Energy Tidbits

May be Gradual, But China's 20 Optimized Measures Look to be a Pivot Towards Reopening From Covid

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Short-Term Energy Outlook

November 2022

Overview

U.S. energy market indicators	2021	2022	2023
Brent crude oil spot price (dollars per barrel)	**$70.89**	**$102.13**	**$95.33**
Retail gasoline price (dollars per gallon)	**$3.02**	**$4.02**	**$3.61**
U.S. crude oil production (million barrels per day)	**11.25**	**11.83**	**12.31**
Natural gas price at Henry Hub (dollars per MMBtu)	**$3.91**	**$6.49**	**$5.46**
U.S. LNG gross exports (billion cubic feet per day)	**9.8**	**10.8**	**12.3**
Shares of U.S. electricity generation			
Natural gas	37%	38%	36%
Coal	23%	20%	19%
Renewables	20%	22%	24%
Nuclear	20%	19%	20%
U.S. GDP (percentage change)	**5.9%**	**1.7%**	**-0.1%**
U.S. CO_2 emissions (billion metric tons)	**4.90**	**4.98**	**4.84**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

- The November 2022 *Short-Term Energy Outlook* (STEO) marks the release of our new text format. We have reconfigured the text to provide readers with discussions and visualizations we think best convey our energy forecast and its key drivers.
- Uncertainty in macroeconomic conditions could significantly affect energy markets in the forecast period. Based on the S&P Global macroeconomic model, we now expect U.S. GDP will fall slightly in 2023, which we forecast will contribute to a drop in total U.S. energy consumption next year.
- We estimate U.S. natural gas inventories ended October 2022 at more than 3.5 trillion cubic feet (Tcf), which is 4% below the five-year average and higher than what we had been forecasting in recent months. They fall in our forecast by 2.1 Tcf this winter to 1.4 Tcf by the end of March 2023. This withdrawal would be similar to the five-year average and result in inventories that are 8% below the five-year average at the end of March 2023.
- Because of higher-than-expected storage levels heading into winter our forecast natural gas spot price at Henry Hub averages about $6 per million British thermal units (MMBtu) across 4Q22 and 1Q23, which is more than $1/MMBtu lower than we forecast in the October STEO. We expect natural gas prices will decline after January as the deficit to the five-year average in inventories decreases.

- We expect renewable sources to provide 22% of U.S. electricity generation in 2022 and 24% in 2023 as generation from natural gas declines from 38% in 2022 to 36% in 2023. The increase in renewables generation comes mostly from solar and wind capacity additions.

- U.S. distillate fuel inventories average 17% below the five-year average in our forecast for 2023. We estimate distillate inventories were 104 million barrels at the end of October, the lowest end-of-October level since 1951.

- Retail heating oil and diesel prices will continue to average more than $5 per gallon for the rest of 4Q22. We expect a slightly contracting U.S. economy will reduce distillate prices in the first half of 2023 (1H23). However, the EU's ban on seaborne imports of petroleum products from Russia creates supply uncertainty for distillate markets in early 2023.

- Higher heating oil prices and consumption, due to colder forecasted temperatures this winter, result in our expectation that the average U.S. home that uses heating oil as its primary space heating fuel will see expenditures increase by 45% compared with last winter. In last month's *Winter Fuels Outlook*, we forecast expenditures would rise 27% over last winter in the baseline.

- We forecast OPEC crude oil production will fall in November and December. Annual OPEC production averages 28.9 million barrels per day (b/d) in 2023, up by 0.3 million b/d from 2022.

- Growth in OPEC and non-OPEC oil production—most notably production in the United States—keeps the Brent crude oil price in our forecast lower on an annual average basis in 2023 than in 2022. However, we expect the Brent crude oil price will begin rising in 2H23.

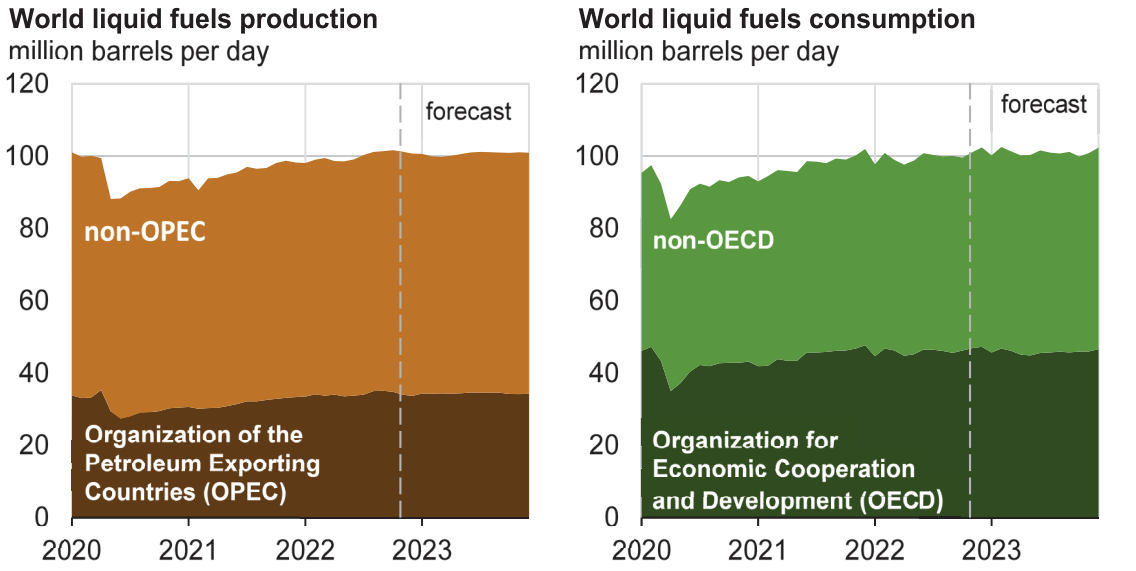
Notable forecast changes

Current forecast: November 8, 2022; previous forecast: October 12, 2022	**2022**	**2023**
Real gross domestic product (percentage change)	**1.7%**	**-0.1%**
Previous	1.7%	1.3%
Henry Hub spot average (dollars per MMBtu)	**$6.49**	**$5.46**
Previous	$6.88	$5.77
Percentage change	-5.8%	-5.4%
Diesel fuel prices (dollars per gallon)	**$5.09**	**$4.65**
Previous	$4.97	$4.29
Percentage change	2.5%	8.4%

Data source: Energy Information Administration, *Short-Term Energy Outlook*

Global oil markets

Crude oil production: On October 5, 2022, OPEC+ producers agreed to reduce crude oil production targets by 2.0 million barrels per day (b/d) from their previously stated targets beginning in November 2022. The announcement had a limited effect on our global oil production forecast in the October STEO when the cuts were first incorporated because we had already included an expectation that OPEC+ would not meet the previously stated production targets. We expect that Saudi Arabia, Kuwait, and the United Arab Emirates will account for most of OPEC's share of the cut, while the forecast production for other OPEC members remains largely unchanged from our assessment made before the October 5 announcement. Total OPEC crude oil production in our forecast falls from an average of 29.2 million b/d in the third quarter of 2022 (3Q22) to 28.6 million b/d in 4Q22, largely unchanged from last month's STEO forecast. OPEC crude oil production in the forecast averages 28.9 million b/d in 2023.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Among the non-OPEC participants in OPEC+, the majority of the reductions in OPEC+ production will come from Russia, where we expect production declines will materialize as the result of Russia's full-scale invasion of Ukraine and sanctions imposed on Russia, rather than the newly announced production cuts. We expect that Russia's total liquids production will fall from an average of 10.9 million b/d in 3Q22 to 10.8 million b/d in 4Q22, before falling further to an average of 9.3 million b/d for all of 2023. This forecast is subject to significant uncertainty around the extent to which upcoming EU sanctions will impact trade flows and the ability for oil suppliers in Russia to find alternative shipping arrangements and buyers.

We expect global oil inventory levels to begin to fall again in early 2023, after increasing by an estimated 0.8 million b/d in 3Q22. We expect total global oil inventories will decline by 1.2 million b/d in 1Q23,

after a forecast build of 0.2 million b/d in 4Q22. We forecast global oil inventories will fall by 0.3 million b/d in 2023.

Crude oil prices: The Brent crude oil spot price averaged $93 per barrel (b) in October. We expect the Brent price will average near that price through 1H23. Weakening global economic conditions, which could limit oil demand growth, create the potential for oil prices to end up lower than our forecast. Higher-than-forecast oil prices could stem from supply disruptions resulting from the EU's impending bans on the seaborne import of crude oil and petroleum products from Russia. Despite increasing concerns around weakening global economic conditions, we forecast that global oil consumption will outpace global oil production in 2023, which will contribute to increasing oil prices in 2H23. We forecast the Brent crude oil price will rise from an average of $94/b in 1H23 to an average of $98/b in 4Q23, averaging $95/b for all of 2023.

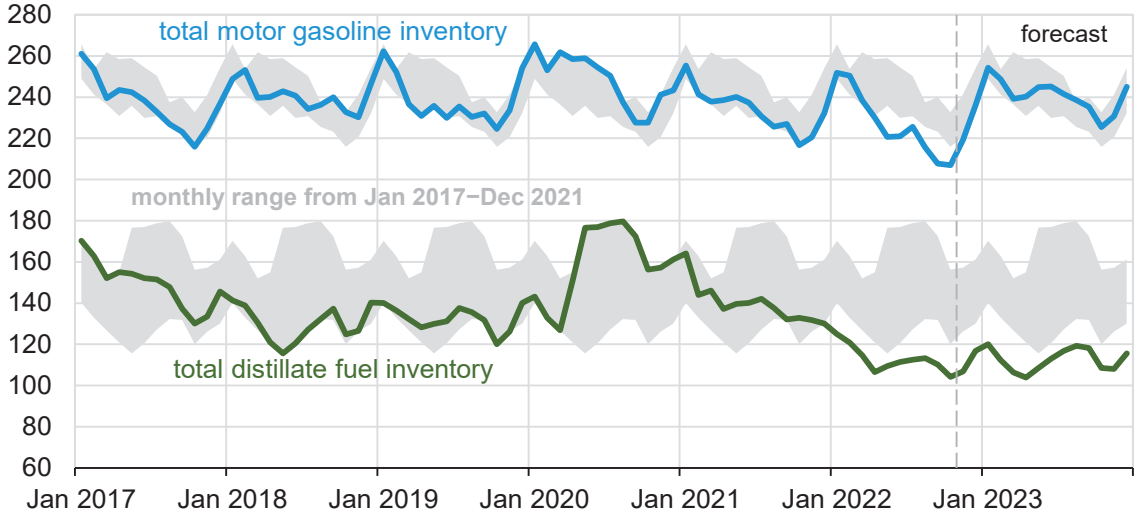
Petroleum products

Distillate fuel: Distillate inventories have been well below the five-year average through all of 2022 in all major trading regions globally, a situation largely related to reduced distillate exports from Russia and trade dislocations following Russia's full-scale invasion of Ukraine in February. Seasonal increases in demand and refinery closures are now affecting inventories and contributing to price increases. Wholesale diesel fuel prices averaged $4.11 per gallon (gal) in October, an increase of 66 cents/gal (19%) from September and $1.60/gal (64%) from October 2021. Diesel fuel use in the U.S. agricultural sector rises in autumn at the same time the use of heating oil in the residential sectors also begins to rise. This year, widespread refinery strikes in France are further reducing global diesel supplies. In addition, regional production of distillate in the U.S. Northeast has also been less than historical levels since the closures of the Philadelphia Energy Solutions refinery in 2019 and the Come-by-Chance refinery in Newfoundland in 2020, which was a source of imports for the region.

We forecast that distillate prices will rise in November before falling slightly in December as activity at some refineries in Europe increases and U.S. refiners finish their seasonal maintenance. However, we still expect U.S. distillate inventories will remain at or near multiyear lows through the end of our forecast. Ongoing constraints on global refining capacity will continue to limit distillate supplies and inventory builds during this time, although we forecast distillate refinery margins to moderate beginning in early 2023 as seasonal demand for the fuel decreases and refinery production remains greater than usual because of strong refining margins. Low global distillate supplies mean that there is limited potential for distillate imports to supplement U.S. domestic production, particularly after the EU's ban on seaborne refined product imports from Russia beginning in February 2023.

We expect new refinery capacity coming online in the Middle East, China, and the United States through 2023 to contribute to lowering distillate margins. We forecast U.S. distillate refinery margins (calculated as the difference between the wholesale diesel price and the Brent crude oil price) will average $1.14/gal in 2023, compared with $1.34/gal in 2022. Significant sources of uncertainty in our forecast include the potential for future disruptions relating to global refinery outages and unexpected developments linked to EU's ban on refined products from Russia.

U.S. gasoline and distillate inventories
million barrels



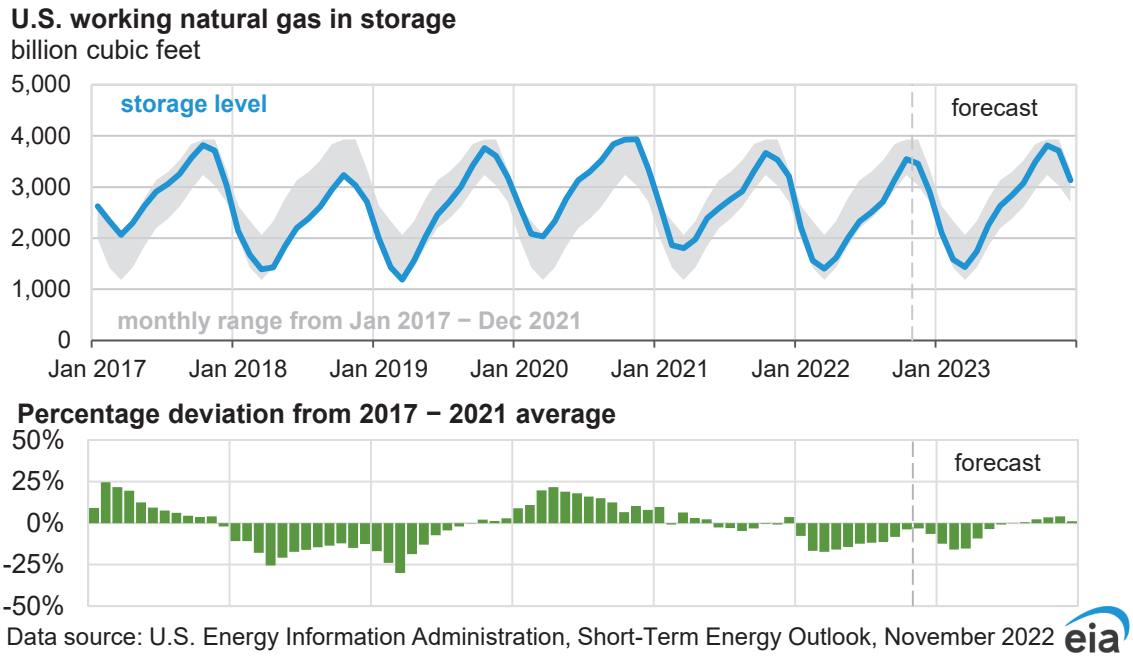
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Gasoline: After falling for three straight months, U.S. retail gasoline prices increased in October. We expect gasoline prices to resume their decline in November, as refiners increase production to meet distillate demand and gasoline inventories begin increasing. Rising gasoline production contributes to inventory builds in our forecast that will return gasoline stocks to levels within the five-year range by early 2023. The U.S. average retail price in our forecast falls from $3.82/gal in October 2022 to $3.60/gal in February 2023, with the largest price decrease on the West Coast. Following this decrease, we expect U.S. retail gasoline prices to remain relatively flat for the rest of 2023.

Natural gas

Natural gas storage: At the end of October, typically considered the end of storage injection season (March–October), we estimate working natural gas in storage was 3,544 billion cubic feet (Bcf), 4% below the five-year (2017–2021) average. Higher-than-average injections of natural gas into storage in September and October reduced the deficit of natural gas inventories to the five-year average and contributed to falling natural gas prices. The natural gas spot price at Henry Hub averaged $8.80 per million British thermal units (MMBtu) in August but declined to an average of $5.66/MMBtu in October.

Natural gas inventories play an important role in price formation. Inventory levels below the five-year average are often correlated with higher natural gas prices, while inventory levels above the five-year average are often correlated with lower natural gas prices. We expect natural gas inventories to fall by 2,110 Bcf this winter, which is similar to the five-year average winter withdrawal. We forecast that natural gas inventories will total 1,433 Bcf at the end of March, which is 8% below the five-year average. However, actual inventory outcomes will highly depend on realized temperatures throughout the winter.

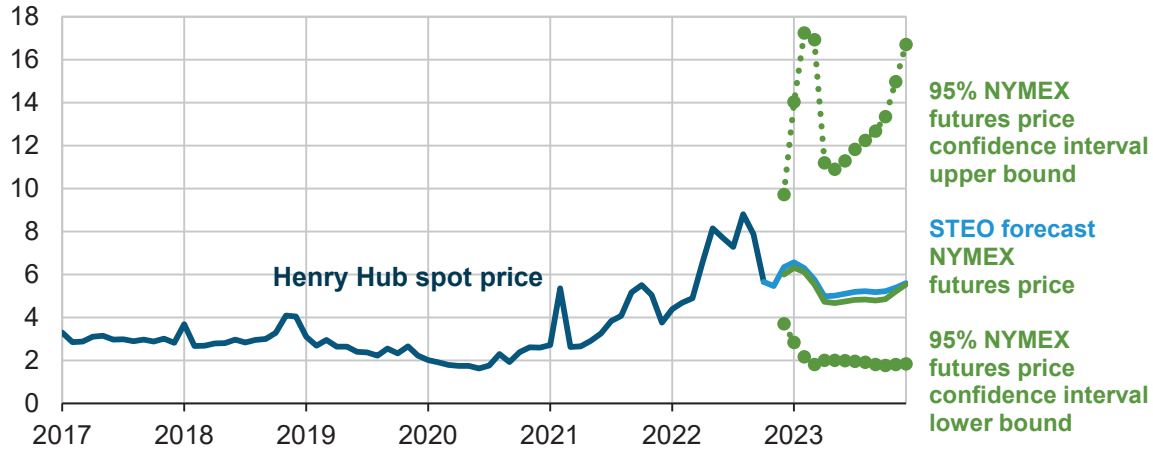


Natural gas production: Natural gas production has increased steadily throughout 2022, and dry natural gas production averages 100.4 billion cubic feet per day (Bcf/d) in our forecast for November. We expect declines in natural gas production during the winter months due to the possibility of extreme weather, which can cause production shut-ins. In addition, natural gas prices for the rest of the forecast remain lower than prices from 2Q22 and 3Q22. We expect that lower prices and some constraints in the pipeline capacity to move natural gas from production fields to consuming markets will reduce drilling activity, and we forecast natural gas production will average 99.7 Bcf/d in 2023, 2% more than in 2022, but down from current monthly average production.

Prices: We expect the benchmark Henry Hub natural gas spot price to average nearly $5.50/MMBtu in November 2022, before rising to more than $6/MMBtu in December and 1Q23. Natural gas prices typically increase in winter months as colder weather increases demand for natural gas for space-heating. Based on the current weather forecast from the National Oceanic and Atmospheric Administration, our forecast assumes colder weather, with 2% more heating degree days (HDD) from November to March compared with the 10-year (2011–2021) average. We expect inventory draws in December and January to outpace the five-year average, driven by a seasonal decline in natural gas production, rising demand for space heating, and increases in liquefied natural gas (LNG) exports that largely result from the return of Freeport LNG. Although any delay in the return of Freeport LNG could contribute to some downward price pressures in the near term, these factors will likely limit any downward price pressures this winter, and the possibility for price spikes and volatility in the case of extremely cold weather is high. Price spikes could affect both Henry Hub and regional pricing hubs, particularly in New England. Price spikes will have a limited effect on retail natural gas prices this winter, as there is typically a delay between changes in wholesale and retail prices for natural gas.

We expect downward pressures on natural gas prices will emerge in 2Q23. In 2023, the combination of natural gas consumption and exports in our forecast falls by more than 1 Bcf/d on average compared with 2022, while combined production and imports rise by a similar amount, leading to strong injections during the 2023 refill season.

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units



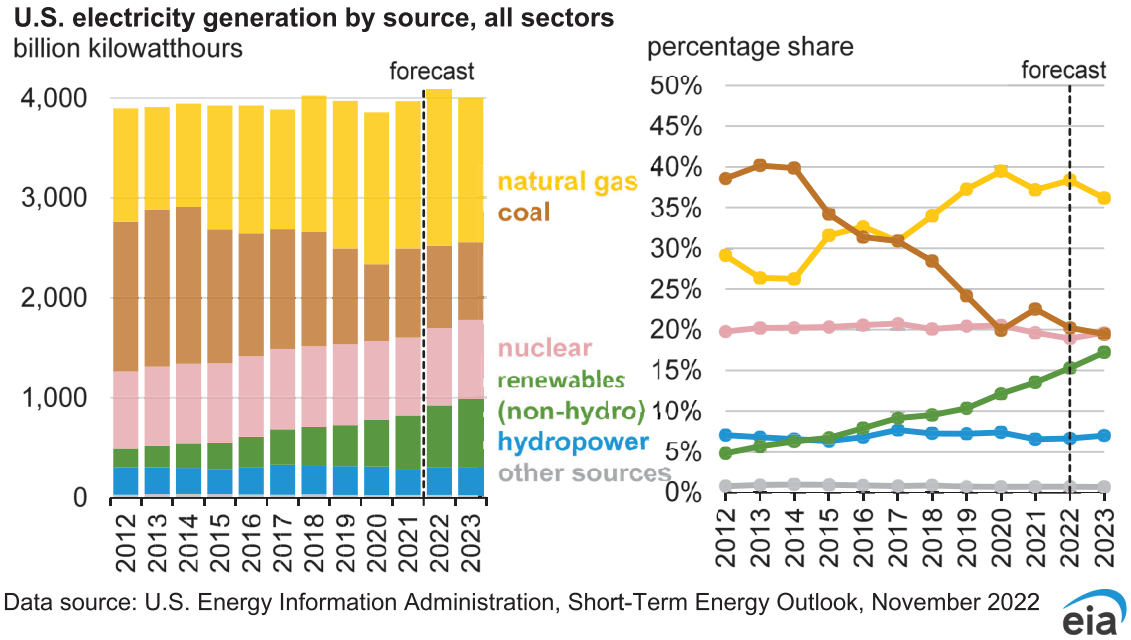
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending November 3, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Electricity, coal, and renewables

Electricity generation: We forecast 2% less U.S. electricity generation in 2023 than in 2022, driven mostly by a decline in air-conditioning use because of cooler forecast temperatures next year, and also by slight economic contraction. Due to less electricity demand, we expect that generation from renewable sources will make up an increasing share of total U.S. electricity generation, rising from 22% this year to 24% in 2023. Without growth in U.S. electricity consumption, strong growth in renewables generating capacity results in lower shares of generation from all other sources next year, most notably natural gas and coal.

Power generators are reporting that they plan to add 15 gigawatts (GW) of utility-scale solar photovoltaic (PV) capacity in 2022 and 30 GW in 2023. Small-scale solar capacity grows by 7 GW in 2022 and by almost 10 GW in 2023. Wind capacity additions in the forecast total 11 GW in 2022 and 5 GW in 2023. Battery additions to total 5 GW in 2022 and 9 GW in 2023.

Despite a forecast decline in natural gas prices from this year to next year, we expect the share of generation supplied by natural gas will fall from 38% this year to 36% in 2023 as more renewable generating capacity comes online. We expect the share of generation fueled by coal will fall from 20% this year to 19% in 2023. Generators plan to retire 12 GW of coal-fired capacity in 2022 and 9 GW in 2023, a decline of 10% from the level of capacity operating at the end of 2021.



Coal production: We expect U.S. coal production will total 595 million short tons (MMst) in 2022, up 3% from 2021. The increase reflects strong international demand for U.S. coal and a need among power plant operators to replenish coal stocks. However, the ability of the coal industry to produce more coal has been limited in 2022 by labor shortages at mines and railroads, which constrained the supply and transport of coal requested by customers during the summer months. Limited supply growth has led to higher coal prices, and the average cost of coal for power generators rose to $2.51 per million British thermal units (MMBtu) in August, up 22% from August 2021. In 2023, we forecast that moderating natural gas prices and coal plant retirements will lead to a 4% reduction in coal production. Less demand for coal in 2023 combined with rising coal inventories will result in delivered coal prices to the electric power sector declining below $2.40/MMBtu by the end of 2023.

Coal inventories: On average, monthly U.S. coal inventories through August 2022 were 19% lower compared with the same period in 2021 as production was not sufficient to both replenish stocks and satisfy summer power demand. Although we expect coal production to decrease in 2023, further declines in coal consumption and net exports to lead to an 18% increase in coal inventories during 2023.

Economy, weather, and CO_2

U.S. macroeconomics: Our U.S. macroeconomic forecasts are based on the model produced and maintained by S&P Global (formerly IHS Markit). We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic forecasts. S&P Global forecasts that the U.S. economy will enter a recession starting in 4Q22 and start recovering in 3Q23. On an annual basis, U.S. real GDP falls by 0.1% in 2023 in the forecast.

The forecast recession is primarily driven by a decline in real private fixed investment, which is expected to decline by 4.4% in 2023. A large component of this decline is in residential fixed investment, which

has fallen due to slowing demand for housing. As a result, housing starts are expected to decline by 21.1% in 2023. Demand for housing has fallen as the cost of purchasing a new home and mortgage rates have increased and as the U.S. Federal Reserve has raised interest rates in 2022 to combat inflationary pressures. Annual inflation based on the Consumer Price Index is expected to fall from 8.1% in 2022 to 4.1% in 2023. As the effects of monetary policy slows real economic activity, S&P Global forecasts a corresponding rise in the unemployment rate, peaking at 5.8% at the end of 2023.

Although the decline in economic activity mostly stems from the residential investment sector, other sectors of the economy will also see a decline in activity. In particular, industrial production is expected to fall by 0.1% in 2023, driven by expected declines in several manufacturing industries.

Emissions: We forecast total energy-related CO_2 emissions to increase slightly in 2022 compared with 2021, driven by more consumption of natural gas and petroleum products and offset by less coal consumption. Among fossil fuels, natural gas emissions increase the most in 2022 as a result of strong demand in the electric power sector and constraints in the coal market that have reduced coal-fired generation. Increases in petroleum emissions are attributable to increased travel following the pandemic.

We forecast CO_2 emissions will decrease slightly in 2023 compared with 2022, driven by less U.S. energy consumption resulting from the forecast decline in economic activity. We expect consumption of (and therefore emissions from) coal, petroleum, and natural gas to decline in 2023.

