

Energy Tidbits

US/UK Missile Attacks on Houthis, Who Say Their Response Will Be Largest Drone/Missile Attack

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Short-Term Energy Outlook

Overview

U.S. energy market indicators	2023	2024	2025
Brent crude oil spot price (dollars per barrel)	\$82	\$82	\$79
Retail gasoline price (dollars per gallon)	\$3.52	\$3.36	\$3.24
U.S. crude oil production (million barrels per day)	12.92	13.21	13.44
Natural gas price at Henry Hub (dollars per million British thermal units)	\$2.54	\$2.66	\$2.95
U.S. liquefied natural gas gross exports (billion cubic feet per day)	11.8	12.4	14.4
Shares of U.S. electricity generation			
Natural gas	42%	42%	41%
Coal	17%	15%	13%
Renewables	22%	24%	26%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	2.4%	1.6%	1.3%
U.S. CO ₂ emissions (billion metric tons)	4.78	4.77	4.70

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024

This edition of our *Short-Term Energy Outlook* (STEO) is the first to include forecasts for 2025.

Electricity generation. We expect solar power to be the leading source of growth in electricity generation in both 2024 and 2025 as 36 gigawatts (GW) and 43 GW of new solar capacity come on line, respectively. The new capacity will boost the solar share of total generation to 6% in 2024 and 7% in 2025, up from 4% in 2023. We forecast that overall U.S. electricity generation will grow by 3% in 2024 and be unchanged in 2025. Driven by our forecast of rising generation from solar and to a lesser extent wind, we expect that electricity generation from coal will decline by 9% in 2024 and by 10% in 2025, due to a combination of higher costs compared with renewables and another 12 GW of coal-fired capacity retiring over the next two years. We expect that electricity generation from natural gas will be unchanged in 2024 and 2025 compared with 2023.

U.S. crude oil production. Our forecast of crude oil production in the United States reaches 13.2 million barrels per day (b/d) in 2024 and more than 13.4 million b/d in 2025, both of which would be new records. Production growth continues over the next two years driven by increases in well efficiency. However, growth slows because of fewer active drilling rigs.

Global liquid fuels consumption. We expect growth in global liquid fuels consumption will be lower over the next two years: forecast consumption grows by 1.4 million b/d (1.4%), in 2024 and by 1.2 million

b/d (1.2%) in 2025. Although growth in 2024 and 2025 is less than the 1.9 million b/d growth in 2023, it is largely consistent with the 1.2% average annual growth in global liquid fuels consumption over the 20 years from 2004–2023. We attribute the reduction in growth to slowing oil demand growth in China due to stalling GDP growth, increasing vehicle fleet efficiency, and an end to pandemic recovery-related growth in 2023. Despite lower oil demand growth, global consumption of liquid fuels still reaches a new record of over 103.5 million b/d in 2025.

Global liquid fuels production. We forecast that global liquid fuels production growth also slows. Production rises by 0.6 million b/d in 2024, down from 1.7 million b/d of growth in 2023, as [OPEC+](#) continues its policy of production restraint and U.S. tight oil production growth decelerates. In 2025, we forecast global liquid fuels production will rise by 1.6 million b/d, about 50% of which is rising OPEC+ crude oil production.

Crude oil prices. We forecast that the Brent crude oil price will average \$82 per barrel (b) in 2024, about the same [as in 2023](#), and then fall to \$79/b in 2025, when we expect production growth will slightly outpace demand growth, allowing inventories to build modestly and place some downward pressure on crude oil prices. Recent developments in the Middle East increase the risk for supply disruptions over the forecast, which could result in higher and more volatile prices we currently forecast. One of this month's [Between the Lines](#) articles takes a closer look at our 2024 and 2025 Brent crude oil price forecast.

U.S. gasoline prices. The U.S. average retail gasoline price declines in our forecast as gasoline inventories increase and gasoline crack spreads fall. We expect U.S. gasoline prices to average around \$3.40 per gallon (gal) in 2024 and \$3.20/gal in 2025, compared with an [average of more than \\$3.50/gal in 2023](#).

Natural gas production. U.S. production of dry natural gas in our forecast grows between 1% and 2%, or about 1.5 billion cubic feet per day (Bcf/d) in 2024 and 1.3 Bcf/d in 2025, down from growth of 4.0 Bcf/d in 2023. The slowing growth reflects a drop in natural gas production associated with oil drilling in the Permian Basin. U.S. dry natural gas production of 105 Bcf/d in 2024 and 106 Bcf/d in 2025 would both be records.

Natural gas prices. We expect the spot price of natural gas to average \$2.70 per million British thermal units (MMBtu) in 2024 and rise to an average of about \$3.00/MMBtu in 2025, up from an average of \$2.54/MMBtu in 2023. Prices increase because of slowing growth in natural gas production and increasing U.S. liquefied natural gas exports, particularly in 2025 following the addition of new export capacity in late 2024. However, we expect upward price pressures will be limited by relatively flat consumption of natural gas in the electric power sector and persistently high inventories.

Coal production. Faced with continuing declines in coal consumption in the electric power sector, we expect U.S. coal production will decline by more than 90 million short tons (MMst) to less than 490 MMst in 2024 and then fall below 430 MMst in 2025, the least coal produced in the United States since the early 1960s.

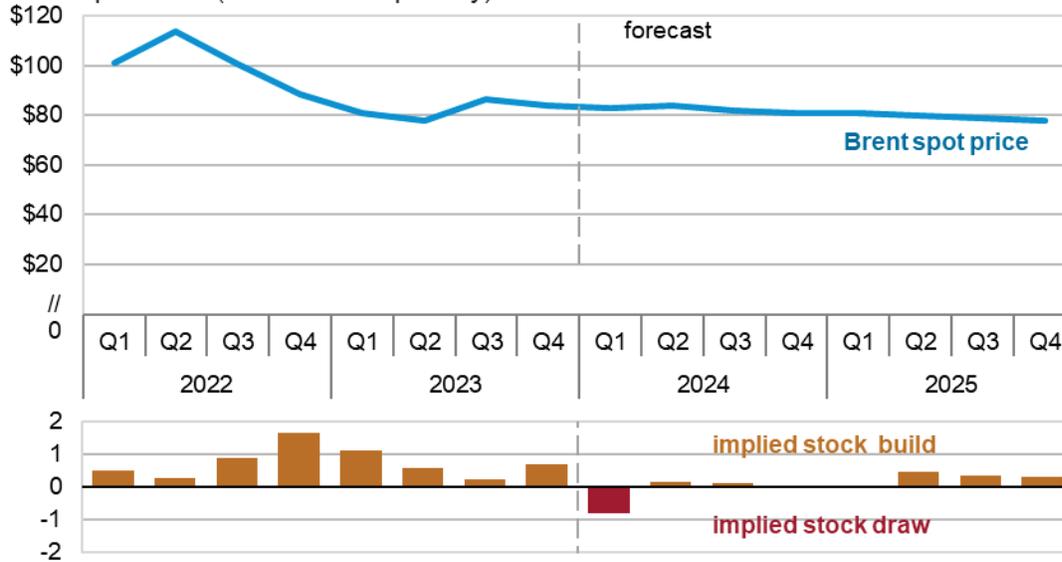
Global Oil Markets

Global oil prices and inventories

The Brent crude oil spot price averaged \$78 per barrel (b) in December, a decrease of \$5/b compared with November. Despite the latest round of [OPEC+ production cuts announced on November 30](#), prices fell based on ongoing concerns about global oil demand growth and on rising global oil inventories, which we estimate increased by 0.8 million barrels per day (b/d) in the fourth quarter of 2023 (4Q23). We expect that OPEC+ production cuts will lead to global oil inventory withdrawals of 0.8 million b/d on average in 1Q24. After a period of relative balance from 2Q24 through 1Q25, we expect global oil inventories will build over the final three quarter of 2024 as slowing demand growth once again is outpaced by rising supply growth.

Brent crude oil spot price and global inventory changes

dollars per barrel (million barrels per day)



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024



We expect that falling global oil inventories in 1Q24 will push Brent prices to an average of \$85/b in March. Relatively balanced markets for the rest of 2024 with some inventory builds in 2025 put slight downward pressure on crude oil prices through the remainder of our forecast. As a result, the average Brent crude oil price falls to \$81/b in December 2024 and falls below \$80/b in 2H25.

However, several key [uncertainties that could affect future prices remain](#). Heightened tensions around the critical [Red Sea shipping channel](#) and other developments in the Middle East have added upward price pressure since early December and have the potential to disrupt global oil trade flows and drive up global oil prices further should they escalate or persist.

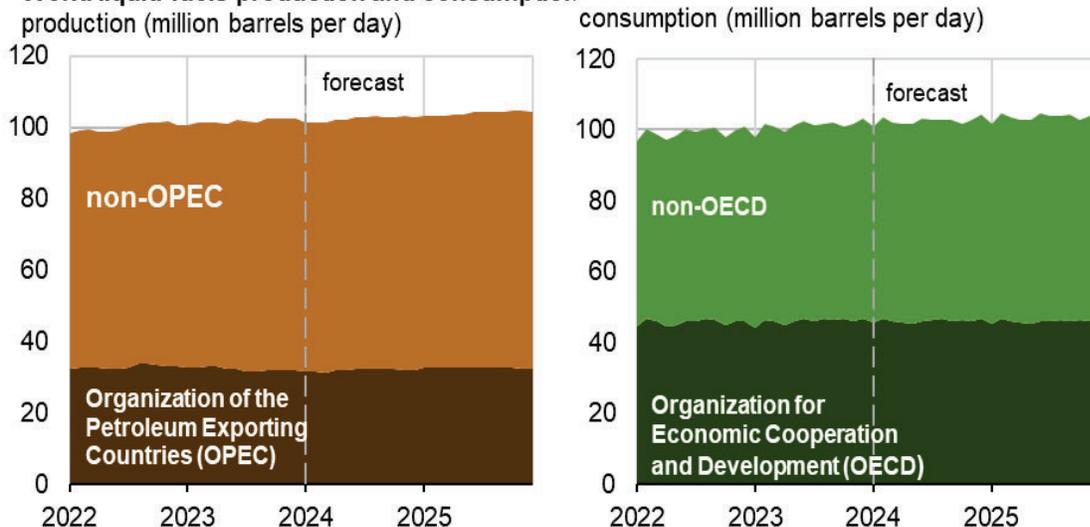
Global oil production and consumption

Global liquid fuels production increases by 0.6 million b/d in 2024, down from an increase of 1.7 million b/d in 2023. Global liquid fuels production growth in our forecast slows in 2024 because of both OPEC+ production cuts and slowing non-OPEC growth. OPEC+ crude oil production declines by 0.6 million b/d in

our forecast for 2024, which is offset by 1.2 million b/d of production growth outside of the group. Growth is lower in 2024 compared with 2023 in large part because of slowing supply growth from the United States, [Canada](#), and Brazil. Supply growth in Guyana accelerates this year in our forecast.

For 2025, global liquid fuels production increases by 1.6 million b/d in our forecast. The existing OPEC+ production targets announced at the [June 2023](#) meeting expire at the end of 2024, which we expect will contribute to OPEC+ increasing crude oil production by 0.7 million b/d in 2025. However, we expect some voluntary production cuts from Saudi Arabia and other OPEC+ countries will continue into 2025 in an effort to offset forecast production growth from outside the group of 0.9 million b/d in 2025.

World liquid fuels production and consumption



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024



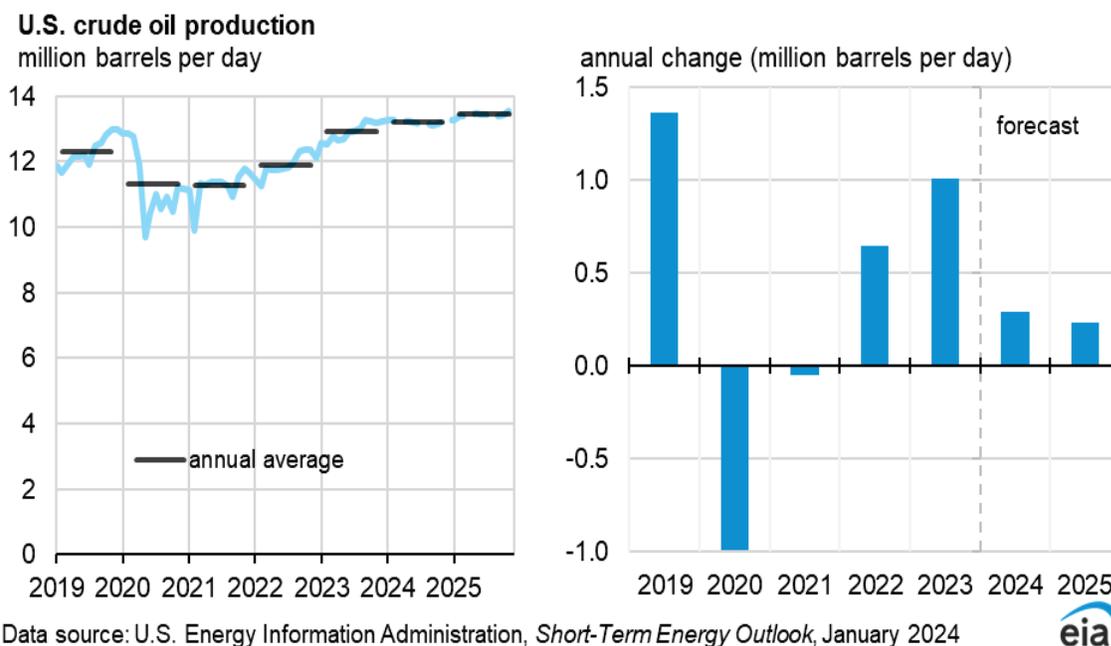
Our forecast of global liquid fuels consumption increases by 1.4 million b/d in 2024 and 1.2 million b/d in 2025. Most of our forecast liquid fuels demand growth is in non-OECD Asia, led by China and India. We expect China’s liquid fuels consumption will rise by 0.3 million b/d in 2024 and by 0.2 million b/d in 2025, slowing from the 0.8 million b/d of estimated growth in 2023, as GDP growth slows from post-pandemic levels and vehicle fleet efficiency continues to improve. India’s liquid fuels consumption in our forecast increases by an average of 0.3 million b/d in both 2024 and 2025, the same as in 2023. In OECD countries, liquid fuels consumption growth is mostly flat in 2024 and 2025. Because our expectations around global oil balances and global oil prices are highly dependent on liquid fuels consumption growth from non-OECD countries, global oil prices will be materially affected should that consumption growth develop differently in 2024 and 2025.

Petroleum Products

U.S. crude oil production

After U.S. crude oil production increased to a new record in 2023, we forecast U.S. crude oil production will grow more slowly in 2024 and 2025, still reaching new records in those years. U.S. crude oil production depends on rig activity and well-level productivity to offset natural declines from existing

wells. Our West Texas Intermediate (WTI) price forecast falls gradually from a peak of \$81 per barrel (b) in March 2024 to \$74/b by December 2025. We expect that improved well productivity will increase U.S. crude oil production by 0.3 million b/d in 2024 and 0.2 million b/d in 2025. The resultant production would establish new records in both years.



