** @enriquemora_ · Dec 23
>
> #ViennaTalks to resume on Monday 27 December. The #JCPOA Joint Commission will meet to discuss and define the way ahead. Important to pick up the pace on key outstanding issues and move forward, working closely with the US. Welcome to the 8th round.

1

Dan Tsubouchi @Energy_Tidbits · Dec 23

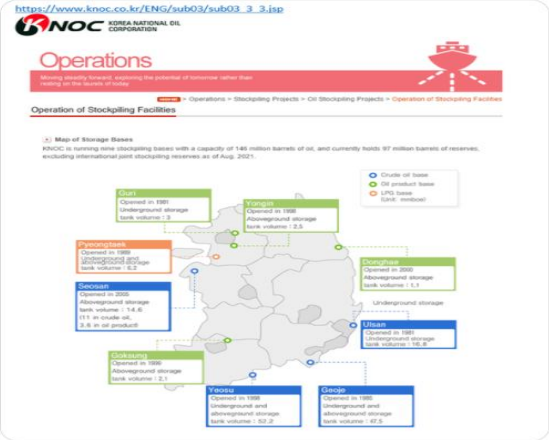
#Exxon Baytown is a huge complex, includes 2nd largest US refinery at 584,000 b/d, a chemical plant, olefins plant and plastics plant. not clear what areas will be impacted and for how long. #OOTT

> **Ed Gonzalez** @SheriffEd_HCSO · Dec 23
>
> Information is preliminary at this time: initial reports indicated some type of explosion occurred inside the plant. LifeFlight is responding. #HouNews twitter.com/hcsotexas/stat...

5 2

Dan Tsubouchi @Energy_Tidbits · Dec 22

South Korea to deliver on #Oil release commitment to #Biden. @iamsharoncho reports KOR will release 2.08 mmb crude & 1.09 mmb petroleum products from Jan to Mar. Korea National Oil Corporation held 97 mmb in stockpiles at Aug 31, 2021, see #KNOC map below. #OOTT



1 3 1

Dan Tsubouchi @Energy_Tidbits · Dec 22

For those not near their laptop, @EIAgov weekly #Oil #Gasoline #Distillates inventory as of Dec 17 just released. Prior to release, WTI was $71.41. #OOTT

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

nventory Dec 17: EIA, Bloomberg Survey Expectations,

)	EIA	Expectations	
	-4.72	-2.50	
	5.53	0.65	
	0.40	-0.25	
	1.21	-2.10	

mmercial so builds in impact of 2.5 mmb draw from SPR for l
in the data, Cushing had an injection of 1.46 mmb for Dec 1
oomberg
AF Group

2 3

Dan Tsubouchi @Energy_Tidbits · Dec 22

here's why #NatGas #Oil will be stronger for longer. in 70s, govts told people reduce consumption ie turn down thermostats & people did. in 2020s, people tell govts to shield them from price so don't have to reduce consumption & govts do so by putting price caps ie france. #OOTT

> **LiveSquawk** @LiveSquawk · Dec 22
>
> Energy Crisis Prompts Calls For UK To Reduce Tax On Bills - BBG
> bloomberg.com/news/articles/...

3 4 13

Dan Tsubouchi @Energy_Tidbits · Dec 22

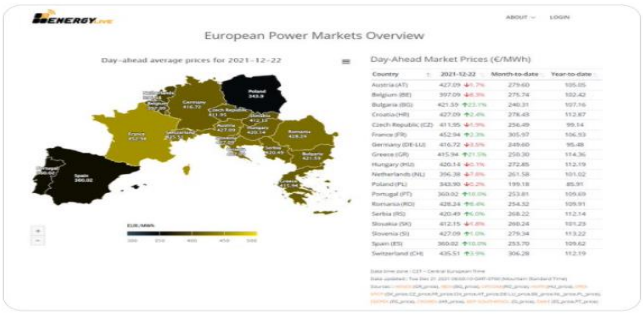
How can there not be LIbya #Oil interruption? Presidential election being delayed, interim Libya govt mandate was supposed to end on Dec 24, @UNSMILibya warns on armed forces around Tripoli risks stability/security. #OOTT
unsmil.unmissions.org/unsmil-stateme...