Weather: Based on forecasts from the National Oceanic and Atmospheric Administration, we expect a colder winter (October–March), with 7% more population-weighted HDDs in the United States compared with last winter and 2% more HDDs than the ten-year average.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.25**	**30.84**	**31.13**	**32.23**	**31.62**	**31.87**	**32.47**	*33.32*	*33.61*	*33.38*	*33.52*	*34.22*	**31.12**	*32.33*	*33.68*
U.S. (50 States)	**17.79**	**19.16**	**19.03**	**19.91**	**19.44**	**20.12**	**20.45**	*20.87*	*20.89*	*20.98*	*21.03*	*21.36*	**18.98**	*20.22*	*21.06*
Canada	**5.62**	**5.37**	**5.49**	**5.68**	**5.66**	**5.51**	**5.68**	*5.90*	*5.96*	*5.67*	*5.88*	*6.10*	**5.54**	*5.69*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.91**	**1.89**	**1.89**	*1.86*	*1.90*	*1.87*	*1.83*	*1.79*	**1.92**	*1.89*	*1.85*
Other OECD	**4.91**	**4.37**	**4.72**	**4.71**	**4.61**	**4.35**	**4.44**	*4.70*	*4.86*	*4.86*	*4.79*	*4.97*	**4.68**	*4.52*	*4.87*
Non-OECD	**62.56**	**63.98**	**65.60**	**66.11**	**67.21**	**66.87**	**68.46**	*67.85*	*66.50*	*67.17*	*67.54*	*66.73*	**64.57**	*67.60*	*66.99*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	**33.76**	**34.68**	*34.15*	*34.31*	*34.42*	*34.55*	*34.19*	**31.66**	*34.09*	*34.37*
Crude Oil Portion	**25.07**	**25.49**	**26.84**	**27.67**	**28.19**	**28.33**	**29.21**	*28.63*	*28.73*	*28.96*	*29.05*	*28.66*	**26.28**	*28.59*	*28.85*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	**5.43**	**5.48**	*5.52*	*5.59*	*5.46*	*5.50*	*5.54*	**5.38**	*5.50*	*5.52*
Eurasia	**13.42**	**13.65**	**13.63**	**14.27**	**14.39**	**13.39**	**13.58**	*13.78*	*12.49*	*12.29*	*12.29*	*12.31*	**13.74**	*13.79*	*12.34*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.18**	**5.18**	**5.11**	*5.17*	*5.21*	*5.24*	*5.23*	*5.27*	**4.99**	*5.16*	*5.24*
Other Non-OECD	**13.80**	**14.41**	**14.69**	**13.80**	**13.90**	**14.54**	**15.08**	*14.74*	*14.49*	*15.22*	*15.47*	*14.96*	**14.18**	*14.57*	*15.04*
Total World Production	**92.81**	**94.82**	**96.74**	**98.33**	**98.83**	**98.75**	**100.92**	*101.17*	*100.11*	*100.54*	*101.07*	*100.95*	**95.70**	*99.93*	*100.67*
Non-OPEC Production	**62.48**	**63.94**	**64.46**	**65.23**	**65.08**	**64.98**	**66.24**	*67.02*	*65.80*	*66.12*	*66.52*	*66.76*	**64.03**	*65.84*	*66.30*
Consumption (million barrels per day) (c)															
OECD	**42.58**	**44.13**	**45.87**	**46.89**	**45.84**	**45.46**	**46.03**	*46.77*	*46.16*	*45.15*	*45.75*	*46.16*	**44.88**	*46.03*	*45.81*
U.S. (50 States)	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.89**	*20.38*	*20.48*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.22**	**0.20**	**0.20**	*0.22*	*0.22*	*0.20*	*0.21*	*0.22*	**0.20**	*0.21*	*0.21*
Canada	**2.19**	**2.16**	**2.43**	**2.33**	**2.25**	**2.23**	**2.43**	*2.33*	*2.27*	*2.22*	*2.32*	*2.29*	**2.28**	*2.31*	*2.27*
Europe	**11.95**	**12.66**	**13.88**	**13.94**	**13.15**	**13.41**	**13.78**	*13.83*	*13.57*	*13.18*	*13.58*	*13.35*	**13.12**	*13.55*	*13.42*
Japan	**3.77**	**3.07**	**3.17**	**3.66**	**3.70**	**3.03**	**3.16**	*3.51*	*3.72*	*3.06*	*3.09*	*3.39*	**3.41**	*3.35*	*3.31*
Other OECD	**5.89**	**5.93**	**5.90**	**6.23**	**6.30**	**6.33**	**6.14**	*6.17*	*6.18*	*6.02*	*6.05*	*6.19*	**5.99**	*6.23*	*6.11*
Non-OECD	**51.94**	**52.54**	**52.73**	**53.48**	**53.28**	**53.58**	**54.06**	*54.24*	*55.14*	*55.54*	*55.19*	*54.84*	**52.68**	*53.79*	*55.18*
Eurasia	**4.57**	**4.63**	**4.98**	**4.84**	**4.49**	**4.36**	**4.71**	*4.64*	*4.25*	*4.40*	*4.71*	*4.63*	**4.76**	*4.55*	*4.50*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.76**	**0.76**	**0.76**	*0.77*	*0.75*	*0.77*	*0.77*	*0.77*	**0.75**	*0.76*	*0.76*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.14**	**15.12**	**15.11**	*15.55*	*16.27*	*16.16*	*15.54*	*15.46*	**15.27**	*15.23*	*15.85*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.83**	**13.84**	**13.52**	*13.90*	*14.41*	*14.38*	*13.80*	*14.09*	**13.23**	*13.77*	*14.17*
Other Non-OECD	**17.93**	**18.71**	**19.18**	**18.86**	**19.06**	**19.50**	**19.96**	*19.37*	*19.47*	*19.83*	*20.37*	*19.89*	**18.68**	*19.47*	*19.89*
Total World Consumption	**94.52**	**96.67**	**98.59**	**100.37**	**99.12**	**99.04**	**100.09**	*101.00*	*101.30*	*100.69*	*100.94*	*101.00*	**97.56**	*99.82*	*100.98*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.36**	**0.51**	**0.37**	**0.83**	**0.81**	**0.51**	**0.45**	*0.64*	*0.01*	*-0.37*	*-0.06*	*0.50*	**0.52**	*0.60*	*0.02*
Other OECD	**0.88**	**0.14**	**0.91**	**0.73**	**-0.09**	**-0.29**	**-0.65**	*-0.27*	*0.38*	*0.16*	*-0.02*	*-0.14*	**0.66**	*-0.33*	*0.09*
Other Stock Draws and Balance	**0.46**	**1.20**	**0.58**	**0.48**	**-0.42**	**0.07**	**-0.63**	*-0.55*	*0.80*	*0.36*	*-0.05*	*-0.31*	**0.68**	*-0.38*	*0.20*
Total Stock Draw	**1.71**	**1.85**	**1.85**	**2.04**	**0.29**	**0.30**	**-0.83**	*-0.17*	*1.19*	*0.14*	*-0.13*	*0.05*	**1.86**	*-0.11*	*0.31*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,311**	**1,281**	**1,251**	**1,199**	**1,154**	**1,180**	**1,216**	*1,200*	*1,200*	*1,249*	*1,260*	*1,224*	**1,199**	*1,200*	*1,224*
OECD Commercial Inventory	**2,916**	**2,873**	**2,759**	**2,640**	**2,604**	**2,656**	**2,752**	*2,760*	*2,726*	*2,761*	*2,774*	*2,751*	**2,640**	*2,760*	*2,751*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.82**	**11.34**	**11.18**	**11.66**	**11.47**	**11.70**	**11.99**	*12.15*	*12.22*	*12.24*	*12.32*	*12.48*	**11.25**	*11.83*	*12.31*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.45**	**0.44**	**0.43**	*0.44*	*0.44*	*0.38*	*0.40*	*0.41*	**0.44**	*0.44*	*0.41*
Federal Gulf of Mexico (b)	**1.83**	**1.80**	**1.49**	**1.71**	**1.67**	**1.70**	**1.80**	*1.86*	*1.86*	*1.85*	*1.77*	*1.76*	**1.71**	*1.76*	*1.81*
Lower 48 States (excl GOM)	**8.54**	**9.10**	**9.29**	**9.50**	**9.35**	**9.56**	**9.77**	*9.85*	*9.92*	*10.01*	*10.15*	*10.31*	**9.11**	*9.63*	*10.10*
Crude Oil Net Imports (c)	**2.88**	**2.94**	**3.64**	**3.13**	**3.00**	**2.81**	**2.60**	*2.86*	*3.00*	*3.52*	*3.89*	*3.31*	**3.15**	*2.81*	*3.43*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.31**	**0.80**	**0.85**	*0.46*	*0.01*	*0.17*	*0.06*	*0.11*	**0.12**	*0.61*	*0.09*
Commercial Inventory Net Withdrawals	**-0.19**	**0.60**	**0.30**	**-0.01**	**0.08**	**-0.03**	**-0.14**	*-0.02*	*-0.28*	*0.15*	*0.19*	*-0.10*	**0.18**	*-0.03*	*-0.01*
Crude Oil Adjustment (d)	**0.30**	**0.59**	**0.44**	**0.44**	**0.71**	**0.81**	**0.95**	*0.43*	*0.22*	*0.22*	*0.23*	*0.16*	**0.44**	*0.72*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.61**	**15.49**	**15.56**	**16.09**	**16.24**	*15.87*	*15.19*	*16.30*	*16.68*	*15.97*	**15.15**	*15.94*	*16.04*
Other Supply															
Refinery Processing Gain	**0.85**	**0.98**	**0.96**	**1.04**	**0.95**	**1.07**	**1.00**	*1.02*	*1.03*	*1.00*	*1.02*	*1.02*	**0.96**	*1.01*	*1.02*
Natural Gas Plant Liquids Production	**4.89**	**5.50**	**5.56**	**5.74**	**5.61**	**5.92**	**6.08**	*6.24*	*6.24*	*6.30*	*6.27*	*6.38*	**5.42**	*5.97*	*6.30*
Renewables and Oxygenate Production (e)	**1.04**	**1.13**	**1.11**	**1.24**	**1.19**	**1.20**	**1.16**	*1.24*	*1.19*	*1.22*	*1.20*	*1.26*	**1.13**	*1.20*	*1.22*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.02**	**1.01**	**0.97**	*1.02*	*0.98*	*0.99*	*0.97*	*1.00*	**0.98**	*1.00*	*0.99*
Petroleum Products Adjustment (f)	**0.20**	**0.22**	**0.22**	**0.23**	**0.22**	**0.23**	**0.23**	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-2.79**	**-3.07**	**-3.19**	**-3.79**	**-3.74**	**-3.99**	**-4.14**	*-4.08*	*-3.91*	*-3.88*	*-4.57*	*-4.61*	**-3.21**	*-3.99*	*-4.25*
Hydrocarbon Gas Liquids	**-1.95**	**-2.25**	**-2.15**	**-2.18**	**-2.14**	**-2.31**	**-2.21**	*-2.53*	*-2.52*	*-2.51*	*-2.54*	*-2.54*	**-2.14**	*-2.30*	*-2.53*
Unfinished Oils	**0.18**	**0.30**	**0.25**	**0.10**	**0.09**	**0.25**	**0.29**	*0.27*	*0.22*	*0.26*	*0.37*	*0.19*	**0.21**	*0.23*	*0.26*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.05**	**-0.09**	**-0.10**	**-0.05**	*-0.05*	*-0.06*	*-0.05*	*-0.04*	*-0.03*	**-0.05**	*-0.07*	*-0.04*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.67**	**0.43**	**0.40**	**0.60**	**0.46**	*0.32*	*0.41*	*0.66*	*0.36*	*0.38*	**0.61**	*0.44*	*0.45*
Finished Motor Gasoline	**-0.64**	**-0.64**	**-0.68**	**-0.88**	**-0.76**	**-0.73**	**-0.79**	*-0.62*	*-0.60*	*-0.61*	*-0.86*	*-0.92*	**-0.71**	*-0.73*	*-0.75*
Jet Fuel	**0.03**	**0.08**	**0.08**	**0.01**	**-0.04**	**-0.06**	**-0.11**	*-0.06*	*-0.04*	*0.06*	*0.03*	*0.05*	**0.05**	*-0.07*	*0.02*
Distillate Fuel Oil	**-0.48**	**-0.87**	**-0.91**	**-0.86**	**-0.81**	**-1.15**	**-1.34**	*-1.03*	*-0.84*	*-1.19*	*-1.36*	*-1.22*	**-0.78**	*-1.08*	*-1.16*
Residual Fuel Oil	**0.07**	**0.05**	**0.08**	**0.15**	**0.14**	**0.10**	**0.07**	*0.18*	*0.13*	*0.13*	*0.11*	*0.17*	**0.09**	*0.12*	*0.14*
Other Oils (g)	**-0.48**	**-0.49**	**-0.50**	**-0.50**	**-0.54**	**-0.59**	**-0.46**	*-0.56*	*-0.61*	*-0.62*	*-0.64*	*-0.69*	**-0.49**	*-0.54*	*-0.64*
Product Inventory Net Withdrawals	**0.55**	**-0.27**	**0.03**	**0.58**	**0.42**	**-0.25**	**-0.25**	*0.20*	*0.27*	*-0.70*	*-0.30*	*0.49*	**0.22**	*0.03*	*-0.06*
Total Supply	**18.54**	**20.13**	**20.30**	**20.53**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.88**	*20.38*	*20.48*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.43**	**3.33**	**3.34**	**3.66**	**3.87**	**3.43**	**3.45**	*3.93*	*4.08*	*3.55*	*3.52*	*3.95*	**3.44**	*3.67*	*3.77*
Other HC/Oxygenates	**0.11**	**0.13**	**0.13**	**0.16**	**0.13**	**0.17**	**0.17**	*0.22*	*0.21*	*0.21*	*0.21*	*0.26*	**0.13**	*0.17*	*0.22*
Unfinished Oils	**0.08**	**0.07**	**-0.05**	**0.00**	**0.13**	**0.04**	**0.08**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.02**	*0.06*	*0.00*
Motor Gasoline	**8.04**	**9.09**	**9.14**	**8.98**	**8.47**	**9.00**	**8.88**	*8.79*	*8.41*	*8.95*	*8.89*	*8.76*	**8.82**	*8.79*	*8.75*
Fuel Ethanol blended into Motor Gasoline	**0.81**	**0.93**	**0.94**	**0.95**	**0.87**	**0.93**	**0.92**	*0.91*	*0.87*	*0.93*	*0.92*	*0.93*	**0.91**	*0.91*	*0.91*
Jet Fuel	**1.12**	**1.34**	**1.52**	**1.50**	**1.45**	**1.61**	**1.59**	*1.54*	*1.44*	*1.58*	*1.65*	*1.62*	**1.37**	*1.55*	*1.57*
Distillate Fuel Oil	**3.99**	**3.96**	**3.90**	**4.03**	**4.14**	**3.89**	**3.80**	*4.02*	*4.05*	*3.91*	*3.82*	*3.96*	**3.97**	*3.96*	*3.93*
Residual Fuel Oil	**0.26**	**0.25**	**0.35**	**0.40**	**0.38**	**0.31**	**0.34**	*0.40*	*0.38*	*0.39*	*0.41*	*0.41*	**0.31**	*0.36*	*0.40*
Other Oils (g)	**1.54**	**1.95**	**1.98**	**1.81**	**1.65**	**1.82**	**1.99**	*1.81*	*1.65*	*1.87*	*2.02*	*1.76*	**1.82**	*1.82*	*1.83*
Total Consumption	**18.58**	**20.13**	**20.30**	**20.54**	**20.22**	**20.27**	**20.31**	*20.72*	*20.21*	*20.46*	*20.51*	*20.72*	**19.89**	*20.38*	*20.48*
Total Petroleum and Other Liquids Net Imports	**0.09**	**-0.13**	**0.45**	**-0.65**	**-0.74**	**-1.18**	**-1.54**	*-1.22*	*-0.91*	*-0.36*	*-0.68*	*-1.30*	**-0.06**	*-1.17*	*-0.81*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**502.5**	**448.1**	**420.3**	**421.2**	**414.4**	**417.5**	**430.6**	*432.7*	*457.4*	*443.4*	*425.7*	*434.7*	**421.2**	*432.7*	*434.7*
Hydrocarbon Gas Liquids	**176.9**	**205.3**	**235.5**	**193.1**	**142.0**	**186.7**	**243.4**	*194.5*	*150.2*	*203.6*	*245.8*	*204.0*	**193.1**	*194.5*	*204.0*
Unfinished Oils	**92.5**	**92.3**	**89.5**	**79.7**	**87.9**	**88.8**	**83.3**	*79.0*	*91.2*	*89.3*	*88.9*	*80.8*	**79.7**	*79.0*	*80.8*
Other HC/Oxygenates	**29.3**	**27.7**	**25.7**	**28.7**	**34.1**	**29.4**	**27.2**	*28.5*	*30.5*	*29.3*	*29.0*	*29.3*	**28.7**	*28.5*	*29.3*
Total Motor Gasoline	**237.8**	**237.3**	**227.0**	**232.2**	**238.5**	**221.0**	**207.7**	*236.2*	*239.2*	*245.2*	*235.3*	*245.0*	**232.2**	*236.2*	*245.0*
Finished Motor Gasoline	**20.3**	**18.5**	**18.5**	**17.8**	**17.3**	**17.1**	**17.2**	*17.6*	*15.5*	*17.0*	*18.9*	*21.5*	**17.8**	*17.6*	*21.5*
Motor Gasoline Blend Comp.	**217.6**	**218.7**	**208.5**	**214.4**	**221.2**	**203.8**	**190.6**	*218.6*	*223.7*	*228.2*	*216.4*	*223.5*	**214.4**	*218.6*	*223.5*
Jet Fuel	**39.1**	**44.7**	**42.0**	**35.8**	**35.6**	**39.3**	**36.2**	*33.4*	*35.1*	*38.9*	*40.9*	*37.7*	**35.8**	*33.4*	*37.7*
Distillate Fuel Oil	**146.1**	**140.1**	**132.1**	**130.0**	**114.6**	**111.4**	**110.2**	*116.8*	*106.4*	*112.9*	*118.1*	*115.6*	**130.0**	*116.8*	*115.6*
Residual Fuel Oil	**30.9**	**31.5**	**27.8**	**25.8**	**27.9**	**29.2**	**28.8**	*28.3*	*30.2*	*29.3*	*27.7*	*27.1*	**25.8**	*28.3*	*27.1*
Other Oils (g)	**55.8**	**54.3**	**51.0**	**52.2**	**58.5**	**56.4**	**48.8**	*50.3*	*59.5*	*57.5*	*48.3*	*49.7*	**52.2**	*50.3*	*49.7*
Total Commercial Inventory	**1310.9**	**1281.4**	**1250.9**	**1198.6**	**1153.6**	**1179.7**	**1216.2**	*1199.5*	*1199.8*	*1249.3*	*1259.6*	*1223.9*	**1198.6**	*1199.5*	*1223.9*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**566.1**	**493.3**	**415.3**	*372.7*	*371.5*	*355.9*	*350.7*	*340.2*	**593.7**	*372.7*	*340.2*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**98.57**	**102.12**	**102.88**	**105.43**	**103.27**	**106.18**	**108.24**	*108.97*	*107.67*	*108.16*	*108.79*	*109.15*	**102.27**	*106.69*	*108.45*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**1.06**	**1.00**	**0.96**	*1.02*	*1.01*	*0.93*	*0.85*	*0.98*	**0.97**	*1.01*	*0.94*
Federal GOM (a)	**2.33**	**2.30**	**1.82**	**2.10**	**2.05**	**2.11**	**2.22**	*2.34*	*2.28*	*2.21*	*2.07*	*2.02*	**2.14**	*2.18*	*2.15*
Lower 48 States (excl GOM)	**95.22**	**98.87**	**100.16**	**102.30**	**100.16**	**103.07**	**105.07**	*105.62*	*104.38*	*105.03*	*105.87*	*106.15*	**99.16**	*103.50*	*105.36*
Total Dry Gas Production	**91.14**	**94.43**	**95.14**	**97.49**	**95.10**	**97.59**	**99.42**	*100.10*	*99.01*	*99.42*	*99.99*	*100.33*	**94.57**	*98.07*	*99.69*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.15**	**0.01**	**0.07**	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.06**	*0.07*	*0.06*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.50**	**10.80**	**9.84**	*11.27*	*12.40*	*12.53*	*12.10*	*12.28*	**9.76**	*10.85*	*12.33*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.89**	**7.73**	**7.62**	*7.56*	*8.30*	*6.86*	*7.04*	*7.46*	**7.63**	*7.95*	*7.41*
Pipeline Gross Exports	**8.31**	**8.66**	**8.50**	**8.40**	**8.43**	**8.45**	**8.37**	*9.11*	*9.40*	*8.84*	*9.15*	*9.56*	**8.47**	*8.59*	*9.24*
Supplemental Gaseous Fuels	**0.17**	**0.18**	**0.18**	**0.19**	**0.21**	**0.15**	**0.19**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.18**	*0.18*	*0.19*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.14**	**-10.25**	**-8.85**	*2.61*	*16.25*	*-13.17*	*-9.38*	*3.95*	**0.24**	*0.84*	*-0.65*
Total Supply	**99.74**	**73.84**	**76.62**	**87.84**	**104.56**	**75.98**	**80.23**	*90.16*	*102.04*	*71.97*	*76.62*	*90.15*	**84.46**	*87.67*	*85.14*
Balancing Item (b)	**1.28**	**-1.08**	**-0.66**	**-1.28**	**0.57**	**0.43**	**0.87**	*0.98*	*0.86*	*0.55*	*-0.74*	*-0.87*	**-0.44**	*0.72*	*-0.06*
Total Primary Supply	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**81.10**	*91.14*	*102.90*	*72.52*	*75.89*	*89.28*	**84.01**	*88.39*	*85.08*
Consumption (billion cubic feet per day)															
Residential	**26.05**	**7.58**	**3.67**	**14.61**	**26.09**	**7.85**	**3.64**	*16.94*	*25.83*	*7.92*	*4.14*	*17.02*	**12.92**	*13.58*	*13.68*
Commercial	**15.03**	**6.31**	**4.73**	**10.17**	**15.62**	**6.70**	**4.87**	*11.66*	*15.19*	*6.67*	*5.26*	*11.61*	**9.04**	*9.69*	*9.66*
Industrial	**24.21**	**21.67**	**21.45**	**23.59**	**25.49**	**22.38**	**21.62**	*23.64*	*23.96*	*21.28*	*21.21*	*23.53*	**22.73**	*23.28*	*22.49*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.65**	**31.12**	**42.34**	*29.81*	*28.45*	*28.32*	*36.79*	*28.09*	**30.88**	*33.01*	*30.43*
Lease and Plant Fuel	**5.02**	**5.20**	**5.24**	**5.37**	**5.26**	**5.41**	**5.51**	*5.55*	*5.48*	*5.51*	*5.54*	*5.56*	**5.21**	*5.43*	*5.52*
Pipeline and Distribution Use	**3.77**	**2.65**	**2.78**	**3.19**	**3.87**	**2.81**	**2.98**	*3.38*	*3.85*	*2.67*	*2.80*	*3.32*	**3.09**	*3.26*	*3.16*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**101.03**	**72.76**	**75.96**	**86.56**	**105.13**	**76.42**	**81.10**	*91.14*	*102.90*	*72.52*	*75.89*	*89.28*	**84.01**	*88.39*	*85.08*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,585**	**3,306**	**3,210**	**1,401**	**2,325**	**3,137**	*2,896*	*1,433*	*2,632*	*3,495*	*3,132*	**3,210**	*2,896*	*3,132*
East Region (d)	**313**	**515**	**804**	**766**	**242**	**482**	**756**	*654*	*195*	*548*	*864*	*727*	**766**	*654*	*727*
Midwest Region (d)	**395**	**630**	**966**	**887**	**296**	**557**	**916**	*813*	*303*	*633*	*989*	*845*	**887**	*813*	*845*
South Central Region (d)	**760**	**993**	**1,053**	**1,143**	**587**	**885**	**1,003**	*1,041*	*699*	*1,046*	*1,125*	*1,089*	**1,143**	*1,041*	*1,089*
Mountain Region (d)	**113**	**175**	**205**	**171**	**90**	**137**	**184**	*174*	*96*	*142*	*207*	*187*	**171**	*174*	*187*
Pacific Region (d)	**197**	**246**	**248**	**218**	**165**	**240**	**247**	*184*	*110*	*232*	*279*	*252*	**218**	*184*	*252*
Alaska	**23**	**27**	**30**	**25**	**21**	**25**	**31**	*31*	*31*	*31*	*31*	*31*	**25**	*31*	*31*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on November 3, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

http://freeportlng.newsrouter.com/news_release.asp?intRelease_ID=9751&intAcc_ID=77

Freeport LNG Responds To False Information About Facility Restart

FREEPORT LNG RESPONDS TO FALSE INFORMATION ABOUT THE RESTART OF ITS LIQUEFACTION FACILITY

Houston, TX, November 11, 2022 – In response to false information circulated today about the restart of Freeport LNG's liquefaction facility, the company provides the following statement:

Freeport LNG has not made an any public statements today regarding the restart of our liquefaction facility. Any Tweets and/or posts on Freeport LNG branded letterhead that may have been obtained or published, are reporting false information and are not legitimate, official public information from Freeport LNG.

ABOUT FREEPORT LNG

Freeport LNG is an LNG export company headquartered in Houston, Texas. The company's three train, 15 MTPA liquefaction facility is the seventh largest in the world and second largest in the U.S. Freeport LNG's liquefaction facility is the largest all-electric drive motor plant of its kind in the world, making it the most environmentally sustainable site of its kind. The facility's electric drive motors reduce carbon emissions by over 90% relative to gas turbine-driven liquefaction facilities. Freeport plans to expand by adding a fourth liquefaction train, which has received all regulatory approvals for construction. Freeport was formed in 2002 to develop, own and operate an LNG terminal on Quintana Island, near Freeport, Texas. The terminal started LNG import operations in June 2008 and began LNG export operations in 2019. Further information can be found on Freeport's website at www.freeportlng.com.

MEDIA CONTACT:
Heather Browne
713.980.2888

Freeport LNG Provides Update on Restart Timeline for its Liquefaction Facility

Freeport LNG Provides Update on Restart Timeline.pdf **Aug 23rd, 2022**

FREEPORT LNG PROVIDES UPDATE ON RESTART TIMELINE FOR ITS LIQUEFACTION FACILITY

Houston, TX, August 23, 2022 – Freeport LNG Development, L.P. (Freeport LNG) has completed a detailed assessment of alternatives for resuming operations at its liquefaction facility following the June 8th incident and has identified a recovery plan for reinstatement of partial operations that it believes ensures the long-term safety and integrity of the facility, provides recovery execution certainty, and minimizes procurement and performance

testing risks. Although typical construction risks could impact the recovery plan, it is anticipated that initial production can commence in early to mid-November, and ramp up to a sustained level of at least 2 BCF per day by the end of November, representing over 85% of the export capacity of the facility. The recovery plan will utilize Freeport LNG's second LNG loading dock as a lay berth until loading capabilities at the second dock are reinstated in March 2023, at which time we anticipate being capable of operating at 100% of our capacity.

Freeport LNG has engaged Kiewit Energy Group Inc. (Kiewit) to perform the engineering, procurement, and reconstruction activities necessary to implement Freeport LNG's recovery effort. Kiewit has significant LNG facility experience including both greenfield and brownfield developments and large and small/mid- scale LNG projects. They have been involved in LNG projects from start to finish including, front-end engineering design, detailed engineering, procurement, construction and commissioning.

Freeport LNG continues to coordinate closely with representatives of the Pipeline Hazardous Materials Safety Administration, the Federal Energy Regulatory Commission, the U.S. Coast Guard and other applicable regulatory agencies to implement its recovery plan and corrective measures to ensure a safe and confident resumption of operations.

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http://freeportlng.newsrouter.com/news_release.asp?intRelease_ID=9749&intAcc_ID=77

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Aug 23rd, 2022

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713.980.2888

NGTL System and Foothills Pipelines Ltd.

CUSTOMER OPERATIONS MEETING

NOVEMBER 10, 2022

FOR INFORMATIONAL PURPOSES ONLY

2023 Operational Outlook

From DOP as of Wednesday November 9

2023 Operational Outlook

- Outages with the most significant impact to system capability have been added to the DOP
- There will be more outages added over the next couple months
- Start and End Dates, Durations, Capability, Area of impact may be revised as new information becomes available or further optimization opportunities are identified

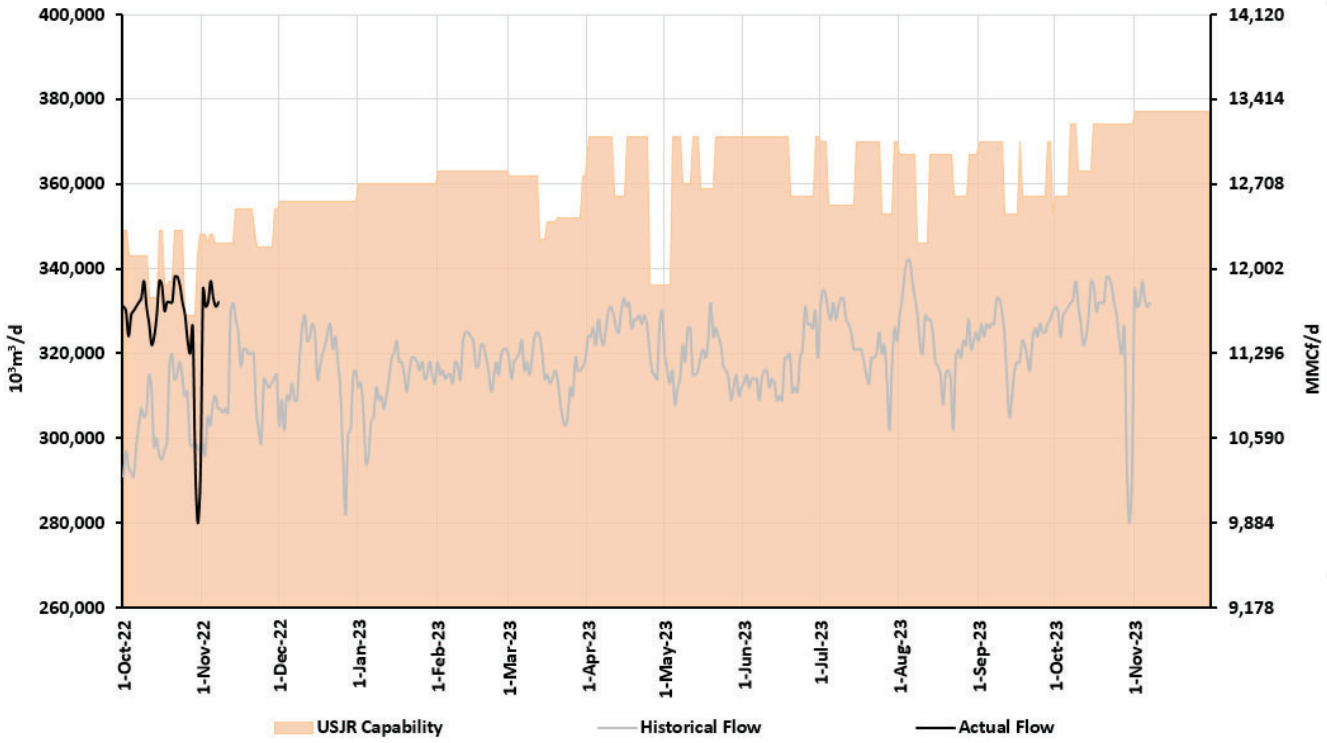
Outages and/or maintenance work is posted to the DOP if there is reasonable expectation that the event could or will result in a change to service authorization levels.

Optimization efforts are on going and we will continue to focus on safety, optimizing system capacity, and minimizing outage impacts.

Daily Operating Plan (DOP) – Facility Assumptions

Date	Expansion Facilities
Current	90% scenario of 2021 expansion
February 1, 2023	**Foothills BC Expansion:** • BC Mainline Loop 2 (Yahk)
March 1, 2023	**2021 Expansion:** • GPML Loop 2 (3km section adjacent to Little Smoky River that connects to DVN/DVS)
April 1, 2023	**2021 Expansion:** • GPML Loop 2 (Colt section) **North Corridor Expansion:** • NWML Loop 2 (Bear Canyon), NCC Loop (North Star 2), NCC Loop (Red Earth 3), Hidden Lake North Unit Addition **Intra-basin Expansion:** • Groundbirch Mainline Loop (Sunrise)
November 1, 2023	**Intra-basin Expansion:** • Groundbirch Mainline Loop (Saturn) **2023 West Path:** • WASML Loop 2 (Turner Valley), WASML Loop 2 (Lundbreck), WASML Loop 2 (Longview) **Foothills BC Expansion:** • BC Mainline Loop 2 (Elko)

Upstream James River (USJR)

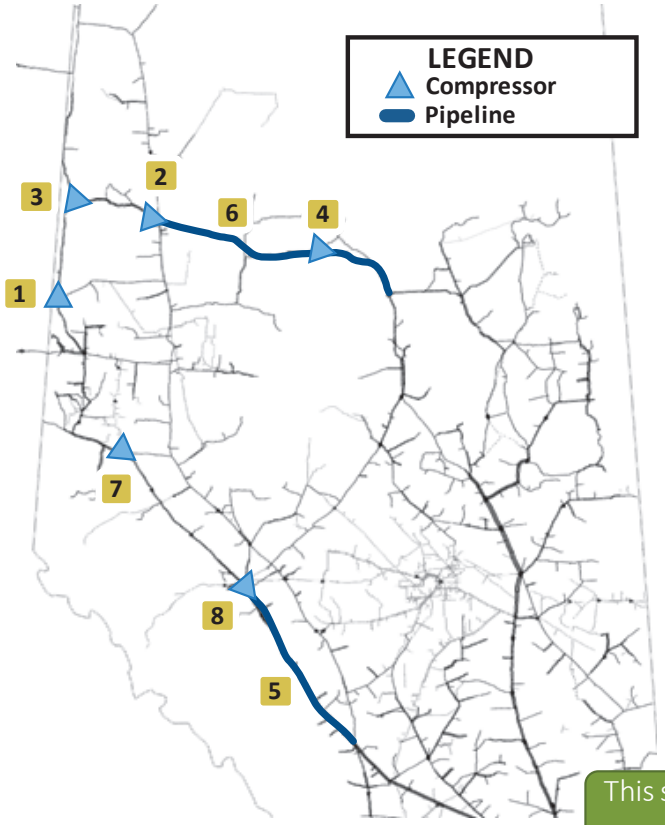


MMM-YY	USJR Base Capability $10^6m^3/d$
Nov-22	354
Dec-22	356
Jan-23	360
Feb-23	363
Mar-23	362
Apr-23	371
May-23	371
Jun-23	371
Jul-23	370
Aug-23	367
Sep-23	370
Oct-23	374
Nov-23	377

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx.
Please refer to the DOP on TC Customer Express for current outage information

Upstream James River (USJR)

No impact to FT | Potential impact to FT | Partial impact to FT



Facility Outage	Start Date	End Date	USJR Capability	Impact	Area
			$10^6 m^3/d$	$10^6 m^3/d$	
1. Alces River Compressor Station Maintenance	MAR-13	MAR-19	351	11	Upstream Latornell
2. Meikle River D Compressor Station Maintenance	MAR-13	MAR-15	347	15	Upstream Latornell
3. Hidden Lake North Compressor Station Maintenance	MAR-20	MAR-29	352	10	Upstream Latornell
4. Goodfish[1] Compressor Station Maintenance	MAR-20	MAR-29	352	10	Upstream Latornell
5. NPS 48 Edson Mainline Loop 4 Pipeline Maintenance	APR-11	APR-15	357	14	Upstream James River
6. NPS 42 North Central Corridor Pipeline Maintenance	APR-25	MAY-03	336	35	Upstream Latornell
7. Gold Creek Compressor Station Maintenance	MAY-08	MAY-11	360	11	Upstream Berland*
8. Swartz Creek Compressor Station Maintenance	MAY-15	MAY-20	359	12	Upstream James River

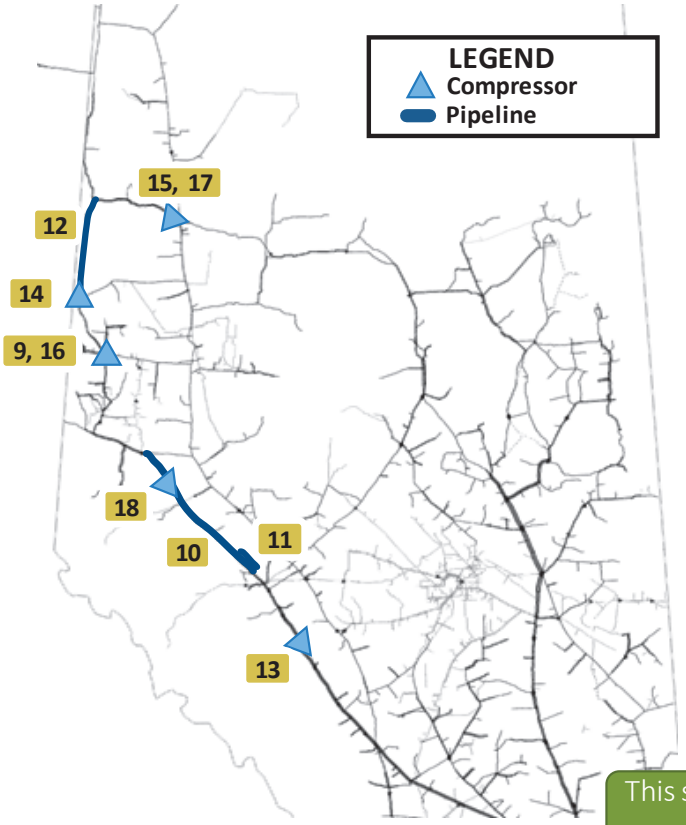
**Risk to FT-R expected to be within a subset of USJR only. If adequate downstream IT-D/IT-S exists to offset an FT-R curtailment, area of IT-D/IT-S curtailment could include portions of segments 7, 8, and 9 based on hydraulic equivalency analysis and location of the bottleneck.*

[1]Requires work to be completed within the Caribou RAP – currently pending CER approval

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

Upstream James River (USJR)

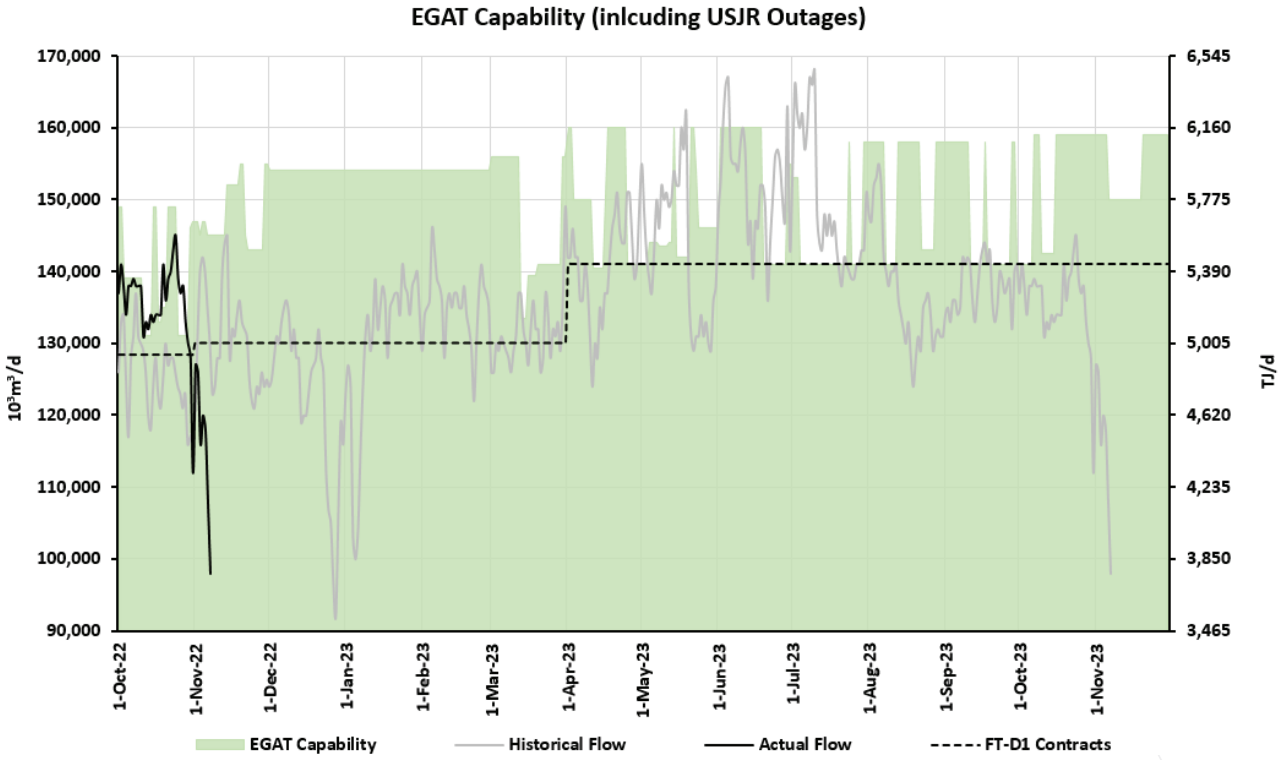
No impact to FT | Potential impact to FT | Partial impact to FT



Facility Outage	Start Date	End Date	USJR Capability	Impact	Area
			$10^6m^3/d$	$10^6m^3/d$	
9. Saddle Hills B#3 Compressor Station Maintenance	JUN-19	JUN-24	357	14	Upstream Latornell
10. NPS 48 Grande Prairie Mainline Loop 2 Pipeline Maintenance	JUN-24	JUN-28	357	14	Upstream James River
11. NPS 36 Grande Prairie Mainline Pipeline Modification	JUL-4	JUL-14	355	15	Upstream James River
12. NPS 36 Northwest Mainline Loop Pipeline Maintenance	JUL-25	JUL-29	353	17	Upstream Latornell
13. Nordegg B3 & B5 Compressor Station Maintenance	AUG-8	AUG-12	346	21	Upstream James River
14. Alces River Compressor Station Maintenance	AUG-21	AUG-26	357	10	Upstream Latornell
15. Meikle River C Compressor Station Maintenance	SEP-11	SEP-16	353	17	Upstream Latornell
16. Saddle Hills B#3 Compressor Station Maintenance	SEP-18	SEP-27	357	13	Upstream Latornell
17. Meikle River D Compressor Station Maintenance	SEP-30	OCT-6	353 (Sep) 357 (Oct)	17	Upstream Latornell
18. Latornell Compressor Station Maintenance	OCT-10	OCT-15	363	11	Upstream James River