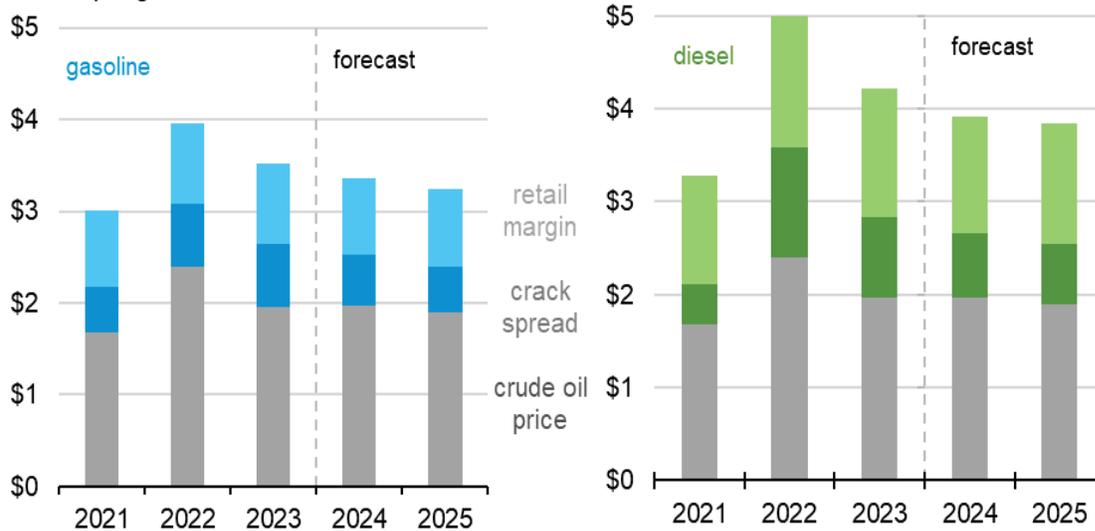
U.S. Lower 48 (L48), onshore and offshore state, which excludes Alaska and the Federal Offshore, crude oil production growth is mostly limited to the Permian region of western Texas and eastern New Mexico. One of the main uncertainties in our forecast involves U.S. producer investment. Since 2021, producers have prioritized debt reduction, dividend increases, and corporate acquisitions over capital expenditures. Producers [increased capital expenditures](#) in 2023, however, and further increases would suggest more active rigs than in our forecast. Offshore Federal Gulf of Mexico (GOM) production will grow slightly in both years as some new projects come on line. GOM production is less price sensitive than L48 production and will grow because project investments made before the pandemic will begin producing over the next two years. Overall, we expect U.S. crude oil production will average 13.2 million b/d in 2024 and 13.4 million b/d in 2025.

U.S. retail fuel prices

We forecast U.S. retail gasoline prices will average around \$3.40 per gallon (gal) in 2024 and fall to around \$3.20/gal in 2025, down from \$3.52/gal in 2023 and \$3.97/gal in 2022. Lower crude oil prices in 2023 compared with 2022 were the primary driver of lower gasoline and diesel prices, accounting for an average decrease of \$0.44/gal. However, lower gasoline prices in 2024 will instead be primarily driven by falling gasoline [crack spreads](#). Gasoline crack spreads over the past few years have been near record highs, but we expect them to weaken over the next two years. We assume gasoline crack spreads will narrow as global refinery capacity additions lead to overall higher supply of gasoline in global markets.

Annual average retail gasoline and diesel price components

dollars per gallon



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024



We forecast U.S. retail diesel prices will average more than \$3.90/gal in 2024 and fall closer to \$3.80/gal in 2025, down from \$4.21/gal in 2023. We estimate consumption of diesel fuel will be largely flat over the next two years. However, we expect increased refinery production of diesel and growing renewable diesel production will increase distillate inventories for most of this year compared with 2023. As with gasoline, we also assume that more global refinery capacity will increase supply in global diesel markets this year, helping to put downward pressure on diesel crack spreads.

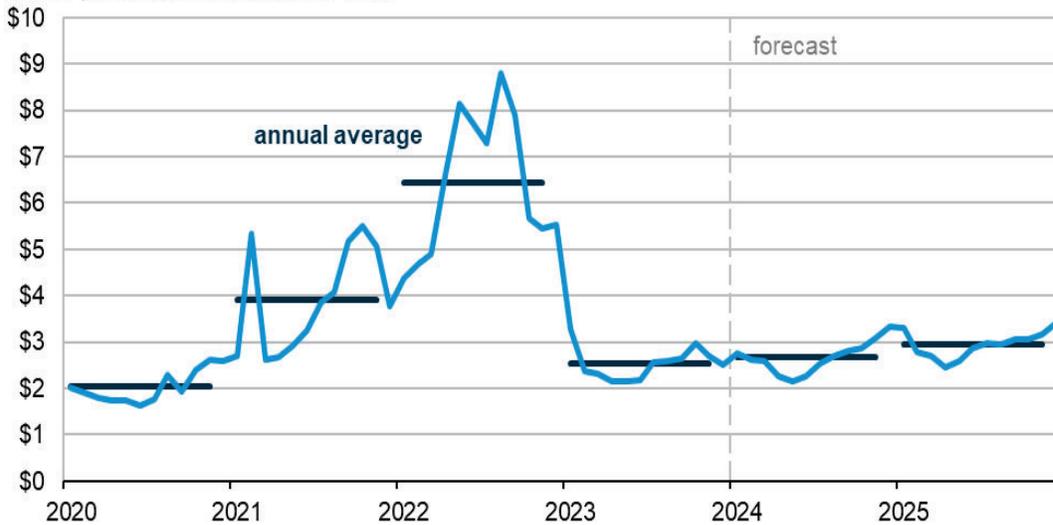
Natural Gas

Natural gas prices

In our forecast, the annual average U.S. benchmark Henry Hub spot price remains under \$3.00 per million British thermal units (MMBtu) in 2024 and 2025, although it increases from 2023. Record natural gas production and storage inventories that remain above the 2019–2023 average mean that natural gas prices in our forecast are less than half the relatively high annual average price in 2022. The Henry Hub spot price in our forecast averages between \$2.60/MMBtu and \$2.70/MMBtu in 2024, an increase of about 10 cents/MMBtu from 2023. In 2025, we expect the Henry Hub price to increase again to average more than \$2.90/MMBtu, as liquefied natural gas (LNG) exports increase.

Monthly U.S. Henry Hub natural gas spot price

dollars per million British thermal units



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024



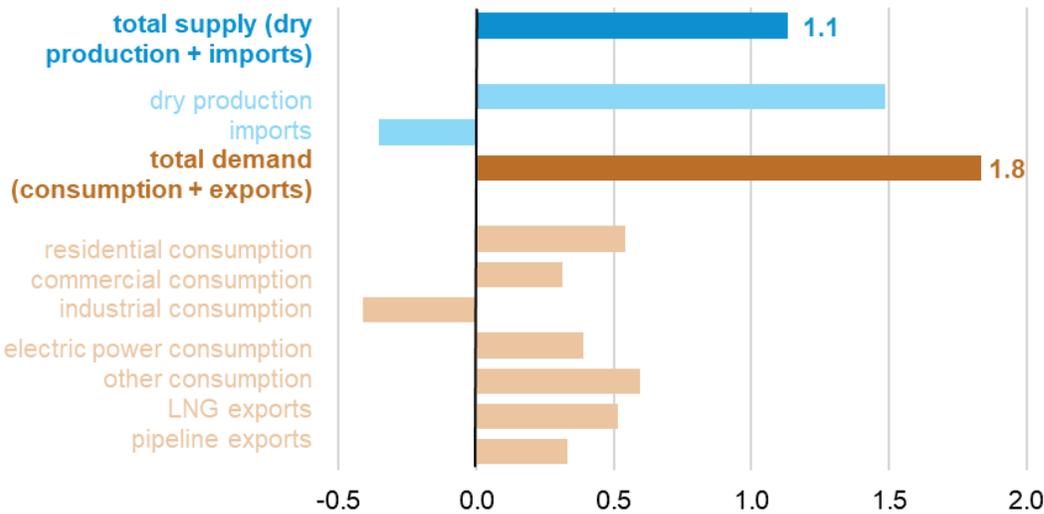
Natural gas supply and demand

We forecast supply of natural gas, including both production and imports, to increase by more than 1 billion cubic feet per day (Bcf/d) in 2024, while demand for natural gas, including domestic consumption and exports, rises by almost 2 Bcf/d. Demand growth in our forecast is mostly the result of growth in exports.

We estimate that the United States began 2024 with 14% more natural gas in storage than the previous five-year average. Although we expect demand growth to outpace supply growth by 0.7 Bcf/d this year and reduce the surplus to the five-year average to 8% by the end of the year, we forecast that inventories will remain high enough to limit significant upward pressure on prices.

The modest natural gas supply growth in our 2024 forecast is driven by a 1.5 Bcf/d increase in production, offset slightly by a 0.4 Bcf/d decrease in imports. We forecast consumption in the residential and commercial sectors to increase in 2024 because we expect colder weather than in 2023, which started and ended with warmer-than-average temperatures. We also forecast a slight consumption increase in the electric power sector this year. Rising consumption in these sectors is offset by decreases in the industrial sector. We expect exports of natural gas, both by pipeline and as LNG, will increase in 2024.

Natural gas supply and demand balance, 2024 versus 2023
billion cubic feet per day



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024

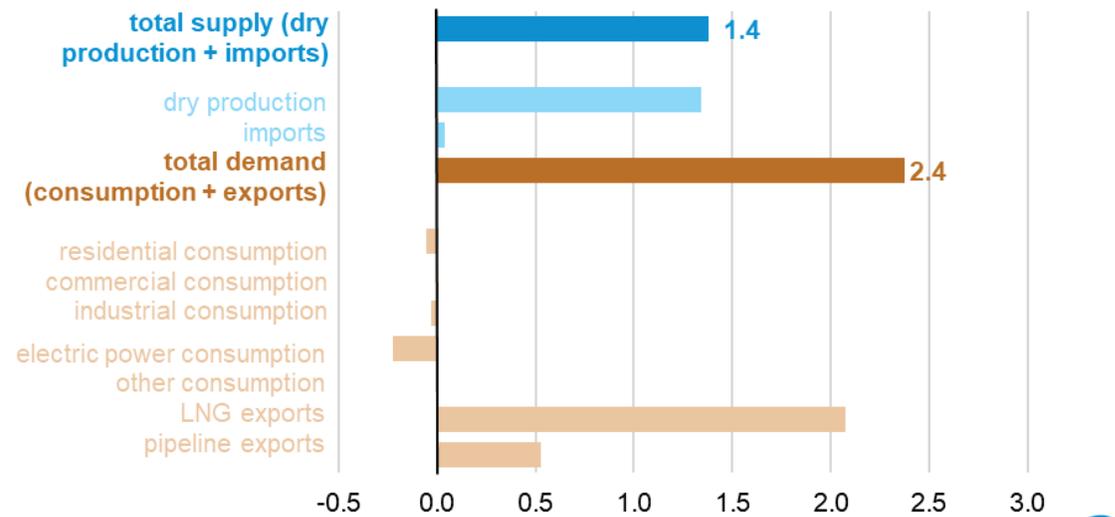


In 2025, we forecast growth in U.S. natural gas demand to exceed growth in supply by 1.0 Bcf/d. Although we expect more potential for upward price pressure in 2025 compared with 2024, we expect more natural gas in storage than the previous five-year average, limiting the upward pressure on prices.

Similar to 2024, supply growth of about 1% in 2025 is driven by an increase in dry natural gas production of 1.3 Bcf/d to a record 106.4 Bcf/d. We forecast demand for natural gas will grow in 2025 by 2.4 Bcf/d, driven mostly by growth in LNG exports as new LNG export capacity continues to ramp up. LNG exports grow by 2.1 Bcf/d in 2025 to average 14.4 Bcf/d. Natural gas consumption in the residential, commercial, industrial, and electric power sectors is similar to that in 2024.

Although we expect annual average Henry Hub prices to remain below \$3/MMBtu, the potential for prices to rise significantly exists. Weather and expected shifts in the mix of sources used to generate electricity create uncertainty in our forecast. Monthly consumption in the residential and commercial sectors, which consume the largest share of natural gas in the winter for space heating, can vary greatly depending on prevailing temperatures. Similarly, the electric power sector consumes the largest share of natural gas during the summer to meet air-conditioning demand. Temperatures that are greatly above normal, like those experienced on the West Coast during late summer 2022, can increase electricity demand and natural gas consumption beyond our forecast. In addition, growth in use of renewable energy and the slowing deployment of natural gas generating capacity will affect natural gas used to generate electricity. We expect to see some of the effects of the changes in generation capacity in the second half of 2024.

Natural gas supply and demand balance, 2025 versus 2024
billion cubic feet per day



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024

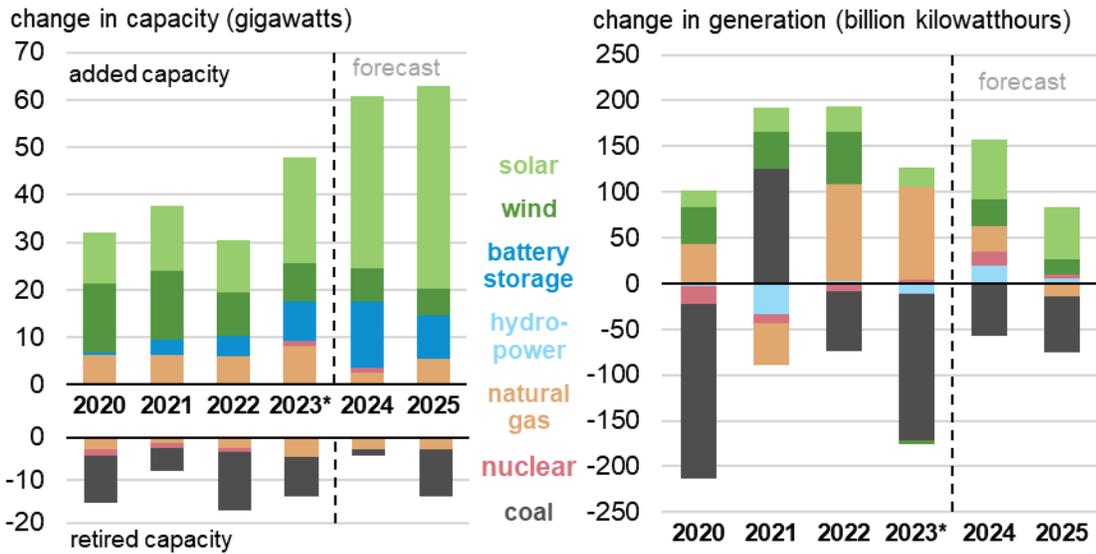


Electricity, Coal, and Renewables

Electricity generation

The addition of new solar capacity is a major driver of our U.S. electricity generation forecast for the next two years. We expect solar will be the leading source of growth in generation by the electric power sector, as 36 gigawatts (GW) of new capacity come online in 2024 and 43 GW in 2025. U.S. solar generation grows from 163 billion kilowatthours (kWh) in 2023 to 230 billion kWh in 2024 and 286 billion kWh in 2025. The new capacity will boost the solar share of total generation to 6% in 2024 and 7% in 2025, up from 4% in 2023. Wind generation also grows in the forecast, increasing by 30 billion kWh in 2024 and 17 billion kWh in 2025. Wind’s share of total generation reaches 12% in 2025, up from 11% last year. [Battery storage](#) that helps smooth the variable nature of solar and wind generation rises by 14 GW (80%) in 2024 and by 9 GW (29%) in 2025, to reach an installed capacity of 40 GW by the end of the forecast.

Annual change in U.S. electric power sector capacity and generation by source



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024
 Note: Values for 2023 reflect historical data through October and estimates for November and December.



When the resources are available, solar and wind plants are almost always called on to generate electricity because they do not incur fuel costs like coal and natural gas. Increased renewable generation in the forecast will mostly affect coal-fired generation, which we expect will fall by 9% in 2024 and 10% in 2025.