> https://unsmil.unmissions.org/unsmil-statement-unfolding-security-situation-tripoli
>
> **21 Dec**2021
> **UNSMIL STATEMENT ON THE UNFOLDING SECURITY SITUATION IN TRIPOLI**
>
> **TRIPOLI, 21 December 2021** – The United Nations Support Mission in Libya (UNSMIL) is concerned about the unfolding security situation in Tripoli. The current mobilization of forces affiliated with different groups creates tensions and increases the risk of clashes that could spiral into conflict. Any disagreements on emerging political or military matters should be resolved through dialogue, particularly at this stage when the country is navigating through a difficult and complex electoral process that should usher in a peaceful transition.
>
> The developments in Tripoli do not bode well for the ongoing efforts to maintain stability and establish security and political conditions conducive to peaceful, credible, inclusive, free, and fair elections. They also could undermine the security gains Libya has so far realized which gave confidence to high-level officials from around the world to come to Tripoli to participate in the very successful Libya Stabilization Conference in October.
>
> The Mission calls on all Libyan actors to exercise restraint at this delicate moment and to work together to create a security and political atmosphere that preserves Libya's progress and enables peaceful elections and a successful transition. The Special Adviser of the Secretary-General on Libya, Ms. Stephanie Williams, is currently engaging Libyan stakeholders to facilitate the achievement of this goal.
>
> **The Libya Observer** @Lyobserver · Dec 22
>
> 
>
> The High National Elections Commission proposes holding the first round of presidential elections on January 24, 2022

1 2

Dan Tsubouchi @Energy_Tidbits · Dec 21

Crazy Europe #Electricity prices only lasted 2 days at 3x the already high YTD. Now even higher at close to 4x already high YTD. At least Europe #NatGas prices high enough to attract LNG cargos from Asia. #OOTT



Dan Tsubouchi @Energy_Tidbits · Dec 19

ICYMI, EDF nuclear shutdown drove Europe #Electricity prices up to 3x the already high YTD. Exception is Poland due to its high #Coal share. Only mid Dec, Europe needs mild temps, lots of wind & sun. At least Europe gas prices high enough now to attract...

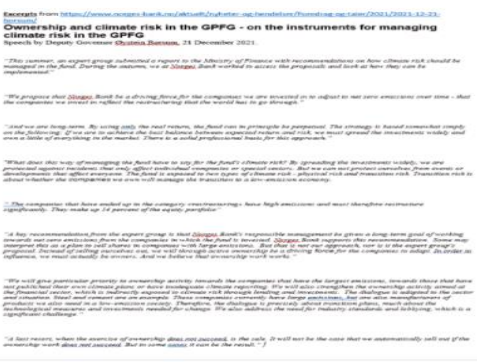
2 2

Dan Tsubouchi @Energy_Tidbits · Dec 21

Other pensions will follow @cppib & Norway. ultimately, need for returns to fund pension liability for long term. look for more, Xmas period is time to get the least scrutiny as people are busy. also need to justify yr-end holdings. supports #Oil #NatGas stronger for longer #OOTT

Dan Tsubouchi @Energy_Tidbits · Dec 21

Multiple expansion for #Oil #NatGas stocks? Norway wealth fund has #MacronMoment & follows @cppib to slow play #EnergyTransition, won't sell, rather be a driving force for their equity investments to "adjust to #NetZero emissions over time". Less sellers is always good. #OOTT twitter.com/Energy_Tidbits...



Excerpts from https://www.norges-bank.no/aktuelt/nyheter-og-hendelser/Foredrag-og-taler/2021/2021-12-21-Ryttvold/

Ownership and climate risk in the GPFG - on the instruments for managing climate risk in the GPFG

Speech by Deputy Governor Christina Ryttvold, 21 December 2021.

"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."

"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."

"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."

"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.

"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."

"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 companies 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."

"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 investment. The dialogue is adapted to the sector and company in question. We will also focus on how companies' climate plans affect their business models and the supply 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."

"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."]

1 3 10

Dan Tsubouchi @Energy_Tidbits · Dec 21

Multiple expansion for #Oil #NatGas stocks? Norway wealth fund has #MacronMoment & follows @cppib to slow play #EnergyTransition, won't sell, rather be a driving force for their equity investments to "adjust to #NetZero emissions over time". Less sellers is always good. #OOTT

Excerpts from https://www.nbim.no/aktuelt/nyheter-og-tendenser/tonelag-og-taler/2021/2021-12-21-ferrero/

Ownership and climate risk in the GPFG - on the instruments for managing climate risk in the GPFG

Speech by Deputy Governor Olojofa Ferrero, 21 December 2021.

"This spring, 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."

"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."

"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."

"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.

"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."

"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 securities, 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.

"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 companies that are in sectors that are particularly exposed to climate risk, such as the energy sector, the transport sector, the raw materials industries, 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."