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

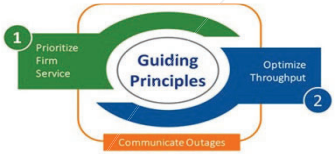
East Gate (EGAT) – currently in DOP



MMM-YY	EGAT Base Capability $10^6m^3/d$	EGAT Contracts $10^6m^3/d$
Nov-22	155	130
Dec-22	154	130
Jan-23	154	130
Feb-23	154	130
Mar-23	156	130
Apr-23	160	141
May-23	160	141
Jun-23	160	141
Jul-23	158	141
Aug-23	158	141
Sep-23	158	141
Oct-23	159	141
Nov-23	159	141

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

EGAT Capability



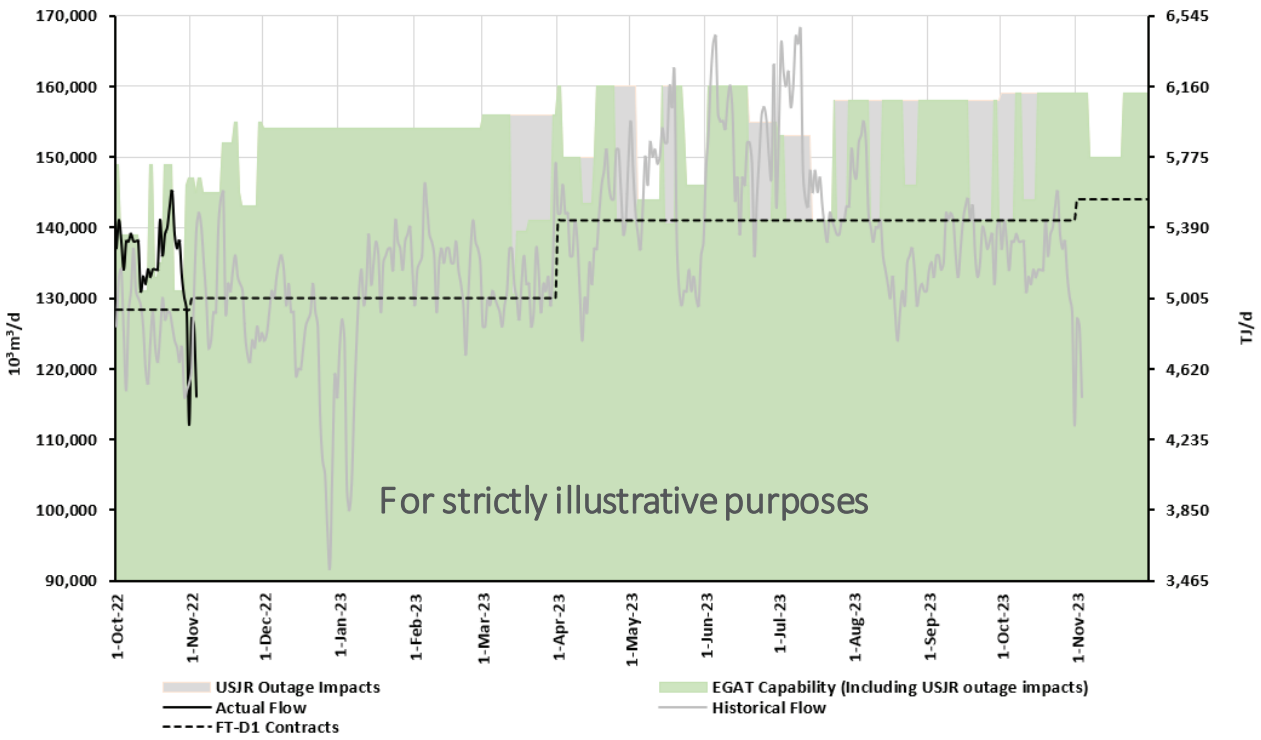
- All reported USJR outages are currently also reported in the EGAT area table indicating that we would consider if there is adequate downstream IT-D available to manage a broad area outage prior to implementing an upstream FT-R restriction

- Whether or not a reduction of downstream IT-D will be adequate to manage flows through the bottleneck for a broad area outage is highly dependent on system and contract utilization at the time

- Leading into the outage, if a reduction of IT-D availability is not expected to be adequate to manage a broad area outage:
  - An upstream FT-R restriction could be utilized
  - EGAT could remain unrestricted (the outage would be removed from the EGAT table and chart in DOP)

- We will continue to follow our guiding principles and established protocol of first considering reducing availability of all IT services prior to curtailing FT services

East Gate (EGAT) – illustrative



EGAT capability is not expected to be limiting. The overall system bottleneck is still expected to be upstream in the USJR area

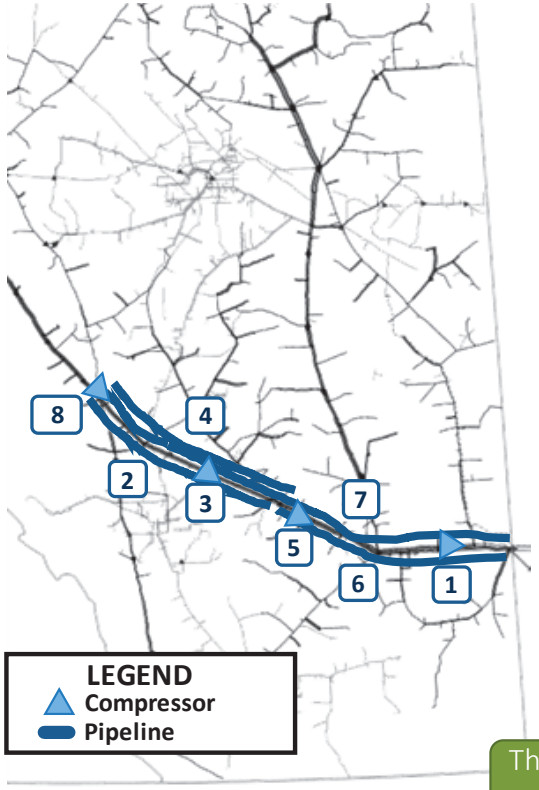
For strictly illustrative purposes, this version of the EGAT chart highlights which impacts are resulting from USJR outages currently listed and communicated.

This chart is not representative of our actual expectations. The chart in the DOP (Slide 41) and this chart represent two extremes. Expectation is that actual results will fall somewhere in between the two charts.

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

East Gate (EGAT)

No impact to FT | Potential impact to FT | Partial impact to FT

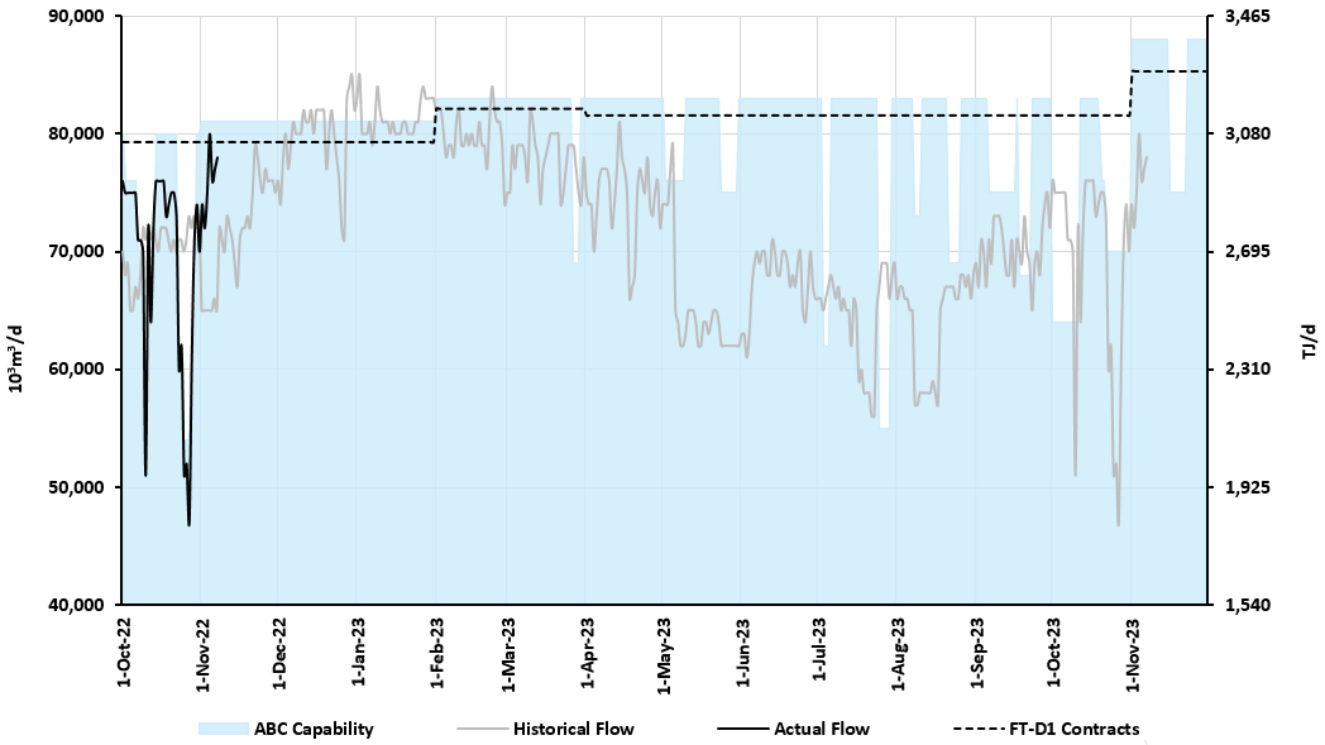


Outage Description	Start Date	End Date	EGAT Capability	Impact	Area
			$10^6 m^3/d$	$10^6 m^3/d$	
1. Jenner Compressor Maintenance	Apr-03	Apr-16	150	10	Lower EGAT
2. NPS 42 Foothills Zone 6 Pipeline Maintenance	May-04	May-13	144	16	Lower EGAT
3. Beiseker A Compressor Maintenance	May-23	May-27	154	6	Lower EGAT
4. NPS 42 Edson & CAS Mainline Loop Pipeline Maintenance	May-24	Jun-01	146	14	Lower EGAT
5. Crawling Valley Compressor Maintenance	Jun-19	Jul-16	155 (June) 153 (July)	5	Lower EGAT
6. NPS 36 EAS Mainline Loop 2 Pipeline Maintenance	Jul-05	Jul-14	153	5	Lower EGAT
7. NPS 48 Edson & CAS & EASML Loop 3&4[1] Pipeline Maintenance	Jul-15	Jul-23	142	16	Lower EGAT
8. Clearwater A6 Compressor Maintenance	Nov-06	Nov-19	150	9	Lower EGAT

[1] *Expected to be managed by reducing all EGAT IT-D but has potential to impact EGAT FT-D service*

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

West Gate (WGAT)

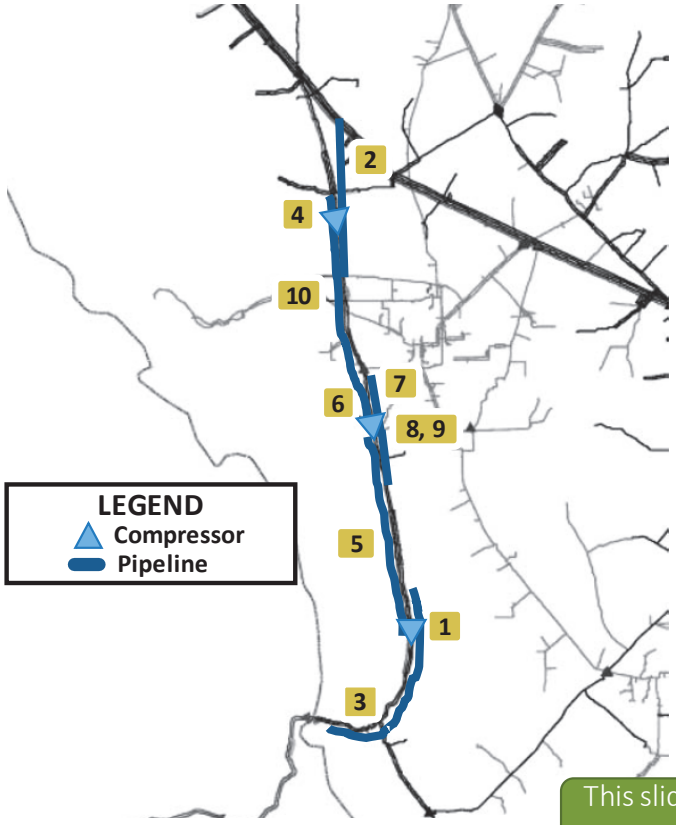


MMM-YY	ABC Base Capability $10^6m^3/d$	ABC Contracts $10^6m^3/d$
Nov-22	81	79.3
Dec-22	81	79.3
Jan-23	81	79.3
Feb-23	83	82.1
Mar-23	83	82.1
Apr-23	83	81.5
May-23	83	81.5
Jun-23	83	81.5
Jul-23	83	81.5
Aug-23	83	81.5
Sep-23	83	81.5
Oct-23	83	81.5
Nov-23	88	85.3

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx.
Please refer to the DOP on TC Customer Express for current outage information

West Gate (WGAT) - NGTL

No impact to FT | Potential impact to FT | Partial impact to FT



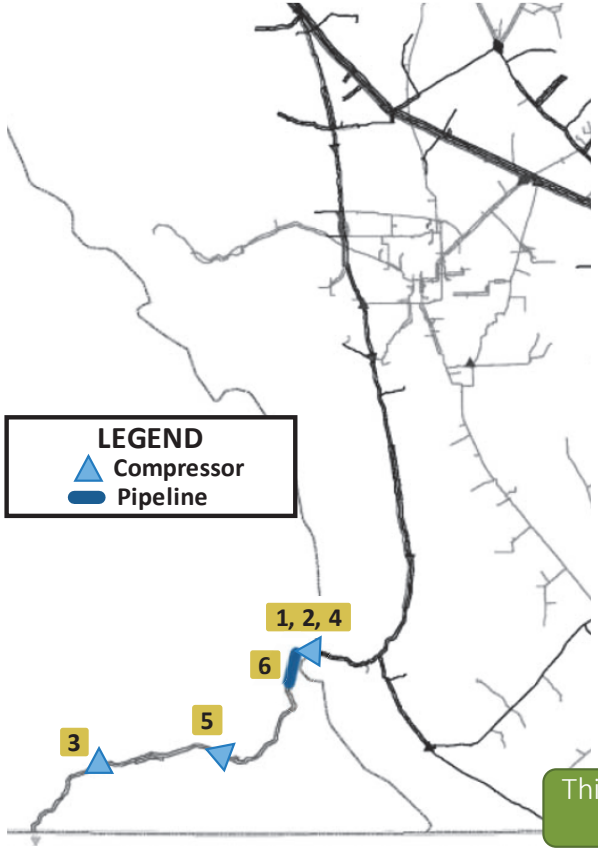
Outage Description	Start Date	End Date	ABC Capability	Impact	Area
			$10^6m^3/d$	$10^6m^3/d$	
1. Burton Creek Compressor Station Maintenance	Mar-27	Mar-29	69	14	AB-BC & AB-MN Borders
2. NPS 42 Western Alberta System Mainline Loop Pipeline Maintenance	May-02	May-09	76	7	AB-BC & AB-MN Borders; Segment 22 and Partial 21
3. NPS 42 Western Alberta System Mainline Loop Pipeline Maintenance	Jul-25	Jul-29	55	28	AB-BC & AB-MN Borders
4. Winchell Lake Compressor Station Maintenance	Aug-08	Aug-10	73	10	AB-BC & AB-MN Borders; Segment 22 and Partial 21
5. NPS 36 Western Alberta System Mainline Pipeline Maintenance	Sep-06	Sep-16	75	8	AB-BC & AB-MN Borders
6. NPS 36 Western Alberta System Mainline Segment 1 Pipeline Modifications	Oct-01	Oct-11	64	19	AB-BC & AB-MN Borders; Segment 22 and Partial 21
7. NPS 36 Western Alberta System Mainline Segment 2 Pipeline Modifications	Oct-01	Oct-11	64	19	AB-BC & AB-MN Borders
8. Turner Valley A1 & A2 Compressor Station Maintenance Maintenance	Oct-20	Oct-31	76	7	AB-BC & AB-MN Borders
9. Turner Valley Compressor Station Maintenance Maintenance	Oct-22	Oct-31	70	13	AB-BC & AB-MN Borders
10. NPS 36 Western Alberta System Mainline Pipeline Maintenance	Nov-16	Nov-22	75	13	AB-BC & AB-MN Borders; Segment 22 and Partial 21

Note: Dates may change as optimization and alignment opportunities are coordinated with downstream operators.

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

West Gate (WGAT) - FHBC

No impact to FT | Potential impact to FT | Partial impact to FT

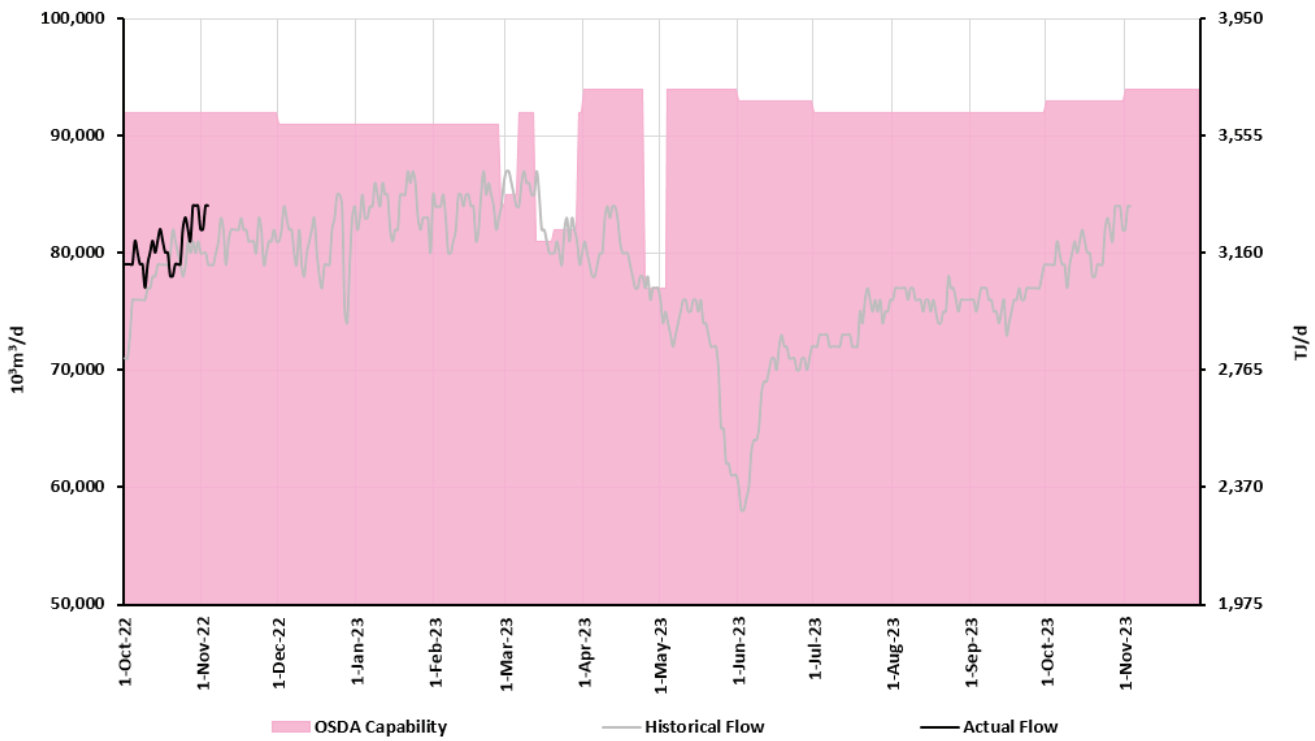


Outage Description	Start Date	End Date	ABC Capability	Impact	Area
			$10^6m^3/d$	$10^6m^3/d$	
1. Crowsnest K Compressor Station Maintenance	May-24	May-30	75	8	Foothills BC
2. Crowsnest A Compressor Station Maintenance	Jul-03	Jul-05	62	21	Foothills BC
3. Moyie Compressor Station Maintenance	Aug-21	Aug-25	69	14	Foothills BC
4. Crowsnest B Compressor Station Maintenance	Sep-11	Sep-13	75	8	Foothills BC
5. Elko Compressor Station Maintenance	Sep-18	Sep-22	68	15	Foothills BC
6. NPS 48 BC Mainline Loop Pipeline Modifications	Oct-01	Oct-11	64	19	Foothills BC

Note: Dates may change as optimization and alignment opportunities are coordinated with downstream operators.

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

Oil Sands Delivery Area (OSDA)

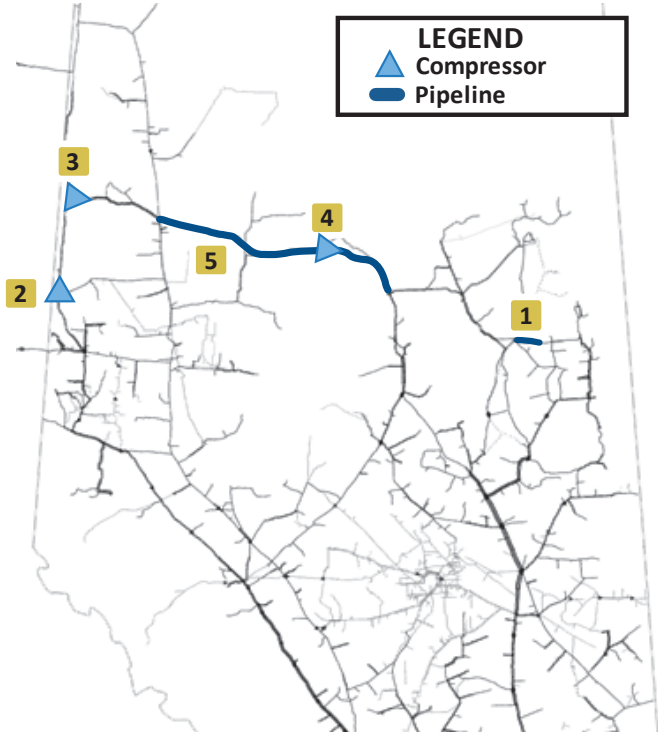


MMM-YY	OSDA Base Capability $10^6m^3/d$
Nov-22	92
Dec-22	91
Jan-23	91
Feb-23	91
Mar-23	92
Apr-23	94
May-23	94
Jun-23	93
Jul-23	92
Aug-23	92
Sep-23	92
Oct-23	93
Nov-23	94

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

Oil Sands Delivery Area (OSDA)

No impact to FT | Potential impact to FT | Partial impact to FT



Facility Outage	Start Date	End Date	OSDA Capability	NEDA Capability	Impact	Area
			$10^6m^3/d$	$10^6m^3/d$	$10^6m^3/d$	
1. NPS 30 Leismer-Kettle River Crossover[1] Pipeline Modification	FEB-27	MAR-05	84	-	7	OSDA
2. Alces River Compressor Station Modification	MAR -13	MAR-19	82	139	10	NEDA
3. Hidden Lake North Compressor Station Modification	MAR-20	MAR-29	83	140	9	NEDA
4. Goodfish[2] Compressor Station Modification	MAR-20	MAR-29	83	140	9	NEDA
5. NPS 42 North Central Corridor[3] Pipeline Maintenance	APR-25	MAY-03	77	120	17	NEDA

[1]Winter access required – subject to change if during a period of extreme cold and ground conditions permit deferral
[2]Requires work to be completed within the Caribou RAP – currently pending CER approval
[3]Collecting plant turnaround schedules and will make best efforts to schedule and align with periods of lower flow to reduce impacts

This slide may not be accurate beyond the November 10 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

2023 Operational Outlook

- With a significant number of expansion facilities recently placed in-service, overall system capability has increased with all facilities available.
- EGAT capability is not expected to be the limiting factor. The overall system bottleneck is still expected to be upstream in the USJR area.
- All reported USJR outages are currently also reported in the EGAT area table indicating that we would consider if there is adequate downstream IT-D available to manage a broad area outage prior to implementing an upstream FT-R restriction.
- Whether or not a reduction of downstream IT-D will be adequate to manage flows through the bottleneck for a broad area outage is highly dependent on system and contract utilization at the time
- We will continue to follow our guiding principles and established protocol of first considering reducing availability of all IT services prior to curtailing FT services

Excerpt https://www.globenewswire.com/news-release/2022/11/09/2551747/0/en/TC-Energy-reports-strong-third-quarter-2022-results.html

TC Energy reports strong third quarter 2022 results

- **Coastal GasLink**: On July 28, 2022, Coastal GasLink LP executed definitive agreements with LNG Canada that addressed and resolved disputes over certain incurred and anticipated costs of the Coastal GasLink pipeline project.

  The revised project agreements incorporate a new cost estimate for the project of $11.2 billion, which reflects an increase from the original project cost estimate due to scope increases and the impacts of COVID-19, weather and other events outside of Coastal GasLink LP's control. Current market conditions, including inflationary impacts on labour costs, could result in final project costs that are higher than this new estimate. Mechanical in-service is expected to be reached by the end of 2023. Commercial in-service of the Coastal GasLink pipeline will occur after completion of commissioning the pipeline.

  The revised $11.2 billion project cost will be funded in part by existing project-level credit facilities with a revised total capacity of $8.4 billion following an expansion of $1.6 billion. Required project equity of $2.8 billion includes an additional $1.9 billion equity contribution from TC Energy, payable in monthly installments from August 2022 to February 2023 that does not result in a change to our 35 per cent ownership. Additional equity financing required to fund construction of the pipeline will initially be financed through a subordinated loan agreement between TC Energy and Coastal GasLink LP which was originally put in place in fourth quarter 2021 and was amended on July 28, 2022. Following these amendments, draws by Coastal GasLink LP will be provided through an interest-bearing loan, subject to a floating market-based interest rate, which will be repaid with funds from equity contributions to the partnership by the Coastal GasLink LP partners, including us, subsequent to the in-service date of the Coastal GasLink pipeline when final project costs are determined. Committed capacity under this subordinated loan agreement between TC Energy and Coastal GasLink LP has been and will continue to be stepped down over time. At September 30, 2022, total available capacity under the subordinated loan agreement was $1.8 billion with an outstanding balance of $250 million. We currently estimate our portion of the equity contributions to Coastal GasLink LP over the project life to be approximately $2.1 billion, including the $1.9 billion equity contribution noted above.

  On March 9, 2022, we announced the signing of option agreements to sell a 10 per cent equity interest in Coastal GasLink LP to Indigenous communities across the project corridor. The opportunity to become business partners through equity ownership was made available to all 20 Nations holding existing agreements with Coastal GasLink LP. The Nations have established two entities that together currently represent 16 Indigenous communities that have confirmed their support for the option agreements. The equity option is exercisable after commercial in-service of the pipeline, subject to customary regulatory approvals and consents, including the consent of LNG Canada.

  The Coastal GasLink pipeline project is approximately 75 per cent complete. The entire route has been cleared, grading is more than 84 per cent complete and approximately 400 km of pipeline has been backfilled with reclamation activities underway in many areas.

https://www.eni.com/en-IT/media/press-release/2022/11/eni-coral-first-cargo.html

Mozambique's first LNG cargo departs from Coral Sul FLNG, offshore the Rovuma basin

13 NOVEMBER 2022 - 9:00 AM CET

Maputo (Mozambique), 13 November 2022 – Eni, as Delegated Operator of the Coral South project on behalf of its Area 4 Partners (ExxonMobil, CNPC, GALP, KOGAS and ENH), informs that the first shipment of liquefied natural gas (LNG) produced from the Coral gas field, in the ultra-deep waters of the Rovuma Basin, has just departed from Coral Sul Floating Liquefied Natural Gas (FLNG) facility.

Eni CEO Claudio Descalzi commented that "The first shipment of LNG from Coral South project, and from Mozambique, is a new and significant step forward in Eni's strategy to leverage gas as a source that can contribute in a significant way to Europe's energy security, also through the increasing diversification of supplies, while also supporting a just and sustainable transition. We will continue to work with our partners to ensure timely valorization of Mozambique's vast gas resources".

Coral South is a landmark project for the industry and firmly places Mozambique onto the global LNG stage. The project, sanctioned in 2017, comes on stream after just 5 years, in line with the initial budget and schedule, despite the disruptions caused by the Covid pandemic. This result was made possible thanks to Eni's distinctive phased and parallelized approach, a very effective execution planning, and the strong commitment by all partners and the unwavering support of the Government of Mozambique. Coral Sul FLNG has a gas liquefaction capacity of 3.4 million tons per year and will produce LNG from the 450 billion cubic meters of gas of the Coral reservoir.

About Area 4
Area 4 is operated by Mozambique Rovuma Venture S.p.A. (MRV), an incorporated joint venture owned by Eni, ExxonMobil and CNPC, which holds a 70 percent interest in the Area 4 exploration and production concession contract. In addition to MRV, the other shareholders in Area 4 are Galp, KOGAS and ENH, each with a 10 percent participation interest. Eni is the Delegated Operator for the Coral South project and all Upstream activities in Area 4.

Mozambique press content Media Kit | Eni

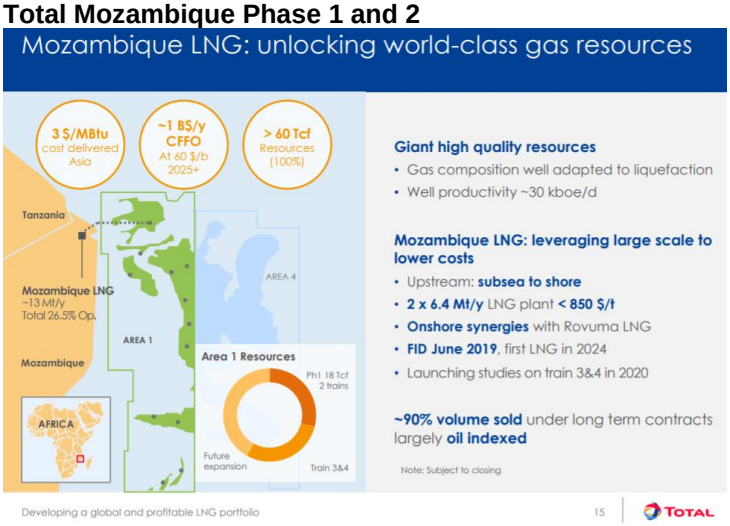
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

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

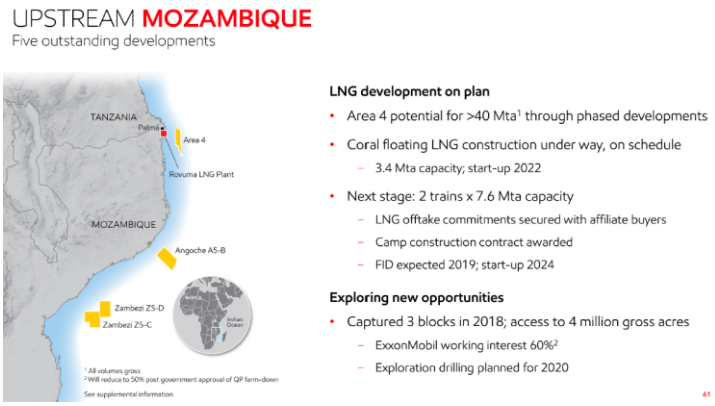
Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF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

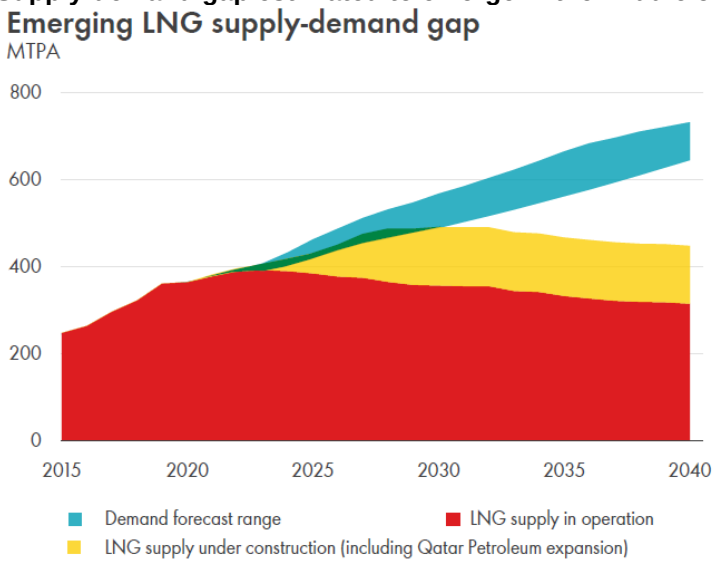
Source: IEA Tracking Clean Energy Progress, June 2020

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

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.. 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.

And does this bigger, nearer supply gap force LNG players to look at what brownfield LNG projects they could advance? 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.

DAWN – Pakistan News

https://www.dawn.com/news/1720286/govt-has-no-option-but-to-ration-gas-in-winter

‘Govt has no option but to ration gas in winter’

Khaleeq Kiani Published November 11, 2022 Updated about 8 hours ago

ISLAMABAD: Petroleum Division on Thursday told a parliamentary panel that there was no option but natural gas rationing in the coming winter in view of the increasing shortage every year.

Testifying before the National Assembly’s Standing Committee on Petroleum, Additional Secretary Incharge Capt (retd) Muhammad Mahmood made it clear that every effort would be made to ensure gas supply to domestic consumers for three hours in the morning, two hours in the afternoon and three hours in the evening.

“There would be no gas supply (to household consumers) for 16 hours,” he said, adding that natural gas was scarce in the country and the coming winter was quite difficult in terms of gas availability and hence could be provided only three times a day to domestic consumers for cooking.

The meeting of the committee presided over by Amir Talal Gopang was also told that local gas production was declining at the rate of 10pc every year and there would be no indigenous gas supply after 10 years if the situation continued.

16-hour loadshedding planned for domestic consumers, NA panel told

Regarding the diversion of liquefied natural gas (LNG) to household sector as had been the practice in the past, the secretary petroleum said the authorities could not purchase expensive LNG and sell it cheaper and LNG was not available at higher rates either.