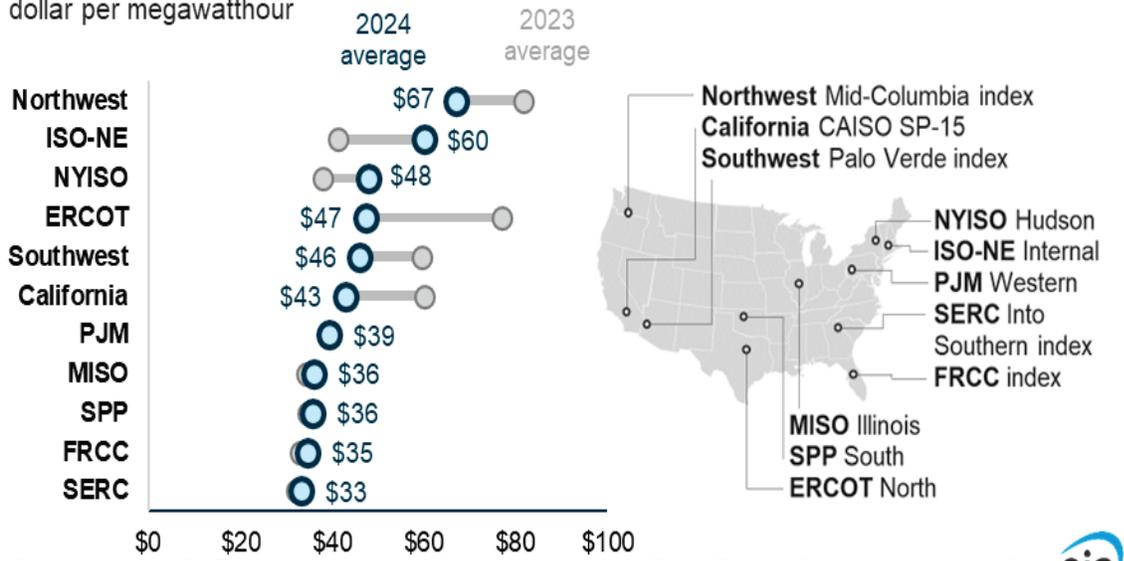
We expect that increased renewables generation will limit growth in natural gas generation, although natural gas generators will be used to help balance the variable nature of solar and wind generation. In our forecast annual natural gas generation totals about 1,700 billion kWh in both 2024 and 2025, up slightly from last year. We forecast that nuclear generation will grow 2% in 2024 to 792 billion kWh, as new reactors at the Vogtle plant in Georgia become operational, and then grow by a further 1% in 2025.

Wholesale power prices

Prices for electricity in U.S. wholesale markets are determined by numerous factors, but the price of natural gas is the most important driver because it is the largest source of power generation and is often the marginal fuel dispatched for power generation. We expect the cost of natural gas for U.S. electricity generation to remain close to \$3.00 per million British thermal units (MMBtu) through 2025, which should keep average wholesale power prices in most regions less than or close to prices last year. New York and New England are the only regions in which we forecast a notable increase in wholesale power prices for 2024. Some regions, such as New England and Texas, could see possible temporary price spikes under constrained market conditions.

Annual average wholesale electricity prices at selected price hubs, 2023–2024

dollar per megawatthour



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024

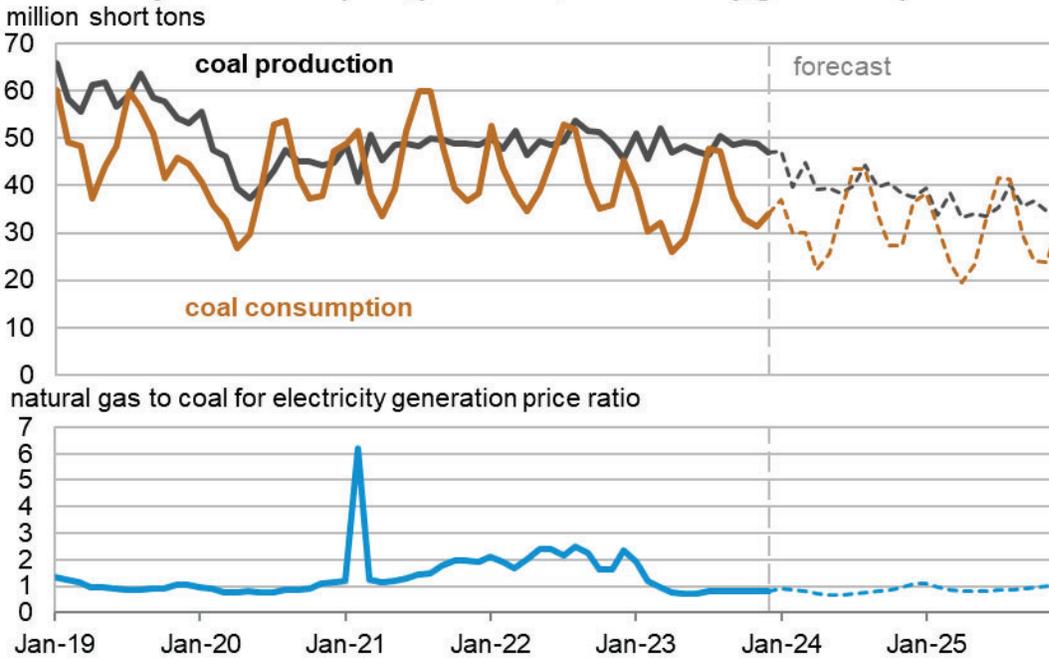


Coal markets

We expect U.S. coal production to drop by 16% in 2024 to 489 million short tons (MMst) and then decline a further 12% in 2025 to 429 MMst. The decrease in production is driven primarily by our forecast of an 8% decline in U.S. coal consumption in each year of the forecast.

We expect the cost of coal for U.S. electric power generation to decline to \$2.40/MMBtu by December 2025 from \$2.53/MMBtu in January 2024. Although cheaper on an energy basis than natural gas for most of the months leading up to December 2025, coal is more expensive when accounting for the greater thermal efficiency of natural gas. For example, new, efficient combined-cycle gas turbine (CCGT) plants currently entering service use about 65% of the primary energy input of a coal-fired plant to provide the same generation.

U.S. monthly coal consumption, production, and electricity generation price ratio



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024

Note: Price ratio adjusted to reflect the greater energy efficiency of combined-cycle natural gas turbines over coal-fired plants. A typical combined-cycle gas turbine (CCGT) plant uses about 70 percent of the primary energy input of a coal-fired plant, a rate that falls to 65 percent as new CCGT plants enter service.



Economy, Weather, and CO₂

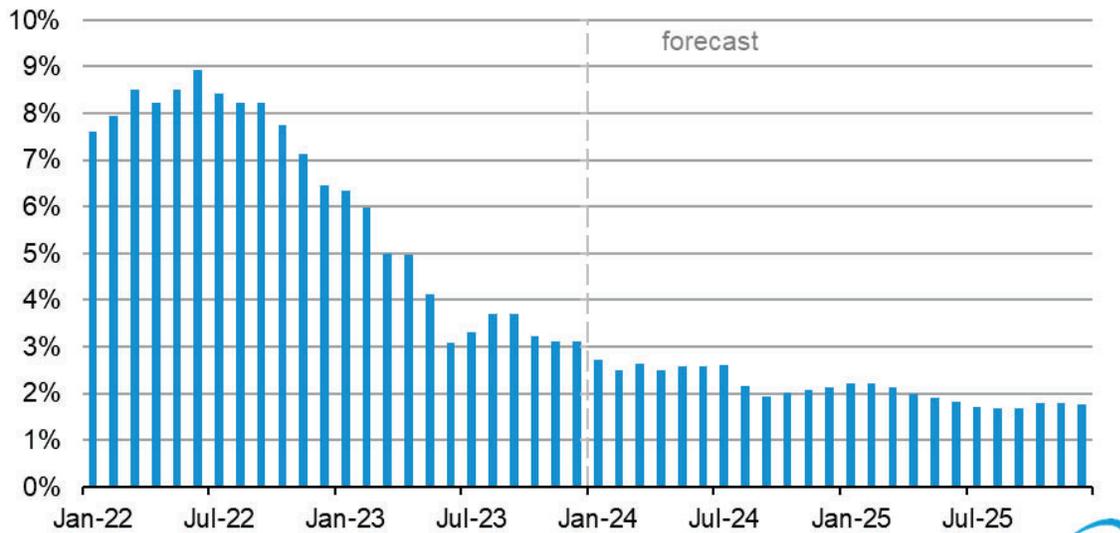
U.S. macroeconomics

Our forecast assumes real U.S. GDP growth will slow from 2.4% in 2023 to 1.6% in 2024 and 1.3% in 2025. Personal consumption and exports drive GDP growth in 2024, and we expect real fixed investment to decline in 1Q24 before recovering in 2Q24 and growing 1.8% in 2025. Our U.S. macroeconomic forecasts are based on S&P Global’s macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic assumptions.

The upward revision to 2024 GDP growth directly follows the most recent meeting of the Federal Open Market Committee (FOMC) of the U.S. Federal Reserve. In mid-December, the FOMC announced that it would keep the target for the federal funds rate at its current level, easing expectations for persistent monetary tightness in 2024.

In addition, inflation, measured as the year-over-year growth rate of the Consumer Price Index (CPI), declined from a peak of 8.9% in June 2022 to 3.1% in December 2023. Our forecast assumes that inflation will continue to decline, averaging 2.4% in 2024 and 1.9% in 2025.

Consumer Price Index inflation
year-over-year, percentage change



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024



U.S. employment continues to climb with non-farm payroll employment increasing by 216,000 in December, a number released after we completed modeling for this STEO. Our forecast assumes the unemployment rate will average 4.0% this year before rising to 4.3% in 2025.

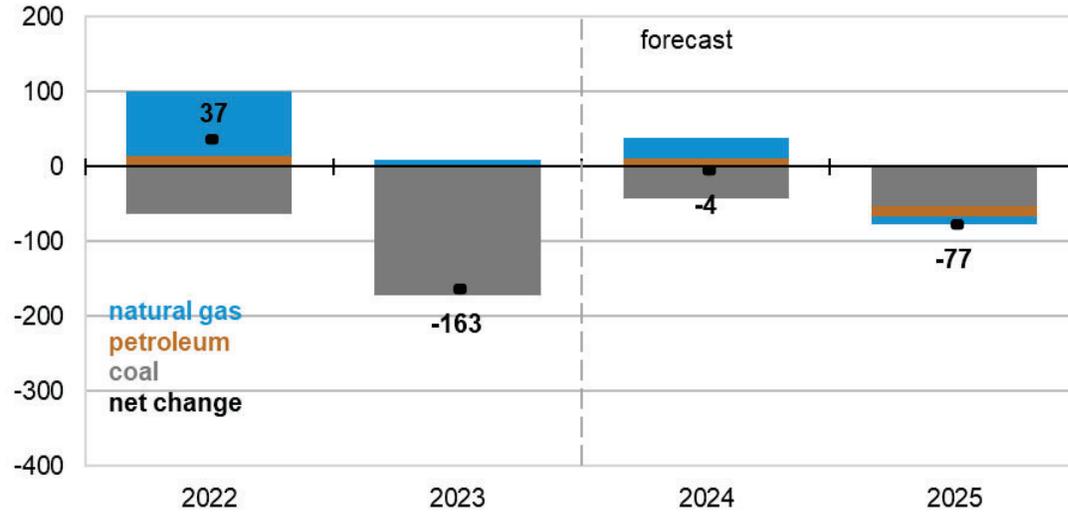
Emissions

Total U.S. energy-related carbon dioxide (CO₂) emissions remain unchanged in 2024 in our forecast, before declining by 1.6% in 2025. In 2024, unchanged overall emissions result from a forecast 40 million metric tons (MMmt) (6%) decline in coal emissions, offset by a nearly 30 MMmt (2%) increase in emissions from natural gas and about a 10 MMmt (1%) increase in emissions from petroleum. Natural gas CO₂ emissions increase in 2024 as natural gas consumption increases in the residential and commercial sector because of increased demand for space heating.

In 2025, CO₂ emissions for all fuels decline. Ongoing declines in coal-fired electricity generation reduce CO₂ emissions from coal by 50 MMmt (7%). Natural gas emissions decline by almost 10 MMmt (1%) as natural gas-fired electricity generation is offset by generation from renewable sources. CO₂ emissions from petroleum decrease because of growth in production and consumption of biodiesel and renewable diesel, which act as substitutes for conventional diesel. Following [international reporting conventions](#), we treat biofuels such as biodiesel and renewable diesel as having net zero emissions. As a result, petroleum emissions decrease in 2025.