"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." /

Dan Tsubouchi @Energy_Tidbits · Dec 15

Positive for #Oil #NatGas thru 2030. @cppib shows the way in finding its #MacronMoment, "new investment approach" strategic sectors essential for "net-zero ambitions, but also to sustain economic growth, stability and a responsible transition" include...

1 5 15

Dan Tsubouchi @Energy_Tidbits · Dec 21

when we look back at this meeting, will it be the tipping point to fading away the vision of a unified libya or, at best, trying to salvage a postponed election? surely no one expects a photo op of happy candidates saying they will support whoever wins? #OOTT

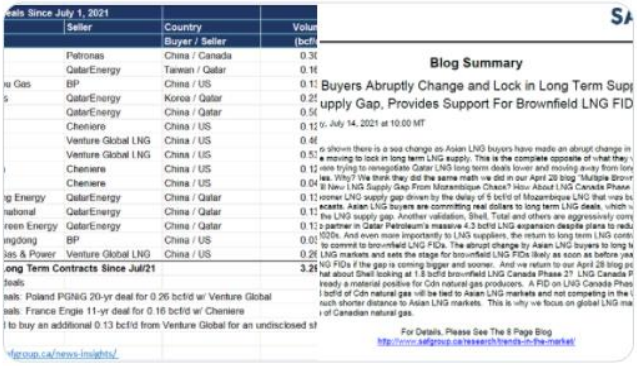
The Libya Observer @Lyobserver · Dec 21

Presidential candidates from western Libya including Fathi Bashagha and Ahmed Mitieg are due to arrive in Benghazi today to discuss the political process with other candidates including warlord Haftar

1

Dan Tsubouchi @Energy_Tidbits · Dec 20

Another Asian LNG Buyer rushing to lock up long term LNG security of supply. 15th Asian deal in H2/21, China's CNOOC 20-yr #LNG supply with #VentureGlobalLNG. Also a separate undisclosed shorter duration deal. #LNG #NatGas looks good thru 2030s. See SAF Group 07/14 blog. #OOTT



Seller	Country	Volum
	Buyer / Seller	(bcf/
Petronas	China / Canada	0.30
QatarEnergy	Taiwan / Qatar	0.16
BP	China / US	0.13
QatarEnergy	Korea / Qatar	0.25
QatarEnergy	China / Qatar	0.50
Cheniere	China / US	0.12
Venture Global LNG	China / US	0.46
Venture Global LNG	China / US	0.53
Cheniere	China / US	0.12
Cheniere	China / US	0.04
QatarEnergy	China / Qatar	0.12
QatarEnergy	China / Qatar	0.12
QatarEnergy	China / Qatar	0.12
BP	China / US	0.01
Venture Global LNG	China / US	0.26
Long Term Contracts Since Jul/21		3.25

Blog Summary

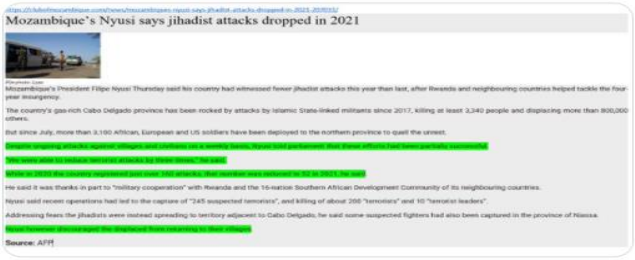
Buyers Abruptly Change and Lock in Long Term Supp
upply Gap, Provides Support For Brownfield LNG FID

For Details, Please See The 8 Page Blog
http://www.safgroup.ca/research/trends-in-the-market/

8 5

Dan Tsubouchi @Energy_Tidbits · Dec 20

"we were able to reduce terrorist attacks by three times" MZ President. Doesn't seem enough for @TotalEnergies to lift MZ #LNG force majeure. Throw in #Omicron wildcard, will it be enough by 02/10 yr end results? or when? #NatGas #OOTT



Mozambique's Nyusi says jihadist attacks dropped in 2021

Source: AFP

> **Dan Tsubouchi** @Energy_Tidbits · Nov 25
>
> Re: @TotalEnergies Mozambique #LNG force majeure. MZ energy minister says "outlook is that before the end of the year we are going to have all the conditions for us to sit down and decide to resume the project". If so, 1st LNG in 2026. #OOTT clubofmozambique.com/news/mozambiqu...