He said there were prospective areas in the country with gas deposits but the exploration was not possible due to security reasons. “There are no new discoveries of gas due to security risk and political instability, he added, explaining that instead of coming to Pakistan the big international petroleum companies were going to other low-risk countries in search of oil and gas.

Due to political instability, international oil and gas companies are not ready to invest here, Secretary Petroleum said and asked why would a company come for a year. These companies say after one year this government will not be in place, then what will happen to them, they asked.

He said Pakistan would have to depend on imported gas and there was a possibility that gas would get cheaper in the world market in four years and the government was trying to build infrastructure to import additional gas.

Regarding imports from Iran and Russia, the secretary said that due to international sanctions they cannot take gas from these two countries in the given circumstances. However, the government was taking steps to secure gas from alternative sources but the problem was that whichever countries the authorities talked to for gas supplies were under the influence of some other country but then hastened to add that such decisions were made at the political level and not by the ministry on its own.

Managing Director Sui Southern Gas Company Ltd told the committee that the gas load management plan for winter had been submitted to the Petroleum Division. He said priority would be given to domestic consumers for gas supply and would be cut to captive plants.

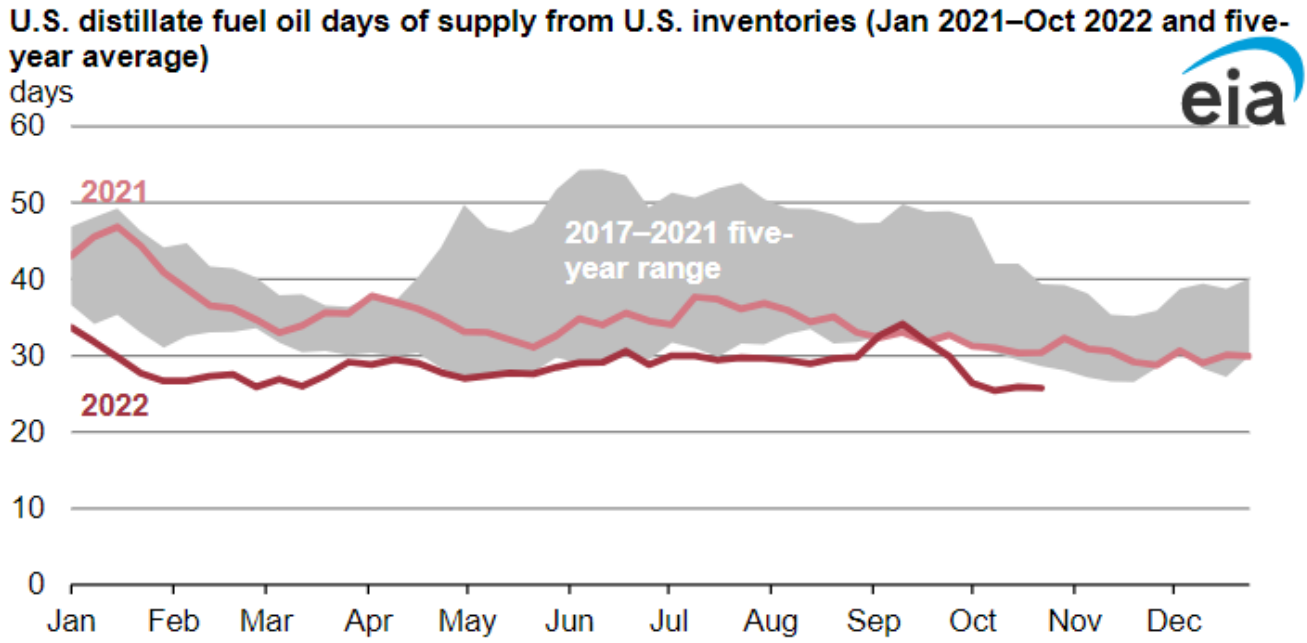
He said there could be gas supply problems in the areas of Karachi like Lyari, Keamari and other tail-end areas in SSGCL's service area as there would be an estimated shortfall of 200-300 mmcfd of gas on the network during the winter season. He said the industries in Karachi would not be allowed to draw gas through pressure pumps.

Published in Dawn, November 11th, 2022

https://www.eia.gov/todayinenergy/detail.php?id=54619

NOVEMBER 10, 2022

Strong demand for diesel leads to high prices and tight inventories going into winter



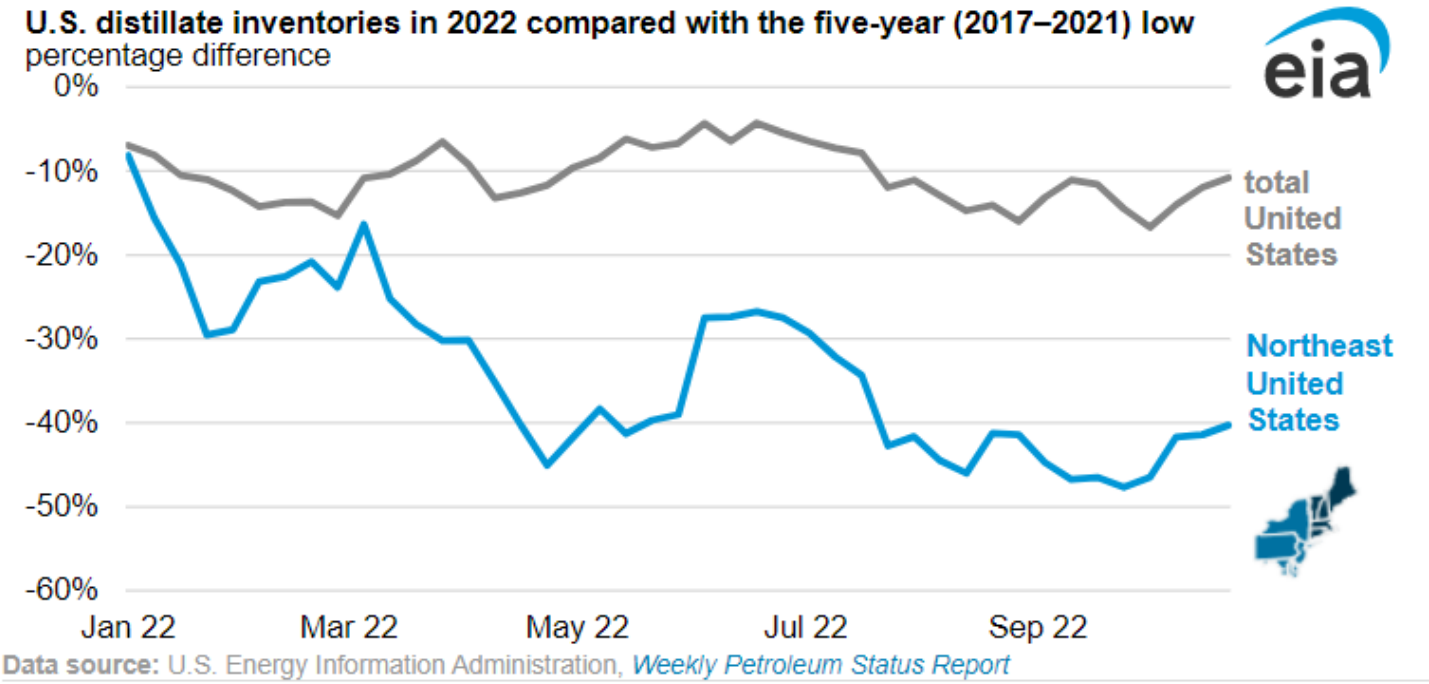
Data source: U.S. Energy Information Administration, *Weekly Petroleum Status Report*
Note: Days of supply is calculated by dividing weekly ending inventories of distillate fuel oil by the rolling four-week average product supplied of distillate fuel oil for the corresponding week.

Strong demand for ultra-low sulfur diesel (ULSD) in October, combined with reduced global production, has resulted in lower ULSD inventories in the United States. ULSD is the most widely consumed form of distillate fuel oil.

Current inventories and our current estimate of future demand can be combined into a metric called days of supply, which is calculated by dividing the inventory (in barrels) by the estimated demand (in barrels per day) to get the number of days that inventories alone could meet demand. In October 2022, the United States had 25 days of supply of distillate, the fewest since 2008. U.S. days of supply between 2017 and 2021 averaged 34 days. U.S. inventories of distillate fuel oil have been below the previous five-year (2017–21) low since the start of 2022.

Days of supply, however, is not a complete snapshot of distillate fuel oil availability because it doesn't take into account production, imports, or any sources of supply other than inventories.

In October 2022, the New York Harbor spot price for ULSD averaged $4.36 per gallon (gal), the highest monthly price since May 2022. The increase in diesel prices, both in the United States and globally, has been the result of a number of factors, such as tight global inventories, reduced refinery production in Europe following labor strikes, and the start of seasonal demand for distillate as a home heating fuel.



Reduced refining capacity in the United States and globally since 2020 is one of the main reasons for low distillate inventories in the United States. Distillate fuel consumption this year, through August, remained below pre-pandemic levels but was higher than in 2020. More distillate consumption combined with less distillate production contributed to the lower inventories. Increasing demand in October, measured as product supplied, contributed to greater pressure on those inventories and resulted in a decrease in October days of supply relative to September.

The Northeast—the combined New England and mid-Atlantic regions—has had even tighter inventories than the U.S. average. Lower inventories have contributed to rising prices in the region. U.S. distillate demand is seasonal; specifically, consumption increases in the winter because it is used for home heating, mostly in the Northeast.

You can read more about the seasonal nature of U.S. distillate demand in our *Winter Fuels Outlook*.

Principal contributor: Kevin Hack

Tags: production/supply, consumption/demand, liquid fuels, diesel, inventories/stocks

https://www.argusmedia.com/en/news/2388230-kuwaits-alzour-refinery-starts-commercial-operations?utm_campaign=Oktopost-free-news-crude-oil&utm_content=Oktopost-twitter&utm_medium=social&utm_source=twitter&utm_term=crude-oil

Kuwait's al-Zour refinery starts commercial operations

Published date: 06 November 2022

Commercial operations have started at the first phase of Kuwait's 615,000 b/d al-Zour refinery, project operator Kipic said today.

The refinery is "a vital outlet for the disposal of heavy Kuwaiti oil and provides refined products for export in global markets with standard specifications", acting Kipic chief executive Waleed al Bader told state news agency Kuna.

Al-Zour will expand Kuwait's refining capacity to 1.415mn b/d from around 800,000 b/d when it reaches full capacity in 2023.

The project has faced repeated setbacks, first because of technical and logistical issues with contractors and more recently because of issues related to the Covid-19 pandemic. Kuwait had aimed to begin commissioning al-Zour in mid-2019 and have it fully operational by 2020.

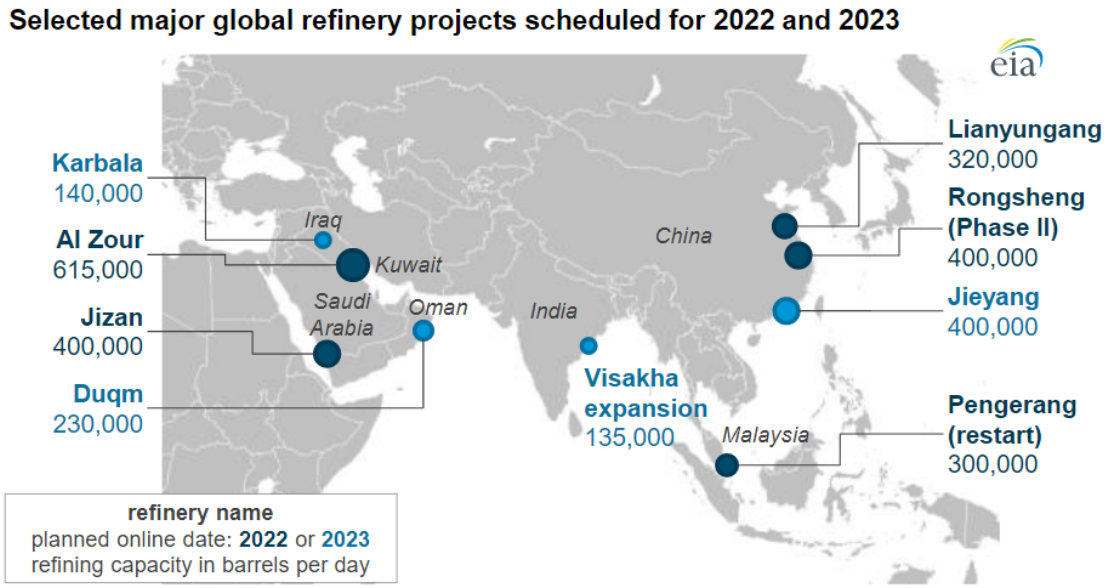
The refinery has been designed to process mostly heavy crudes, including from the Lower Fars project in northeast Kuwait. It will boost the country's middle distillate output and will produce low-sulphur fuel oil, mainly for local power plants, and naphtha feedstock for petrochemical plants.

US engineering company Fluor, one of the companies working on the project, has said al-Zour will have capacity to process 615,000 b/d of light Kuwaiti crude or 535,000 b/d of heavy grades.

By Elshan Aliyev

https://www.eia.gov/todayinenergy/detail.php?id=53279
AUGUST 2, 2022

Several refining projects are scheduled in Asia and the Middle East



Data source: U.S. Energy Information Administration

In Asia and the Middle East, at least nine refinery projects are beginning operations or are scheduled to come online before the end of 2023. At their current planned capacities, they will add 2.9 million barrels per day (b/d) of global refinery capacity once fully operational. In the International Energy Agency's (IEA) June 2022 *Oil Market Report*, the IEA expects net global refining capacity to expand by 1.0 million b/d in 2022 and by an additional 1.6 million b/d in 2023. Net capacity additions reflect total new capacity minus capacity that has closed.

The scheduled expansions follow a period of reduced global refining capacity. Net global capacity declined in 2021 for the first time in 30 years, according to the IEA. The new refinery projects would increase production of refined products, such as gasoline and diesel, and in turn, they might reduce the current high prices for these products.

China's refinery capacity is scheduled to increase significantly this year. The Shenghong Petrochemical facility in Lianyungang has an estimated capacity of 320,000 b/d, and they report that trial crude oil-processing operations began in May 2022. In addition, PetroChina's 400,000 b/d Jieyang refinery is expected to come online in the third quarter of 2022. A planned 400,000 b/d Phase II capacity expansion also began operations earlier this year at Zhejiang Petrochemical Corporation's (ZPC) Rongsheng facility. More information on these expansions is available in our *Country Analysis Executive Summary: China*.

Outside of China, the 300,000 b/d Malaysian Pengerang refinery (also known as the RAPID refinery) restarted in May 2022 after a fire forced the refinery to shut down in March 2020. In India, the Visakha Refinery is undergoing a major expansion, scheduled to add 135,000 b/d by 2023.

New projects in the Middle East are also likely to be an important source of new refining capacity. The 400,000 b/d Jizan refinery in Saudi Arabia reportedly came online in late 2021 and began exporting petroleum products earlier this year. More recently, the 615,000 b/d Al Zour refinery in Kuwait—the largest in the country when it becomes fully operational—began initial operations earlier this year. A new 140,000 b/d refinery is scheduled to come online in Karbala, Iraq, this September, targeting fully operational status by 2023. A new 230,000 b/d refinery is set to come online in Duqm, Oman, likely in early 2023.

These estimates do not necessarily include all ongoing refinery capacity expansions. Moreover, many of these projects have already been subject to major delays, and the possibility of partial starts or continued delays related to logistics, construction, labor, finances, political complications, or other factors may cause these projects to come online later than estimated. Although the potential for project complications and cancellations is always a significant risk, these projects could otherwise account for an increase of nearly 3.0 million b/d of new refining capacity by the end of 2023.

https://tradestat.commerce.gov.in/meidb/cntbrc.asp?ie=e

Department of Commerce
SYSTEM ON INDIA's MONTHLY TRADE
(Harmonised Classification of Commodities)
Export :: Country-wise principal commodity wise all HSCode

Dated: 8/11/2022
Quantity in Thousands
(F) Final
Sorted on HSCode

Country: NETHERLAND
Principal Commodity*: PETROLEUM: CRUDE & PRODUCTS

S.No.	HSCode	Commodity	Unit	Aug 2021 (F)	Aug 2022 (F)	%Growth	Apr-Aug 2021 (F)	Apr-Aug 2022 (F)	%Growth
1.	27101920	AVIATION TURBINE FUEL (ATF)	KGS	125,385.82	197,350.00	57.39	1,712,974.90	2,185,011.16	27.56
2.	27101939	AVIATION TURBINE FUELS, KEROSENE TYPE CONFORMING TO STANDARD IS 1571	KGS					290,743.18	
3.	27101941	GAS OIL	KGS		0.01			0.04	
4.	27101944	AUTOMOTIVE DIESEL FUEL, NOT CONTAINING BIODIESEL, CONFORMING TO STANDARD IS 1460	KGS	133,137.00	286,818.00	115.43	322,072.18	800,018.00	148.40
5.	27101949	HIGH FLASH HIGH SPEED DIESEL FUEL CONFORMING TO	KGS					125,928.69	

https://tradestat.commerce.gov.in/meidb/cntbrc.asp?ie=e

Department of Commerce
SYSTEM ON INDIA's MONTHLY TRADE
(Harmonised Classification of Commodities)
Export :: Country-wise principal commodity wise all HSCode

Dated: 8/11/2022
Quantity in Thousands
(F) Final
Sorted on HSCode

Country: U ARAB EMTS
Principal Commodity*: PETROLEUM: CRUDE & PRODUCTS

S.No.	HSCode	Commodity	Unit	Aug 2021 (F)	Aug 2022 (F)	%Growth	Apr-Aug 2021 (F)	Apr-Aug 2022 (F)	%Growth
1.	27101221	LIGHT NAPHTHA	KGS				8.00		
2.	27101229	FULL RANGE NAPHTHA	KGS				0.01		
3.	27101241	MOTOR GASOLINE CONFORMING TO STANDARD IS 2796	KGS	290,367.00	489,101.86	68.44	1,048,124.55	1,563,678.86	49.19
4.	27101290	OTHER	KGS	58,703.81	132,025.00	124.90	1,184,364.45	1,020,320.09	-13.85
5.	27101920	AVIATION TURBINE FUEL (ATF)	KGS	4,355.60	1,247.40	-71.36	18,594.78	128,530.42	591.22
6.	27101939	AVIATION TURBINE FUELS, KEROSENE TYPE CONFORMING TO STANDARD IS 1571	KGS					63,685.00	
7.	27101941	GAS OIL	KGS				0.01		
8.	27101943	LIGHT DIESEL OIL CONFORMING TO STANDARD IS 15770	KGS	1.41			1.41		
9.	27101944	AUTOMOTIVE DIESEL FUEL, NOT CONTAINING BIODIESEL, CONFORMING TO STANDARD IS 1460	KGS	229,062.39	99,750.00	-56.45	768,802.50	386,015.55	-49.79
10.	27101949	HIGH FLASH HIGH SPEED DIESEL FUEL CONFORMING TO STANDARD IS 16861	KGS	346.30	41,426.41	11,862.54	146,233.70	236,678.75	61.85
11.	27101951	GRADE LV	KGS	3,640.00	1,823.16	-49.91	21,707.10	3,978.07	-81.67
12.	27101952	GRADE MV1	KGS		560.00			36,221.19	

https://tradestat.commerce.gov.in/meidb/cntbrc.asp?ie=e

Department of Commerce

SYSTEM ON INDIA's MONTHLY TRADE

(Harmonised Classification of Commodities)

Export :: Country-wise principal commodity wise all HSCode

Dated: 8/11/2022
Quantity in Thousands
(F) Final
Sorted on HSCode

Country: U S A
Principal Commodity*: PETROLEUM: CRUDE & PRODUCTS

S.No.	HSCode	Commodity	Unit	Aug 2021 (F)	Aug 2022 (F)	%Growth	Apr-Aug 2021 (F)	Apr-Aug 2022 (F)	%Growth
1.	27101221	LIGHT NAPHTHA	KGS						
2.	27101241	MOTOR GASOLINE CONFORMING TO STANDARD IS 2796	KGS	151,969.00			864,798.00	237,638.00	-72.52
3.	27101290	OTHER	KGS	240,843.00	422,348.00	75.36	1,185,669.00	1,485,377.40	25.28
4.	27101920	AVIATION TURBINE FUEL (ATF)	KGS	59,364.43			189,194.05	193,348.92	2.20
5.	27101941	GAS OIL	KGS					0.20	
6.	27101942	VACUUM GAS OIL	KGS				0.05	0.60	1,233.33
7.	27101944	AUTOMOTIVE DIESEL FUEL, NOT CONTAINING BIODIESEL, CONFORMING TO STANDARD IS 1460	KGS	109,200.00			218,400.00		
8.	27101949	HIGH FLASH HIGH SPEED DIESEL FUEL CONFORMING TO	KGS	70.00			70.00	427.32	510.46

Excerpt https://www.vortexa.com/insights/crude/irans-crude-condensate-exports-reached-9-month-highs-in-october-2022/

Iran's crude/condensate exports reached 9 month highs in October 2022

This insight explores the sharp climb in Iran's crude/condensate exports observed in October, changes to floating storage and Russia's impact on Iranian fleet activity.

08 NOVEMBER, 2022

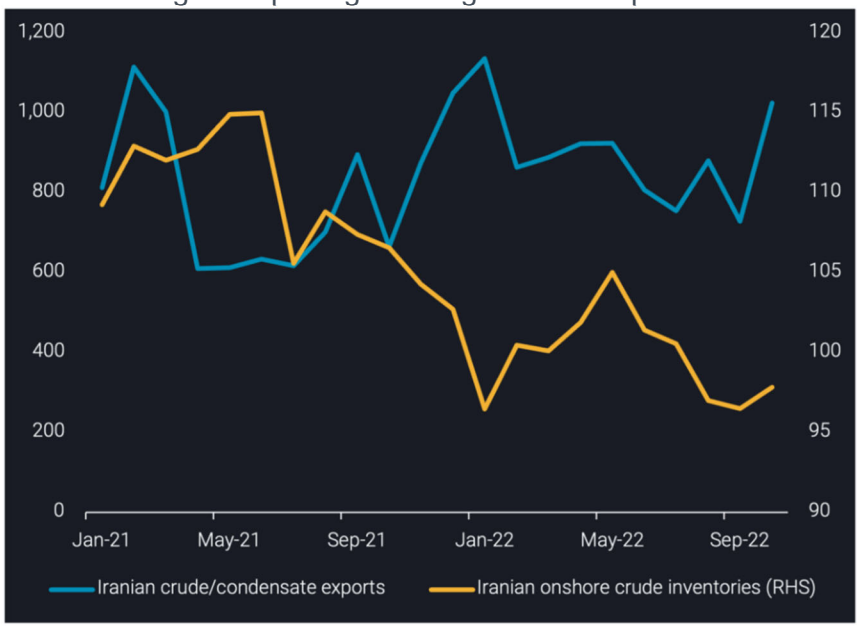
Armen Azizian, Crude Market Analyst

Iran exported 1mbd of crude/condensate in October 2022, a 300kbd increase m-o-m and 100kbd above the 12 month average. This marks October as Iran's highest crude/condensate exports since January 2022, where exports surpassed 1.1mbd. Exports moved flat-to-lower since January, averaging 850kbd over February to September 2022, as Chinese buyers benefited from increased competition between Iranian and discounted Russian crude.

This sharp rebound in Iranian crude/condensate exports observed in October is driven by three factors. Firstly, Iranian crude has been heavily discounted in comparison to African and Middle Eastern grades, making them attractive for their largest buyer, China. Furthermore, Iranian Heavy has more attractive middle distillate yields compared to Venezuelan grades, making them additionally attractive for independent refiners admidst the higher refinery runs in China.

Secondly, strikes at Iran's Abadan refinery (400kbd refining capacity) coupled with the planned partial maintenance of the Isfahan refinery (375kbd refining capacity) has meant more Iranian crude is available for export as opposed to domestic consumption. Thirdly, two non-NITC VLCCs newly joined the Iranian trade in October and a NITC VLCC departed from floating storage and partially loaded again, helping facilitate higher total crude/condensate exports.

Meanwhile, Iran's onshore crude inventories have broadly increased, sitting at 97.8mb in October, a 1mb stock build m-o-m driven by the refinery outages observed above. This is the first m-o-m stock build since May 2022, as Iranian crude stocks drew 8.5mb from May to September 2022 amidst flat crude production and an attempt to facilitate higher exports given heightened competition with Russia.



Iranian crude/condensate exports (kbd, LHS) vs Iranian onshore crude inventories (mb, RHS)

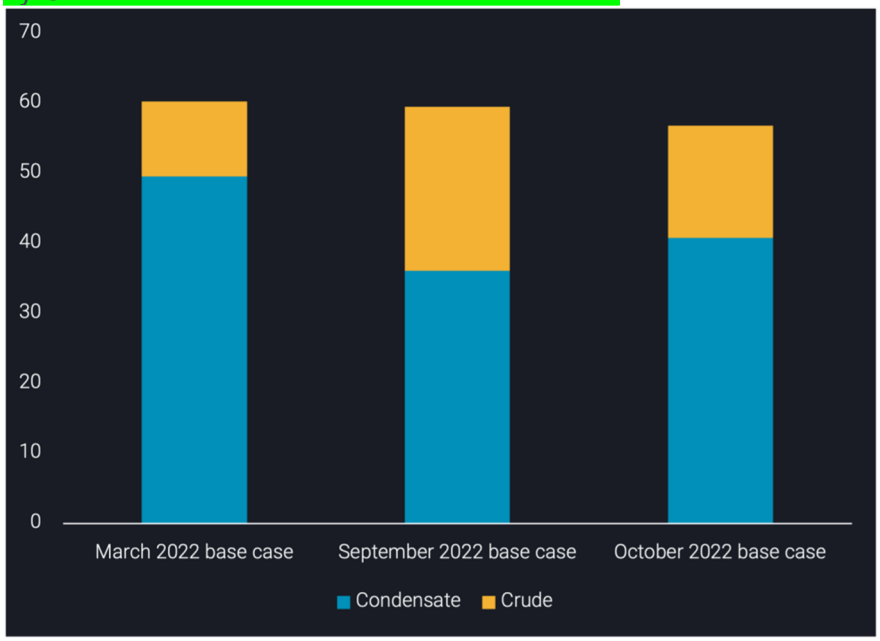
Iranian crude/condensate in floating storage totals 57mb

As of 1 November, Iranian crude/condensate in floating storage is assessed at 57mb, a mix of 70% condensate and 30% crude. The 70% condensate is accounted for by 26 NITC tankers storing condensate floating offshore Assaluyeh or Malaysia. The 30% crude is stored on non-NITC tankers floating offshore Malaysia awaiting buyers.

In total, Iranian floating storage is 3mb lower m-o-m, but the mix of crude and condensate in floating storage has changed.

As of 1 November, South Pars Condensate in floating storage is assessed at 41mb, a 4mb increase m-o-m. There are two primary reasons behind this increase. Firstly, there is a decline in NITC tankers sailing for Venezuela. Venezuelan crude production was assessed at 12 month lows in September (OPEC), and has hence resulted in lower demand for Iranian condensate for blending purposes. Secondly, two non-NITC VLCCs newly joined the Iranian trade in October (port loadings), reducing the need to utilise NITC tankers. This has resulted in a larger number of NITC tankers on floating storage duty.

Iranian crude in floating storage is assessed at 16mb in October, a 7mb decline m-o-m. This decline is driven by China's increased demand for Iranian crude.

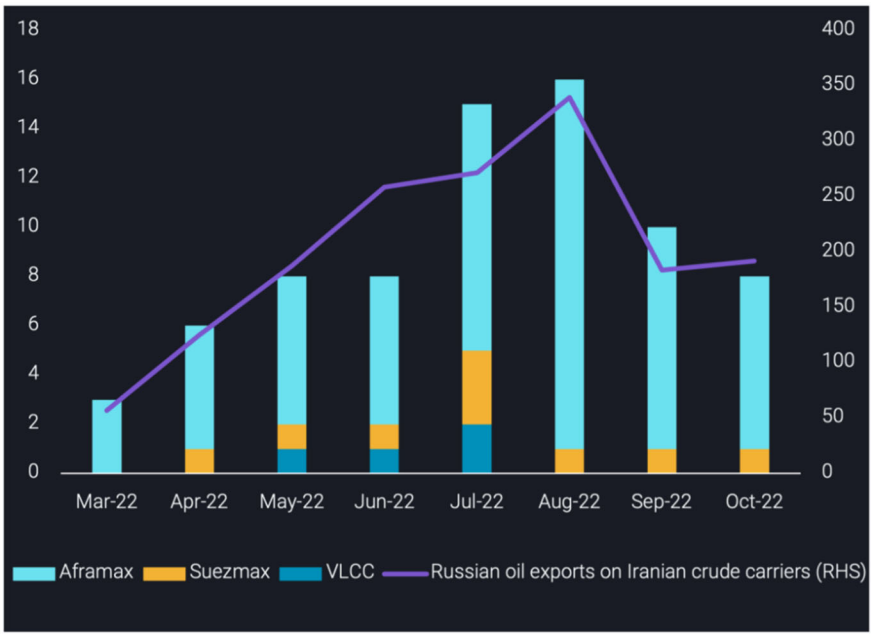


Tankers previously carrying Iranian oil switch to Russian trade

As of 1 November, we track 40 unique tankers which have loaded Russian crude/products since March 2022, having previously carried Iranian crude/products. The 40 tankers account for 99 Russian oil liftings since March.

Russian oil exports on carriers previously involved in Iranian trade were 190kbd in October, only a marginal increase m-o-m, largely a result of the pause in STS activity of Russian Urals in the North Atlantic since August. As more companies scale back from carrying Russian crude/products, those familiar with the sanctioned crude trade will continue using their tankers to assist Russia in exporting oil East of Suez.

As of 1 November, we track two VLCCs (both previously carried Iranian crude) which have returned to the North Atlantic from China, after discharging the Russian Urals they loaded via dark STS in the North Atlantic in June/July 2022. This is indicative of a looming second round of North Atlantic STS activity, which supports subterfuge techniques of transporting Russian Urals.



An additional 56 tankers identified as highly likely to switch to Russian trade

As of 1 November, we have grouped an additional 178 tankers based on their likelihood (%) of switching from Iranian trade to Russian trade into four groups.

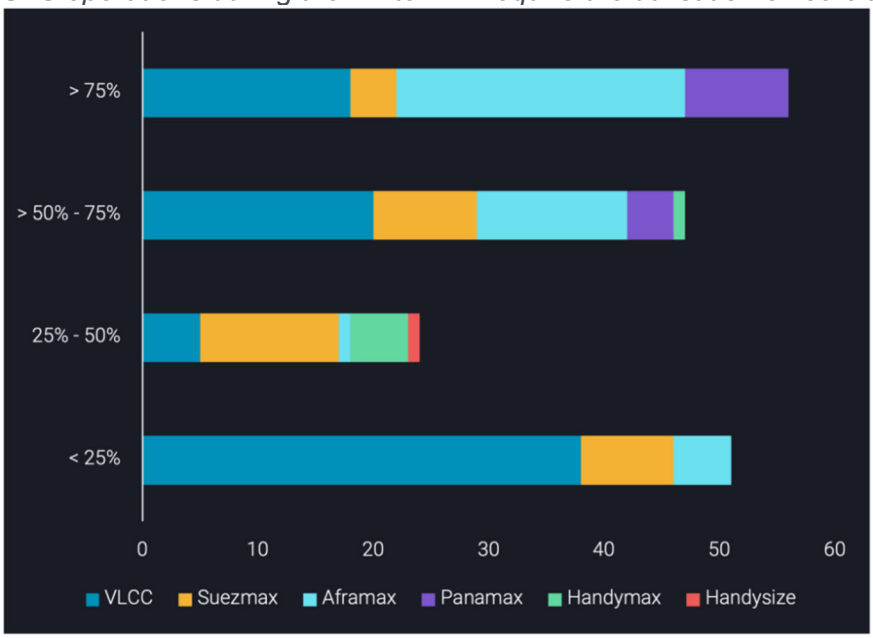
> 75% (highly likely): 56 tankers with an average age of 20 years. This includes tankers 17 years and older, have China/India/Russia/UAE ownership interest, tankers belonging to the North Atlantic China network, no IR or EU flags and sanctioned under OFAC.

> 50% – 75% (likely): 47 tankers with an average age of 20 years. This includes tankers 17 years and older and ownership interest other than those listed above.

25% – 50% (unlikely): 24 tankers with an average of 19 years. This includes tankers under 17 years old and tankers with an IR flag (non-NITC).

< 25% (highly unlikely): 51 tankers with an average age of 16 years. This is exclusive to the NITC fleet, which is highly unlikely to switch due to government ownership.

As the EU ban implementation fast approaches, any of these tankers could join the 40 tankers which have already made the switch, especially VLCCs which could perform STS operations via the Baltic. However, these STS operations during the winter will require the utilisation of ice-class vessels, though there is a shortage.



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https://www.reuters.com/business/energy/iraq-wants-keep-oil-stable-not-above-100-per-barrel-pm-2022-11-12/?taid=636fcec361b959000177858b&utm_campaign=trueAnthem:+Trending+Content&utm_medium=trueAnthem&utm_source=twitter

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Iraq wants stable energy prices, prime minister says

Reuters

New Iraqi Prime Minister Mohammed Shia al-Sudani meets for the first regular session of the Council of Ministers in Baghdad, Iraq October 28, 2022. Iraqi Prime Minister Media Office/Handout via REUTERS

BAGHDAD, Nov 12 (Reuters) - Iraq is keen to maintain stable oil prices at not more than $100 per barrel, Prime Minister Mohammed Shia al-Sudani told reporters on Saturday.

Iraq, a member of the Organization of the Petroleum Exporting Countries (OPEC), will have discussions with other members to reconsider and increase its production quota, he added in a briefing.

"Iraq is keen for stability of energy prices, we do not want prices to increase above $100 and neither, at the same time, for them to fall in a way that affects the level of supply and demand," he said.

Sudani's cabinet took office in late October, ending more than a year of deadlock since a parliamentary election. He was backed for the post of prime minister by an alliance of Iran-aligned factions.

Sudani said Iraq was determined to keep mediating between regional rivals Saudi Arabia and Iran, which have been locked in proxy conflicts across the Middle East and started talks last year hosted by Baghdad to try to contain tensions.

"The concerned parties officially asked us to continue playing this role", Sudani said.