U.S. annual CO₂ emissions, components of annual change

million metric tons



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2024



Weather

The United States experienced a warm December, averaging 649 heating degree days (HDDs), 17% fewer than in December 2022 and 11% fewer than the 10-year December average. We expect the United States to average around 4,000 HDDs in 2024, up 5% from 2023 as cooler weather in 1Q24 increases HDDs by 5% compared with 1Q23, which was very mild.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - January 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Production (million barrels per day) (a)															
OECD	33.48	33.76	34.51	35.07	<i>34.92</i>	<i>34.49</i>	<i>34.59</i>	<i>35.07</i>	<i>35.22</i>	<i>35.09</i>	<i>35.16</i>	<i>35.62</i>	34.21	34.77	35.27
U.S. (50 States)	21.05	21.69	22.27	22.50	<i>22.21</i>	<i>22.25</i>	<i>22.25</i>	<i>22.34</i>	<i>22.40</i>	<i>22.68</i>	<i>22.65</i>	<i>22.82</i>	21.88	22.26	22.64
Canada	5.79	5.44	5.79	5.95	<i>5.97</i>	<i>5.64</i>	<i>5.84</i>	<i>6.05</i>	<i>6.13</i>	<i>5.84</i>	<i>6.04</i>	<i>6.18</i>	5.74	5.88	6.05
Mexico	2.07	2.16	2.11	2.09	<i>2.08</i>	<i>2.05</i>	<i>2.03</i>	<i>2.00</i>	<i>2.00</i>	<i>1.97</i>	<i>1.95</i>	<i>1.92</i>	2.11	2.04	1.96
Other OECD	4.56	4.47	4.35	4.53	<i>4.65</i>	<i>4.56</i>	<i>4.47</i>	<i>4.69</i>	<i>4.70</i>	<i>4.61</i>	<i>4.51</i>	<i>4.70</i>	4.48	4.59	4.63
Non-OECD	67.63	67.76	67.24	67.45	<i>66.42</i>	<i>67.78</i>	<i>68.29</i>	<i>67.78</i>	<i>68.00</i>	<i>68.73</i>	<i>69.15</i>	<i>68.80</i>	67.52	67.57	68.67
OPEC	32.77	32.46	31.63	31.91	<i>31.42</i>	<i>32.03</i>	<i>32.24</i>	<i>32.13</i>	<i>32.53</i>	<i>32.70</i>	<i>32.78</i>	<i>32.50</i>	32.19	31.96	32.63
Crude Oil Portion	27.38	27.23	26.37	26.62	<i>26.02</i>	<i>26.76</i>	<i>26.95</i>	<i>26.79</i>	<i>27.25</i>	<i>27.42</i>	<i>27.50</i>	<i>27.22</i>	26.90	26.63	27.35
Other Liquids (b)	5.40	5.22	5.26	5.30	<i>5.40</i>	<i>5.27</i>	<i>5.30</i>	<i>5.33</i>	<i>5.28</i>	<i>5.28</i>	<i>5.28</i>	<i>5.28</i>	5.30	5.32	5.28
Eurasia	14.11	13.67	13.45	13.68	<i>13.59</i>	<i>13.65</i>	<i>13.66</i>	<i>13.72</i>	<i>13.81</i>	<i>13.82</i>	<i>13.73</i>	<i>13.88</i>	13.72	13.65	13.81
China	5.32	5.32	5.19	5.27	<i>5.27</i>	<i>5.30</i>	<i>5.29</i>	<i>5.33</i>	<i>5.28</i>	<i>5.30</i>	<i>5.29</i>	<i>5.33</i>	5.27	5.30	5.30
Other Non-OECD	15.43	16.31	16.97	16.59	<i>16.14</i>	<i>16.80</i>	<i>17.11</i>	<i>16.60</i>	<i>16.38</i>	<i>16.90</i>	<i>17.35</i>	<i>17.08</i>	16.33	16.66	16.93
Total World Production	101.11	101.52	101.76	102.51	<i>101.33</i>	<i>102.27</i>	<i>102.88</i>	<i>102.85</i>	<i>103.22</i>	<i>103.82</i>	<i>104.31</i>	<i>104.42</i>	101.73	102.34	103.95
Non-OPEC Production	68.33	69.06	70.13	70.60	<i>69.91</i>	<i>70.24</i>	<i>70.64</i>	<i>70.73</i>	<i>70.69</i>	<i>71.11</i>	<i>71.53</i>	<i>71.92</i>	69.54	70.38	71.32
Consumption (million barrels per day) (c)															
OECD	45.28	45.71	46.23	46.48	<i>46.08</i>	<i>45.57</i>	<i>46.25</i>	<i>46.33</i>	<i>45.92</i>	<i>45.50</i>	<i>46.20</i>	<i>46.35</i>	45.93	46.06	45.99
U.S. (50 States)	19.66	20.38	20.37	20.29	<i>20.34</i>	<i>20.49</i>	<i>20.54</i>	<i>20.42</i>	<i>20.27</i>	<i>20.49</i>	<i>20.56</i>	<i>20.51</i>	20.18	20.45	20.46
U.S. Territories	0.12	0.12	0.12	0.12	<i>0.11</i>	0.12	0.11	0.11							
Canada	2.33	2.47	2.59	2.35	<i>2.37</i>	<i>2.32</i>	<i>2.42</i>	<i>2.40</i>	<i>2.34</i>	<i>2.29</i>	<i>2.39</i>	<i>2.37</i>	2.44	2.38	2.35
Europe	13.10	13.54	13.72	13.66	<i>13.21</i>	<i>13.36</i>	<i>13.77</i>	<i>13.53</i>	<i>13.18</i>	<i>13.34</i>	<i>13.75</i>	<i>13.51</i>	13.51	13.47	13.45
Japan	3.73	3.10	3.12	3.49	<i>3.59</i>	<i>2.98</i>	<i>3.08</i>	<i>3.41</i>	<i>3.54</i>	<i>2.94</i>	<i>3.04</i>	<i>3.36</i>	3.36	3.26	3.22
Other OECD	6.34	6.10	6.32	6.57	<i>6.45</i>	<i>6.30</i>	<i>6.32</i>	<i>6.46</i>	<i>6.47</i>	<i>6.33</i>	<i>6.35</i>	<i>6.49</i>	6.33	6.38	6.41
Non-OECD	54.71	55.22	55.30	55.33	<i>56.06</i>	<i>56.56</i>	<i>56.50</i>	<i>56.47</i>	<i>57.32</i>	<i>57.85</i>	<i>57.79</i>	<i>57.75</i>	55.14	56.40	57.68
Eurasia	4.34	4.49	4.81	4.72	<i>4.48</i>	<i>4.63</i>	<i>4.96</i>	<i>4.87</i>	<i>4.51</i>	<i>4.67</i>	<i>5.00</i>	<i>4.91</i>	4.59	4.74	4.78
Europe	0.74	0.76	0.77	0.77	<i>0.75</i>	<i>0.77</i>	<i>0.77</i>	<i>0.77</i>	<i>0.76</i>	<i>0.78</i>	<i>0.78</i>	<i>0.78</i>	0.76	0.77	0.77
China	15.90	16.09	15.78	15.99	<i>16.23</i>	<i>16.42</i>	<i>16.10</i>	<i>16.31</i>	<i>16.48</i>	<i>16.67</i>	<i>16.35</i>	<i>16.56</i>	15.94	16.27	16.52
Other Asia	14.36	14.24	13.71	14.07	<i>14.82</i>	<i>14.79</i>	<i>14.18</i>	<i>14.50</i>	<i>15.31</i>	<i>15.28</i>	<i>14.65</i>	<i>14.99</i>	14.09	14.57	15.06
Other Non-OECD	19.37	19.64	20.24	19.78	<i>19.78</i>	<i>19.94</i>	<i>20.49</i>	<i>20.02</i>	<i>20.26</i>	<i>20.44</i>	<i>21.00</i>	<i>20.51</i>	19.76	20.06	20.56
Total World Consumption	99.99	100.93	101.54	101.81	<i>102.14</i>	<i>102.12</i>	<i>102.75</i>	<i>102.81</i>	<i>103.24</i>	<i>103.35</i>	<i>103.98</i>	<i>104.10</i>	101.07	102.46	103.67
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	-0.08	-0.11	-0.25	0.23	<i>-0.06</i>	<i>-0.32</i>	<i>-0.05</i>	<i>0.40</i>	<i>-0.06</i>	<i>-0.31</i>	<i>-0.07</i>	<i>0.33</i>	-0.05	-0.01	-0.03
Other OECD	0.32	-0.47	0.01	-0.30	<i>0.28</i>	<i>0.05</i>	<i>-0.02</i>	<i>-0.14</i>	<i>0.02</i>	<i>-0.05</i>	<i>-0.08</i>	<i>-0.20</i>	-0.11	0.04	-0.08
Other Stock Draws and Balance	-1.36	-0.02	0.02	-0.63	<i>0.59</i>	<i>0.12</i>	<i>-0.05</i>	<i>-0.30</i>	<i>0.05</i>	<i>-0.11</i>	<i>-0.18</i>	<i>-0.45</i>	-0.49	0.09	-0.17
Total Stock Draw	-1.12	-0.59	-0.22	-0.70	<i>0.81</i>	<i>-0.15</i>	<i>-0.13</i>	<i>-0.05</i>	<i>0.01</i>	<i>-0.47</i>	<i>-0.33</i>	<i>-0.32</i>	-0.65	0.12	-0.28
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	1,231	1,264	1,283	1,259	<i>1,255</i>	<i>1,282</i>	<i>1,287</i>	<i>1,250</i>	<i>1,256</i>	<i>1,284</i>	<i>1,291</i>	<i>1,260</i>	1,259	1,250	1,260
OECD Commercial Inventory	2,746	2,822	2,840	2,843	<i>2,815</i>	<i>2,836</i>	<i>2,843</i>	<i>2,820</i>	<i>2,823</i>	<i>2,856</i>	<i>2,870</i>	<i>2,858</i>	2,843	2,820	2,858

(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, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Türkiye, United Kingdom, and United States.

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

Notes: EIA completed modeling and analysis for this report on January 4, 2024.

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* (<https://www.eia.gov/international/data/world>).

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 - January 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	12.63	12.75	13.07	13.22	<i>13.27</i>	<i>13.22</i>	<i>13.15</i>	<i>13.21</i>	<i>13.36</i>	<i>13.44</i>	<i>13.43</i>	<i>13.53</i>	12.92	<i>13.21</i>	<i>13.44</i>
Alaska	0.44	0.43	0.40	0.43	<i>0.43</i>	<i>0.41</i>	<i>0.39</i>	<i>0.41</i>	<i>0.42</i>	<i>0.40</i>	<i>0.39</i>	<i>0.40</i>	0.43	<i>0.41</i>	<i>0.40</i>
Federal Gulf of Mexico (b)	1.87	1.77	1.94	1.92	<i>1.95</i>	<i>1.92</i>	<i>1.88</i>	<i>1.92</i>	<i>1.97</i>	<i>1.99</i>	<i>1.94</i>	<i>1.97</i>	1.87	<i>1.92</i>	<i>1.97</i>
Lower 48 States (excl GOM)	10.31	10.55	10.73	10.87	<i>10.89</i>	<i>10.89</i>	<i>10.88</i>	<i>10.87</i>	<i>10.97</i>	<i>11.05</i>	<i>11.11</i>	<i>11.16</i>	10.62	<i>10.88</i>	<i>11.08</i>
Transfers to Crude Oil Supply	0.39	0.51	0.70	0.71	<i>0.53</i>	<i>0.55</i>	<i>0.59</i>	<i>0.57</i>	<i>0.55</i>	<i>0.57</i>	<i>0.60</i>	<i>0.58</i>	0.58	<i>0.56</i>	<i>0.57</i>
Crude Oil Net Imports (c)	2.27	2.51	2.61	2.06	<i>1.89</i>	<i>2.26</i>	<i>2.17</i>	<i>1.64</i>	<i>1.53</i>	<i>1.79</i>	<i>1.73</i>	<i>1.41</i>	2.36	<i>1.99</i>	<i>1.61</i>
SPR Net Withdrawals	0.01	0.26	-0.04	-0.04	<i>-0.10</i>	<i>-0.03</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.05	<i>-0.03</i>	<i>0.00</i>
Commercial Inventory Net Withdrawals	-0.39	0.12	0.41	-0.14	<i>-0.29</i>	<i>0.10</i>	<i>0.18</i>	<i>-0.07</i>	<i>-0.32</i>	<i>0.09</i>	<i>0.17</i>	<i>-0.08</i>	0.00	<i>-0.02</i>	<i>-0.03</i>
Crude Oil Adjustment (d)	0.34	0.00	-0.22	0.03	<i>0.20</i>	<i>0.18</i>	<i>0.15</i>	<i>0.16</i>	<i>0.18</i>	<i>0.17</i>	<i>0.14</i>	<i>0.16</i>	0.03	<i>0.17</i>	<i>0.16</i>
Total Crude Oil Input to Refineries	15.25	16.15	16.51	15.84	<i>15.49</i>	<i>16.28</i>	<i>16.23</i>	<i>15.50</i>	<i>15.30</i>	<i>16.06</i>	<i>16.07</i>	<i>15.59</i>	15.94	<i>15.88</i>	<i>15.76</i>
Other Supply															
Refinery Processing Gain	0.97	1.01	1.07	1.03	<i>0.97</i>	<i>1.01</i>	<i>1.00</i>	<i>0.99</i>	<i>0.95</i>	<i>0.98</i>	<i>1.00</i>	<i>1.02</i>	1.02	<i>0.99</i>	<i>0.99</i>
Natural Gas Plant Liquids Production	6.01	6.42	6.58	6.67	<i>6.44</i>	<i>6.46</i>	<i>6.53</i>	<i>6.55</i>	<i>6.47</i>	<i>6.59</i>	<i>6.56</i>	<i>6.58</i>	6.42	<i>6.49</i>	<i>6.55</i>
Renewables and Oxygenate Production (e)	1.24	1.29	1.31	1.35	<i>1.33</i>	<i>1.35</i>	<i>1.36</i>	<i>1.38</i>	<i>1.40</i>	<i>1.45</i>	<i>1.45</i>	<i>1.47</i>	1.30	<i>1.35</i>	<i>1.44</i>
Fuel Ethanol Production	1.00	1.00	1.02	1.05	<i>1.02</i>	<i>1.01</i>	<i>1.01</i>	<i>1.03</i>	<i>1.02</i>	<i>1.02</i>	<i>1.01</i>	<i>1.04</i>	1.02	<i>1.02</i>	<i>1.02</i>
Petroleum Products Adjustment (f)	0.20	0.22	0.23	0.22	<i>0.21</i>	<i>0.22</i>	<i>0.22</i>	<i>0.22</i>	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>	<i>0.22</i>	0.22	<i>0.21</i>	<i>0.21</i>
Petroleum Products Transfers to Crude Oil Supply	-0.39	-0.51	-0.70	-0.71	<i>-0.53</i>	<i>-0.55</i>	<i>-0.59</i>	<i>-0.57</i>	<i>-0.55</i>	<i>-0.57</i>	<i>-0.60</i>	<i>-0.58</i>	-0.58	<i>-0.56</i>	<i>-0.57</i>
Product Net Imports (c)	-3.91	-3.71	-4.03	-4.53	<i>-3.89</i>	<i>-3.88</i>	<i>-3.98</i>	<i>-4.12</i>	<i>-3.77</i>	<i>-3.83</i>	<i>-3.89</i>	<i>-4.20</i>	-4.05	<i>-3.97</i>	<i>-3.93</i>
Hydrocarbon Gas Liquids	-2.47	-2.39	-2.42	-2.62	<i>-2.57</i>	<i>-2.55</i>	<i>-2.53</i>	<i>-2.54</i>	<i>-2.58</i>	<i>-2.67</i>	<i>-2.60</i>	<i>-2.53</i>	-2.47	<i>-2.55</i>	<i>-2.59</i>
Unfinished Oils	0.28	0.27	0.22	0.23	<i>0.32</i>	<i>0.41</i>	<i>0.45</i>	<i>0.35</i>	<i>0.34</i>	<i>0.43</i>	<i>0.46</i>	<i>0.37</i>	0.25	<i>0.38</i>	<i>0.40</i>
Other HC/Oxygenates	-0.05	-0.07	-0.04	-0.05	<i>-0.07</i>	<i>-0.05</i>	<i>-0.04</i>	<i>-0.05</i>	<i>-0.08</i>	<i>-0.07</i>	<i>-0.06</i>	<i>-0.07</i>	-0.05	<i>-0.05</i>	<i>-0.07</i>
Motor Gasoline Blend Comp.	0.45	0.67	0.57	0.42	<i>0.36</i>	<i>0.61</i>	<i>0.58</i>	<i>0.39</i>	<i>0.57</i>	<i>0.62</i>	<i>0.56</i>	<i>0.32</i>	0.53	<i>0.48</i>	<i>0.52</i>
Finished Motor Gasoline	-0.75	-0.58	-0.67	-0.78	<i>-0.52</i>	<i>-0.47</i>	<i>-0.52</i>	<i>-0.65</i>	<i>-0.66</i>	<i>-0.50</i>	<i>-0.54</i>	<i>-0.66</i>	-0.70	<i>-0.54</i>	<i>-0.59</i>
Jet Fuel	-0.05	0.01	-0.05	-0.09	<i>-0.04</i>	<i>-0.02</i>	<i>0.00</i>	<i>0.04</i>	<i>0.03</i>	<i>0.09</i>	<i>0.09</i>	<i>0.07</i>	-0.05	<i>-0.01</i>	<i>0.07</i>
Distillate Fuel Oil	-0.76	-0.97	-1.01	-1.00	<i>-0.71</i>	<i>-1.07</i>	<i>-1.15</i>	<i>-0.95</i>	<i>-0.72</i>	<i>-0.98</i>	<i>-0.99</i>	<i>-0.91</i>	-0.94	<i>-0.97</i>	<i>-0.90</i>
Residual Fuel Oil	0.01	-0.04	-0.03	-0.01	<i>0.02</i>	<i>0.01</i>	<i>-0.05</i>	<i>0.04</i>	<i>0.01</i>	<i>-0.03</i>	<i>-0.09</i>	<i>-0.04</i>	-0.02	<i>0.01</i>	<i>-0.04</i>
Other Oils (g)	-0.58	-0.61	-0.59	-0.63	<i>-0.67</i>	<i>-0.74</i>	<i>-0.71</i>	<i>-0.75</i>	<i>-0.69</i>	<i>-0.73</i>	<i>-0.72</i>	<i>-0.77</i>	-0.60	<i>-0.72</i>	<i>-0.73</i>
Product Inventory Net Withdrawals	0.30	-0.49	-0.61	0.41	<i>0.33</i>	<i>-0.40</i>	<i>-0.23</i>	<i>0.47</i>	<i>0.26</i>	<i>-0.40</i>	<i>-0.25</i>	<i>0.41</i>	-0.10	<i>0.04</i>	<i>0.00</i>
Total Supply	19.67	20.38	20.37	20.29	<i>20.34</i>	<i>20.49</i>	<i>20.54</i>	<i>20.42</i>	<i>20.27</i>	<i>20.49</i>	<i>20.56</i>	<i>20.51</i>	20.18	<i>20.45</i>	<i>20.46</i>
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	3.40	3.36	3.25	3.64	<i>3.79</i>	<i>3.35</i>	<i>3.38</i>	<i>3.75</i>	<i>3.84</i>	<i>3.39</i>	<i>3.40</i>	<i>3.81</i>	3.41	<i>3.57</i>	<i>3.61</i>
Other HC/Oxygenates	0.22	0.28	0.28	0.29	<i>0.29</i>	<i>0.31</i>	<i>0.31</i>	<i>0.34</i>	<i>0.34</i>	<i>0.38</i>	<i>0.38</i>	<i>0.40</i>	0.27	<i>0.31</i>	<i>0.38</i>
Unfinished Oils	0.00	0.00	0.00	0.00	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>							
Motor Gasoline	8.67	9.13	9.05	8.87	<i>8.72</i>	<i>9.13</i>	<i>9.10</i>	<i>8.78</i>	<i>8.64</i>	<i>9.08</i>	<i>9.04</i>	<i>8.72</i>	8.93	<i>8.93</i>	<i>8.87</i>
Fuel Ethanol blended into Motor Gasoline	0.90	0.94	0.94	0.95	<i>0.90</i>	<i>0.95</i>	<i>0.95</i>	<i>0.94</i>	<i>0.90</i>	<i>0.95</i>	<i>0.95</i>	<i>0.94</i>	0.93	<i>0.93</i>	<i>0.94</i>
Jet Fuel	1.55	1.67	1.72	1.65	<i>1.66</i>	<i>1.73</i>	<i>1.75</i>	<i>1.71</i>	<i>1.66</i>	<i>1.76</i>	<i>1.80</i>	<i>1.76</i>	1.65	<i>1.71</i>	<i>1.75</i>
Distillate Fuel Oil	4.01	3.93	3.90	3.85	<i>4.08</i>	<i>3.96</i>	<i>3.87</i>	<i>3.97</i>	<i>4.06</i>	<i>3.92</i>	<i>3.87</i>	<i>3.98</i>	3.92	<i>3.97</i>	<i>3.95</i>
Residual Fuel Oil	0.29	0.22	0.27	0.29	<i>0.24</i>	<i>0.23</i>	<i>0.22</i>	<i>0.25</i>	<i>0.23</i>	<i>0.23</i>	<i>0.21</i>	<i>0.25</i>	0.27	<i>0.23</i>	<i>0.23</i>
Other Oils (g)	1.53	1.79	1.89	1.70	<i>1.56</i>	<i>1.78</i>	<i>1.91</i>	<i>1.64</i>	<i>1.51</i>	<i>1.73</i>	<i>1.86</i>	<i>1.60</i>	1.73	<i>1.72</i>	<i>1.68</i>
Total Consumption	19.66	20.38	20.37	20.29	<i>20.34</i>	<i>20.49</i>	<i>20.54</i>	<i>20.42</i>	<i>20.27</i>	<i>20.49</i>	<i>20.56</i>	<i>20.51</i>	20.18	<i>20.45</i>	<i>20.46</i>
Total Petroleum and Other Liquids Net Imports	-1.64	-1.20	-1.42	-2.47	<i>-2.00</i>	<i>-1.62</i>	<i>-1.81</i>	<i>-2.48</i>	<i>-2.24</i>	<i>-2.04</i>	<i>-2.16</i>	<i>-2.80</i>	-1.68	<i>-1.98</i>	<i>-2.31</i>
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	465.4	454.7	417.5	430.1	<i>456.7</i>	<i>447.2</i>	<i>431.1</i>	<i>437.9</i>	<i>466.5</i>	<i>458.2</i>	<i>442.1</i>	<i>449.6</i>	430.1	<i>437.9</i>	<i>449.6</i>
Hydrocarbon Gas Liquids	174.3	225.4	279.1	233.9	<i>191.8</i>	<i>237.0</i>	<i>275.6</i>	<i>229.3</i>	<i>191.0</i>	<i>238.4</i>	<i>275.8</i>	<i>233.2</i>	233.9	<i>229.3</i>	<i>233.2</i>
Unfinished Oils	88.6	87.0	88.3	81.6	<i>91.1</i>	<i>88.0</i>	<i>86.9</i>	<i>79.3</i>	<i>88.8</i>	<i>86.9</i>	<i>86.7</i>	<i>80.5</i>	81.6	<i>79.3</i>	<i>80.5</i>
Other HC/Oxygenates	34.3	30.1	30.3	31.4	<i>33.4</i>	<i>32.2</i>	<i>31.9</i>	<i>32.2</i>	<i>34.3</i>	<i>33.0</i>	<i>32.7</i>	<i>33.0</i>	31.4	<i>32.2</i>	<i>33.0</i>
Total Motor Gasoline	225.3	223.2	227.6	238.1	<i>233.8</i>	<i>227.5</i>	<i>220.1</i>	<i>231.4</i>	<i>236.5</i>	<i>229.5</i>	<i>220.8</i>	<i>231.8</i>	238.1	<i>231.4</i>	<i>231.8</i>
Finished Motor Gasoline	14.7	17.6	15.3	15.3	<i>14.8</i>	<i>16.2</i>	<i>15.2</i>	<i>17.2</i>	<i>14.6</i>	<i>16.5</i>	<i>15.6</i>	<i>18.0</i>	15.3	<i>17.2</i>	<i>18.0</i>
Motor Gasoline Blend Comp.	210.6	205.6	212.3	222.8	<i>219.0</i>	<i>211.3</i>	<i>204.9</i>	<i>214.2</i>	<i>221.9</i>	<i>213.0</i>	<i>205.3</i>	<i>213.7</i>	222.8	<i>214.2</i>	<i>213.7</i>
Jet Fuel	37.7	42.7	43.5	39.6	<i>39.0</i>	<i>39.9</i>	<i>41.7</i>	<i>37.9</i>	<i>37.0</i>	<i>38.9</i>	<i>39.8</i>	<i>35.9</i>	39.6	<i>37.9</i>	<i>35.9</i>
Distillate Fuel Oil	112.3	112.6	119.2	126.6	<i>121.1</i>	<i>124.0</i>	<i>124.6</i>	<i>126.1</i>	<i>114.7</i>	<i>114.7</i>	<i>119.5</i>	<i>121.9</i>	126.6	<i>126.1</i>	<i>121.9</i>
Residual Fuel Oil	29.6	30.4	27.5	24.6	<i>26.3</i>	<i>26.3</i>	<i>24.8</i>	<i>24.4</i>	<i>26.2</i>	<i>26.1</i>	<i>24.2</i>	<i>23.9</i>	24.6	<i>24.4</i>	<i>23.9</i>
Other Oils (g)	63.3	58.3	50.5	52.8	<i>61.8</i>	<i>59.5</i>	<i>50.1</i>	<i>51.4</i>	<i>60.5</i>	<i>58.4</i>	<i>49.1</i>	<i>50.5</i>	52.8	<i>51.4</i>	<i>50.5</i>
Total Commercial Inventory	1230.8	1264.4	1283.4	1258.7	<i>1255.1</i>	<i>1281.6</i>	<i>1286.7</i>	<i>1250.0</i>	<i>1255.5</i>	<i>1284.1</i>	<i>1290.7</i>	<i>1260.3</i>	1258.7	<i>1250.0</i>	