2 2

Dan Tsubouchi @Energy_Tidbits · Dec 20

Libya force majeure. @NOC_Libya says loss of 300,000 b/d & also leads to #NatGas shut in which leads to power outages. Not a good sign Dec 24 presidential election will lead to unified Libya ie. have to believe there will be more unplanned #Oil shut-ins. #OOTT

Google Translate of Libya National Oil Corporation Facebook posting ~8am MT Dec 20 https://www.facebook.com/noc4libya/
National Oil Corporation
2 hrs
Stopping the production of the El Sharara, Elephant, El Wafa and Hamada fields, and the loss of more than 300,000 barrels per day by individuals affiliated with the Oil Installations Guard by closing production, and the result of which is the waste of the country's wealth and its continuation, but the impoverishment of the Libyan people
The National Oil Corporation regrets the state of affairs in which individuals and non-competent parties outside the framework of the law closed the pumping of crude from the fields of El Sharara, El Feel, El Wafa and Hamada in a new chapter in the series of closures whenever oil prices improve.
In this regard, Mr. Mustafa Sanalla, Chairman of the Board of Directors, said, "We cannot accept or turn a blind eye to these practices that cause suffering to citizens, and we cannot make these practices a means of politicizing the livelihood of Libyans" for regional purposes or to achieve the gains and interests of individuals without Taking into account the basics of professional work, we will not allow these people to play a role in the national oil sector.
Sanalla added, "The implementation of our obligations towards reflects in the oil market has become impossible, and accordingly we are compelled to declare the state of force majeure."
The Chairman of the Board of Directors communicated with the decision-making departments in the country to inform them of the consequences of stopping production from losing sales opportunities and incurring direct and indirect costs, but extending to the ton of quantities of gas from the Wafa field in its reservoir and its migration to neighboring countries that have a reservoir connection and it is impossible to recover, which it affects the gas reserves of the country in this reservoir due to its proximity to the Libyan-Algerian borders. In addition, within days, we are forced to stop the Al Zawiya Refinery, which feeds the western region to the bottom of the mountain with fuel.
This is reported, "The General Electricity Company announced earlier today
The gas supplying the power plants was stopped, which led to a loss of 2500 megabytes and the difficulty of providing the current. The affected stations are Al-Rusais, Al-Zaviya, Al-Khums and part of the Misurata station, and it will be difficult for us to provide energy."
While the National Oil Corporation (NOC) informs the general public about this unfortunate matter, it states that it will inform the Public Prosecution, which will certainly not allow any non-competent party "whoever it is" to impose its agendas and is certain that the Public Office will take the necessary measures to investigate and collect information And inferences to reveal the planners, implementers and beneficiaries of this disgraceful act. ?
In conclusion, the Chairman of the Board of Directors of the National Oil Corporation confirms by saying, "Throughout my career, I have always adhered to frankness and clarity, and the futility of all these people will not discourage our determination in the oil sector to move forward in contributing to building the rule of law, the state of institutions, resuming production and exports, advancing it from among the rubble and restoring its activity and vital role. The simple citizen and contributed to these closures, God alone suffices us, and God suffices as a reckoner."

> **Dan Tsubouchi** @Energy_Tidbits · Dec 20
> Libya oilfields incl Sharara being shut down by petroleum guards reports @LibyaReview. Not a good sign that Dec 24 presidential election will be a catalyst for a unified Libya. #OOTT
>
> twitter.com/LibyaReview/st...

2 4

Dan Tsubouchi @Energy_Tidbits · Dec 20

"risk the reliability of our electric grid & increase our dependence on foreign supply chains"catastrophic consequences for the American people" warns @Sen_JoeManchin if current @POTUS #EnergyTransition plan approved. See @NERC_Official, #NatGas is needed to keep lights on #OOTT