Frictions have grown recently between Saudi Arabia and Iran, which has been swept by more than two months of protests ignited by the death of 22-year-old Mahsa Amini while she was in the custody of the country's morality police.

Iran has accused foreign adversaries of fomenting the unrest.

Iran's intelligence minister told Saudi Arabia on Wednesday that there is no guarantee of Tehran continuing its "strategic patience," according to semi-official Fars news agency.

Last month, Iran's Revolutionary Guards chief Hossein Salami warned Saudi Arabia Riyadh to control its media outlets.

Reporting by Charlotte Bruneau; Writing by Enas Alashray/Tom Perry; editing by David Evans

https://home.treasury.gov/news/press-releases/jy1099

Joint Statement on the Ninth India-U.S. Economic and Financial Partnership

November 11, 2022

NEW DELHI, INDIA —*Indian Union Minister of Finance & Corporate Affairs Smt. Nirmala Sitharaman and U.S Treasury Secretary Dr. Janet L. Yellen met today for the ninth meeting of India-U.S. Economic and Financial Partnership.*

Following the conclusion of the dialogue, Minister Sitharaman and Secretary Yellen released the following joint statement:

We were pleased to lead for a second consecutive year the India-U.S. Economic and Financial Partnership meeting and to welcome Federal Reserve Chair Jerome Powell, Governor Reserve Bank of India Shaktikanta Das, and other participants.

The U.S. Treasury and India's Ministry of Finance launched our Economic and Financial Partnership in 2010 as a framework to cement the economic bonds between our two nations and build a foundation for greater cooperation and economic growth. At this ninth meeting of the Economic and Financial Partnership we reaffirmed that our regular dialogue is crucial to the U.S.- India economic relationship and to advancing global efforts to tackle pressing economic challenges.

During the ministerial meeting, we took stock of the extensive efforts that have recently been undertaken by both sides to deepen cooperation in a number of areas and we enhanced our mutual understanding on topics of global consequence. We had productive discussions on a range of subjects, including the macroeconomic outlook, supply chain resilience, climate finance, multilateral engagement, global debt vulnerabilities, and anti-money laundering and combating the financing of terrorism.

Today's meeting featured a dedicated session on climate finance for the second time under the Economic and Financial Partnership, reflecting our respective commitments to drive urgent progress in combatting climate change by collaborating closely on the shared goal of scaling up and mobilizing climate finance to meet our ambitious climate goals. We shared views on the re- energized global efforts to increase climate ambition as well as our respective domestic efforts to meet our publicly expressed climate goals. We agreed that public finance, when paired with enabling policies, can promote private finance. We also noted the importance of the evolving role of the multilateral development banks (MDBs) to better address global challenges, including climate change. We acknowledge the developed country goal to jointly mobilize $100 billion every year till 2025 from public and private sources for developing countries, in the context of meaningful mitigation actions and transparency on implementation. We also agree to work together in arriving at a new collective quantified goal from a floor of $100 billion annually for the post 2025 period, taking into account the needs and priorities of developing countries. We agreed that India and the U.S. should work together with partners to pursue a broad mix of public and private financing to facilitate India's energy transition in line with its nationally determined climate goals and capabilities. We also look forward to continuing the discussion of climate- aligned finance under the G20 Sustainable Finance Working Group with US as the co-chair and India holding the G20 Presidency next year.

In the context of the conflict in Ukraine, we discussed the current headwinds to the global macroeconomic outlook including increased commodity and energy prices as well as supply side disruptions, and we reemphasized our commitment to the central role of multilateral cooperation in addressing these global macroeconomic challenges.

Both sides affirmed their commitment to debt sustainability, transparency in bilateral lending, and coordinating closely on extending fair and equal debt treatment to countries facing debt distress. We reiterated our commitment to step up our efforts to implement the G20 Common Framework for Debt Treatment in a predictable, timely, orderly and coordinated manner. We acknowledged the importance of working through MDBs to help India access and mobilize available financing to support development objectives, including climate action. We plan to continue engaging on these and other global economic issues both multilaterally and bilaterally. India and the United States look forward to continued collaboration to meet the most pressing global challenges under India's G20 Presidency commencing December this year. The United States warmly welcomes India's upcoming leadership role and stands ready to support India in hosting a successful and productive year.

We welcome the OECD/G20 Inclusive Framework political agreement as representing a significant accomplishment for updating the international tax architecture to reflect the modern economy and establish an international tax system that is more stable, fairer, and fit for purpose for the 21st century. We welcome the progress on Pillar One and reaffirm our commitment to work together and with all partners to expeditiously complete the remaining technical work on Pillar One with respect to Amount A and Amount B. We call on the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) to conclude work on the Multilateral Convention during the first half of 2023. We look forward to the completion of the GloBE Implementation Framework under Pillar Two and call on member countries and the OECD/G20 Inclusive Framework on BEPS to conclude the negotiations on the Subject to Tax Rule (STTR).

Both countries will continue to work to enhance mutual collaboration in sharing of information to tackle offshore tax evasion. India and the United States make note of the progress made under the Inter-Governmental Agreement pursuant to the Foreign Account Tax Compliance Act (FATCA) with respect to sharing of financial account information. The two sides will continue to engage in discussions on full reciprocal arrangement on FATCA.

The United States and India look forward to sustained engagement through the longstanding U.S.- India Financial Regulatory Dialogue, a platform for discussing emerging financial sector issues and priority areas, including banking and insurance sector reforms, capital market development, digital assets and payment system modernization, sustainable finance, and data security and protection frameworks. Both countries underscore their commitment towards exploring promising avenues of mutual collaboration, including India's maiden IFSC in GIFT City, Gujarat, during the 11th U.S.-India Financial Regulatory Dialogue to be held in the first half of 2023.

We are continuing our successful collaboration on attracting more private sector capital to finance India's infrastructure needs, which will support growth in both countries. The Treasury Department continues to provide technical support to India's National Infrastructure and Investment Fund (NIIF), including the scaling of debt and equity platforms devoted to renewable energy and implementing new environmental, social, and corporate governance policies to meet international standards, while catalyzing private institutional investment in

Indian infrastructure. We are also collaborating through continued technical support for the issuance of municipal bonds for critical urban infrastructure improvements. India and the United States look forward to working together to prepare more cities to issue municipal bonds.

We continue to strengthen our cooperation in anti-money laundering and combating the financing of terrorism (AML/CFT) efforts, through increased information sharing and coordination, including expeditious sharing of digital evidence and information for ML/TF investigations, as well as through the U.S.-India AML/CFT bilateral dialogue. Both sides agree on the importance of fighting financial crimes and on the effective implementation of the Financial Action Task Force standards to protect our financial systems from abuse. Moving forward, the United States and India will continue to exchange views on best practices and solutions for combating AML/CFT challenges.

This ninth meeting of the Economic and Financial Partnership reflected the growing importance of the U.S.-India relationship and the increasing economic and financial ties between our two economies. Both sides eagerly anticipate continued dialogue under the Economic and Financial Partnership and the further strengthening of our bilateral relationship.

Excerpts from ANI reporting on Hardeep Singh Puri comments post Jennifer Granholm meeting in Washington

https://aninews.in/news/world/us/india-is-clear-about-its-policy-regarding-oil-purchases-will-buy-oil-from-wherever-it-has-to-hardeep-singh-puri20221008143703/

India is clear about its policy regarding oil purchases, will buy oil from wherever it has to: Hardeep Singh Puri

ANI | Updated: Oct 08, 2022 14:37 IST

Washington [US], October 8 (ANI): India has reiterated its choice of importing oil from countries like Russia after OPEC Plus, a consortium of oil-producing nations led by Russia and Saudi Arabia announced a slash in oil production by two million barrels per day.

While taking to reporters in Washington DC during his ongoing US visit, Union Minister of Petroleum and Natural Gas Hardeep Singh Puri on Saturday touched on several topics including how India will balance OPEC Plus oil production cut, diversification of energy - equity infusion, bio-fuel blending and green hydrogen.

With rising global energy requirements, the OPEC production cut is likely to impact countries like India, the third largest oil importer. Speaking on the topic of balancing the imports from OPEC Plus countries as well as from the US, which is also a oil exporting country, Puri said "If you are clear about your policy, which means you believe in energy security, energy affordability you will buy from wherever you have to. Our energy purchases from sources hitherto unheard of, we are in discussion with them."

Answering how India will negotiate the tightrope of expectations, he told ANI, "It's not a tight rope, I don't look at - We will also acquire assets outside wherever - I mean in recent months- we did USD 1.6 billion equity infusion which BPCL has done in Brazil. We are looking at assets in Africa."

Puri explained that oil exporting countries need buyers as they have to sell their products in the market.

"Sometimes when you are looking at it in a journalistic manner, you would say that producers are holding all the cards. I disagree with that; I think the person or country with a large market also has a huge role to play. I am giving you a hypothetical example - If we decide to limit consumption, no matter what you produce, you will have to find a place to sell it too and I can tell you that in the last year or so, I have had my oil companies tell me that we can raise it from here, but there are traditional suppliers, this is a discussion which will go on," Puri said in response to a question by ANI.

"Much of the trade incidentally takes place in a manner which is not properly understood outside. It's not that - you have some fuels which have high density, some are lighter fuels - I don't want to get into that discussion - it may originate somewhere - we own assets outside, the product of those assets does not come to India, it goes in, it's sold in the swap market etc," he added.

This week's OPEC Plus announcement on oil production cut will likely have a cascading impact on geopolitical shifts amid the Russia-Ukraine crisis.

"Oil and energy have been traded for years. Governments in particular situations will react to geopolitical events. At the end of the day all governments are committed to issues of energy provisions; that is security and affordability," said Puri.

Meanwhile, an intense pressure campaign by the US to dissuade its Arab allies seemingly fell on deaf ears. Russia is already pumping below its OPEC+ ceiling, and the bulk of the cuts will be made by Gulf producers.

Speaking about the conflict and Indian diversification, Union minister Puri said, "I don't see any conflict. There are countries in OPEC that sell to us. They've never turned around and told us that they don't want to sell to us. If you don't sell to India and China, there are not many big markets left, even Europe collectively. Many of these are matured markets in energy. They don't utilize crude oil - some of them have gone into nuclear energy, and others are going into biofuels. I also want to share with you some of the advances which India has made - biofuel blending, when I was Ambassador to Brazil, we tried very hard, the central government tried to introduce 5 per cent ethanol blending in 15 of our States and Union Territories, we couldn't get it done."

Puri further stated that the India had taken a giant leap in bio-fuel blending after Prime Minister Narendra Modi assumed power in 2014.

"In 2014, when Prime Minister Narendra Modi assumed office, our bio-fuel blending was 1.4 per cent, today we have already reached 10.5 per cent of blending. We have a target of 20 per cent blending by 2030. We have just brought it forward to 2024-2025," said Puri.

He also gave examples of green Hydrogen and how India is providing opportunities for oil exploring companies.

"Green Hydrogen - We have Indian companies selling green ammonia to Germany - the world is moving at different fronts - exploration and production in India will shoot up. I have always said that we have neglected to the point, I even use words like 'criminal neglect.' We have 3.5 million square kilometres of sedimentary basin, and one million square kilometres of that sedimentary basin was called a 'no go area', just now a few months ago, 99.5 per cent of that 'no go area' has been cleaned up which means for an investor are happy to come and explore. There are not hundreds of players in the energy sector, five to six big companies, they are all interested, they are either forming joint ventures, just to come (to India)," said Puri. (ANI)

https://aninews.in/news/world/us/india-under-no-global-pressure-to-shun-russian-oil-hardeep-singh-puri20221008093740/

Union Minister of Petroleum and Natural Gas, Hardeep Singh Puri.

India under no global pressure to shun Russian oil: Hardeep Singh Puri

ANI | Updated: Oct 08, 2022 09:37 IST

Washington [US], October 8 (ANI): Union Minister of Petroleum and Natural Gas, Hardeep Singh Puri on Saturday said that India is under no pressure to shun Russian oil.

In a bilateral meeting with US energy secretary Jennifer Granholm, Puri said that the Indian government has a moral duty to provide energy to its citizens and it will continue to buy oil from wherever it has to.

Have I been told by anyone to stop buying Russian oil? The answer is a categorical No," Puri told reporters in Washington.

"India will buy oil from wherever it has to for the simple reason that this kind of a discussion cannot be taken to the consuming population of India," he added.

Since the start of the Ukraine conflict. India has sought to carve a middle path between Moscow and its Western critics and so far largely resisted Western pressure to cut its economic ties with the Kremlin.

The US is holding "deep talks" with India over the latter's reliance on Russian arms and oil, according to media reports citing a state department official. The official claimed that Indian representatives are starting to look at other markets to meet their demands as they try to become less dependent on Moscow for oil purchases.

Notably, the European Union (EU) on Thursday (local time) adopted its latest package of sanctions against Russia over the illegal annexation of Ukraine's Donetsk, Luhansk, Zaporizhzhia and Kherson regions.

The EU adopted restrictive measures against an additional 30 individuals and seven entities, read the EU's statement.

EU sanctions (8th package since the Ukraine war began) aim to force Russia to reduce prices & lose oil revenue. But at imports to the tune of 1.7 million barrels per day, the EU is still the biggest market for Russian crude.

Moreover, the EU is trying to determine the pricing of Russian oil through its insurance firms as Russia is the world's largest oil exporter. The European insurers rule commercial oil tankers by providing them with massive insurance.

The EU sanctions ll forbid these insurers from providing services to Russian companies selling oil above the price cap.

Moreover, EU's sanctions package on Russia will impact countries like India. EU is capping what other countries can pay for Russian oil. It bans the sale of oil above that price. This applies only to oil transported by sea. While, the EU members importing Russian oil by pipeline won't be hurt by these sanctions.

Puri highlighted India is one of the largest oil importer and the demand is expected to rise driven by an increase in India's per capita consumption of energy which currently stands at one-third of the global average. Puri further stressed that the fuel demand is expected to keep rising as the country's economy grows.

It is pertinent to note that External Affairs Minister S Jaishankar also on several platforms had explained India's decision to continue buying Russian oil. Recently, Jaishankar said PM Modi's advice on the issue was to do what is best for the nation. "Due to the Russia-Ukraine conflict, petrol prices doubled. We had pressure from where to buy the oil but Prime Minister Narendra Modi and the government were of the view that we have to do what is the best for our nation," Jaishankar said. (ANI)

https://aninews.in/news/world/us/oil-price-rise-in-india-is-way-below-global-price-hikes-hardeep-singh-puri20221008091154/

Oil price rise in India is way below global price hikes: Hardeep Singh Puri

ANI | Updated: Oct 08, 2022 09:11 IST

Washington [US], October 8 (ANI): Union Petroleum and Natural Gas minister Hardeep Singh Puri said that compared to fuel price hikes globally, India only raised prices by 2 per cent, which is way below that of other countries.

"In terms of petrol and diesel, if the increases in North America are 43-46 per cent, in India we allow prices to go up by only 2 per cent or so. In terms of gas, global benchmarks went up by 260-280 per cent and our own ability to contain gas price increases was something around 70 per cent," Puri told reporters in Washington DC.

Puri on Thursday held bilateral meeting with US energy secretary Jennifer Granholm and other top officials of the Biden Administration.

The minister also highlighted India's commitment to accelerating a just and sustainable energy transition at the ministerial dialogue on India-US strategic clean energy.

During his visit, the union minister also held meetings with senior officials of the World Bank, the Presidential envoy for energy and infrastructure Amos Hochstein and senior representatives of the White House. Puri is scheduled to meet energy business leaders in Houston on Saturday.

The Union Minister said that India was "very confident" of navigating the Organisation of Petroleum Exporting Countries Plus (OPEC+) decision to cut oil production from November by a steeper-than-expected two million barrels per day (bpd). "

How will this impact India? We are very confident of being able to navigate through the situation," Puri told reporters in Washington.

"How will this navigate India? We're very confident of being able to navigate through the situation," said Puri.

Puri highlighted India is one of the largest oil importers and the demand is expected to rise driven by an increase in the country's per capita consumption of energy which currently stands at one-third of the global average. Puri further stressed that the fuel demand is expected to keep rising as the country's economy grows.

"In India, 5mn (oil) bpd is being consumed daily; it's set to rise. Our per capita consumption compared to global averages is 1/3rd. But I see in the coming years, 25 per cent of the global increase in demand will come from India. Energy is a critical driver of economic growth," the union minister said.

The Union Minister also said that India will buy crude oil from whichever country it wanted and that New Delhi faces no pressure from Washington to cut its energy buys from Russia.

"India will buy oil from wherever it has to for the simple reason that this kind of a discussion cannot be taken to the consuming population of India," Puri told reporters in Washington. (ANI

https://www.globaltimes.cn/page/202211/1279295.shtml

China shortens quarantine period for intl arrivals, cancels 'circuit breaker' for inbound flights

By Global Times Published: Nov 11, 2022 01:56 PM

Chinese authorities on Friday released 20 optimized measures to further enhance scientific and precise work of epidemic prevention and control, one day after the Chinese leadership held a meeting to hear a report on the COVID-19 response, and discussed and arranged the 20 measures.

The newest steps include shortened quarantine period for international arrivals and close contacts of confirmed cases from 7+3 (seven days of centralized quarantine and three days of health observation at home) to 5+3.

The measures required timely screening of close contacts of confirmed cases, but required to stop screening close contacts of close contacts, or the secondary contacts.

Circuit breaker mechanism on inbound flights to China upon detecting positive cases on board has also been canceled. Passengers of inbound flights to China will only need to provide one negative nucleic acid testing result within past 48 hours instead of two, according to the latest measures.

Ct value of nucleic acid testing of international arrivals would have to be less than 35. Those showing Ct value of 35-40 have to accept evaluation on virus transmission risk, according to the measures.

Business people and athlete groups have to be transferred directly from where they arrived to closed-loop quarantine-exemption areas and should not leave the area. Chinese nationals have to accept booster shots before entering these closed-loop areas, the measures required.

Per the latest measures, places in China would only be identified as high risk and low risk in terms of epidemic transmission. The classification of medium-risk area would be canceled.

People coming from high-risk areas have to stay at home for seven days for health observation instead of seven days of centralized quarantine.

The latest measures also called for promotion of mass vaccination in China, especially the administration of booster shots among the elderly group.

The measures also urged accelerated research and development of broad spectrum vaccines and drugs.

The measures vowed to deal with excessive and one-size-fits-all measures seriously, banning unreasonable steps to lock down schools, suspend traffic or clinical service. Such violations would be punished seriously according to regulations and laws, read the measures.

Global Times

OIL DEMAND MONITOR: China Still Holding Back Global Travel

- Northeast Asia airline capacity a third lower than 2019: OAG
- Taipei, London roads busier Oct. 31 than 2019 average: TomTom

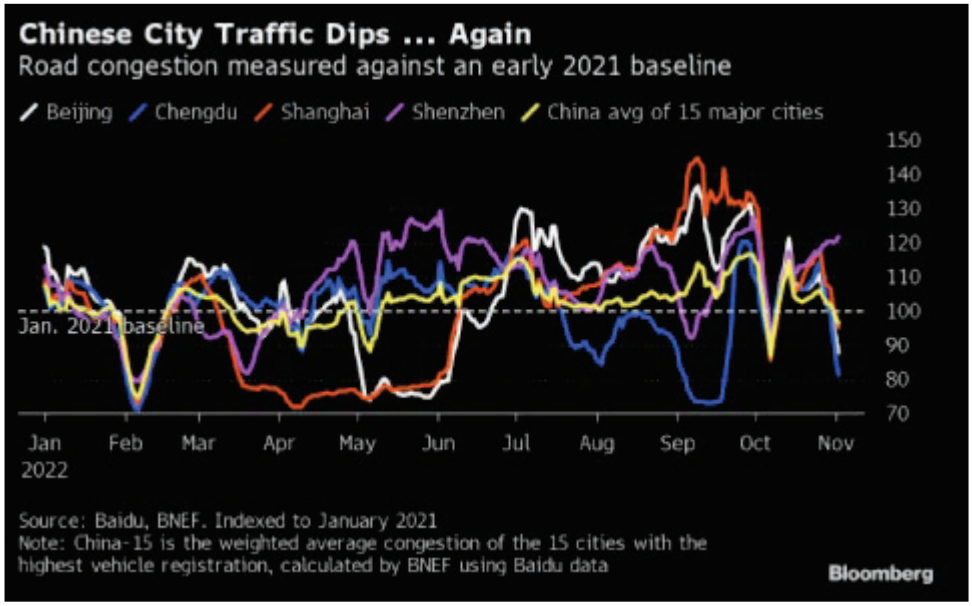
By Stephen Voss

(Bloomberg) --

China's unpredictable lockdown rules continue to hold sway over global oil demand, causing large swings in commuter traffic and eliminating one out of every three airline seats that the region used to fill before the pandemic.

Gasoline demand in the US and UK has consistently lagged behind pre-pandemic levels, with diesel sales also trailing in Britain, in contrast to India where consumption of both fuels is significantly stronger than it was before coronavirus impacted driving habits. For the latest measurable periods in this monitor, gasoline use was down 12% and 8% versus 2019, respectively, in the US and UK and up 21% in India.

While data on China's consumption patterns is less frequent and less readily available, trends can still be seen in various pieces of data, such as vehicle and plane traffic.



An aggregate measure of congestion across 15 Chinese cities with the most cars fell to 96 on Nov. 2, a few percentage points below the early-2021 baseline level of 100, according to calculations by BloombergNEF, based on Baidu data. The value has been mostly above 100 since May apart from a brief period in early October that coincided with national holidays, and aside from the latest dip.

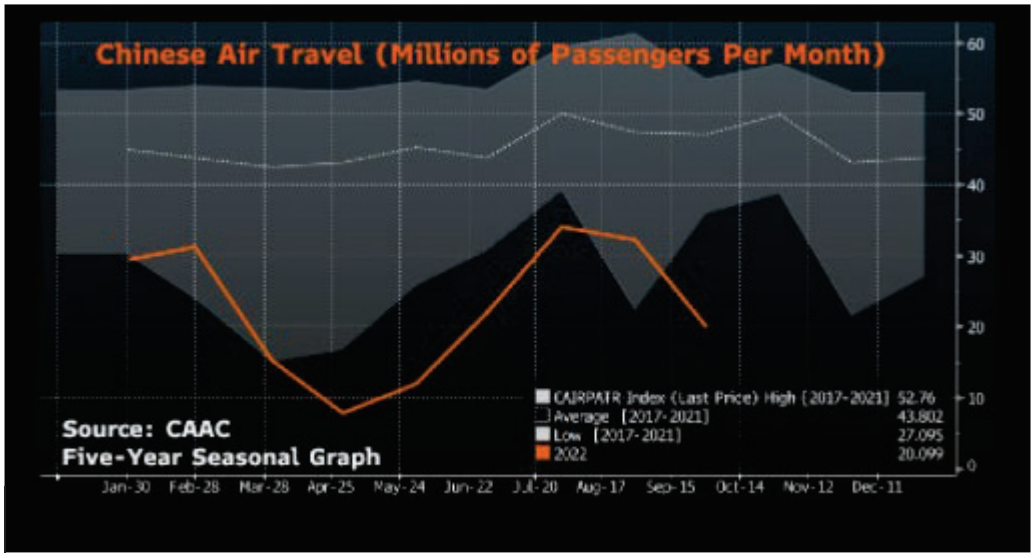
The latest decline occurred across some of the very biggest cities, such as Beijing and Chengdu, though traffic increased in Shenzhen, the mainland city just north of Hong Kong. Traffic congestion in various cities -- such as Shanghai and Chengdu -- plunged for long periods earlier this year when authorities instituted local lockdowns to prevent the spread of coronavirus.

Elsewhere, a monitor of city congestion across 13 world cities on the morning of Monday Oct. 31 found that only London and Taipei had greater congestion than the 2019 average for that time of the week, while the others, including New York and Tokyo were all below. Holidays weakened road use in some parts of Europe.

Chinese air travel has struggled all year to attain normal levels, according to monthly data from the Civil Aviation Administration of China. In September, it sank to about 20 million passengers in the month, compared with the five-year average of 44 million, and also dropped out of the seasonal range for 2017-2021.

Even so, China is working on plans to scrap a system that penalizes airlines for bringing virus cases into the country, according to people familiar with the matter, a sign authorities are looking for ways to ease the impact of its Covid Zero policy.

READ: China Said to Prepare Plan to End Covid Flight Suspensions



Globally, the number of seats offered by airlines on planes for the week ahead is very close to dropping back below 90 million a week after riding above that level since June, according to estimates by OAG Aviation. The figure was about 107 million for the same week of 2019.

Another metric, Flightradar24's daily tracking of the number of commercial flights worldwide, also shows global airline activity stuck between the late-pandemic year of 2021 and pre-pandemic 2019. The latest data shows a minor uptick, with the global number currently trailing 2019 by 9.3% versus a lag of 10% in early October and 14% in early September.

The OAG data, though, more easily shows China's role. The combined domestic and international seat capacity for North East Asia -- which includes China -- trails the equivalent period of 2019 by 32%, which is the biggest deficit out of all of the 17 large geographical areas measured by OAG. China's Covid-19 rules have a much greater impact on its international flights than on its domestic market. Among the other regions, Western Europe is 7% lower than 2019, and North America is down about 9%.

In Europe, the number of flights increased in late October, when compared against 2019, before tumbling back again in early November, according to daily tracking by Eurocontrol. OAG attributes those temporary gains to the timing of the mid-autumn school break.

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

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

Notes: Click here for a PDF with more information on sources, methods. The frequency column shows w for data updated weekly, 2/m for twice a month and m for monthly. The column showing "vs 2020" is used for some data, such as comparing Portuguese jet fuel sales for September 2022 vs September 2020.

In DfT UK daily data, which is updated once a week, the column showing versus 2019 is actually showing the change versus the first week of February 2020, to represent the pre-Covid era.

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

Atlantia is publishing toll road data on a monthly basis, rather than the weekly format seen in 2021, and the US DoT also switched to monthly data after the week ended April 3, 2022.

City congestion:

Measure	Location	% chg vs avg 2019	% chg m/m	Oct 31	Oct 24	Oct 17	Oct 10	Oct 3	Sept 26	Sept 19	Sept 12	Sept 5	Aug 29
		(for Oct. 31)		Congestion mins added to 1 hr trip at 8am* local time									
Congestion	Tokyo	-8	unch	34	39	37	8	34	38	7	34	31	32
Congestion	Taipei	+27	+32	45	35	52	4	34	37	34	45	37	29
Congestion	Jakarta	-9	-2	35	36	37	37	36	34	36	38	37	36
Congestion	Mumbai	-56	unch	21	2	31	25	21	28	38	30	22	29
Congestion	New York	-15	-15	26	37	29	5	31	16	33	38	zero	17
Congestion	Los Angeles	-17	-21	29	35	35	26	37	27	37	38	2	35
Congestion	London	+2	-6	38	22	47	53	41	49	4	43	37	2
Congestion	Rome	-83	-85	8	51	49	53	56	40	54	42	41	12
Congestion	Madrid	-93	-92	2	35	32	31	31	29	29	27	17	9
Congestion	Paris	-82	-84	8	33	43	39	49	44	46	47	45	25
Congestion	Berlin	-45	+3000	19	26	28	29	1	26	28	30	28	25
Congestion	Mexico City	-32	-14	34	40	39	38	39	40	45	47	50	44
Congestion	Sao Paulo	-7	+37	40	33	34	31	29	38	31	32	32	39

Demand Measure	Location	% y/y	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value
Gasoline product supplied	US	-8.9	+3.9	-12	-8.5	w	Oct 28	8.66m b/d
Distillates product supplied	US	+15	+13	-0.1	+3.7	w	Oct 28	4.26m b/d
Jet fuel product supplied	US	-22	+44	-29	-11	w	Oct 28	1.31m b/d
Total oil products supplied	US	+2.4	+12	-5.4	-1.7	w	Oct 28	20.48m b/d
All motor vehicle use index	UK	+1	+5.4	-3	-2	w	Oct 31	97
Car use	UK	+2.2	+6.9	-7	-1.1	w	Oct 31	93
Light commercial vehicle (vans)	UK	+2.7	+8.7	+13	-0.9	w	Oct 31	113
Heavy goods vehicle use	UK	-4.6	-2.8	+4	-1.9	w	Oct 31	104
Gasoline (petrol) avg sales per filling station	UK	+1.9	+10	-8.4	-2.8	m	Oct 24-30	6,582 liters/d
Diesel avg sales per station	UK	-4.1	-2.9	-15	-3.3	m	Oct 24-30	8,860 liters/d

Total road fuels sales per station	UK	-1.6	+2.3	-12	-3.1	m	Oct 24-30	15,442 liters/d
China 15 cities congestion	China	-6			-7.5	d	Oct 31	100
Gasoline	India	+12		+21	+4.8	2/m	Oct 1-31	2.79m tons
Diesel	India	+12		+14	+9.7	2/m	Oct 1-31	6.58m tons
LPG	India	-1.3		+5	-0.7	2/m	Oct 1-31	2.47m tons
Jet fuel	India	+26		-14	+3.8	2/m	Oct 1-31	568k tons
Total Products	India	+8.1	+14	+6.1	-3.6	m	September	17.2m tons
Toll roads volume	France	-0.7		+1.8		m	September	n/a
Toll roads volume	Italy	-0.5		+1.1		m	September	n/a
Toll roads volume	Spain	-1.5		-2.6		m	September	n/a
Toll roads volume	Brazil	+2		+6.1		m	September	n/a
Toll roads volume	Chile	-4.7		+10		m	September	n/a
Toll roads volume	Mexico	+7.8		+12		m	September	n/a
Gasoline	Spain	+6.3			-11	m	September	533k m3
Diesel (and heating oil)	Spain	+0.2			+0.8	m	September	2284k m3
Jet fuel	Spain	+41			-5.9	m	September	594 m3
Total oil products	Spain	+6.6			-1.4	m	September	3411 m3

Road fuel sales	France	+3.5			+8	m	September	4.444m m3	
Gasoline	France	+8.7				m	September	n/a	
Road diesel	France	+1.7				m	September	n/a	
Jet fuel	France	+39		-19	-13	m	September	622k m3	
All petroleum products	France	+7.2			+13	m	September	5.219m tons	
All vehicles traffic	Italy	unch			-4	m	September	n/a	
Heavy vehicle traffic	Italy	-3			+23	m	September	n/a	
Gasoline	Portugal	+5.9	+12	+16	-14	m	September	96k tons	
Diesel	Portugal	-4.7	-2.9	+29	-13	m	September	392k tons	
Jet fuel	Portugal	+61	+170	-4.1	-3.4	m	September	154k tons	

Source: TomTom. Click here for a PDF with more information on sources, methods.

* 9am statistics are used for Mumbai. All other cities use 8am.

NOTE: m/m comparisons are Oct. 31 vs Oct. 3. Public holidays on Tuesday Nov. 1 in several European countries probably led to some commuters taking off Monday Oct. 31 as well, which likely decreased traffic that day in Rome, Madrid, Paris and Berlin. TomTom has been unable to provide data on most Chinese cities since April 2021. Taipei and Jakarta were added to the table in December 2021.

Chinese City Congestion:

Chinese City Congestion:

Measure	Location	% chg vs Jan. 2021	% chg m/m	% chg w/w	Oct. 31	Oct. 24	Oct. 17	Oct. 10	Oct. 3	Sept 26	Sept. 19	Sept. 12	Sept. 5	Aug 29
		(compare vs Oct. 31)												
Congestion	Beijing	-4	-18	-12	96	109	108	105	117	128	121	124	127	120
Congestion	Chengdu	-7	-8.8	-16	93	111	106	105	102	121	79	73	77	93
Congestion	Chongqing	-1	-8.6	-3.4	99	102	88	96	108	122	109	107	100	73
Congestion	Guangzhou	-6	-19	-13	94	108	118	101	115	118	120	118	118	121
Congestion	Shanghai	+1	-16	-13	101	116	106	101	121	131	142	128	140	123
Congestion	China-15	unch	-7.5	-5.4	100	105	104	102	108	116	111	107	107	103

Source: BNEF calculations based on Baidu congestion data, showing a seven-day moving average indexed against a January 2021 baseline of 100. China-15 is the weighted average of the 15 cities with the highest number of vehicle registrations. m/m comparisons are Oct. 10 vs Sept. 12.

Air Travel:

Measure	Location	y/y	vs 2 yrs ago	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
				changes shown as %						
All flights	Worldwide	+7.8	+35	+6.1	-2.1	-7.7	d	Nov. 3	195,670	Flightr
Commercial flights	Worldwide	+10	+52	-9.3	+0.9	-5	d	Nov. 3	102,369	Flightr
Seat capacity per week	Worldwide			-15		-3.3	w	Oct. 31-Nov. 6	90.58m	OAG
Air traffic (flights)	Europe			-8.3	-15	-13	d	Nov. 3	24,829	Eurocc
Air passenger traffic per month	China	-44	-58	-63	-38		m	September 2022	20.1m	CAAC
Heathrow airport passengers	UK	+125	+360	-15	-4.3		m	September 2022	5.78m	Heathr

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

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

Refineries:

Measure	Location	y/y	chg vs 2019	m/m chg	Latest as of Date	Latest Value	Sourc
		Changes are in ppt unless noted					
Crude intake	US	+5.5%	-1%	-0.7%	Oct. 28	15.8m b/d	EIA
Utilization	US	+4.3	+2.9	-0.7	Oct. 28	90.6 %	EIA
Utilization	US Gulf	+4.2	+1.6	-2.7	Oct. 28	91.3 %	EIA
Utilization	US East	+24	+44	+17	Oct. 28	103 %	EIA
Utilization	US Midwest	-0.4	-0.5	-1.6	Oct. 28	89.6 %	EIA
Utilization (indep. refs)	Shandong, China	-2.9	+2.5	+1.7	Nov. 4	67.9 %	Oilche

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

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

TomTom | Baidu

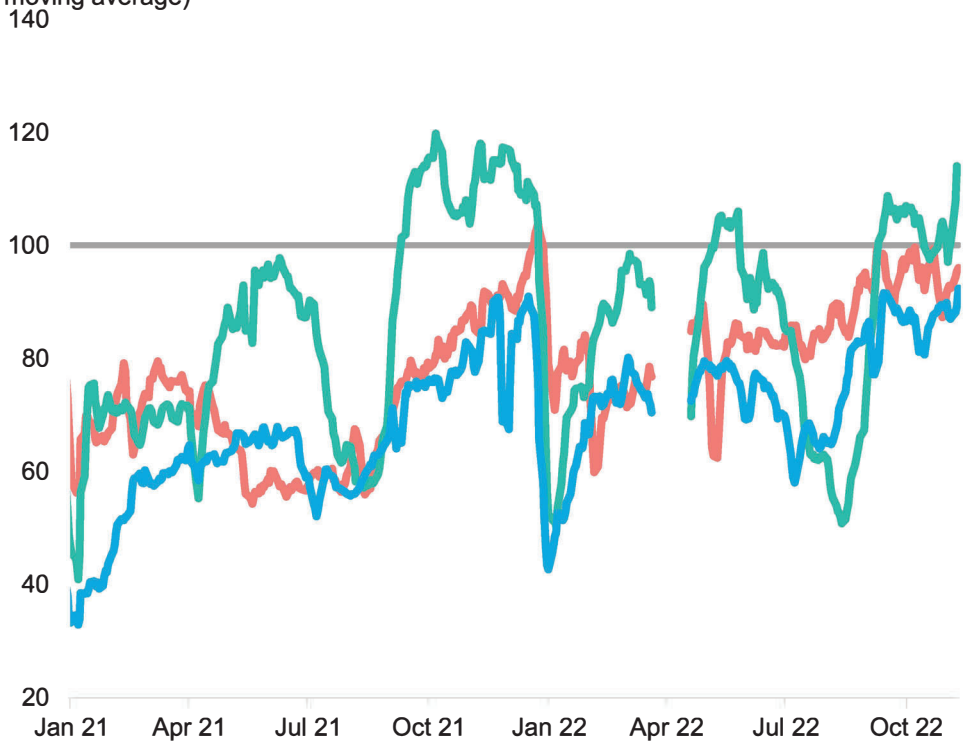
Google mobility data stopped updating in October 2022 and will therefore not be included in future updates.