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories
 U.S. Energy Information Administration | Short-Term Energy Outlook - January 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (billion cubic feet per day)															
Total Marketed Production	111.18	112.50	113.67	114.31	<i>114.79</i>	<i>114.69</i>	<i>114.34</i>	<i>115.27</i>	<i>116.43</i>	<i>116.58</i>	<i>115.90</i>	<i>116.05</i>	112.92	<i>114.77</i>	<i>116.24</i>
Alaska	1.08	1.01	0.91	1.05	<i>1.05</i>	<i>0.96</i>	<i>0.88</i>	<i>1.00</i>	<i>1.02</i>	<i>0.94</i>	<i>0.87</i>	<i>0.99</i>	1.01	<i>0.97</i>	<i>0.96</i>
Federal GOM (a)	2.13	1.89	2.02	2.00	<i>2.05</i>	<i>2.02</i>	<i>1.96</i>	<i>2.01</i>	<i>2.05</i>	<i>2.03</i>	<i>1.94</i>	<i>1.95</i>	2.01	<i>2.01</i>	<i>1.99</i>
Lower 48 States (excl GOM)	107.97	109.60	110.74	111.25	<i>111.69</i>	<i>111.72</i>	<i>111.49</i>	<i>112.26</i>	<i>113.37</i>	<i>113.61</i>	<i>113.09</i>	<i>113.11</i>	109.90	<i>111.79</i>	<i>113.29</i>
Total Dry Gas Production	102.26	103.16	104.16	104.61	<i>105.05</i>	<i>104.97</i>	<i>104.64</i>	<i>105.49</i>	<i>106.56</i>	<i>106.70</i>	<i>106.07</i>	<i>106.21</i>	103.55	<i>105.04</i>	<i>106.38</i>
LNG Gross Imports	0.09	0.02	0.02	0.05	<i>0.10</i>	<i>0.04</i>	<i>0.04</i>	<i>0.06</i>	<i>0.10</i>	<i>0.04</i>	<i>0.04</i>	<i>0.06</i>	0.05	<i>0.06</i>	<i>0.06</i>
LNG Gross Exports	11.45	11.76	11.40	12.74	<i>12.75</i>	<i>11.92</i>	<i>11.73</i>	<i>13.03</i>	<i>13.07</i>	<i>13.60</i>	<i>14.82</i>	<i>16.20</i>	11.84	<i>12.36</i>	<i>14.43</i>
Pipeline Gross Imports	8.45	7.32	7.94	7.68	<i>8.21</i>	<i>6.97</i>	<i>7.24</i>	<i>7.50</i>	<i>8.33</i>	<i>7.00</i>	<i>7.25</i>	<i>7.49</i>	7.85	<i>7.48</i>	<i>7.52</i>
Pipeline Gross Exports	8.93	8.75	9.19	8.90	<i>9.40</i>	<i>8.85</i>	<i>9.20</i>	<i>9.64</i>	<i>9.95</i>	<i>9.48</i>	<i>9.74</i>	<i>10.05</i>	8.94	<i>9.27</i>	<i>9.80</i>
Supplemental Gaseous Fuels	0.22	0.17	0.16	0.16	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.19</i>	<i>0.18</i>	<i>0.18</i>	0.17	<i>0.18</i>	<i>0.18</i>
Net Inventory Withdrawals	11.97	-11.69	-6.44	-0.19	<i>14.86</i>	<i>-11.66</i>	<i>-6.11</i>	<i>3.11</i>	<i>13.51</i>	<i>-11.55</i>	<i>-5.91</i>	<i>4.48</i>	-1.63	<i>0.04</i>	<i>0.09</i>
Total Supply	102.61	78.46	85.24	90.67	<i>106.26</i>	<i>79.73</i>	<i>85.06</i>	<i>93.68</i>	<i>105.65</i>	<i>79.30</i>	<i>83.08</i>	<i>92.18</i>	89.20	<i>91.17</i>	<i>90.00</i>
Balancing Item (b)	0.30	-0.47	-1.43	0.40	<i>-1.11</i>	<i>-1.99</i>	<i>-1.20</i>	<i>-0.83</i>	<i>-1.88</i>	<i>-1.81</i>	<i>1.08</i>	<i>1.21</i>	-0.30	<i>-1.28</i>	<i>-0.34</i>
Total Primary Supply	102.92	77.99	83.82	91.07	<i>105.15</i>	<i>77.74</i>	<i>83.86</i>	<i>92.85</i>	<i>103.77</i>	<i>77.49</i>	<i>84.16</i>	<i>93.39</i>	88.90	<i>89.89</i>	<i>89.66</i>
Consumption (billion cubic feet per day)															
Residential	23.50	7.29	3.57	15.24	<i>24.29</i>	<i>7.30</i>	<i>3.84</i>	<i>16.20</i>	<i>24.28</i>	<i>7.28</i>	<i>3.84</i>	<i>16.15</i>	12.35	<i>12.89</i>	<i>12.84</i>
Commercial	14.51	6.43	4.72	10.86	<i>14.78</i>	<i>6.53</i>	<i>5.09</i>	<i>11.31</i>	<i>14.83</i>	<i>6.55</i>	<i>5.11</i>	<i>11.31</i>	9.11	<i>9.42</i>	<i>9.43</i>
Industrial	24.84	22.40	21.98	24.17	<i>24.82</i>	<i>21.74</i>	<i>21.47</i>	<i>23.71</i>	<i>24.67</i>	<i>21.70</i>	<i>21.49</i>	<i>23.77</i>	23.34	<i>22.93</i>	<i>22.90</i>
Electric Power (c)	30.71	33.39	44.79	31.72	<i>31.59</i>	<i>33.58</i>	<i>44.65</i>	<i>32.41</i>	<i>30.30</i>	<i>33.29</i>	<i>44.81</i>	<i>32.87</i>	35.18	<i>35.57</i>	<i>35.35</i>
Lease and Plant Fuel	5.31	5.37	5.43	5.46	<i>5.48</i>	<i>5.48</i>	<i>5.46</i>	<i>5.50</i>	<i>5.56</i>	<i>5.57</i>	<i>5.53</i>	<i>5.54</i>	5.39	<i>5.48</i>	<i>5.55</i>
Pipeline and Distribution Use	3.86	2.93	3.15	3.44	<i>3.99</i>	<i>2.91</i>	<i>3.15</i>	<i>3.51</i>	<i>3.94</i>	<i>2.91</i>	<i>3.18</i>	<i>3.55</i>	3.34	<i>3.39</i>	<i>3.39</i>
Vehicle Use	0.18	0.18	0.18	0.18	<i>0.20</i>	0.18	<i>0.20</i>	<i>0.20</i>							
Total Consumption	102.92	77.99	83.82	91.07	<i>105.15</i>	<i>77.74</i>	<i>83.86</i>	<i>92.85</i>	<i>103.77</i>	<i>77.49</i>	<i>84.16</i>	<i>93.39</i>	88.90	<i>89.89</i>	<i>89.66</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,850	2,900	3,490	3,507	<i>2,155</i>	<i>3,216</i>	<i>3,778</i>	<i>3,492</i>	<i>2,276</i>	<i>3,327</i>	<i>3,870</i>	<i>3,458</i>	3,507	<i>3,492</i>	<i>3,458</i>
East Region (d)	334	646	853	799	<i>395</i>	<i>693</i>	<i>877</i>	<i>801</i>	<i>440</i>	<i>717</i>	<i>861</i>	<i>763</i>	799	<i>801</i>	<i>763</i>
Midwest Region (d)	417	701	993	968	<i>486</i>	<i>762</i>	<i>1,033</i>	<i>930</i>	<i>502</i>	<i>792</i>	<i>1,079</i>	<i>930</i>	968	<i>930</i>	<i>930</i>
South Central Region (d)	919	1,136	1,092	1,201	<i>888</i>	<i>1,238</i>	<i>1,262</i>	<i>1,230</i>	<i>973</i>	<i>1,306</i>	<i>1,334</i>	<i>1,252</i>	1,201	<i>1,230</i>	<i>1,252</i>
Mountain Region (d)	79	171	239	228	<i>141</i>	<i>179</i>	<i>236</i>	<i>203</i>	<i>131</i>	<i>179</i>	<i>234</i>	<i>201</i>	228	<i>203</i>	<i>201</i>
Pacific Region (d)	74	216	278	280	<i>220</i>	<i>315</i>	<i>336</i>	<i>298</i>	<i>206</i>	<i>305</i>	<i>330</i>	<i>283</i>	280	<i>298</i>	<i>283</i>
Alaska	27	30	35	31	<i>25</i>	<i>28</i>	<i>33</i>	<i>29</i>	<i>24</i>	<i>27</i>	<i>32</i>	<i>29</i>	31	<i>29</i>	<i>29</i>

(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 January 4, 2024.

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.

<https://www.vitol.com/vitol-and-gail-sign-long-term-lng-supply-deal-into-india/>

Vitol and GAIL sign long term LNG supply deal into India

Singapore 5th January 2024

GAIL (India) Limited and Vitol Asia Pte Ltd today announced the signing of a Long Term LNG supply deal into India for the annual supply of approximately one million metric tons of LNG for a period of approximately 10 years, starting from 2026. Under this deal, Vitol will deliver LNG from its global LNG portfolio to GAIL and these deliveries will be on a pan-India basis. GAIL Chairman and Managing Director, Mr Sandeep Kumar Gupta said, “This long term LNG supply deal with Vitol by GAIL will augment its large Liquefied Natural Gas (LNG) portfolio and will contribute to bridging India’s demand and supply gap of natural gas.” Vitol CEO, Mr Russell Hardy said, “We are pleased to build on the existing relationship between Vitol and GAIL and to conclude this Long Term LNG supply deal together. India is a significant and growing LNG market and we are excited to bring LNG supply from our global LNG portfolio to meet this rising natural gas demand in India.”

GAIL as a leading natural gas company has formidable presence in India’s gas trading, transmission, LPG production & transmission, LNG re-gasification, petrochemicals, city gas, E&P. GAIL which owns and operates a network of over 16,000 km of natural gas pipelines on pan India basis is working concurrently on execution of multiple pipeline projects to further enhance the spread. GAIL commands around 70% market share in gas transmission and has a Gas trading share of over 50% in India. GAIL and its Subsidiaries / JVs also have a formidable market share in City Gas Distribution.

Vitol is a leader in the energy sector with a presence across the spectrum: from oil and gas through to power, renewables and carbon. It trades 7.4 million barrels per day of crude oil and products, and charters circa 6,000 sea voyages every year.