https://www.energy.senate.gov/news-press-releases/manchin-statement-on-build-back-better-act
December 19, 2021
MANCHIN STATEMENT ON BUILD BACK BETTER ACT
Washington, DC – Today, U.S. Senator Joe Manchin (D-WV) released the following statement on the Build Back Better Act.
"For five and a half months, I have worked as diligently as possible meeting with President Biden, Majority Leader Schumer, Speaker Pelosi and my colleagues on every end of the political spectrum to determine the best path forward despite my serious reservations. I have made my concerns clear through public statements, op-eds and private conversations. My concerns have only increased as the pandemic surges on, inflation rises and geopolitical uncertainty grows around the world.
As I have said, I wanted to go back home and explain it. I can't vote for it." Despite my best efforts, I cannot support the pending Build Back Better Act in its current form.
My Democratic colleagues in Washington are determined to transformative changes in society in a way that leaves our country even more vulnerable to the threats we face. I cannot take that risk with a staggering debt of more than $29 trillion and inflation levels that are real and harmful to every hard-working American at the grocery store, gas pump, and everywhere else they go to shop.
The American people deserve transparency on the true cost of the Build Back Better Act. The non-partisan Congressional Budget Office determined the cost is upwards of $4.5 trillion which is more than double what the WH initially supported. Hard-pressed, hard-working families can't afford this.
As the Omicron variant spreads throughout communities across the country, we are seeing COVID-19 cases rise at rates we have not seen since the height of this pandemic. We are also experiencing geopolitical uncertainty as tensions rise with both Russia and China. Our ability to quickly and effectively respond to these pending threats would be drastically hindered by our rising debt.
It concerns me that our dependence on our energy supply and our increasing dependence on foreign supply chains. The energy markets and our economy are volatile and unpredictable in the United States of America. In the last two years, as Chairman of the Senate Energy and Natural Resources Committee and with bipartisan support, we have worked to bring stability to our energy markets. But we have a long way to go. Rapid changes in our energy mix, fuel technology or the markets alone will have substantiative consequences for the American people and we have seen it in Texas and California in the last few weeks.
I will never forget the warning from then Chairman of the Joint Chiefs of Staff, Admiral Mike Mullen, that he delivered during a Senate Armed Services Committee hearing during my first year in the Senate. He testified that the greatest threat facing our nation was our national debt and since that time our debt has doubled.
I will continue working with my colleagues on both sides of the aisle to address the needs of all Americans and do so in a way that does not risk our nation's independence, security and way of life.

> **Dan Tsubouchi** @Energy_Tidbits · Dec 17
> 
> Big plus to #NatGas if @SecGranholm @POTUS listen to @NERC_Official long term reliability warning. Just read para 1 & 2. govt policies ..driving rapidly changing resource mix ..fuel becomes inherently less secure.. #NatGas is the reliability fuel that keeps the lights on...

1 2 4

Dan Tsubouchi @Energy_Tidbits · Dec 20

hate to think would the end result would be if done in canada. most gas stations only have a single cashier working inside so there wouldn't be five employees quickly reacting and getting the fire out so quickly before something really big happened

> **South China Morning Post** @SCMPNews · Dec 20
>
> A driver escaped from a burning Porsche car at a gas station in southern China's Shenzhen city. The vehicle was set on fire by a stranger when it was being refuelled.

3

Dan Tsubouchi @Energy_Tidbits · Dec 20

Libya oilfields incl Sharara being shut down by petroleum guards reports @LibyaReview. Not a good sign that Dec 24 presidential election will be a catalyst for a unified Libya. #OOTT

twitter.com/LibyaReview/st...

> **Dan Tsubouchi** @Energy_Tidbits · Oct 11
>
> Is the real question, what happens AFTER the #Libya Dec 24 election? Will both the east (incl Haftar) & west be committed to unified Libya? @libyaherald report shows lots of issues from the east. In Sept 2020, #Oil production was <200,000 b/d #OOTT
>
> libyaherald.com/2021/10/11/lib...

3 2

Dan Tsubouchi @Energy_Tidbits · Dec 19

Our weekly SAF Dec 19, 2021 Energy Tidbits memo is posted on our SAF Group website. This 55-pg energy research memo expands upon & covers more items than tweeted this week. See news/insights section of SAF website #Oil #OOTT #LNG #NatGas #EnergyTransition safgroup.ca/news-insights/

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Energy Tidbits

Dec 19, 2021

Produced by: Dan Tsubouchi

Lukoil Points to Limited, If Any, Spare Total Russian Oil Capacity

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

This week's memo highlights:

1. Positive for oil in the 2020s, Lukoil executives point to little, if any, spare Russia oil capacity (Click Here)
2. Germany indicates that any regulatory approval for Nord Stream 2 won't be until Q3/21 at the earliest (Click Here)
3. Unplanned shutdowns of two EDF nuclear reactors drives Europe electricity prices up big (Click Here)
4. NERC warns Americans that government policies are leading to inherently less secure fuel sources for 2020s ie. higher electricity costs, more price spikes, and more outages (Click Here)
5. CPPIB's "new" investment strategy now calls oil and gas a "strategic sector" and one for capital allocation (Click Here).
6. Merry Christmas! Hope you have a wonderful Christmas and share the Christmas spirit.
7. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
8. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

Dan Tsubouchi
Principal Global Market Strategist
dtsubouchi@safgroup.ca

Ryan Dashford
Manager, Research
rdashford@safgroup.ca

Aaron Bunting
Manager, Energy Data
abunting@safgroup.ca

Ryan Haughey
Manager, Research
rhaughey@safgroup.ca

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