Comparing the two mobility indicators

Bullish week across all regions as congestion levels pick up

TomTom congestion index

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



	Latest	Week Δ	Four-week Δ
Europe	**112.8**	13.5 (+13.6%)	10.3 (+10.0%)
Asia Pacific	**96.0**	3.1 (+3.4%)	-0.1 (-0.1%)
North America	**92.3**	5.1 (+5.8%)	9.8 (+11.9%)

Source: TomTom road congestion data, BloombergNEF. Note: ***Asia Pacific excludes China. Data updated to November 9, 2022.*** *Δ = change.*

China-15 (Baidu) congestion index

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

	Latest	Week Δ	Four-week Δ
China-15	**103.05**	6.68 (+6.93%)	-5.59 (-5.15%)

Source: BloombergNEF, calculated from Baidu data. Note: Data updated to ***November 9, 2022****. Δ = change.*

BloombergNEF

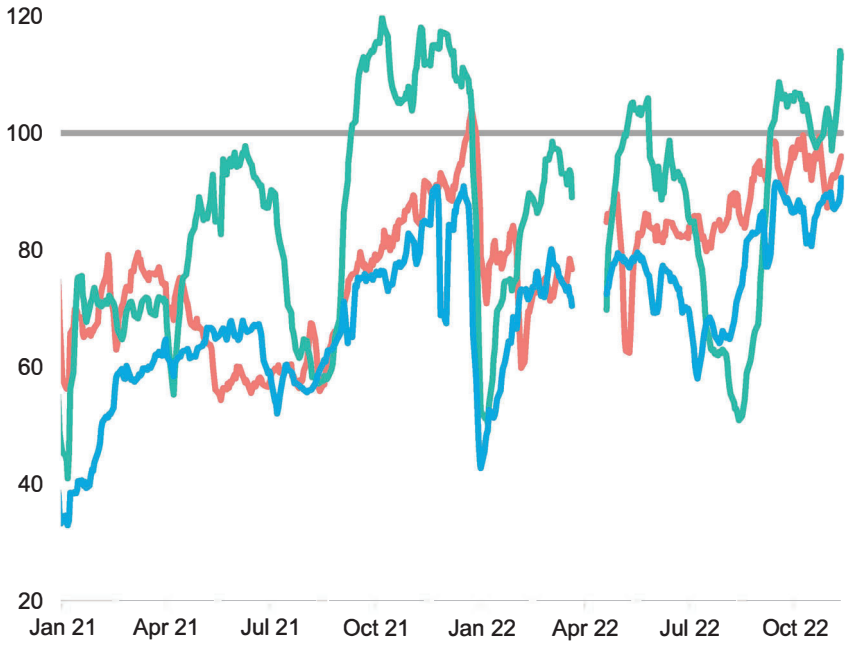
Apple Mobility reports were discontinued on April 14, 2022. We have resumed updating TomTom congestion data, which was previously updated to March 16.

TomTom congestion index

Europe leads weekly global uptick

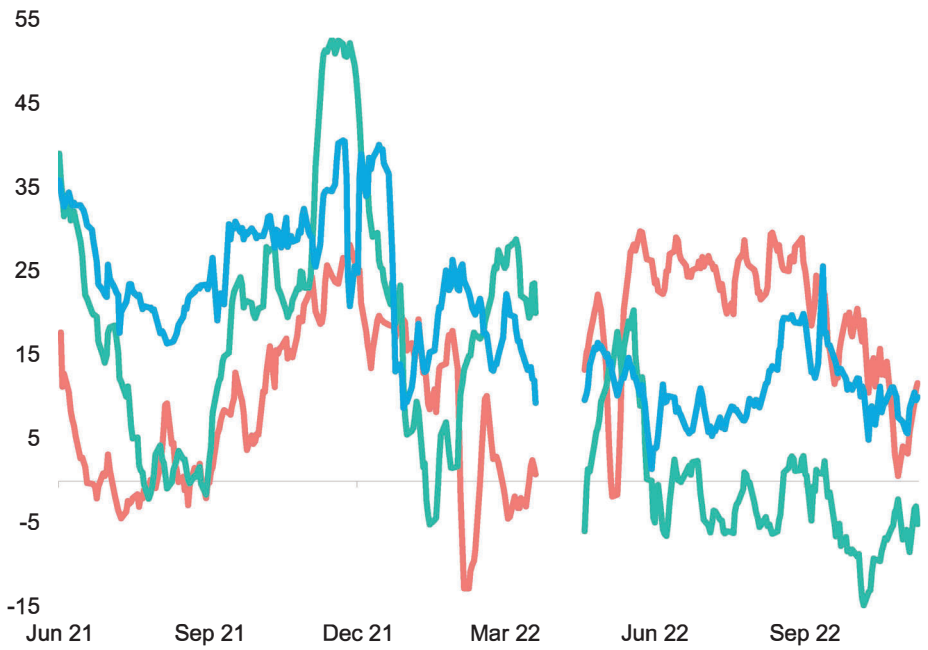
Regional road-congestion index

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



Index point change versus the previous year

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



	Latest	Week Δ	Four-week Δ	Index point Δ vs year before	Index point Δ vs year before (last week)
Europe	**112.8**	13.5 (+13.6%)	10.3 (+10.0%)	-5.43	-5.01
Asia Pacific	**96.0**	3.1 (+3.4%)	-0.1 (-0.1%)	8.17	2.84
North America	**92.3**	5.1 (+5.8%)	9.8 (+11.9%)	8.88	7.37

Source: TomTom Traffic Index, BloombergNEF. Note: ***Asia Pacific excludes China. Data updated to November 9, 2022,*** *with weekly addition from October 26, 2022. Index point change versus the previous year is obtained by averaging the latest weekly values. Δ = change.*

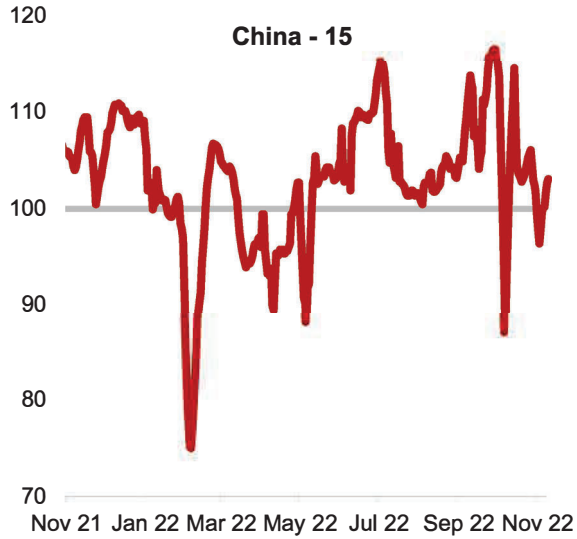
TomTom | Baidu

China (Baidu) congestion index

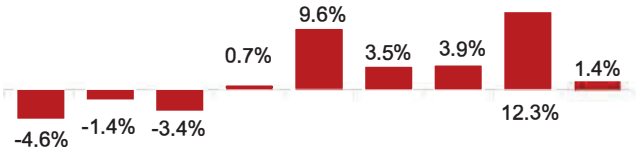
Traffic rises despite Covid-19 surge

China congestion index (calculated from Baidu data)

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



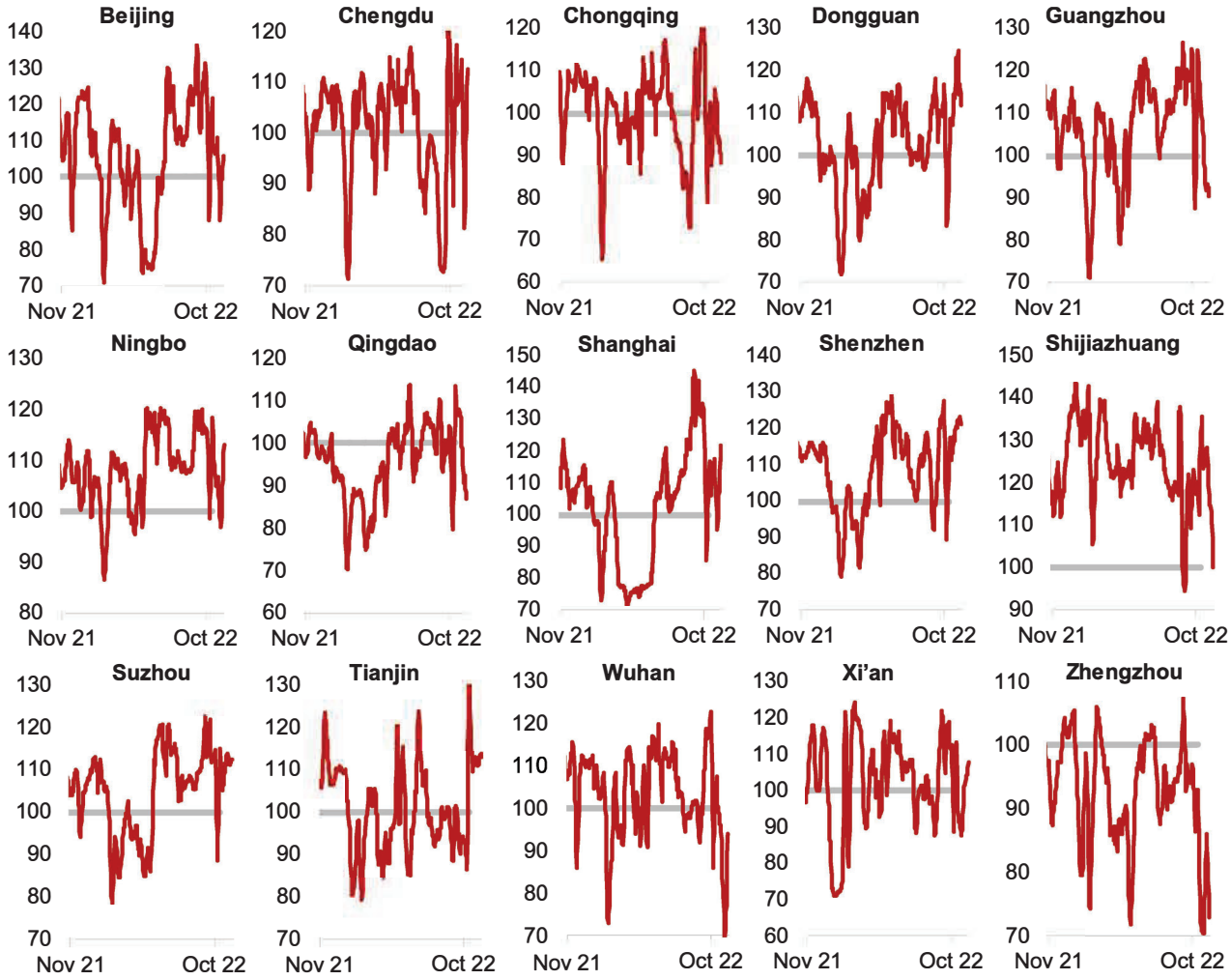
Monthly % change from January 2021 level



	Latest	Week Δ	Four-week Δ
China - 15	103.05	6.68 (+6.93%)	-5.59 (-5.15%)

Road traffic in China in the week ending November 2 was up 6.68 percentage points to 103.05 of January 2021 levels.

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



Source: BloombergNEF, calculated from Baidu's data. Note: ***Data updated to November 9, 2022****. City-level charts display the 15 cities with the highest number of vehicle registrations (excluding two- and three-wheelers). The China-15 congestion level is calculated by taking the weighted average of the congestion levels in the 15 cities and their vehicle registration numbers. Δ = change.*

https://www.iata.org/en/pressroom/2022-releases/2022-11-07-02/
Press Release No: 51
Date: 7 November 2022

September Passenger Demand Stays Strong

Geneva - The International Air Transport Association (IATA) announced passenger data for September 2022 showing that the recovery in air travel continues to be strong.

Total traffic in September 2022 (measured in revenue passenger kilometers or RPKs) rose 57.0% compared to September 2021. Globally, traffic is now at 73.8% of September 2019 levels.

Domestic traffic for September 2022 was up 6.9% compared to the year-ago period. Total September 2022 domestic traffic was at 81% of the September 2019 level.

International traffic climbed 122.2% versus September 2021. September 2022 international RPKs reached 69.9% of September 2019 levels. All markets reported strong growth, led by Asia-Pacific.

“Even with economic and geopolitical uncertainties, the demand for air transport continues to recover ground. The outlier is still China with its pursuit of a zero COVID strategy keeping borders largely closed and creating a demand roller coaster ride for its domestic market, with September being down 46.4% on the previous year. That is in sharp contrast to the rest of Asia-Pacific, which, despite China’s dismal performance, posted a 464.8% increase for international traffic compared to the year-ago period,” said Willie Walsh, IATA’s Director General.

AIR PASSENGER MARKET DETAIL-SEPTEMBER 2022	WORLD SHARE[1]	RPK	ASK	PLF(%-PT)[2]	PLF(LEVEL)[3]
Total Market	**100%**	**57.0%**	**29.1%**	**14.5%**	**81.6%**
Africa	1.9%	89.2%	50.2%	15.3%	74.3%
Asia Pacific	27.5%	51.9%	22.2%	14.6%	74.7%
Europe	25.0%	60.4%	34.1%	13.9%	84.7%
Latin America	6.5%	47.8%	39.4%	4.7%	82.3%
Middle East	6.6%	138.6%	57.7%	26.9%	79.5%
North America	32.6%	39.7%	18.1%	13.3%	85.5%

1) % of industry RPKs in 2021 2) Year-on-year change in load factor 3) Load Factor Level

International Passenger Markets

Asia-Pacific airlines saw a 464.8% rise in September traffic compared to September 2021, the strongest year-over-year rate among the regions. Capacity rose 165.3% and the load factor was up 41.5 percentage points to 78.3%.
European carriers September traffic climbed 78.3% versus September 2021. Capacity increased 43.8%, and load factor moved up 16.3 percentage points to 84.1%, second highest among the regions.

Middle Eastern airlines posted a 149.7% traffic rise in September compared to September 2021. September capacity increased 63.5% versus the year-ago period, and load factor climbed 27.6 percentage points to 80.0%.

North American carriers had a 128.9% traffic rise in September versus the 2021 period. Capacity increased 63.0%, and load factor climbed 24.6 percentage points to 85.4%, which was the highest among the regions for a fourth consecutive month.

Latin American airlines' September traffic rose 99.4% compared to the same month in 2021. September capacity climbed 73.7% and load factor increased 10.8 percentage points to 83.5%.

African airlines saw a 90.5% rise in September RPKs versus a year ago. September 2022 capacity was up 47.2% and load factor climbed 16.7 percentage points to 73.6%, the lowest among regions.

Domestic Passenger Markets

SEPTEMBER 2022 (% YEAR-ON-YEAR)	WORLD SHARE[1]	RPK	ASK	PLF (%-PT)[2]	PLF (LEVEL)[3]
Domestic	62.3%	6.9%	-3.2%	7.6%	80.6%
Domestic Australia	0.8%	276.0%	144.9%	29.4%	84.4%
Domestic Brazil	1.9%	14.9%	15.8%	-0.6%	80.5%
Domestic China P.R.	17.8%	-46.4%	-45.9%	-0.6%	67.0%
Domestic India	2.0%	42.6%	30.7%	6.6%	78.9%
Domestic Japan	1.1%	127.9%	44.9%	23.8%	65.2%
Domestic US	25.6%	16.8%	3.7%	9.6%	85.4%

1) % of industry RPKs in 2021 2) Year-on-year change in load factor 3) Load Factor Level

Japan's domestic RPKs rose 127.9% in September and are now at nearly 75.6% of 2019 levels.

US domestic traffic climbed 16.8% in September compared to September 2021, pushing it to 0.4% above the September 2019 level. The 85.4% load factor was the highest among the domestic markets.

SEPTEMBER 2022 (% CH VS THE SAME MONTH IN 2019)	WORLD SHARE[1]	RPK	ASK	PLF (%-PT)[2]	PLF (LEVEL)[3]
TOTAL MARKET	100.0%	-26.2%	-25.9%	-0.3%	81.6%
International	37.7%	-30.1%	-30.6%	0.5%	82.2%
Domestic	62.3%	-19.0%	-17.3%	-1.7%	80.6%

1) % of industry RPKs in 2021 2) Year-on-year change in load factor 3) Load Factor Level

The Bottom Line

“Strong demand is helping the industry cope with sky high fuel prices. To support that demand in the long-term, we need to pay attention to what travelers are telling us. After nearly three years of pandemic travel complexity, IATA’s 2022 Global Passenger Survey (GPS) shows that travelers want simplification and convenience. That’s an important message for airlines but also for airports and governments. They own many of the facilitation processes that let passengers down at some key airports over this year’s northern summer travel season. According to the GPS, a majority of passengers want to use biometric data rather than passports for border processes. And 93% of passengers are interested in trusted traveler programs to expedite security screening. Modernizing the facilitation experience will not only help alleviate the choke points, it will create a better experience for all,” said Walsh.

View the September Air Passenger Market Analysis (pdf)

For more information, please contact:

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Email: corpcomms@iata.org

Notes for Editors:

- IATA (International Air Transport Association) represents some 290 airlines comprising 83% of global air traffic.
- You can follow us at https://twitter.com/iata for announcements, policy positions, and other useful industry information.

- Statistics compiled by IATA Economics using direct airline reporting complemented by estimates, including the use of FlightRadar24 data provided under license.

- All figures are provisional and represent total reporting at time of publication plus estimates for missing data. Historic figures are subject to revision.
- Domestic RPKs accounted for about 62.4% of the total market; the 7 domestic markets in this report accounted for 53.9% of global RPKs in 2021
- Explanation of measurement terms:
    - RPK: Revenue Passenger Kilometers measures actual passenger traffic
    - ASK: Available Seat Kilometers measures available passenger capacity
    - PLF: Passenger Load Factor is % of ASKs used.
- IATA statistics cover international and domestic scheduled air traffic for IATA member and non-member airlines.
- Total passenger traffic market shares for 2021 by region of carriers in terms of RPK are: Asia-Pacific 27.5%, Europe 25.0%, North America 32.6%, Middle East 6.6%, Latin America 6.5%, and Africa 1.9%.

https://www.iata.org/en/pressroom/2022-releases/2022-11-07-01/
Press Release No: 50
Date: 7 November 2022

Air Cargo Demand Softens in September

Geneva - The International Air Transport Association (IATA) released data for September 2022 global air cargo markets showing that air cargo demand softened.

Global demand, measured in cargo tonne-kilometers (CTKs*), fell 10.6% compared to September 2021 (-10.6% also for international operations), but continued to track at near pre-pandemic levels (-3.6%).

Capacity was 2.4% above September 2021 (+5.0% for international operations) but still 7.4% below September 2019 levels (-8.1% for international operations).

Several factors in the operating environment should be noted:

- Following contractions across major economies, the global Purchasing Managers Index (PMI) for new export orders also contracted (for a third month in a row) to its lowest level in two years.
- Latest global goods trade figures showed a 5.2% expansion in August, a positive sign for the global economy. This is expected to primarily benefit maritime cargo, with a slight boost to air cargo as well.
- Oil prices remained stable in September and the jet fuel crack spread fell from a peak in June.
- The Consumer Price Index stabilized in G7 countries in September, but at a decades high level of 7.7%. Inflation in producer (input) prices slowed to 13.7% in August.

“While air cargo’s activity continues to track near to 2019 levels, volumes remain below 2021’s exceptional performance as the industry faces some headwinds. At the consumer level, with travel restrictions lifting post-pandemic, people are likely to spend more on vacation travel and less on e-commerce. And at the macro-level, increasing recession warnings are likely to have a negative impact on the global flows of goods and services, balanced slightly by a stabilization of oil prices. Against this backdrop, air cargo is bearing up well. And a strategic slow-down in capacity growth from 6.3% in August to 2.4% in September demonstrates the flexibility the industry has in adjusting to economic developments,” said Willie Walsh, IATA’s Director General.

AIR CARGO MARKET DETAIL-SEPTEMBER 2022	WORLD SHARE[1]	CTK	ACTK	CLF(%-PT)[2]	CLF(LEVEL)[3]
Total Market	**100%**	**-10.6%**	**2.4%**	**-7.0%**	**48.1%**
Africa	1.9%	0.1%	-4.1%	1.9%	45.1%
Asia Pacific	32.6%	-10.7%	2.8%	-8.7%	57.2%
Europe	22.8%	-15.6%	0.2%	-9.9%	52.8%
Latin America	2.2%	10.8%	18.4%	-2.6%	38.1%
Middle East	13.4%	-15.8%	-2.8%	-7.4%	47.8%
North America	27.2%	-6.0%	4.6%	-4.4%	39.6%

1) % of industry RPKs in 2021 2) Year-on-year change in load factor 3) Load Factor Level

September Regional Performance

Asia-Pacific airlines saw their air cargo volumes decrease by 10.7% in September 2022 compared

to the same month in 2021. This was a decline in performance compared to August (-8.3%). Airlines in the region continue to be impacted by the conflict in Ukraine, labor shortages, and lower levels of trade and manufacturing activity due to Omicron-related restrictions in China. Available capacity in the region increased by 2.8% compared to 2021.

North American carriers posted a 6.0% decrease in cargo volumes in September 2022 compared to the same month in 2021. This was a decline in performance compared to August (3.4%). Capacity was up 4.6% compared to September 2021.

European carriers saw a 15.6% decrease in cargo volumes in September 2022 compared to the same month in 2021. This was on a par with August's performance (-15.1%). This is attributable to the war in Ukraine. Labor shortages and high inflation levels, most notably in Turkey, also affected volumes. Capacity increased 0.2% in September 2022 compared to September 2021.

Middle Eastern carriers experienced a 15.8% year-on-year decrease in cargo volumes in September 2022. This was the worst performance of all regions and a significant decline compared to the previous month (-11.3%). Stagnant cargo volumes to/from Europe impacted the region's performance. Capacity was down 2.8% compared to September 2021.

Latin American carriers reported an increase of 10.8% in cargo volumes in September 2022 compared to September 2021. This was the strongest performance of all regions. Airlines in this region have shown optimism by introducing new services and capacity, and in some cases investing in additional aircraft for air cargo in the coming months. Capacity in September was up 18.4% compared to the same month in 2021.

African airlines saw cargo volumes increase by 0.1% in September 2022 compared to September 2021. This was a slight decrease in the growth recorded the previous month (1.0%). Capacity was 4.1% below September 2021 levels.

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Notes for Editors:

- * Please note that as of January 2020 onwards, we have clarified the terminology of the Industry and Regional series from 'Freight' to 'Cargo', the corresponding metrics being FTK (changed to 'CTK'), AFTK (changed to 'ACTK'), and FLF (changed to 'CLF'), in order to reflect that the series have been consisting of Cargo (Freight plus Mail) rather than Freight only. The data series themselves have not been changed.

- IATA (International Air Transport Association) represents some 290 airlines comprising 83% of global air traffic.
- You can follow us at twitter.com/iata for announcements, policy positions, and other useful industry information.
- Explanation of measurement terms:
  - CTK: cargo tonne-kilometers measures actual cargo traffic
  - ACTK: available cargo tonne-kilometers measures available total cargo capacity
  - CLF: cargo load factor is % of ACTKs used

- IATA statistics cover international and domestic scheduled air cargo for IATA member and non-member airlines.
- Total cargo traffic market share by region of carriers in terms of CTK is: Asia-Pacific 32.4%, Europe 22.9%, North America 27.2%, Middle East 13.4%, Latin America 2.2%, and Africa 1.9%.

https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/reducing-methane-emissions/proposed-regulatory-framework-2030-target.html

Proposed regulatory framework for reducing oil and gas methane emissions to achieve 2030 target

Summary

The Government of Canada is proposing to amend the existing federal regulations for methane emissions from the oil and gas sector in order to achieve at least a 75% reduction in oil and gas methane by 2030 relative to 2012.

The proposed amendments would achieve this goal by expanding the scope of the existing regulations to apply to a wider set of sources, eliminating exclusions, and driving as many individual sources as possible toward zero emissions:

- Expanding application of the regulatory measures to apply to virtually all facilities potentially handling natural gas;
- Minimizing compliance through combustion, while ensuring that all combustion systems operate at maximum efficiency to address potential methane emissions;
- Expanding the application and intensity of inspection programs, including non-producing assets;
- Requiring non-emitting equipment when feasible;
- Including temporary activities in facility emission ceilings, and lowering these limits to absolute minimum levels; and
- Developing a comprehensive, nationally-consistent emission monitoring and reporting system.

Proposed Source-by-Source Approach

Hydrocarbon Gas Conservation and Destruction Equipment

- Destruction equipment would be required to operate at a 99%+ control efficiency;
- Conservation equipment would be required to operate at 98%+ efficiency; and
- Fuel combustion would be required to meet a 95% control efficiency.

Flaring

- Would be prohibited at oil sites;
- Enclosed combustion methods and equipment would be required to have an auto-igniter; and
- Operators would be required to ensure that equipment is working as intended.

General Facility Venting and Flaring

- Would no longer be bound by conditional requirements. All oil facilities exceeding a 5 m^3/day (combined flare + vent volume) threshold would be required to eliminate venting by complying with only gas conservation requirements; and
- Surface casing vents would be controlled by conservation or destruction.

Pneumatic Devices

- Would no longer be bound by conditional requirements. All pneumatic pumps and controllers at oil and gas facilities would be required to be non-emitting or captured.

Fugitive Emissions

- Would no longer be bound by conditional requirements. All facilities would be required to have a fugitive emission management plan with monthly inspections; single wellhead sites included;
- Once a suspected leak is detected, the operator would be required to confirm and fix the leaking component immediately or if not feasible, within 30 days; and
- An extension repair request in extreme circumstances could be granted by the Minister.

Compressor Engine Exhaust

- Compressor engines would be required to achieve complete combustion and reliable ignition;
- Methane emissions at these engines would not exceed 1 g/kWh methane; and
- Smaller compressors would be included in vent limits.

Distribution Pipelines

- Fugitive management, pneumatic device and blowdown rules would be applied.

Planned Blowdowns

- Hydrocarbon emissions associated with planned pipeline blowdown activities would be controlled by routing gas to a capture system for beneficial use, destruction or by implementing practices that re-route or avoid the need to blowdown gas. In certain cases, a company's alternative approach that achieves equivalent reductions may be considered.

Non-Producing Wells

- Annual inspections for methane emissions; any detected emissions would require measurement. A record of these inspections and any subsequent measurements would need to be kept by the responsible party; and
- Operators could decide to opt-in to a site-specific demonstration of equivalent methane outcomes supported by verified and approved continuous monitoring systems.

Glycol Dehydrators

- Would be required to reduce emissions by at least 95% or emissions would have to be captured.

Liquids Unloading

- Unloading activities would be required to use capture and recovery techniques or install and use a control device to achieve at least 95% control of hydrocarbon emissions during well liquids unloading events.

Performance-based elements

The key to effective performance-based regulation is understanding actual emissions and incorporating standard emissions monitoring methods, with comprehensive recordkeeping and reporting requirements, such that sufficient information is available to verify compliance and demonstrate Canada's progress in meeting climate commitments.

The existing methane regulations include some performance-based requirements, including maximum emission limits for venting from facilities, and alternative leak detection and repair approaches. Extending these concepts could allow for near-continuous monitoring of all methane emissions at a facility-level. ECCC is investigating the feasibility of adding specific program parameters to allow an opt-in provision for this approach.

Equivalency

The requirements would be regulated under the *Canadian Environmental Protection Act, 1999* (CEPA). Equivalency agreements are possible under CEPA.

Next Steps

The Government of Canada is inviting interested stakeholders to provide their feedback on the Proposed Regulatory Framework until December 12, 2022. Feedback can be sent to methane-methane@ec.gc.ca .

https://www.bloomberg.com/news/articles/2022-11-08/russia-sends-oil-thousands-of-miles-through-arctic-circle-again

Russia Sends Oil Thousands of Miles Through Arctic Circle Again

- Sanctions make route more appealing to Moscow: Kpler analyst
- Climate, shipping capacity, crude volume limit route's utility

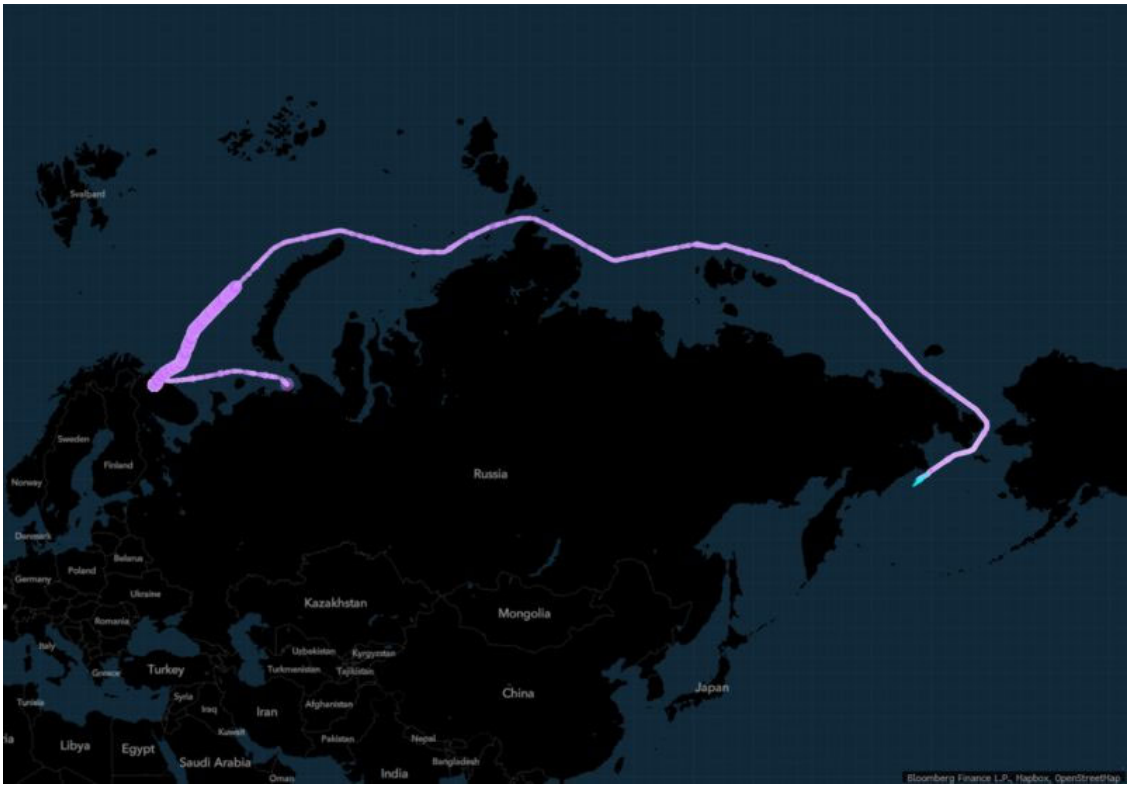
The Vasily Dinkov ship.

By Elina Anya Ganatra and Julian Lee
November 8, 2022 at 1:28 a.m. MST

Russia sent its second-ever crude oil shipment east through the Arctic Circle toward China, a route that could one day give the country a faster way to buyers in Asia.

The Vasily Dinkov, a specialized ice-breaking tanker, is traveling along the Northern Sea Route after loading crude late last month from a storage tanker moored at Murmansk, vessel tracking data compiled by Bloomberg show. The ship, hauling a relatively tiny cargo, crossed Russia's northern coast and passed through the Bering Strait, separating the country from Alaska, over the weekend. It's due to arrive at the Chinese port of Rizhao on Nov. 17.

The route includes a 3,300-mile voyage across the top of Russia and through some of the planet's harshest sailing conditions where icebergs and freezing conditions are common. The journey is the shortest passage between Europe and east Asia, taking half the time to reach China from Russia's Baltic ports than the conventional route through the Suez Canal.



The voyage of the Vasily Dinkov through the Northern Sea Route in November 2022

It's unclear how significant the logistics tweak will prove for Russia -- that will depend on how weather conditions develop. Until now, the vast majority of the nation's Arctic Sea production has been gathered on storage tankers at Murmansk from small shuttle tankers. It's then re-loaded onto bigger vessels to deliver mostly to Europe. That trade will essentially halt in the coming weeks because the European Union is banning most seaborne imports from Russia from Dec. 5.

The Vasily Dinkov is a "very advanced" ship with a specialized ice-breaking hull, but there are only eight that are able to make such trips, according to Richard Matthews, head of research at E.A. Gibson Shipbrokers Ltd. in London. As such, the route wouldn't be particularly viable before summer at the earliest.

"It looks unlikely that any significant volumes could be shipped along this route until summer," he said.

That the shipment is taking place is a reminder of how the world is getting warmer. World leaders are gathering in Egypt for the next two weeks to discuss ways to combat climate change.

Vital Prevalence

The ship is one of a fleet of three that was built specifically to shuttle crude from Lukoil PJSC's Varandey export terminal to Murmansk, a round-trip that usually takes about two weeks. Using the ship to move crude to China will take it off its normal duties for as long as eight weeks.