Vitol’s clients include national oil companies, multinationals, leading industrial companies and utilities. Founded in Rotterdam in 1966, today Vitol serves clients from some 40 offices worldwide and is invested in energy assets globally including: 17 m m³ of storage globally, circa 500 k b/d of refining capacity, over 7,000 service stations and a growing portfolio of transitional and renewable energy assets. Vitol has a global LNG portfolio with long term LNG supply from North America, Africa, Middle East, and Asia, a global fleet of LNG vessels and an experienced LNG team across Asia, Europe and the US. In 2022, Vitol physically delivered approximately 14 Mtpa of LNG.



KSI LISIMS LNG



Nisga'a Lisims Government



January 8, 2024

Ksi Lisims LNG and Shell finalize Sale and Purchase Agreement

(HOUSTON, TX) - Ksi Lisims LNG Limited Partnership (“Ksi Lisims LNG”), a co-development of the Nisga’a Nation, Rockies LNG Limited Partnership (“Rockies LNG”), and Western LNG LLC (“Western”), announced today that Ksi Lisims LNG and Shell Eastern Trading Pte Ltd (“Shell”) have signed a 20-year LNG sale and purchase agreement (the “SPA”). Under the SPA, Shell will purchase 2 million tonnes of LNG per year from the Ksi Lisims LNG project on a free-on-board basis. This is the first LNG offtake agreement executed by Ksi Lisims LNG.

“The Ksi Lisims LNG project is an innovative development for North America. Our project, utilizing floating LNG production units built by Samsung Heavy Industries and an all-electric process technology developed by Black & Veatch, will be the lowest emitting LNG liquefaction facility in the world. The strong fundamentals of our project have earned the confidence of some of the most established companies in the LNG industry. We look forward to continuing to work with Shell and our other customers as we move toward reaching a final investment decision,” said Davis Thames, president and CEO of Western. “Ksi Lisims LNG will play an important role in the long-term economic growth of the Nisga’a Nation and other nations with which we work, and we remain committed to being good partners with them. Our work with the Nisga’a Nation and Rockies LNG has produced a unique value proposition for our customers, and we look forward to growing our sales portfolio in the near future.”

Steve Hill, Executive Vice President of Shell Energy, said: “LNG is a critical pillar of global energy security and global demand is set to increase in the years to come. We are pleased to sign this agreement with Ksi Lisims LNG which will help Shell to continue providing diverse and flexible LNG supply to its customers.”

“The Nisga’a Nation has been striving to grow economic opportunities for our people right here at home. Ksi Lisims LNG is the cornerstone of a brighter future for our people. As the project

continues to pick up momentum, evidenced by this agreement with Shell, the Nisga'a people are now able to envision the opportunity and prosperity that Ksi Lisims LNG will bring to our Nation," said Eva Clayton, president of Nisga'a Lisims Government.

"We're proud to be working to deliver the world's cleanest natural gas to markets that need it most," said Charlotte Raggett, president and CEO of Rockies LNG. "Canada is an ideal global energy supplier, producing the world's most responsible and lowest-emission natural gas at the shortest distance from Asia in the Americas. The Ksi Lisims LNG project will provide energy markets in Asia with low-carbon, reliable energy that helps transition from higher emitting fuels to meet growing energy needs and supports continued growth in intermittent renewables such as wind and solar."

Ksi Lisims LNG, meaning "from the Nass River" in the Nisga'a language, is a proposed net-zero liquefied natural gas project in British Columbia, Canada. It will be sited on Nisga'a Nation-owned land on the northern tip of Pearse Island. Powered by renewable hydroelectricity, Ksi Lisims LNG will be the lowest emission intensity LNG facility in the world, and net-zero ready by 2030. The facility will produce 12 million tonnes per annum of LNG from two floating LNG production and storage facilities. Ksi Lisims LNG filed an application with the B.C. government for an environmental certificate on October 16, 2023. Ksi Lisims LNG was represented by Baker Botts L.L.P. in the drafting and negotiation of the SPA.

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About the Project Proponents

The Nisga'a Nation is a self-governing, modern treaty Nation with significant, defined control of and rights over their lands. The Ksi Lisims LNG project will be sited on land owned by the Nisga'a Nation at the northeastern tip of Pearse Island in British Columbia. <https://www.nisgaanation.ca>

Rockies LNG Partners is a limited partnership comprised of Canadian natural gas producers formed to advance LNG market access opportunities on the west coast of British Columbia. Rockies LNG's partners collectively produce approximately 1/3rd of Canada's natural gas and are committed to responsible development of Canadian natural gas resources. <http://www.rockieslng.com>

Western is a company based in Houston, Texas and Vancouver, B.C. with a management team experienced in the development and operation of LNG and related energy infrastructure. For more information visit <https://www.westernlng.com>

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

Posted 11am on July 14, 2021

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

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

It was always clear that the Mozambique LNG supply delay was 5.0 bcf/d, not just 1.7 bcf/d from Total Phase 1. LNG markets didn’t really react to Total’s April 26 declaration of force majeure on its 1.7 bcf/d Mozambique LNG Phase 1. This was an under construction project that was on time to deliver first LNG in 2024. It was in all LNG supply forecasts. There was no timeline given but, on the Apr 29 Q1 call, Total said that it expected any restart decision would be least a year away. If so, we believe that puts any actual construction at least 18 months away. There will be work to do just to get back to where they were when they were forced to stop development work on Phase 1. Surprisingly, markets didn’t look the broader implications, which is why we posted our 7-pg Apr 28 blog “*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*” [\[LINK\]](#) We highlighted that Mozambique LNG delays were actually 5 bcf/d, not 1.7 bcf/d. And this 5 bcf/d of Mozambique LNG supply was built into most, if not all, LNG supply forecasts. The delay in Total Phase 1 would lead to a commensurate delay in its Mozambique LNG Phase 2 of 1.3 bcf/d. Total Phase 2 was to add 1.3 bcf/d. There was no firm in service date, but it was expected to

follow closely behind Phase 1 to maintain services. That would have put it originally in the 2026/2027 period. But if Phase 1 is pushed back at least 2 years, so will the follow on Phase 2, so more likely, it will be at least 2028/2029. The assumption for most, if not all, LNG forecasts was that Phase 2 would follow Phase 1. Exxon Rozuma Phase 1 of 2.0 bcf/d continues to be pushed back in timeline especially following Total Phase 1. Exxon's Mozambique Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was originally expected to be in service in 2025. The project was being delayed and Total's force majeure has added to the delays. Rozuma onshore LNG facilities are right by Total. On June 20, we tweeted [\[LINK\]](#) on the Reuters report "*Exclusive: Galp says it won't invest in Rovuma until Mozambique ensures security*" [\[LINK\]](#). Galp is one of Exxon's partners in Rozuma. Reuters reported that Galp said they won't invest in Exxon's Rozuma LNG project until the government ensures security, that this may take a while, they won't be considering the project until after Total has reliably resumed work on its Phase 1, which likely puts any Rozuma decision until at least end of 2022 at the earliest. Galp has taken any Rozuma Phase 1 capex out of their new capex plans thru 2025 and will have to take out projects in their capex plan if Rozuma does come back to work. This puts Rozuma more likely 2028 at the earliest as opposed to before the original expectations of before 2025. Pre-pandemic, Exxon's March 6, 2019 Investor Day noted their operated Mozambique Rovuma LNG Phase 1 was to be 2 trains each with 1.0 bcf/d capacity for total initial capacity of 2.0 bcf/d with FID expected in 2019 and first LNG deliveries sometime before 2025. LNG forecasts had been assuming Exxon Rozuma would be onstream around 2025. The 2019 FID expectation was later pushed to be expected just before the March 2020 investor day. But the pandemic hit, and on March 21, 2020, we tweeted [\[LINK\]](#) on the Reuters story "*Exclusive: Coronavirus, gas slump put brakes on Exxon's giant Mozambique LNG plan*" [\[LINK\]](#) that noted Exxon was expected to delay the Rovuma FID. There was no timeline, but now, any FID is not expected until late 2022 at the earliest, that would push first LNG likely to at least 2028. What this means is that the Mozambique LNG delays are not 1.7 bcf/d but 5.0 bcf/d of projects that were in all, if not most, LNG supply forecasts. There is much more in our 7-pg blog. But Mozambique is what is driving a much bigger and sooner LNG supply gap starting ~2025 and stronger outlook for LNG prices

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

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

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

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

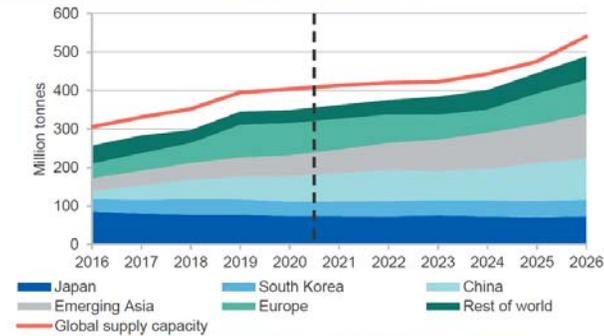
But we still see major LNG suppliers like Australia hinting but not outright saying that LNG supply gap is coming sooner. We have to believe Australia will be unveiling a sooner LNG supply gap in their September forecast. On June 28, we tweeted [\[LINK\]](#) on Australia's Resources and Energy Quarterly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

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

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

March 2021 LNG Outlook

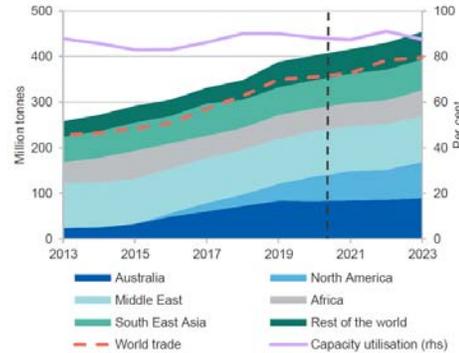
Figure 7.1: LNG demand and world supply capacity



Source: Nexant (2021) World Gas Model; Department of Industry, Science, Energy and Resources (2021)

June 2021 LNG Outlook

Figure 7.1: LNG demand and world supply capacity



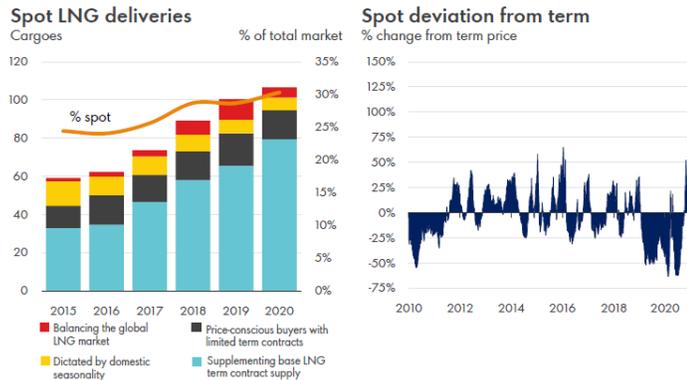
Source: Nexant (2021) World Gas Model; Department of Industry, Science, Energy and Resources (2021)

Source: Australia Resources and Energy Quarterly

Clearly Asian LNG buyers did the math, saw the new LNG supply gap and were working the phones in March/April/May trying to lock up long term supply. We wrote extensively on the Total Mozambique LNG situation before the April 26 force majeure as it was obvious that delays were coming to a project counted on for first LNG in 2024. Total had shut down Phase 1 development in December for 3 months due to the violence and security risks. It restarted development on Wed March 24, violence/attacks immediately resumed for 3 consecutive days, and then Total suspended development on Sat March 27. That's why no one should have been surprised by the April 26 force majeure. Asian LNG buyers were also seeing this and could easily do the same math we were doing and saw a bigger and sooner LNG supply gap. They were clearly working the phones with a new priority to lock up long term LNG supply. Major long term deals don't happen overnight, so it makes sense that we started to see these new Asian long term LNG deals start at the end of June.

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

Petronas/CNOOC is 10 yr supply deal for 0.3 bcf/d. On July 7, we tweeted [\[LINK\]](#) on the confirmation of a big positive to Cdn natural gas with the Petronas announcement [\[LINK\]](#) of a new 10 year LNG supply deal for 0.3 bcf/d with China's CNOOC. The deal also has special significance to Canada. (i) Petronas said "This long-term supply agreement also includes supply from LNG Canada when the facility commences its operations by middle of the decade". This is a reminder of the big positive to Cdn natural gas in the next 3 to 4 years – the start up of LNG Canada Phase 1 is ~1.8 bcf/d capacity. This is natural gas that will no longer be moving south to the US or east to eastern Canada, instead it will be going to Asia. This will provide a benefit for all Western Canada natural gas. (ii) First ever AECO linked LNG deal. It's a pretty significant event for a long term Asia LNG deal to now have an AECO link. Petronas wrote "The deal is for 2.2 million tonnes per annum (MTPA) for a 10-year period, indexed to a combination of the Brent and Alberta Energy Company (AECO) indices. The term deal between PETRONAS and CNOOC is valued at approximately USD 7 billion over ten years." 2.2 MTPA is 0.3 bcf/d. (iii) Reminds of LNG Canada's competitive advantage for low greenhouse gas emissions. Petronas said "Once ready for operations, the LNG Canada project paves the way for PETRONAS to supply low greenhouse gas (GHG) emission LNG to the key demand markets in Asia."

Qatar Petroleum/CPC (Taiwan) is 15 yr supply deal for 0.16 bcf/d. Pre Covid, Qatar was getting pressured to renegotiate lower its long term LNG contract prices. Now, it's signing a 15 year deal. On July 9, they entered in a new small long term LNG sales deal [\[LINK\]](#), a 15-yr LNG Sale and Purchase Agreement with CPC Corporation in Taiwan to supply it ~0.60 bcf/d of LNG. LNG deliveries are set to begin in January 2022. H.E. Minister for Energy Affairs & CEO of Qatar Petroleum Al-Kaabi said "We are pleased to enter into this long term LNG SPA, which is another milestone in our relationship with CPC, which dates back to almost three decades. We look forward to commencing deliveries under this SPA and to continuing our supplies as a trusted and reliable global LNG provider." The pricing was reported to be vs a basket of crudes.

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

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

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

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

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

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

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

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

For Canada, does the increasing LNG supply gap provide the opportunity to at least consider a LNG Canada Phase 2 FID over the next 6 months? Our view on Shell and other LNG players is unchanged since our April 28 blog. Shell is no different than any other major LNG supplier in always knowing the market and that the oil and gas outlook is much stronger than 9 months ago. Even 3 months post our April 28 blog, we haven't heard any significant talks on how major LNG players will be looking at FID for new brownfield LNG projects. We don't have any inside contacts at Shell or LNG Canada, but that is no different than when we looked at the LNG markets in September 2017 and saw the potential for Shell to FID LNG Canada in 2018. We posted a September 20, 2017 blog "*China's Plan To Increase Natural Gas To 10% Of Its Energy Mix Is A Global Game Changer Including For BC LNG*" [\[LINK\]](#). Last time, it was a demand driven supply gap, this time, it's a supply driven supply gap. We have to believe any major LNG player, including Shell, will be at least looking at their brownfield LNG project list and seeing if they should look to advance FID later in 2021. Shell has LNG Canada Phase 2, which would add 2 additional trains or approx. 1.8 bcf/d. And an advantage to an FID would be that Shell would be able to commit to its existing contractors and fabricators for a continuous construction cycle following on LNG Canada Phase 1 ie. to help keep a lid on capital costs. We believe maintaining a continuous construction cycle is even more important given the stressed global supply chain. No one is talking about the need for these new brownfield LNG projects, but, unless some major change in views happen, we believe its inevitable that these brownfield LNG FID internal discussions will be happening in H2/21. Especially since the oil and gas price outlook is much stronger than it was in the fall and companies will be looking to increase capex in 2022 budgets.

A LNG Canada Phase 2 would be a big plus to Cdn natural gas. LNG Canada Phase 1 is a material natural gas development as its 1.8 bcf/d capacity represents approx. 20 to 25% of Cdn gas export volumes to the US. The EIA data shows US pipeline imports of Cdn natural gas as 6.83 bcf/d in 2020, 7.36 bcf/d in 2019, 7.70 bcf/d in 2018, 8.89 bcf/d in 2017, 7.97 bcf/d in 2016, 7.19 bcf/d in 2015 and 7.22 bcf/d in 2014. A LNG Canada Phase 2 FID would be a huge plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against pricing points other than Henry Hub. And it would provide demand offset versus Trudeau if he moves to make electricity "emissions free" and not his prior "net zero emissions". Mozambique has been a game changer to LNG outlook creating a bigger and sooner LNG supply gap. And with a stronger tone to oil and natural gas prices in 2021, the LNG supply gap will at least provide the opportunity for Shell to consider FID for its brownfield LNG Canada Phase 2 and provide big support to Cdn natural gas for the back half of the 2020s. And perhaps if LNG Canada is exporting 3.6 bcf/d from two phases, it could help flip Cdn natural gas to a premium vs US natural gas especially if Biden is successful in reducing US domestic natural gas consumption for electricity. The next six months will be very interesting to watch for LNG markets and Cdn natural gas valuations. Imagine the future value of Cdn natural gas is there was visibility for 3.6 bcf/d of Western Canada natural gas to be exported to Asia.



Canada Energy Régie de l'énergie
Regulator du Canada

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File 3427016
12 January 2024

Sander Duncanson
Counsel for Trans Mountain
Osler, Hoskin, & Harcourt LLP
225 – 6th Avenue SW
Calgary, AB T2P 1N2
Email sduncanson@osler.com

Dear Sander Duncanson:

**Trans Mountain Pipeline ULC
Trans Mountain Expansion Project
Certificate of Public Convenience and Necessity OC-065
Application for Variance and Condition Relief under the Certificate
Mountain 3 Horizontal Directional Drill
Decision of the Commission of the Canada Energy Regulator**

**Before: K. Penney, Presiding Commissioner; T. Grimoldby, Commissioner;
S. Sajnovics, Commissioner**

1. BACKGROUND

On 14 December 2023, Trans Mountain ULC (**Trans Mountain**) filed an application with the Commission of the Canada Energy Regulator (**CER**) under section 190 of the *Canadian Energy Regulator Act*. The application seeks to vary Schedule A of Certificate of Public Convenience and Necessity OC-065 (**Certificate**) with respect to the diameter, wall thickness and coating for the pipe for the Mountain 3 horizontal directional drill (**HDD**) crossing for the Trans Mountain Expansion Project, and associated facilities (**Variance**). The Mountain 3 HDD crossing is approximately 2 300 metres (**m**) long (between kilometre posts 1064.4 and 1066.7) and is located within the Black Pines to Burnaby Tank Terminal segment of the Trans Mountain Expansion Project.

Trans Mountain also applied, pursuant to Condition 1 of the Certificate, for relief from the requirement to adhere to the Quality Management Plan (**QMP**) filed under Condition 9 of the Certificate with respect to the materials to be used for the Mountain 3 HDD crossing, if the Variance is approved and the Commission determines such materials do not comply with the QMP ([C27678](#)).

The Commission also considered Trans Mountain's responses to two rounds of Commission Information Requests filed on 3 January ([C27873](#)) and 11 January 2024 ([C27965](#)), including Trans Mountain's comments on potential conditions, which the Commission floated in Information Request No. 2.

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On 22 December 2023, the Commission received letters of support for the application from Canadian Natural Resources Limited ([C27822](#)) and MEG Energy Corp. ([C27830](#)). Letters of support were also received on 3 January 2024 from Alberta Department of Energy and Minerals ([C27881](#)) and Cenovus Energy Inc. ([C72882](#)).

On 8 January 2024, the Commission dismissed motions filed by Tim Takaro and David Huntley in Ruling No. 1 ([C29728](#)). On the same day, the Commission determined that it would hold an oral hearing on 12 January 2024, to allow for cross-examination of, and final argument from, Trans Mountain ([C27929](#)).

2. COMMISSION DECISION

Having thoroughly and carefully considered all written and oral submissions received, the Commission has decided to approve the Variance, subject to the conditions imposed relating to materials and in-line inspections. Amending Order AO-012-OC-065 is attached, reflecting the Commission's approval and the conditions imposed.

The Commission further grants Trans Mountain's request for relief from the requirement to adhere to the QMP filed under Condition 9 of the Certificate, as it applies to the Mountain 3 HDD. Trans Mountain may begin constructing the Variance, subject to any other necessary regulatory requirements being met. The Commission will issue its reasons for this decision in due course.

3. DIRECTION

The Commission directs Trans Mountain to serve a copy of this letter and Amending Order AO-012-OC-065 on all interested parties to the application, including shippers and Indigenous communities.

Yours sincerely,

Signed by

Ramona Sladic
Secretary of the Commission

Attachment

c.c. Trans Mountain Canada Inc., General Inbox, Email info@transmountain.com
Kevin Thrasher, Email kevin_thrasher@transmountain.com
Dorothy Golosinski, Email regulatory@transmountain.com

<https://dangote.com/our-business/oil-and-gas/>

The Dangote Petroleum Refinery

Dangote Oil Refinery is a 650,000 barrels per day (BPD) integrated refinery project under construction in the Lekki Free Zone near Lagos, Nigeria. It is expected to be Africa's biggest oil refinery and the world's biggest single-train facility.

The Pipeline Infrastructure at the Dangote Petroleum Refinery is the largest anywhere in the world, with 1,100 kilometers to handle 3 Billion Standard Cubic Foot of gas per day. The Refinery alone has a 435MW Power Plant that is able to meet the total power requirement of Ibadan DisCo.

The Refinery will meet 100% of the Nigerian requirement of all refined products and also have a surplus of each of these products for export. Dangote Petroleum Refinery is a multi-billion dollar project that will create a market for \$21 Billion per annum of Nigerian Crude. It is designed to process Nigerian crude with the ability to also process other crudes.

<https://www.reuters.com/business/energy/nigerias-dangote-refinery-set-test-runs-after-getting-more-crude-2024-01-08/>

Nigeria's Dangote refinery set for test runs after getting more crude

Reuters

January 8, 2024 10:47 AM MST Updated 3 hours ago



A worker walks past storage tanks at Dangote oil refinery in Ibeju Lekki district, on the outskirts of Lagos, Nigeria August 7, 2019.

REUTERS/Temilade Adelaja [Acquire Licensing Rights](#)

LAGOS, Jan 8 (Reuters) - Nigeria's Dangote oil refinery could begin test runs as early as this week after receiving a sixth crude cargo on Monday, company officials said, finally bringing the 650,000 barrels per day (bpd) plant to life after years of construction delays.

The refinery, funded at a cost of \$20 billion by Africa's richest man, Aliko Dangote, is being built at Lekki, on the outskirts of the commercial capital Lagos.

Nigeria currently imports most of its fuel but the Dangote refinery will make it self sufficient and able to export fuel to neighbours in West Africa, potentially transforming oil trading in the Atlantic Basin as Nigeria challenges U.S. and European energy companies that for years have powered the cars, trucks and generators in Africa.

The plant received 1 million barrels of oil from the Agbami field in the Niger Delta, bringing to 6 million barrels the amount of crude that has been delivered since the first cargo arrived in December, Dangote's spokesperson said in a statement.

The next step is to start up the crude distillation unit, which is a major component of the refinery, a senior company executive, who spoke on condition of anonymity, said. That process would "most probably" begin this week, the executive added.

"Subsequently, we will be continuously buying crude and start commissioning the other departments," said the executive.

"Saleable products will start coming from the first week itself. But, of course, the volume will be limited and the variety of saleable products will also be limited and it will start building up, as each major department gets commissioned."

Experts say test runs include the different units that make products from gasoline to diesel and making sure they respond to the control panels. It can take months for refineries to move from test runs to producing high-quality fuels at full capacity, according to the experts.

Dangote has said it will start by refining 350,000 bpd and hopes to ramp up to full production later this year.

Reporting by MacDonald Dzirutwe; Editing by Susan Fenton

Thousand barrels daily*												Growth rate per annum		Share
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012-22	2022
Canada	1753	1719	1615	1640	1594	1757	1653	1822	1505	1653	1696	2.6%	-0.3%	2.1%
Mexico	1199	1223	1155	1064	933	767	612	592	591	712	816	14.6%	-3.0%	1.0%
US	14999	15312	15848	16188	16187	16590	16969	16563	14212	15148	15927	5.1%	0.6%	19.4%
Total North America	17951	18254	18618	18892	18714	19114	19234	18977	16387	17513	18439	5.3%	0.3%	22.5%
Argentina	530	527	526	536	511	500	470	476	417	472	489	3.6%	-0.0%	0.6%
Brazil	1089	2035	2085	1972	1012	1741	1733	1751	1769	1810	1935	6.2%	0.2%	2.4%
Chile	164	174	174	165	163	172	172	186	172	192	174	-9.2%	0.6%	0.2%
Colombia	305	284	247	244	339	355	415	415	355	375	388	3.2%	2.4%	0.5%
Curaçao	165	170	189	178	156	84	29	4	-	-	-	-	-100.0%	0.0%
Ecuador	152	141	125	121	150	156	159	142	116	146	156	6.7%	0.3%	0.2%
Netherlands Antilles	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%
Peru	190	186	188	188	194	213	209	192	105	130	132	-4.1%	-3.6%	0.2%
Trinidad & Tobago	107	132	105	125	140	131	99	-	-	-	-	-	-100.0%	0.0%
Venezuela	936	952	920	863	654	544	306	135	123	169	184	9.1%	-15.0%	0.2%
Other S. & Cent. America	326	286	277	275	231	197	246	238	245	285	269	-5.9%	-1.9%	0.3%
Total S. & Cent. America	4764	4887	4836	4667	4359	4093	3837	3541	3302	3596	3727	3.6%	-2.4%	4.5%
Austria	170	174	173	179	164	162	180	183	162	166	113	-31.7%	-4.0%	0.1%
Belgium	634	555	645	644	640	685	663	693	545	577	558	-3.4%	-1.3%	0.7%
Bulgaria	118	113	104	121	125	136	118	137	97	84	139	66.2%	1.7%	0.2%
Czech Republic	145	134	151	145	109	158	151	150	122	143	150	4.9%	0.3%	0.2%
Denmark	153	144	139	147	140	151	152	154	142	150	145	-3.8%	-0.5%	0.2%
Finland	215	227	225	197	226	226	233	240	219	159	186	17.2%	-1.4%	0.2%
France	1130	1117	1096	1152	1122	1149	1085	978	665	683	828	21.3%	-3.1%	1.0%
Germany	1901	1857	1833	1875	1807	1870	1752	1763	1990	1997	2111	5.7%	1.1%	2.6%
Greece	410	399	416	436	464	483	489	462	445	476	442	-7.2%	0.7%	0.5%
Hungary	122	120	131	130	133	131	141	137	135	134	129	-4.0%	0.6%	0.2%
Ireland	61	57	55	60	64	64	61	51	57	61	60	-0.7%	-0.2%	0.1%
Italy	1475	1259	1198	1347	1293	1399	1346	1355	1105	1224	1316	7.6%	-1.1%	1.6%
Lithuania	181	192	160	170	187	197	195	191	157	160	165	3.6%	-0.9%	0.2%
Netherlands	1110	1065	1090	1157	1172	1180	1192	1217	1103	1151	1129	-1.9%	0.2%	1.4%
Norway	287	292	274	293	230	281	305	265	237	222	152	-31.6%	-6.2%	0.2%
Poland	505	488	486	532	517	508	540	546	516	497	579	16.4%	1.4%	0.7%
Portugal	221	239	217	278	279	284	252	223	218	191	204	6.8%	-0.8%	0.2%
Romania	182	189	194	208	228	225	232	244	206	193	234	21.5%	2.5%	0.3%
Slovakia	108	116	105	119	115	112	109	103	112	111	108	-2.0%	0.0%	0.1%
Spain	1186	1168	1185	1306	1302	1326	1363	1318	1105	1143	1273	11.4%	0.7%	1.6%
Sweden	417	332	380	401	395	392	406	337	349	366	369	0.8%	-1.2%	0.5%
Switzerland	60	97	90	56	59	57	61	55	56	46	61	32.2%	-1.1%	0.1%
Türkiye	398	421	406	526	531	542	472	673	655	691	736	6.6%	6.3%	0.9%
Ukraine	108	85	69	64	64	77	59	64	80	73	53	-26.7%	-6.8%	0.1%
United Kingdom	1348	1197	1125	1118	1071	1073	1041	1044	880	809	1018	14.5%	-2.8%	1.2%
Other Europe	132	136	128	141	148	165	166	123	110	114	120	5.3%	-0.9%	0.1%
Total Europe	12793	12173	12082	12810	12666	13032	12764	12713	11455	11700	12379	5.8%	0.3%	15.1%
Azerbaijan	124	132	135	130	120	118	122	124	118	133	139	4.3%	1.1%	0.2%
Belarus	434	425	448	462	372	364	366	359	326	315	307	-2.6%	-3.4%	0.4%
Kazakhstan	331	341	361	342	339	355	374	392	367	391	457	17.0%	3.3%	0.6%
Russian Federation	5438	5636	5926	5773	5715	5703	5864	5824	5504	5723	5533	-3.3%	0.2%	6.8%
Turkmenistan	156	146	136	127	118	125	117	122	118	120	124	3.3%	-2.3%	0.2%
Uzbekistan	62	61	50	57	57	58	70	60	57	46	48	3.7%	-2.4%	0.1%
Other CIS	2	2	4	7	8	9	11	7	4	7	7	9.8%	11.8%	0.0%
Total CIS	6548	6742	7060	6899	6730	6732	6924	6889	6494	6735	6616	-1.8%	0.1%	8.1%
Bahrain	263	264	257	266	258	262	260	264	230	223	251	1.9%	-0.4%	0.3%
Iran	1933	2000	1941	1868	1875	1897	2087	2101	2193	2344	2397	2.2%	2.2%	2.9%
Iraq	579	598	487	409	440	527	596	633	536	510	572	12.2%	-0.1%	0.7%
Israel	220	221	226	232	213	223	238	242	243	234	235	0.1%	0.7%	0.3%
Kuwait	916	873	879	905	841	686	679	663	539	643	807	25.7%	-1.2%	1.0%
Oman	193	187	180	190	178	232	304	257	221	253	262	3.5%	3.1%	0.3%
Qatar	292	270	261	253	280	379	397	396	366	381	415	9.1%	3.6%	0.5%
Saudi Arabia	1953	1876	2201	2447	2753	2802	2770	2649	2397	2766	2940	6.3%	4.2%	3.6%
United Arab Emirates	638	650	643	1098	1078	1119	1096	1037	936	939	983	4.7%	4.4%	1.2%
Other Middle East	268	238	230	184	144	161	153	159	144	136	163	19.6%	-4.9%	0.2%
Total Middle East	7254	7177	7306	7847	8059	8287	8400	8400	7805	8429	9026	7.1%	2.2%	11.0%
Algeria	478	492	615	591	584	573	601	569	585	588	606	3.0%	2.4%	0.7%
Egypt	534	514	530	530	509	508	522	565	605	600	620	4.8%	1.6%	0.8%
Morocco	111	111	105	53	-	-	-	-	-	-	-	-	-100.0%	0.0%
Nigeria	92	97	64	22	62	81	35	7	0	3	6	12.9%	-23.5%	0.0%
South Africa	413	422	440	453	474	447	455	396	262	282	292	3.6%	-3.4%	0.4%
Other Africa	586	594	444	453	459	429	446	442	324	420	379	1.6%	-4.3%	0.5%
Total Africa	2214	2230	2197	2101	2087	2038	2059	1980	1777	1892	1917	1.0%	-1.5%	2.3%
Australia	600	588	538	477	453	475	474	402	388	286	228	-20.4%	-9.2%	0.3%
Bangladesh	24	27	24	25	23	28	25	28	22	31	28	-10.9%	1.5%	0.0%
China	9199	9599	10165	10824	11304	11844	12574	13433	13824	14461	13892	-3.9%	4.2%	17.0%
India	4302	4462	4475	4561	4930	5010	5154	5119	4493	4792	5082	6.0%	1.7%	6.2%
Indonesia	820	822	848	836	885	885	916	918	826	824	845	2.4%	0.3%	1.0%
Japan	3400	3453	3289	3258	3280	3214	3059	3046	2492	2488	2694	8.3%	-2.3%	3.3%
Malaysia	575	557	552	514	574	570	566	586	491	571	584	2.2%	0.2%	0.7%
New Zealand	109	105	101	109	107	108	103	110	76	74	18	-75.6%	-16.5%	0.0%
Pakistan	192	223	232	257	242	261	275	243	210	240	240	0.0%	2.3%	0.3%
Philippines	170	158	168	212	216	211	237	180	106	79	124	56.4%	-3.2%	0.2%
Singapore	1020	936	839	908	929	994	974	1000	861	871	888	1.9%	-1.4%	1.1%
South Korea	2582	2484	2516	2784	2928	3061	3031	2922	2679	2634	2811	6.7%	0.9%	1.4%
Taiwan	897	847	850	838	861	848	889	890	726	770	815	5.9%	-1.0%	1.0%
Thailand	972													

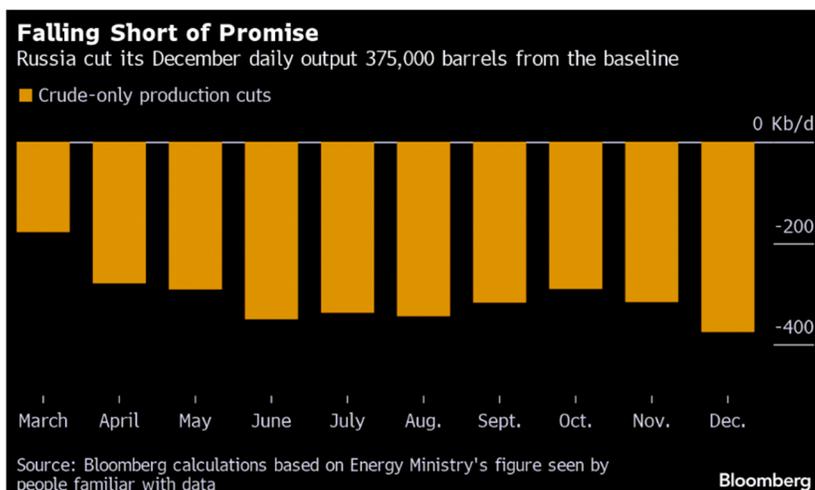
Russia Reduces December Crude Output by Most Since Cuts Started
2024-01-09 16:26:13.668 GMT

By Bloomberg News

(Bloomberg) -- Russia curbed its crude oil output in December by the most since starting its cuts in early 2023, yet the nation still pumped more than its target, according to Bloomberg calculations based on official data.