China has increased the amount of crude imported from Russia but the maritime logistics in response to Europe's ban will need careful planning. Delivering to Asia via the Suez Canal will mean far longer voyages than has been the case so far, driving up vessel demand.

Viktor Katona, lead crude analyst at Kpler, an oil analytics firm, said the Northern Sea Route will be of "vital prevalence" when summer comes.

“Europe is already sealed off,” he said. “If they’re not buying, why circumnavigate the entire universe if you can use the Northern Sea Route to get to China in 20 days?”

Further melting is steadily improving the region’s accessibility every year, opening it up more and more to merchant traffic and the accompanying environmental risks that poses.

The state-owned Russian energy-giant Rosneft could increase the volume of crude available to traverse the Northern Sea Route. Its Vostok Oil project consists of several oil fields on Russia’s far Northern peninsula, and is estimated to churn out 500,000 barrels a day by 2024. Construction of an oil terminal in the Sever Bay port is underway which will ensure the shipment of oil from the Vostok Oil fields along the route, said Rosneft in a press release, making it the largest oil-trading terminal in Russia.
Oil Tanker Stocks Defy Global Equity Gloom as Russian Risks Loom

The first oil shipment through the Northern Sea Route took place in 2019. There have been none since, according to Katona at Kpler.

While shorter journeys reduce emissions, the route raises environmental concerns that more traffic through the Arctic will add to pollution from tankers’ smokestacks. When the soot darkens the surface of the ice, it speeds up the warming process by absorbing more of the sun’s energy.

Accidents in the Arctic would also be more problematic than normal due to the remote location and lack of local spill response capabilities.

“I’m not sure how you would clean up an oil spill in that part of the world,” Matthews said.

— With assistance by Dina Khrennikova
Up Next

https://wam.ae/en/details/1395303099637

Tue 08-11-2022 19:05 PM

UAE, Indonesia unveil Mangrove Alliance for Climate at COP27

SHARM EL SHEIKH, 8th November,2022 (WAM) -- Mariam bint Mohammed Almheiri, Minister of Climate Change and the Environment, today announced the launch of the Mangrove Alliance for Climate (MAC). Led by the UAE and Indonesia, the initiative seeks to scale up and accelerate the conservation and restoration of mangrove ecosystems for the benefit of communities worldwide.

The announcement took place at the 27th UN Climate Change Conference (COP27), running in Egypt from 6th to 18th November. Five other countries – India, Sri Lanka, Australia, Japan, and Spain – have joined the Alliance.

MAC seeks to raise awareness about the role of mangroves as a nature-based climate change solution, and, through its members, will work towards expanding and rehabilitating mangrove forests globally.

Mangrove forests are among the most productive and ecologically important ecosystems on earth. They offer significant climate change mitigation and adaptation co-benefits, as they store carbon up to 400 percent faster than land-based tropical rainforests, protect coasts from rising sea levels, erosion, and storm surges, and provide breeding grounds for marine biodiversity. Around 80 percent of the global fish population depend on healthy mangrove ecosystems.

Mariam Almheiri said, “Increasing reliance on nature-based solutions is an integral element of the UAE’s climate action on the domestic as well as international level, therefore we seek to expand our mangrove cover. At COP26, we presented our ambitious target of planting 100 million mangroves by 2030.”

“We are pleased to launch MAC jointly with Indonesia, and believe it will go a long way in driving collective climate action and rehabilitating blue carbon ecosystems," she added.

The Minister noted that the UAE intends to plant three million mangroves within the next two months.

At the MAC launch ceremony, the website

https://mangrovealliance4climate.org, which features the alliance’s goals, work mechanisms, and a pledge form for members, went live.

MAC will follow a voluntary approach. Members can determine their own commitments towards planting and restoring mangrove forests, promoting multilateral cooperation, and sharing knowledge, while the Alliance will support their projects in the areas of mangrove research, management and protection of coastal areas, and educating the public about climate change mitigation and adaptation.

Collectively, members will demonstrate their dedication to maximising the potential of nature-based solutions through mangrove planting and conservation campaigns, enhance mangroves’ climate change mitigation capabilities through research and innovation, contribute to mangrove conservation worldwide through scientific and socio-economic studies, engage the community and the private sector in mangrove planting to expand blue carbon ecosystems, and step up concerted efforts to advance the global climate agenda.

MAC will feature multiple interactive platforms, including annual meetings to track progress in implementing its goals, drive cooperation between members, and approve annual reports.

Lina Ibrahim/ Amjad Saleh

https://taxfoundation.org/election-day-2022-tax-ballot-measures/

Last updated on November 9, 2022

State Tax Ballot Measures to Watch on Election Day 2022

Jared Walczak
Timothy Vermeer
Adam Hoffer
Janelle Fritts
Katherine Loughead

As of 4:00 p.m. ET, November 9, 2022	
Result	**Ballot Measure**
Leading	Arizona Proposition 132
✗	California Proposition 30
✓	Colorado Proposition FF
✓	Colorado Proposition 121
✓	Idaho Advisory Ballot
✓	Massachusetts Question 1
✓	Missouri Amendment 3
✗	West Virginia Amendment 2

Notable 2022 Tax Ballot Measure Results

On Election Day 2022, most eyes will be on Congress, with polls showing control of both chambers up for grabs. But the action is not limited to Washington, D.C.: across the country, voters will decide important questions through state and local ballot measures. At the state level, 25 measures in 12 states relate to tax policy. And while some of these deal with relatively minor policy details, eight stand out. We summarize each of these tax ballot measures below and link to more extensive discussions of several of them.

These measures include both income tax increases (in California, Colorado, and Massachusetts) and income tax reductions (also in Colorado). Voters in Arizona will consider adopting supermajority requirements for future ballot-initiated tax increases. Cannabis legalization and taxation continue to crop up in additional states. And in West Virginia, lawmakers are asking voters to grant them the authority to reform the state's tangible personal property tax system.

Arizona Proposition 132

Arizona Proposition 132 is a legislatively referred constitutional amendment that would modify the Arizona constitution to require ballot measures authorizing a tax to be approved by at least 60 percent of votes cast. Under the current system, a ballot measure imposing or increasing a tax only needs the approval of a simple majority—50 percent plus one. Such was the case in 2020 with Proposition 208, which attempted to impose a 3.5 percent surtax on income above $250,000. To impose new taxes or to increase taxes in the Arizona legislature requires a two-thirds majority.

Result	Ballot Measure	For	Against	% In
Leading	Arizona Proposition 132	51%	49%	97%

California Proposition 30

California Proposition 30 would create a 1.75 percentage point surtax on income above $2 million, which would bring the top marginal rate to 15.05 percent. (Separately, the scheduled uncapping of a 1.1 percent payroll tax in 2024, combined with the passage of Proposition 30, would yield a 16.15 percent top rate on wage income.) The projected $3 to $4.5 billion in revenue would be earmarked for zero-emission vehicle infrastructure and purchasing incentives, but the measure—championed by Lyft, which would benefit from the EV rebates as it transitions to a zero-emissions fleet—has divided policymakers on the Left in addition to generating opposition on the Right. The surtax contains a marriage penalty and would not be adjusted for inflation. Click here for the Tax Foundation's full analysis of Proposition 30.

Result	Ballot Measure	For	Against	% In
✗	California Proposition 30	41%	59%	40%

Colorado Proposition FF

Colorado Proposition FF would create a tax cliff and introduce a marriage penalty in an effort to limit both standard and itemized deductions for high earners. The revenue from this limitation would fund a universal school meals program. Legislation enacted this year already requires Coloradans with taxable income of $400,000 or more to add back itemized or standard deductions over $30,000 ($60,000 married filing jointly). Proposition FF would tighten those caps to $12,000 ($16,000 married filing jointly)—below federal treatment—even before taxes can be paid under the new rules. Click here for the Tax Foundation's full analysis of Proposition FF.

Result	Ballot Measure	For	Against	% In
✓	Colorado Proposition FF	55%	45%	80%

Colorado Proposition 121

Colorado Proposition 121 would reduce the statutory income tax rate from 4.55 percent to 4.4 percent, retroactively effective for tax year 2022. Although revenues in coming years are expected to trigger TABOR reductions, statutory rate reductions enable investment and other decisions to be made in anticipation of a lower tax burden, providing more economic benefit than after-the-fact temporary tax relief. Click here for the Tax Foundation's full analysis of Proposition 121.

Result	Ballot Measure	For	Against	% In
✔	Colorado Proposition 121	66%	34%	81%

Idaho Advisory Ballot

In Idaho, an error-riddled ballot initiative to create a new top marginal income tax rate of 10.925 percent was pulled from the ballot after lawmakers adopted legislation in a special session creating a 5.8 percent single-rate income tax with a higher standard deduction while simultaneously providing additional funding for public education. The withdrawn ballot measure would have reversed a previously adopted across-the-board tax cut, created a large tax cliff, and instituted an inverted inflation adjustment. Proponents initially argued these problems could be fixed legislatively but ultimately chose to pull the measure and lend support to new state legislation championed by Gov. Brad Little (R) that would have preempted it. In place of the former Proposition 1, Idaho voters will weigh in on an advisory question approving or disapproving of the legislature's action. Click here for a summary of the legislation in question, and click here for our analysis of the former Proposition 1.

Result	Ballot Measure	For	Against	% In
✔	Idaho Advisory Ballot	80%	20%	75%

Massachusetts Question 1

Massachusetts Question 1 is a legislatively referred constitutional amendment that would modify the state's constitution to add a 4 percent surtax to the current 5 percent individual income tax rate for annual income above $1 million. Massachusetts has had a flat-rate individual income tax since 1917. If approved, the amendment would effectively transition the state to a graduated income tax on January 1, 2023. Further analysis of the amendment, including its potential economic impact, is available here.

Result	Ballot Measure	For	Against	% In
✔	Massachusetts Question 1	52%	48%	84%

Missouri Amendment 3

Missouri Amendment 3 is one of the most comprehensive measures related to marijuana to appear on state ballots this November. This proposed constitutional amendment would remove state prohibitions on purchasing, possessing, consuming, using, delivering, manufacturing, and selling marijuana for personal use by adults over the age of 21 and would impose a six percent tax on the retail price of recreational marijuana. State revenue estimates suggest initial revenues of $7.9 million for the state and $13.8 million for local governments. In addition, persons with certain marijuana-related, non-violent offenses would be permitted to

petition for release from incarceration or parole and probation and have their criminal records expunged.

Result	Ballot Measure	For	Against	% In
✔	Missouri Amendment 3	53%	47%	89%

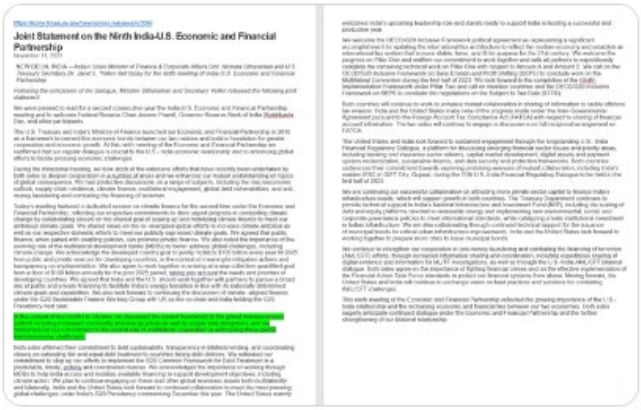
West Virginia Amendment 2

West Virginia Amendment 2 would grant the legislature the authority to reform tangible personal property taxes in the state. West Virginia is unusual in not only taxing business machinery and equipment but also business inventory and vehicles, including personal vehicles. Policymakers have long sought to reduce reliance on these taxes by using state revenue to backfill reduced local tangible property tax collections, but their ability to do so is contingent upon a constitutional change. Click here for the Tax Foundation's full analysis of Amendment 2.

Result	Ballot Measure	For	Against	% In
✘	West Virginia Amendment 2	35%	65%	95%

Dan Tsubouchi @Energy_Tidbits · 1h

ICYMI. Lengthy joint US/India statement post @SecYellen meeting in India. No mention of record India #Oil imports from Russia in Oct, or US/EU proposed RUS oil price cap. See 👇 Oct 8 thread, @HardeepSPuri already gave those answers to @SecGranholm in Washington in Oct. #OOTT



Joint Statement on the Ninth India-U.S. Economic and Financial Partnership

November 11, 2022

NOVI DELHI, INDIA —Indian Union Minister of Finance & Corporate Affairs Smt. Nirmala Sitharaman and U.S. Treasury Secretary Dr. Janet L. Yellen met today for the ninth meeting of India-U.S. Economic and Financial Partnership.

Following the conclusion of the dialogue, Minister Sitharaman and Secretary Yellen released the following joint statement:

We were pleased to meet for a second consecutive year the India-U.S. Economic and Financial Partnership meeting and to welcome Federal Reserve Chair Jerome Powell, Governor Reserve Bank of India Shaktikanta Das, and other par ticipants.

The U.S. Treasury and India's Ministry of Finance launched our Economic and Financial Partnership in 2010 as a framework to cement the economic bonds between our two nations and build a foundation for greater cooperation and economic growth. At this meeting of the Economic and Financial Partnership we reaffirmed that our regular dialogue is crucial to the U.S. – India economic relationship and to advancing global efforts to tackle pressing economic challenges.

During the ministerial meeting, we took stock of the extensive efforts that have recently been undertaken by both sides to deepen cooperation in a number of areas and we enhanced our mutual understanding on topics of global consequence. We had productive discussions on a range of subjects, including the macroeconomic outlook, supply-chain resilience, climate finance, multilateral engagement, global debt vulnerabilities, and anti-money laundering and combating the financing of terrorism.

Today's meeting featured a dedicated session on climate finance for the second time under the Economic and Financial Partnership, reflecting our respective commitments to stem urgent progress in combatting climate change by collaborating closely on the shared goal of scaling up and redirecting climate finance to meet our ambitious climate goals. We shared views on the re-energized global efforts to mobilize ambitious climate finance, including through the Multilateral Development Banks (MDBs), and the private sector. We noted that climate finance, when paired with enabling policies, can promote private finance. We also noted the importance of the evolving role of the multilateral development banks (MDBs) to better address global challenges, including climate change. We acknowledge the developed country goal to jointly mobilize $100 billion every year till 2025 from public and private sources for developing countries, in the context of meaningful mitigation actions and transparency on implementation. We also agree to work together in working at a new collective quantified goal from a floor of $100 billion annually for the post 2025 period, taking into account the needs and priorities of developing countries. We agreed that India and the U.S. should work together with partners to pursue a broad mix of public and private financing to facilitate India's energy transition in line with its nationally determined climate goals and capabilities. We also look forward to continuing the discussion of climate- aligned finance under the G20 Sustainable Finance Working Group with US as the co-chair and India holding the G20 Presidency next year.

In the context of the conflict in Ukraine, we discussed the current headwinds to the global economy and financial system, including food and energy security challenges, and the need to support the most vulnerable countries and populations. We noted the role of multilateral cooperation in addressing these global challenges.

Both sides affirmed their commitment to debt sustainability, transparency in debt/debt lending, and coordinating closely on extending fair and equal debt treatment to countries facing debt distress. We reiterated our commitment to step up our efforts to implement the G20 Common Framework for Debt Treatment in a predictable, timely, orderly and coordinated manner. We acknowledged the importance of working through MDBs to help tackle access and mobilize available financing in support development objectives, including climate action. We plan to continue engaging on these and other global economic issues both bi-multilaterally and bilaterally. India and the United States look forward to continued collaboration to meet the many pressing global challenges under India's G20 Presidency commencing December this year. The United States warmly welcomes India's upcoming leadership role and stands ready to support India in hosting a successful and productive year.

We welcome the OECD/G20 Inclusive Framework political agreement as representing a significant accomplishment for updating the rules around tax jurisdictions to reflect the modern economy and establish an international tax system that is more stable, fairer, and fit for purpose for the 21st century. We welcome the progress on Pillar One and reaffirm our commitment to work together and with all partners to expeditiously complete the remaining technical work on Pillar One with respect to Amount A and Amount B. We call on the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) to conclude work on the Multilateral Convention during the first half of 2023. We look forward to the completion of the Model Implementation Framework under Pillar Two and call on inclusion countries and the OECD/G20 Inclusive Framework on BEPS to conclude the negotiations on the Subject to Tax Rule (STTR).

Both countries will continue to work to enhance mutual collaboration in sharing of information to tackle offshore tax evasion. India and the United States make note of the progress made under the Inter-Governmental Agreement pursuant to the Foreign Account Tax Compliance Act (FATCA) with respect to sharing of financial account information. The two sides will continue to engage in discussions on full reciprocal tax enjoyment on FATCA.

The United States and India look forward to sustained engagement through the longstanding U.S.- India Financial Regulatory Dialogue, a platform for discussing emerging financial sector issues and priority areas, including banking and insurance sector reforms, capital market development, digital assets and payment system modernization, sustainable finance, and data security and protection frameworks. Both countries underscore their commitment towards exploring promising avenues of mutual collaboration, including India's maiden IFSC in GIFT City, Gujarat, during the 10th U.S.-India Financial Regulatory Dialogue to be held in the first half of 2023.

We are continuing our successful collaboration on attracting more private sector capital to finance India's infrastructure needs, which will support growth in both countries. The Treasury Department welcomes India's efforts to deepen its corporate bond market, including through the recent launch of a trading of fixed-income platform, reported increases in renewable energy and implementing new environmental, social and corporate governance policies to meet international standards, while catalyzing private institutional investment in Indian infrastructure. We are also collaborating through continued technical support for the issuance of municipal bonds for critical urban infrastructure improvements. India and the United States look forward to working together to prepare more cities to issue municipal bonds.

We continue to strengthen our cooperation in anti-money laundering and combating the financing of terrorism (AML/CFT) efforts, through increased information sharing and coordination, including expeditious sharing of digital evidence and information for MLAT investigations, as well as through the U.S.-India AML/CFT bilateral dialogue. Both sides agree on the importance of fighting financial crimes and on the effective implementation of the Financial Action Task Force standards to protect our financial systems from abuse. Moving forward, the United States and India will continue to exchange views on best practices and solutions for combating AML/CFT challenges.

This sixth meeting of the Economic and Financial Partnership reflected the growing importance of the U.S. - India relationship and the increasing economic and financial ties between our two economies. Both sides eagerly anticipate continued dialogue under the Economic and Financial Partnership and the further strengthening of our bilateral relationship.

> **Dan Tsubouchi** @Energy_Tidbits · Oct 8
>
> 1/3. Great @ANI reporting on clear India energy position from @HardeepSPuri post @SecGranholm meeting. "Have I been told by anyone to stop buying Russian oil? The answer is a categorical No". #OOTT #NatGas #LNG
>
> Show this thread

1 1

Dan Tsubouchi @Energy_Tidbits · 3h

1st #LNG cargo now shipped from @eni Coral Sul 0.45 bcf/d FLNG offshore Mozambique. Reminder look for partners to push subsequent #FLNG phases on this massive Rovuma block in addition to their big Exxon operated Rozuma LNG project that has onshore LNG facilties. #NatGas #LNG

https://www.eni.com/en-IT/media/press-release/2022/11/eni-coral-first-cargo.html

Mozambique's first LNG cargo departs from Coral Sul FLNG, offshore the Rovuma basin

13 NOVEMBER 2022 - 9:00 AM CET

Maputo (Mozambique), 13 November 2022 – Eni, as Delegated Operator of the Coral South project on behalf of its Area 4 Partners (ExxonMobil, CNPC, GALP, KOGAS and ENH), informs that the first shipment of liquefied natural gas (LNG) produced from the Coral gas field, in the ultra-deep waters of the Rovuma Basin, has just departed from Coral Sul Floating Liquefied Natural Gas (FLNG) facility.

Eni CEO Claudio Descalzi commented that "The first shipment of LNG from Coral South project, and from Mozambique, is a new and significant step forward in Eni's strategy to leverage gas as a source that can contribute in a significant way to Europe's energy security, also through the increasing diversification of supplies, while also supporting a just and sustainable transition. We will continue to work with our partners to ensure timely valorization of Mozambique's vast gas resources".

Coral South is a landmark project for the industry and firmly places Mozambique onto the global LNG stage. The project, sanctioned in 2017, comes on stream after just 5 years, in line with the initial budget and schedule, despite the disruptions caused by the Covid pandemic. This result was made possible thanks to Eni's distinctive phased and parallelized approach, a very effective execution planning, and the strong commitment by all partners and the unwavering support of the Government of Mozambique. Coral Sul FLNG has a gas liquefaction capacity of 3.4 million tons per year and will produce LNG from the 450 billion cubic meters of gas of the Coral reservoir.

About Area 4

Area 4 is operated by Mozambique Rovuma Venture S.p.A. (MRV), an incorporated joint venture owned by Eni, ExxonMobil and CNPC, which holds a 70 percent interest in the Area 4 exploration and production concession contract. In addition to MRV, the other shareholders in Area 4 are Galp, KOGAS and ENH, each with a 10 percent participation interest. Eni is the Delegated Operator for the Coral South project and all Upstream activities in Area 4.

2

Dan Tsubouchi @Energy_Tidbits · 17h

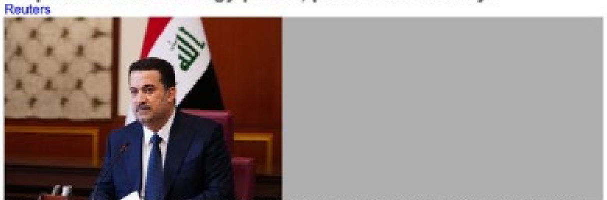
Is Goldilocks #Oil price $90 to $100. See 👇, sounds like Iraq PM al-Sudani sees Goldilocks not too high, not too low oil price range is $90 to $100 range. Thx @charliebruneau. #OOTT

https://www.reuters.com/business/energy/iraq-wants-keep-oil-stable-not-above-100-per-barrel-pm-2022-11-12/?taid=636fcac361b9590001778858&utm_campaign=trueAnthem:+Trending+Content&utm_medium=trueAnthem&utm_source=twitter

2 minute readNovember 12, 202210:48 AM MSTLast Updated 4 hours ago

Iraq wants stable energy prices, prime minister says

Reuters



New Iraqi Prime Minister Mohammed Shia al-Sudani meets for the first regular session of the Council of Ministers in Baghdad, Iraq October 28, 2022. Iraqi Prime Minister Media Office/Handout via REUTERS

BAGHDAD, Nov 12 (Reuters) - Iraq is keen to maintain stable oil prices at not more than $100 per barrel, Prime Minister Mohammed Shia al-Sudani told reporters on Saturday.

Iraq, a member of the Organization of the Petroleum Exporting Countries (OPEC), will have discussions with other members to reconsider and increase its production quota, he added in a briefing.

"Iraq is keen for stability of energy prices, we do not want prices to increase above $100 and neither, at the same time, for them to fall in a way that affects the level of supply and demand," he said.

Sudani's cabinet took office in late October, ending more than a year of deadlock since a parliamentary election. He was backed for the post of prime minister by an alliance of Iran-aligned factions.

Sudani said Iraq was determined to keep mediating between regional rivals Saudi Arabia and Iran, which have been locked in proxy conflicts across the Middle East and started talks last year hosted by Baghdad to try to contain tensions.

"The concerned parties officially asked us to continue playing this role", Sudani said.

Frictions have grown recently between Saudi Arabia and Iran, which has been swept by more than two months of protests ignited by the death of 22-year-old Mahsa Amini while she was in the custody of the country's morality police.

Iran has accused foreign adversaries of fomenting the unrest.

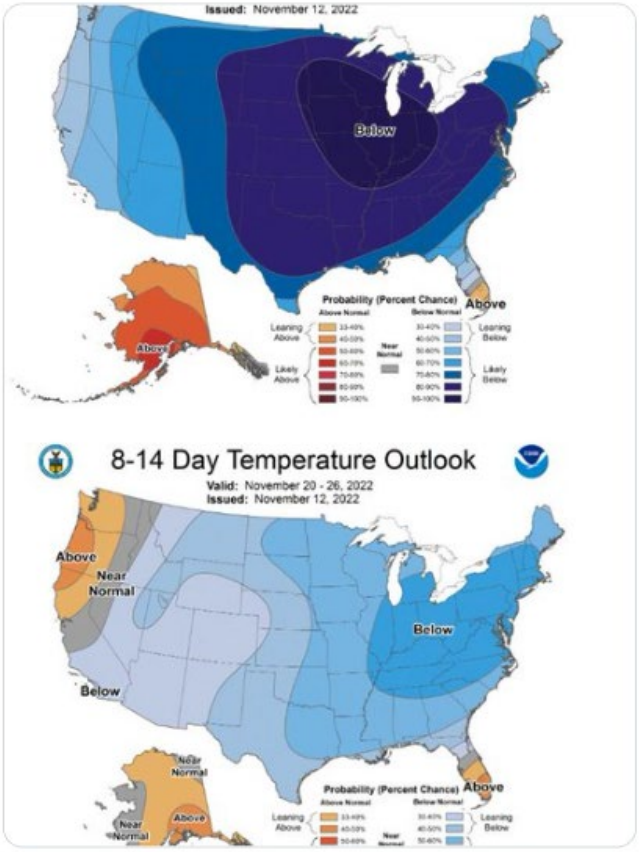
Iran's intelligence minister told Saudi Arabia on Wednesday that there is no guarantee of Tehran continuing its "strategic patience," according to semi-official Fars news agency.

Last month, Iran's Revolutionary Guards chief Hossein Salami warned Saudi Arabia Riyadh to control its media outlets.

Reporting by Charlotte Bruneau; Writing by Enas Alashray/Tom Perry; editing by David Evans

Dan Tsubouchi @Energy_Tidbits · 18h

Unchanged temperature outlook for balance of Nov - very cold for next week, then colder than normal for late Nov. Very cold in mid-Nov in Chicaco means daytime high is around freezing. Still, always good to start winter #NatGas withdraw with a colder Nov. Thx @NOAA. #OOTT

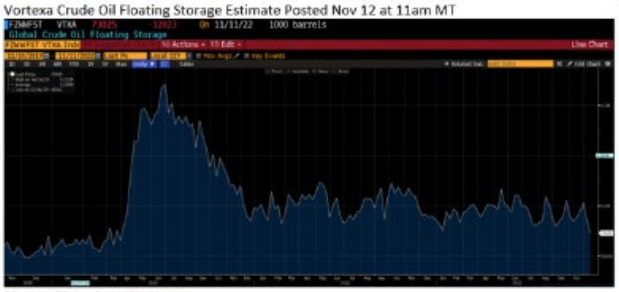


3 3 52

Dan Tsubouchi @Energy_Tidbits · 20h

Be a big positive if not upwardly revised. #Vortexa crude #Oil floating storage at 11/11 est 73.03 mmb, -12.82 mmb vs upwardly revised 11/04 of 85.85 mmb. But 11/04 was revised +6.24 mmb vs original est. Thx @Vortexa @business. #OOTT

Vortexa Crude Oil Floating Storage Estimate Posted Nov 12 at 11am MT



Source: Bloomberg, Vortexa

Posted Nov 12, 11am MT

Date	Last Px
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Fr 10/21/2022	94914
Fr 10/14/2022	87931
Fr 10/07/2022	84311
Fr 09/30/2022	90252
Fr 09/23/2022	105.552k
Fr 09/16/2022	89540
Fr 09/09/2022	84530
Fr 09/02/2022	79960

Nov 5, 11am MT

Date	Last Px
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Fr 10/07/2022	85558
Fr 09/30/2022	91891
Fr 09/23/2022	107.74k
Fr 09/16/2022	92314
Fr 09/09/2022	85715
Fr 09/02/2022	80070
Fr 08/26/2022	87045

Oct 31, 10am MT

Date	Last Px
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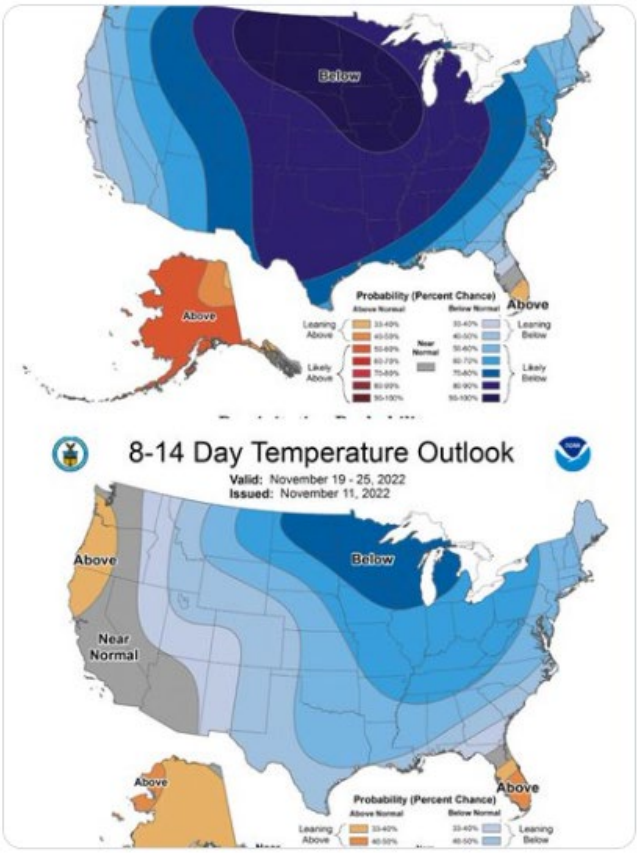
Fr 10/21/2022	94281
Fr 10/14/2022	94734
Fr 10/07/2022	86539
Fr 09/30/2022	90020
Fr 09/23/2022	106.173k
Fr 09/16/2022	90027
Fr 09/09/2022	84088
Fr 09/02/2022	79371
Fr 08/26/2022	85033
Fr 08/19/2022	100.664k

Source: Bloomberg, Vortexa

Dan Tsubouchi @Energy_Tidbits · Nov 11

Unchanged Nov temp outlook - very very cold and then colder than normal. It's mid-Nov so very cold in Chicago is around freezing for daytime highs, but it's always a good start to winter #NatGas withdraw season when it's colder than normal to start November. Thx @NOAA. #OOTT



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Dan Tsubouchi Retweeted

Dan Tsubouchi @Energy_Tidbits · Nov 11

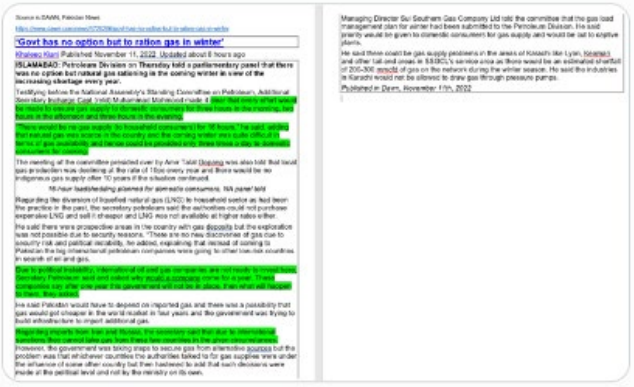
Iran floating storage down to 16 mmb #CrudeOil + 41 mmb #Condensate. But #Vortexa estimates 103 tankers likely have switched from Iran to Russian trade. Thx @Vortexa Armen Azizian. #OOTT

vortexa.com/insights/crude...

2 3

Dan Tsubouchi @Energy_Tidbits · Nov 11

Poorer countries getting hammered as EU bid up #LNG to replace RUS. Pakistan says no #NatGas supply to household customers for 16 hrs/day, rationed to 3 hrs in am, 2 hrs in afternoon, 3 hrs in evening. Pakistan is ~220 mm population or 1/2 EU population. #OOTT



'Govt has no option but to ration gas in winter'

Khaleej Mart Published November 11, 2022 Updated about 6 hours ago

ISLAMABAD: Petroleum Division on Thursday told a parliamentary panel that there was no option but natural gas rationing in the coming winter in view of the increasing shortage every year.

Testifying before the National Assembly's Standing Committee on Petroleum, Additional Secretary Incharge Capt (retd) Muhammad Mahmood made it clear that every effort would be made to ensure gas supply to domestic consumers for three hours in the morning, two hours in the afternoon and three hours in the evening.

"There would be no gas supply for household consumers for 16 hours," he said, adding that we had gas very scarce in the country and the century winter was quite difficult in terms of gas availability, and hence could be provided only three times a day to domestic consumers for cooking.

The meeting of the committee presided over by Amir Talal Dogang was also told that local gas production was declining at the rate of 1 bcfd every year and there would be no indigenous gas supply after 10 years if the situation continued.

16-hour loadshedding planned for domestic consumers, NA panel told

Regarding the diversion of liquefied natural gas (LNG) to household sector as had been the practice in the past, the secretary petroleum said the authorities could not purchase expensive LNG and sell it cheaper and LNG was not available at higher rates either.

He said there were prospective areas in the country with gas deposits but the exploration was not possible due to security reasons. "There are no new discoveries of gas due to security risk and political instability, he added, explaining that instead of coming to Pakistan the big international petroleum companies were going to other low-risk countries in search of oil and gas.

Due to political instability, international oil and gas companies are not ready to invest here, Secretary Petroleum said and added why would a company come for a loss. These companies say after one year the government will not be in place, then what will happen to their investment.

He said Pakistan would have to depend on imported gas and there was a possibility that gas would get cheaper in the world market in four years and the government was trying to build infrastructure to import additional gas.

Regarding imports from Iran and Russia, the secretary said that due to international sanctions, we cannot take gas from these two countries in the given circumstances. However, the government was taking steps to secure gas from alternative sources but the problem was that whichever countries the authorities talked to for gas supplies were under the influence of some other country but then hastened to add that such decisions were made at the political level and not by the ministry on its own.

Managing Director Sui Southern Gas Company Ltd told the committee that the gas load management plan for winter had been submitted to the Petroleum Division. He said priority would be given to domestic consumers for gas supply and would be cut to captive plants.

He said three could be gas supply problems in the areas of Karachi like Lyari, Keamari and other tail-end areas as SSGCL's service area as there would be an estimated shortfall of 200-300 mmcfd of gas on the network during the winter season. He said the industries in Karachi would not be allowed to draw gas through pressure pumps.

Published in Dawn, November 11th, 2022

14 20

Dan Tsubouchi @Energy_Tidbits · Nov 11

Must Read 👇. Not speculation, China communist party media. Authorities release 20 measures to relax Covid restrictions ie. shortened quarantines, at home vs centralized quarantine AND urge development of "broad spectrum of vaccines & drugs". No surprise, Brent #Oil +$2.90. #OOTT

GT Global Times

https://www.globaltimes.cn/page/202211/1279295.shtml

China shortens quarantine period for intl arrivals, cancels 'circuit breaker' for inbound flights

By Global Times Published: Nov 11, 2022 01:58 PM

Chinese authorities on Friday released 20 optimized measures to further enhance scientific and precise work of epidemic prevention and control, one day after the Chinese leadership held a meeting to hear a report on the COVID-19 response, and discussed and arranged the 20 measures.

The newest steps include shortened quarantine period for international arrivals and close contacts of confirmed cases from 7+3 (seven days of centralized quarantine and three days of health observation at home) to 5+3.

The measures required timely screening of close contacts of confirmed cases, but required to stop screening close contacts of close contacts, or the secondary contacts.

Circuit breaker mechanism on inbound flights to China upon detecting positive cases on board has also been canceled. Passengers of inbound flights to China will only need to provide one negative nucleic acid testing result within past 48 hours instead of two, according to the latest measures.

Ct value of nucleic acid testing of international arrivals would have to be less than 35. Those showing Ct value of 35-40 have to accept evaluation on virus transmission risk, according to the measures.

Business people and athlete groups have to be transferred directly from where they arrived to closed-loop quarantine-exemption areas and should not leave the area. Chinese nationals have to accept booster shots before entering these closed-loop areas, the measures required.

Per the latest measures, places in China would only be identified as high risk and low risk in terms of epidemic transmission. The classification of medium-risk area would be canceled.

People coming from high-risk areas have to stay at home for seven days for health observation instead of seven days of centralized quarantine.

The latest measures also called for promotion of mass vaccination in China, especially the administration of booster shots among the elderly group.

The measures also urged accelerated research and development of broad spectrum vaccines and drugs.

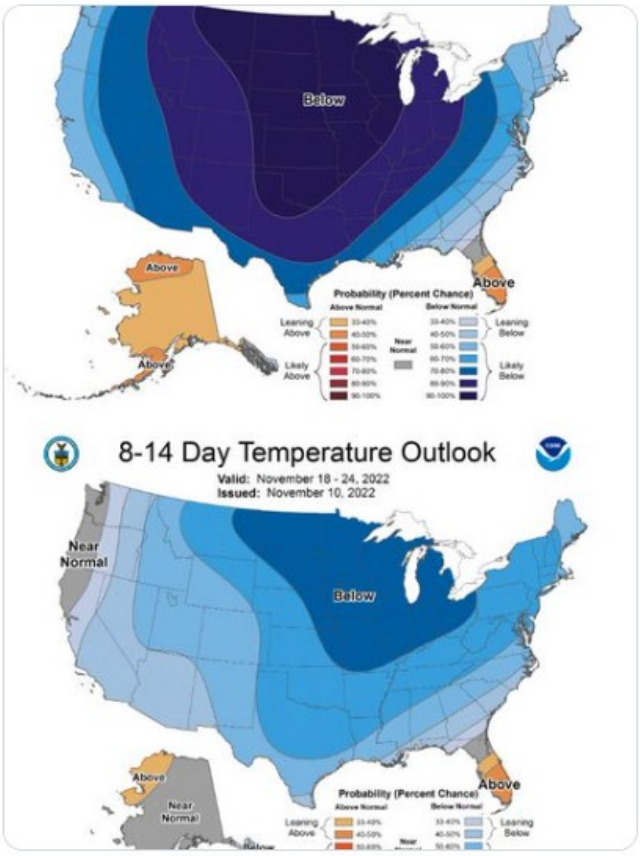
The measures vowed to deal with excessive and one-size-fits-all measures seriously, banning unreasonable steps to lock down schools, suspend traffic or clinical service. Such violations would be punished seriously according to regulations and laws, read the measures.

Global Times

10 38

Dan Tsubouchi @Energy_Tidbits · Nov 10

It's November so very cold in Chicago in mid-Nov is around freezing for daytime highs, but it's always a good start to winter #NatGas withdraw season when it's colder than normal to start November. Thx @NOAA. #OOTT



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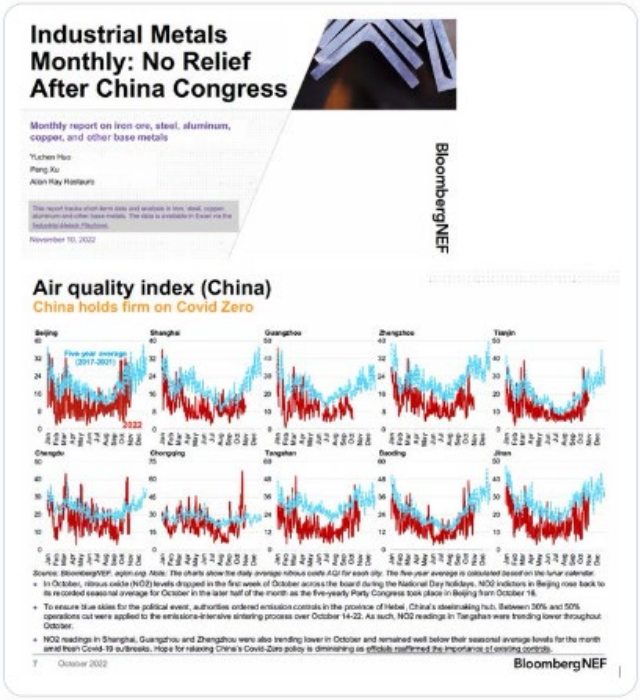
Dan Tsubouchi @Energy_Tidbits · Nov 10

Good indication that any China Covid relaxation is modest at best as NO2 emissions remain below normal in most parts of China. Thx @BloombergNEF. #OOTT



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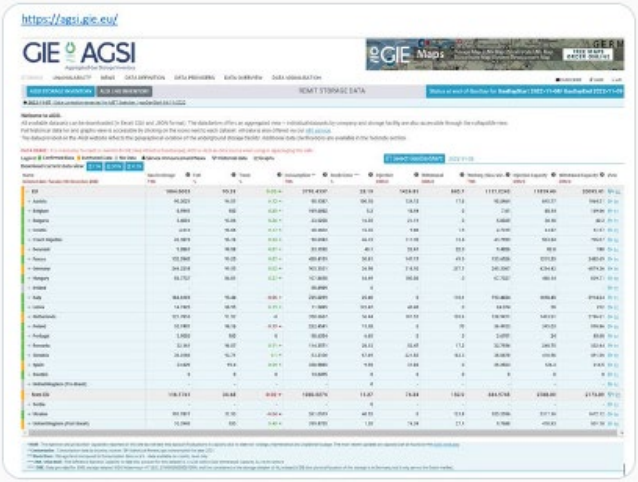
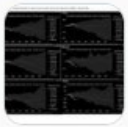
Dan Tsubouchi @Energy_Tidbits · Nov 10

Europe overall #NatGas storage 95.31% as of Nov 8 close. Directly due to warmer than normal temps across EU for Oct/Nov-to-date, also industrial demand destruction. Here is link to Gas Infrastructure Europe daily gas storage by country. agsi.gie.eu #OOTT #LNG



Dan Tsubouchi @Energy_Tidbits · Nov 8



#LNG101 #NatGas101. Winter is peak season for #NatGas demand. So forecasts for warmer than normal temperatures in November to start winter have led sky-high #LNG EU #NatGas prices to soften to just way higher than normal prices. Thx @BloombergNEF ...

1 1

Dan Tsubouchi @Energy_Tidbits · Nov 9

See 👇 transcript, #Oil companies are only group specifically called out by #Biden in his post midterms press conference. Looks like anti oil will continue as a priority in last 2 years of term. Also said still intention to run in 2024, expects to reveal post Xmas holiday. #OOTT

SAF Group created transcript of excerpts from President Biden's press conference on Nov 9, 2022

Items in "italics" are SAF Group created transcript

At 2:49pm MT, Biden *"... but what I can't do, I can't guarantee that we're going to be able to get rid of inflation. But I do think we can. We've already brought down the price of gasoline by about $1.20 a gallon across the board. And I think the oil companies are really doing the nation a real disservice. They've made, six of them made over $100 billion dollars in the last quarter, profit. $100 billion dollars. In the past, if they had done the two things they had done before. One, invest in more refineries to producing more product and/or passing on the rebates to the gas stations, they sell the oil at a cheaper rate than they are selling it now. Not taking advantage and that lowers the price of a total gallon of gas because that gets passed on. So there's a whole lot of things we can do that are difficult to do, but we're going to continue to push to do them."*

Prepared by SAF Group https://safgroup.ca/news-insights/

> **Dan Tsubouchi** @Energy_Tidbits · Nov 7
>
> Hmm! Potential #Biden priorities for his legacy if he decides not to run in 24??
>
> Sun: "There is no more drilling. I haven't formed any new drilling".
> ...

1 2

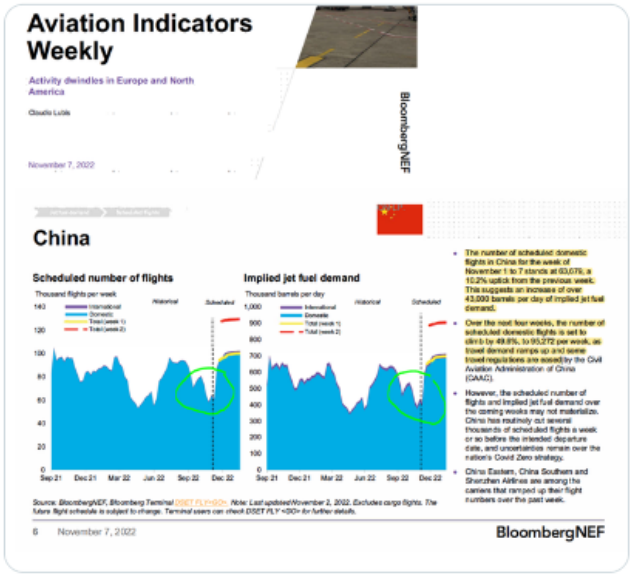
Dan Tsubouchi @Energy_Tidbits · Nov 9

ICYMI. @fbirol "to be secure and clean energy future, this $1 investment in #FossilFuels should continue". Note this is for fossil fuels incl #Coal, his 👇 @IEA World Energy Outlook actually says need INCREASED #Oil #NatGas investment. Thx @flacqua. #OOTT

1 1

Dan Tsubouchi @Energy_Tidbits · Nov 9

#Oil. China domestic air flights weren't down WoW, but a modest WoW +10.2% to 63,679 flights. Next 4 weeks, set to rise +49.6% to 95,272 flights, but 2 weeks ago, fcast was to 127,159 flights. Perhaps the start to some modest WoW increases? Thx @BloombergNEF Claudio Lubis. #OOTT



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Dan Tsubouchi @Energy_Tidbits · Nov 9

For those not near their laptop, @EIAgov just released #Oil #Gasoline #Distillates inventory as of Nov 4. Table below compares EIA data vs @business expectations posted as of 5am MT, and vs @APIenergy yesterday. Prior to release, WTI was $87.20. #OOTT

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

s Inventory Nov 4: EIA, Bloomberg Survey Expectations, A

els)	EIA	Expectations
	3.93	0.25
	-0.90	-1.45
	-0.52	-0.50
	2.51	-1.70

commercial so builds in impact of 2.6 mmb draw from SPR for I
ed in the oil data, Cushing had a draw of 0.92 mmb for Nov 4 v

Bloomberg
SAF Group https://safgroup.ca/news-insights/

1 2

Dan Tsubouchi @Energy_Tidbits · Nov 9

No surprise, @FrancoisDeBeaup reports @PPouyanne may look to restart #MozambiqueLNG in H1/23, but requisite is must be given green light by @TotalEnergies security team that he can travel there. Fits 10/06 👇 caveat & why they don't include 1st LNG until after 2027. #OOTT #NatGas

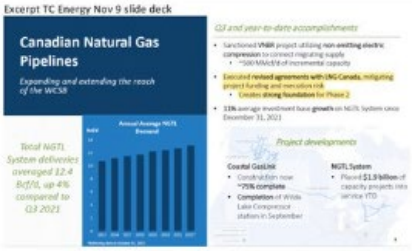
> **Dan Tsubouchi** @Energy_Tidbits · Oct 6
>
> More support for why @TotalEnergies doesn't include #MozambiqueLNG until after 2027. @El_Forum "we will think to restart" the Mozambique #LNG project only on the day Pouyanne himself can visit without a military escort, says Pouyanne. #ElForum". #NatGas
>
> twitter.com/El_Forum/statu...

1 1 4

Dan Tsubouchi @Energy_Tidbits · Nov 9

Hmm! @TCEnergy Q3 Q&A still on. No analysts have bit on even bigger CEO tease "continue to see tremendous opportunity ahead to extend & expand our unparalleled network". #CoastalGas Link 2 for #LNGCanada 1.8 bcfd Phase 2? #OOTT

Excerpt TC Energy Nov 9 slide deck



Excerpt https://www.globenewswire.com/news-release/2022/11/09/2551747/0/en/TC-Energy-reports-strong-third-quarter-2022-results.html

TC Energy reports strong third quarter 2022 results

Coastal GasLink: On July 28, 2022, Coastal GasLink LP executed definitive agreements with LNG Canada that addressed and resolved disputes over certain incurred and anticipated costs of the Coastal GasLink pipeline project.

The revised project agreements incorporate a new cost estimate for the project of $11.2 billion, which reflects an increase from the original project cost estimate due to scope increases and the impacts of COVID-19, weather and other events outside of Coastal GasLink LP's control. Current market conditions, including inflationary impacts on labour costs, could result in final project costs that are higher than this new estimate. Mechanical in-service is expected to be reached by the end of 2023. Commercial in-service of the Coastal GasLink pipeline will occur after completion of commissioning of the pipeline.

The revised $11.2 billion project cost will be funded in part by existing project-level credit facilities with a revised total capacity of $8.4 billion following an expansion of $1.6 billion. Required project equity of $2.8 billion includes an additional $1.9 billion equity contribution from TC Energy, payable in monthly installments from August 2022 to February 2023 that does not result in a change to our 35 per cent ownership. Additional equity financing required to fund construction of the pipeline will initially be financed through a subordinated loan agreement between TC Energy and Coastal GasLink LP which was originally put in place in fourth quarter 2021 and was amended on July 28, 2022. Following these amendments, draws by Coastal GasLink LP will be provided through an interest-bearing loan, subject to a floating market-based interest rate, which will be repaid with funds from equity contributions to the partnership by the Coastal GasLink LP partners, including us, subsequent to the in-service date of the Coastal GasLink pipeline when final project costs are determined. Committed capacity under this subordinated loan agreement between TC Energy and Coastal GasLink LP has been and will continue to be stepped down over time. At September 30, 2022, total available capacity under the subordinated loan agreement was $1.8 billion with an outstanding balance of $250 million. We currently estimate our portion of the equity contributions to Coastal GasLink LP over the project life to be approximately $2.1 billion, including the $1.9 billion equity contribution noted above.

On March 9, 2022, we announced the signing of option agreements to sell a 10 per cent equity interest in Coastal GasLink LP to Indigenous communities across the project corridor. The opportunity to become business partners through equity ownership was made available to all 20 Nations holding existing agreements with Coastal GasLink LP. The Nations have established two entities that together currently represent 16 Indigenous communities that have confirmed their support for the option agreements. The equity option is exercisable after commercial in-service of the pipeline, subject to customary regulatory approvals and consents, including the consent of LNG Canada.

The Coastal GasLink pipeline project is approximately 75 per cent complete. The entire route has been cleared, grading is more than 86 per cent complete and approximately 400 km of pipeline has been backfilled with reclamation activities underway in many areas.

Dan Tsubouchi @Energy_Tidbits · Nov 9

Hmm! #TCEnergy Q3 call just started. will analysts ask CEO Poirier on opening tease "being opportunity rich means we expect to sanction high-quality growth projects that will further differentiate as an industry leader". #CoastalGasLink 2 for #LNGCanada 1.8 bcfd Phase 2?? #OOTT twitter.com/Energy_Tidbits…

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> **Dan Tsubouchi** @Energy_Tidbits · Nov 9
>
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1 1

Dan Tsubouchi @Energy_Tidbits · Nov 9

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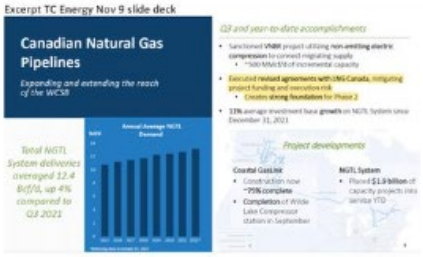

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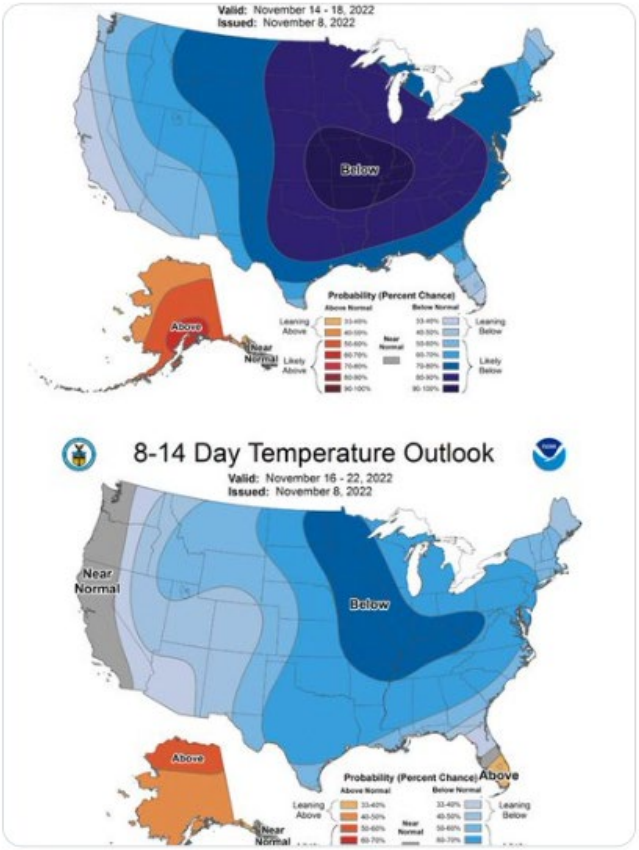
The Coastal GasLink pipeline project is approximately 75 per cent complete. The entire route has been cleared, grading is more than 84 per cent complete and approximately 400 km of pipeline has been backfilled with reclamation activities underway in many areas.

Dan Tsubouchi @Energy_Tidbits · Nov 8

Very cold weather coming up for most of the US should provide support for HH #NatGas prices. Today's @NOAA updated 6-10 day and 8-14 day outlooks call for much colder than normal weather across all of the US Lower 48. #OOTT



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Dan Tsubouchi @Energy_Tidbits · Nov 8

Close the barn door after ..

@HardeepSPuri told @SecGranholm IN will buy #Oil from anyone

IN imports 946,000 b/d discounted RUS oil.

@SecYellen, even if IN doesn't participate in price cap, US hopes price cap gives IN leverage to negotiate good discounts so it benefits.

#OOTT

https://indianexpress.com/article/business/commodities/india-will-benefit-from-price-cap-on-russian-oil-us-treasury-secretary-janet-yellen-8255703/

India will 'benefit' from price cap on Russian oil: US Treasury Secy Yellen

Russia now makes up for 22 per cent of India's total crude imports, ahead of Iraq's 20.5 per cent and Saudi Arabia's 16 per cent.

By: PTI Washington | Updated: November 8, 2022 10:33:09 am

US Treasury Secretary Janet Yellen. (AP)

India will "benefit" from the proposed price cap on oil, Treasury Secretary Janet Yellen has said, arguing that the United States does not want Russia to "profit unduly" from the war by enjoying prices that are essentially very high due to its Ukrainian invasion.

Developing countries like India and China have been increasingly buying discounted Russian oil as global energy prices remain high and Western nations seek to scale down their reliance on Russian energy.

"We want Russian oil to continue to supply global markets; stay on the market. But we want to make sure that Russia doesn't profit unduly from the war by enjoying prices that are essentially very high due to the war," Yellen told PTI in an exclusive interview on Monday ahead of her trip to India later this week.

India's oil purchase from Russia and the Ukrainian invasion is expected to be significant topics of discussion during her India trip, where Yellen is travelling to primarily co-chair the US-India Economic and Financial Partnership (EFP) dialogue along with her Indian counterpart Union Finance Minister Nirmala Sitharaman.

"Our objective is to hold down the price that Russia receives for its oil and keep that oil trading. The gainers from this will be particularly those countries that do buy cheap Russian oil, and our hope would be that India would take advantage of this price cap, though its firms are bargaining with Russia," Yellen said.

"If they (India) want to use Western financial services like insurance, the price cap would apply to their purchases. But even if they use other financial services, we believe the price cap will give them leverage to negotiate good discounts from world markets. We would hope to see India benefiting from this programme," the Treasury Secretary told PTI in response to a question.

India, which imports nearly 85 per cent of its fuel requirement, until March imported just 0.2 per cent of all oil requirements from Russia.

Russia now makes up for 22 per cent of India's total crude imports, ahead of Iraq's 20.5 per cent and Saudi Arabia's 16 per cent.

India's G-20 presidency will be another major topic of discussion during Yellen's meetings with Indian leaders.

"We are very supportive of India's G20 presidency. We certainly want to make sure that it's a successful year," she said.

"There will be topics on our agenda for meetings. For example, climate change will be very important. We are both concerned about debt sustainability. A large number of low-and middle-income countries in this difficult global environment are encountering problems of unsustainable debt," she said.

"We need to figure out a way to deal with debt overhangs in a collective way. The multilateral development banks and their evolution and the rules of the digital economy, I think all of these areas will be a focus for India during the G-20. I expect those are things that we'll discuss," Yellen said.

"I'm sure we're going to also discuss the spill-overs of Putin's war in Ukraine, that's having negative spill-overs around the globe. This is something that G-20 will need to address. There's broad consensus in the G-20 that the best thing for the global economy would be for Russia to end its war," Yellen told PTI in response to a question.

First published on: 08-11-2022 at 10:31:41 am

> **Dan Tsubouchi** @Energy_Tidbits · Nov 7
>
> 
>
> Here's how Russian sanctions work.
>
> Russia increases #Oil & #PetroleumProducts exports to India. See 👇Nov 2 tweet
>
> ...

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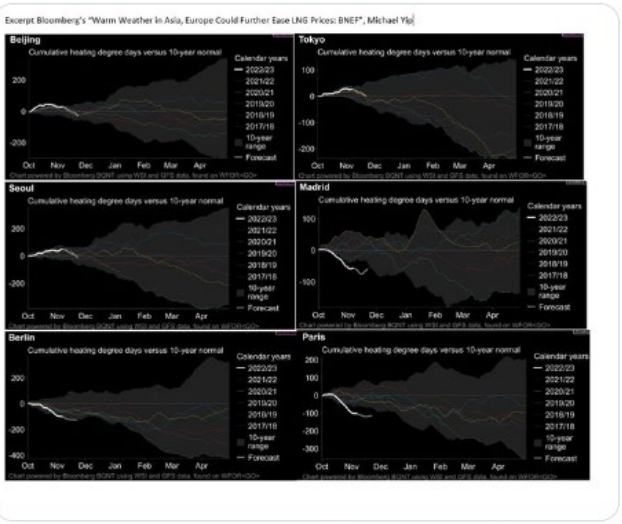
Dan Tsubouchi @Energy_Tidbits · Nov 8

#LNG101 #NatGas101. Winter is peak season for #NatGas demand. So forecasts for warmer than normal temperatures in November to start winter have led sky-high #LNG EU #NatGas prices to soften to just way higher than normal prices. Thx @BloombergNEF Michael Yip. #OOTT

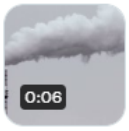


4 4

Dan Tsubouchi @Energy_Tidbits · Nov 7

Kuwait's new 615,000 b/d Al Zour refinery is the largest refinery in the @EIAgov estimated 2.9 mmb/d of new refinery capacity additions in 2022/2023. See 👇 excerpt from SAF Group Aug 7, 2022 Energy Tidbits memo. #OOTT

Argus Media @ArgusMedia · Nov 7



News story: Commercial operations have started at the first phase of Kuwait's 615,000 b/d al-Zour #refinery, project operator Kipic said, 6 Nov | #OOTT #crudeoil
...

3 2

Dan Tsubouchi @Energy_Tidbits · Nov 7

See 👇 today's non-denial denial by @PressSec. a lot of words but doesn't deny Biden's intention "We're going to be shutting these plants down all across America and having wind and solar." Reminds still more hits to come vs #Coal #Oil #NatGas in last 2 yrs of Biden term. #OOTT

Excerpt https://www.whitehouse.gov/briefing-room/press-briefings/2022/11/07/press-briefing-by-press-secretary-karine-jean-pierre-november-7-2022/
NOVEMBER 07, 2022

Press Briefing by Press Secretary Karine Jean-Pierre, November 7, 2022

2:20 P.M. EST

Go ahead.

Q Thank you. You said that the President is fighting for coal communities. But just a follow-up: That doesn't mean that he's fighting to keep these coalmines open, does it?

MS. JEAN-PIERRE: Look, the President — I — I laid out very clearly about how the President sees — sees his — his part in this and what he has done. You know, he has — he has — you know, through the work of Working Group on Coal and Power Plant Communities, President Biden has already delivered more than $23 billion to energy communities across the country.

He has put forward plans that are bringing new energy and manufacturing jobs to states like West Virginia, to states like Pennsylvania. And he has secured critical investment through the Inflation Reduction Act to support coal communities as well, which he believes is incredibly important, which is why it was included in the Inflation Reduction Act. And that's from funding for coalminers suffering from respiratory challenges to billions of dollars in loans to help them seize new energy opportunities.

So, again, you know, I mentioned this, I just laid this out: While we're trying to help coal communities, while we're trying to do everything that we can to make sure that they have the funding that they need, Republicans — that very same — same policy, same monies that I just laid out — Inflation Reduction Act, which is that where it's coming from — Republicans want to repeal that, taking away the efforts that we're trying to provide for coal communities.

Q So that sounds like you're helping them as the market, through economic transition, is moving away from coal. That doesn't sound like you're taking any deregulatory efforts or any steps to help the mines themselves stay open. Is that correct?

MS. JEAN-PIERRE: Look, I've been very clear. The President has been very clear on this. I don't have anything more to add. Again, we believe what he was trying to say was twisted. And we've laid that down very clearly. You heard from my statement. You heard from what I just say — said here today.

Q How can you twist those words? He said "We're shutting those plants down." How do you twist those words?

MS. JEAN-PIERRE: Go ahead. Go ahead. Go ahead, Phil. (Inaudible.)

> **Dan Tsubouchi** @Energy_Tidbits · Nov 5
>
> Non-denial denial by @PressSec. Doesn't deny Biden is going to shut #Coal plants all across US. Doesn't deny #Biden doesn't understand the need to have an all in energy policy. Reminds still more hits to come vs #Coal #Oil #NatGas in last 2 yrs of Biden term. #OOTT ...

2 4

Dan Tsubouchi @Energy_Tidbits · Nov 7

it's the time of the year we feel bad for the canada geese in the Elbow River. have to tuck their head down to stay warm.

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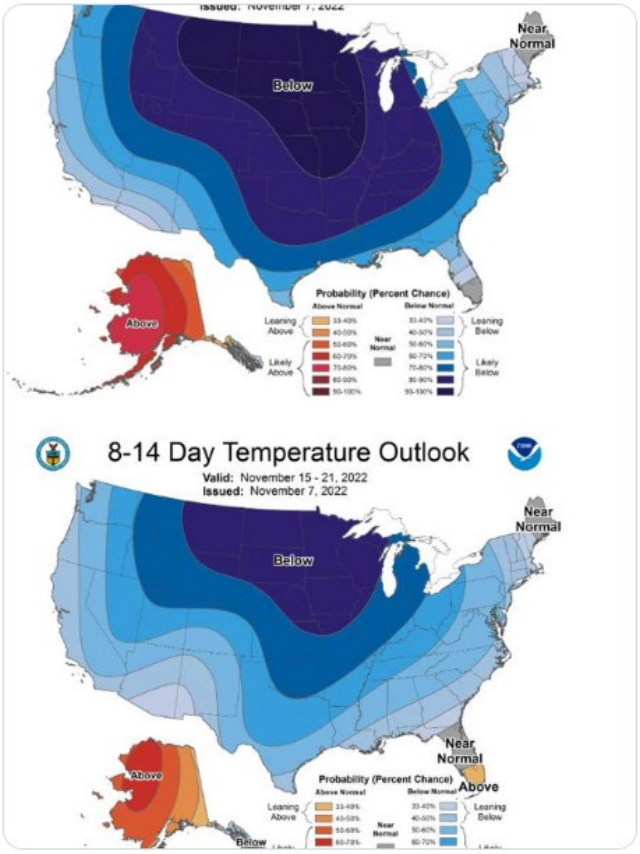
Dan Tsubouchi @Energy_Tidbits · Nov 7

Continued support for HH #NatGas prices. Today's @NOAA updated 6-10 day and 8-14 day outlooks call for much colder than normal weather across all of the US Lower 48. #OOTT



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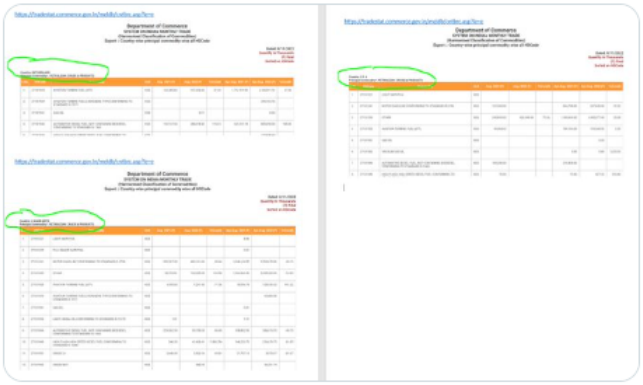
Dan Tsubouchi @Energy_Tidbits · Nov 7

Here's how Russian sanctions work.

Russia increases #Oil & #PetroleumProducts exports to India. See 👇 Nov 2 tweet

India increases Petroleum Products exports to Netherlands & UAE YoY. US flat YoY.

#OOTT



> **Dan Tsubouchi** @Energy_Tidbits · Nov 2
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> India imports 946,000 b/d #Oil Plus 106,000 b/d #FuelOil from Russia in Oct. See 👇 Oct 8 thread, @HardeepSPuri warned @SecGranholm that if "you believe in energy security, energy affordability you will buy from wherever you have to." Thx @EconomicTime...

6 6

Dan Tsubouchi @Energy_Tidbits · Nov 7

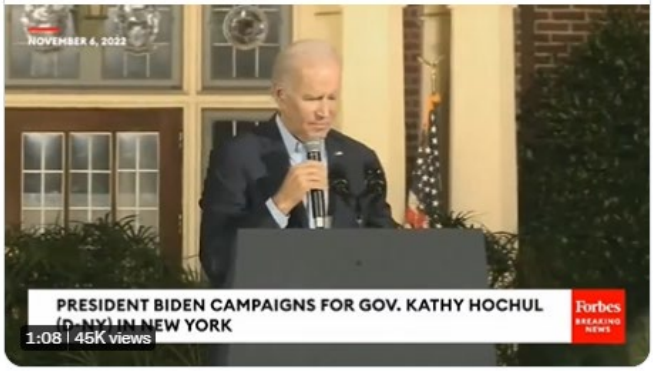
Hmm! Potential #Biden priorities for his legacy if he decides not to run in 24??

Sun: "There is no more drilling. I haven't formed any new drilling".

Fri: "we're going to be shutting down those [#Coal] plants all across America and having wind and solar".

#OOTT

> **Forbes** @Forbes · Nov 6
>
> MOMENTS AGO: After President Biden ends his speech, he responds to a person who was yelling to him in the crowd; Biden says: "There is no more drilling. I haven't formed any new drilling."



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Dan Tsubouchi @Energy_Tidbits · Nov 7

#Biden gives answer to @amoshochstein 👇 problem on why #Oil companies aren't investing all their cash flow into accelerating drilling.

See last night twitter.com/Forbes/status/... Biden "No more drilling. There is no more drilling. I haven't formed any new drilling."

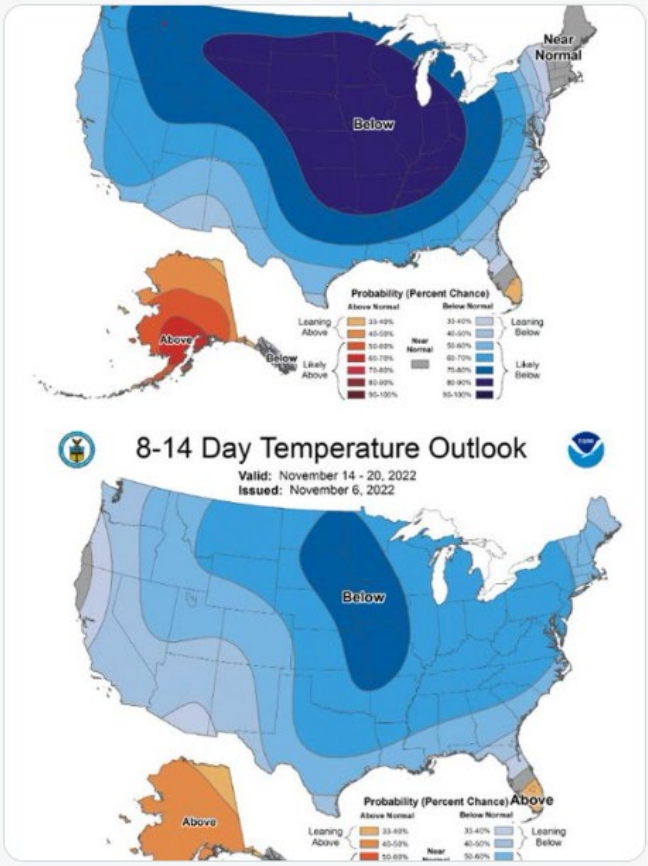
#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Nov 1
>
> "$100, $90 is naturally, historically when companies [#Oil] do invest. the problem now is is that they're not doing what they always used to do" @amoshochstein. surely this isn't a surprise under get rid of oil objective? great interview @ManusCranny. #OOTT

1 2

Dan Tsubouchi @Energy_Tidbits · Nov 6

Support for HH #NatGas prices to start the week. Today's @NOAA updated 6-10 day and 8-14 day outlooks call for colder than normal weather across all of the US Lower 48. #OOTT



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