Daily crude production averaged 1.306 million tons last month, said people familiar with data from the Energy Ministry, who spoke on condition of anonymity because the figures aren't public. That equates to 9.57 million barrels a day, based on the typical 7.33-barrels-per-ton conversion ratio for the nation's oil.

That means Russia's crude output in December was almost 60,000 barrels a day lower than the prior month and some 375,000 barrels a day below the February baseline for its production curbs, Bloomberg calculations show. Russia has pledged to reduce its crude output by 500,000 barrels a day until the end of this year.



Russia's Energy Ministry declined to comment on the figures. The nation classified its oil production data last year due to its sensitivity amid Western sanctions over the Kremlin's war in Ukraine. The ministry doesn't disclose its conversion ratio nor the baseline it uses for its own assessment of compliance, so its internal calculations may differ from those made by Bloomberg.

"Russia is a responsible participant of the agreement" with OPEC+ to cut output, Deputy Prime Minister Alexander Novak said at the end of last month. "Our companies fulfill their obligations."

On top of the output curbs, Russia had also pledged to reduce its overseas oil shipments by 300,000 barrels a day until December, then deepen the reduction in the first quarter in a joint effort to prevent a surplus with its allies in the Organization of Petroleum Exporting Countries.

See also: [Russia's Crude Exports Start 2024 in Line With Pledged OPEC+ Cut](#)

From January to March, Russia will curb its daily exports of crude by 300,000 barrels, and refined products by 200,000 barrels.

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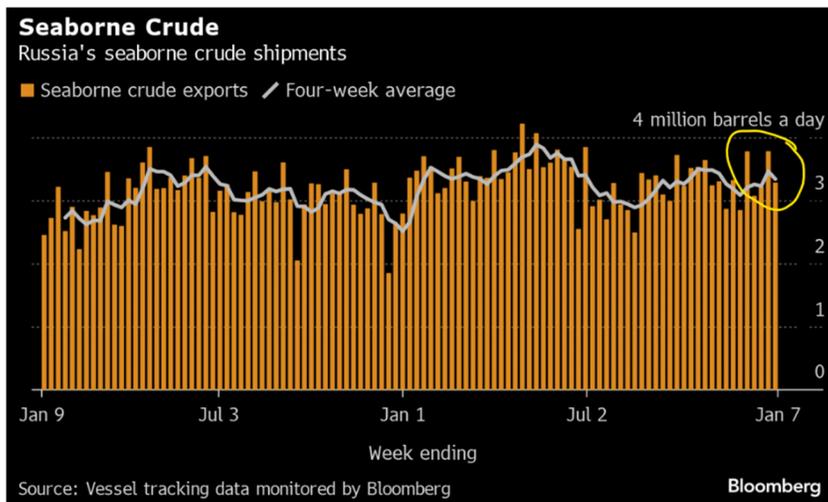
Russia's Crude Exports Start 2024 in Line With Pledged OPEC+ Cut 2024-01-09 09:56:05.303 GMT

By Julian Lee

(Bloomberg) -- Russia's seaborne crude shipments began 2024 exactly in line with Moscow's pledge to cut the country's exports as part of the wider OPEC+ effort to stabilize global oil markets.

About 3.34 million barrels a day of crude were shipped from Russian ports in the four weeks to Jan. 7, tanker-tracking data monitored by Bloomberg show. That was down by 120,000 barrels a day from the period to Dec. 31.

The more volatile weekly average fell by 500,000 barrels a day to 3.28 million. That was 300,000 barrels below the average export level seen by Bloomberg during May and June, which is the baseline period used by Moscow for the reduction in crude exports that it has pledged to its OPEC+ partners in the first quarter of 2024.



Russia has said it will deepen its oil export cuts to 500,000 barrels a day below the May-June average during the first quarter, after Saudi Arabia said it would prolong its unilateral one-million-barrel-a-day supply reduction and several other members of the OPEC+ group agreed to make further output curbs. The Russian cut will be shared between crude shipments, which will be reduced by 300,000 barrels a day, and refined products. The four-week average crude measure was about 245,000 barrels a day below the May-June level.

All Russian crude destined for Asian buyers after being loaded at western ports continues to pass through the Red Sea, despite attacks on merchant vessels from Yemen-based Houthi rebels. Tankers carrying Moscow's oil are unlikely to be targeted, but that doesn't rule out the risk of a ship carrying Russian supplies being hit by mistake.

Russia appears to be struggling to place cargoes of its Sokol crude. Six ships that were heading for the ports of Paradip and Vadinar came to a halt in December before heading back through the Strait of Malacca. Three of those tankers

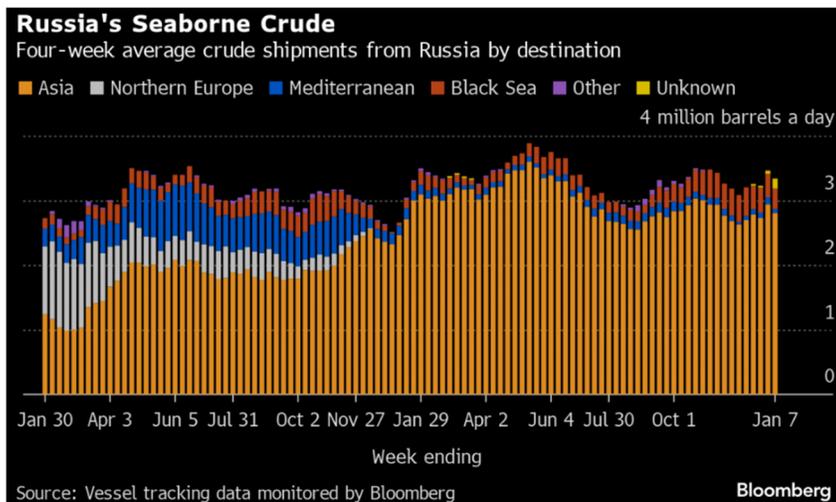
signaled a new destination of Qingdao in China, but have stopped for a second time in the South China Sea.

Four more cargoes of Sokol have been loaded onto ships that are also showing ports in India. They too are showing no sign of heading to their designated destinations.

The gross value of Russia's crude exports, calculated from weekly shipments and Argus Media pricing data, fell to \$1.45 billion in the seven days to Jan. 7 from \$1.73 billion the previous week. Four-week average income also slipped, decreasing by \$53 million to \$1.5 billion a week.

Flows by Destination

Russia's seaborne crude flows in the four weeks to Jan. 7 fell to 3.34 million barrels a day. That was down from 3.46 million barrels a day in the period to Dec. 31. Shipments were about 245,000 barrels a day below the average seen in May and June.



All figures exclude cargoes identified as Kazakhstan's KEBCO grade. Those are shipments made by KazTransoil JSC that transit Russia for export through Novorossiysk and the Baltic port of Ust-Luga and are not subject to European Union sanctions or a price cap.

The Kazakh barrels are blended with crude of Russian origin to create a uniform export grade. Since Russia's invasion of Ukraine, Kazakhstan has rebranded its cargoes to distinguish them from those shipped by Russian companies.

* Asia

Observed shipments to Russia's Asian customers, including those showing no final destination, edged lower to 2.96 million barrels a day in the four weeks to Jan. 7, down from a two-month high of 2.99 million barrels a day in the period to Dec. 31. About 1.19 million barrels a day of crude was loaded onto tankers heading to China in the four weeks to Jan. 7. China's seaborne imports are supplemented by about 800,000 barrels a day

of crude delivered directly from Russia by pipeline, either directly, or via Kazakhstan.

Flows on ships signaling destinations in India averaged about 910,000 million barrels a day in the four weeks to Jan. 7. Both the Chinese and Indian figures will rise as the discharge ports become clear for vessels that are not currently showing final destinations.

The equivalent of about 710,000 barrels a day was on vessels signaling Port Said or Suez in Egypt, or are expected to be transferred from one ship to another off the South Korean port of Yeosu. Those voyages typically end at ports in India or China and show up in the chart below as "Unknown Asia" until a final destination becomes apparent.

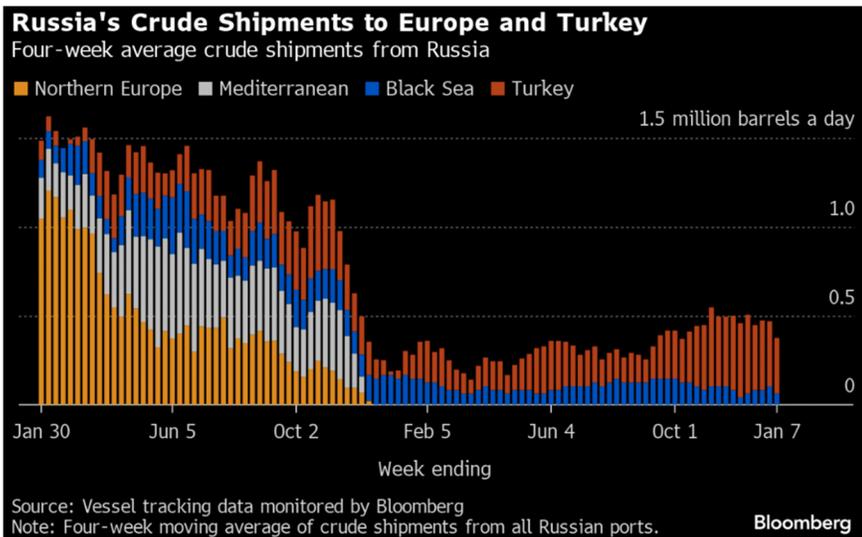
The "Other Unknown" volumes, running at about 160,000 barrels a day in the four weeks to Dec. 31, are those on tankers showing no clear destination. Most of those cargoes originate from Russia's western ports and go on to transit the Suez Canal, but some could end up in Turkey. Others could be moved from one vessel to another, with most such transfers now taking place in the Mediterranean, off the coast of Greece.



Europe and Turkey

Russia's seaborne crude exports to European countries have collapsed since Moscow's troops invaded Ukraine in February 2022. A market that consumed about 1.5 million barrels a day of short-haul seaborne crude, coming from export terminals in the Baltic, Black Sea and Arctic has been lost almost completely, to be replaced by long-haul destinations in Asia that are much more costly and time-consuming to serve.

Combined flows to Turkey and Bulgaria, Russia's only two remaining buyers close to its western ports, fell to about 380,000 barrels a day in the four weeks to Jan. 7, tanker-tracking data show. That's the lowest in three months.



Exports to Turkey fell to about 313,000 barrels a day in the four weeks to Jan. 7. They are still close to three times as high as the lows they hit in July and August.

Flows to Bulgaria, now Russia's only European market for crude, slipped to a four-week low of about 63,000 barrels a day in the most recent four-week period. Bulgaria's parliament has approved a measure that will end imports of Russian oil from March, nine months earlier than permitted under an exemption to EU sanctions on purchases of Moscow's oil.

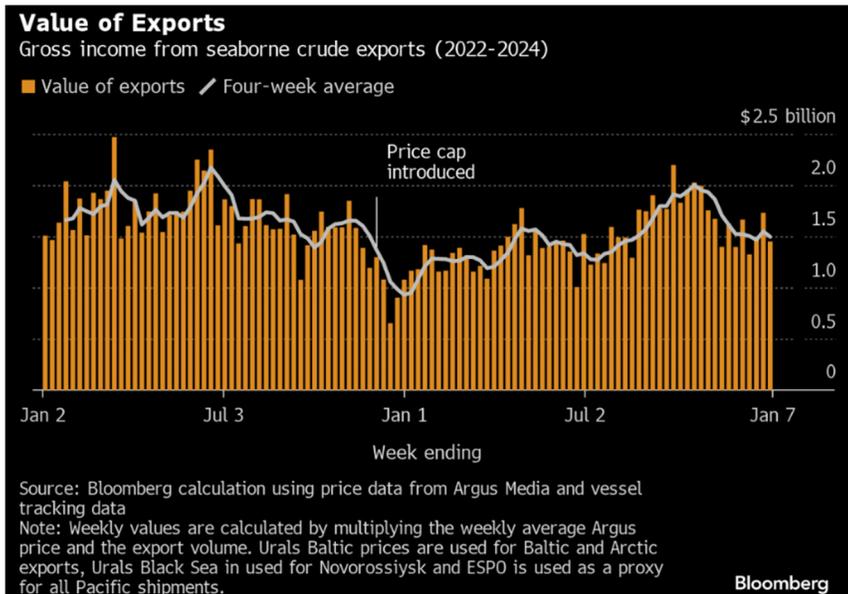
No Russian crude was shipped to northern European countries, or those in the Mediterranean in the four weeks to Jan. 7.

Vessel-tracking data are cross-checked against port agent reports as well as flows and ship movements reported by other information providers including Kpler and Vortexa Ltd.

Export Value

Following the abolition of export duty on Russian crude, we have begun to track the gross value of seaborne crude exports, using Argus Media price data and our own tanker tracking. The gross value of Russia's crude exports fell to \$1.45 billion in the seven days to Jan. 7 from \$1.73 billion the previous week. Meanwhile four-week average income also slipped, decreasing by \$53 million to \$1.5 billion a week. The four-week average peaked at \$2.17 billion a week in the period to June 19, 2022. The highest it reached last year was \$2 billion a week in the period to Oct. 22.

During the first four weeks after the Group of Seven nations' price cap on Russian crude exports came into effect in early December, 2022, the value of seaborne flows fell to a low of \$930 million a week, but soon recovered.



The chart above shows a gross value of Russia’s seaborne oil exports on a weekly and four-week average basis. The value is calculated by multiplying the average weekly crude price from Argus Media Group by the weekly export flow from each port. For shipments from the Baltic and Arctic ports we use the Urals FOB Primorsk dated, London close, midpoint price. For shipments from the Black Sea we use the Urals Med Aframax FOB Novorossiysk dated, London close, midpoint price. For Pacific shipments we use the ESPO blend FOB Kozmino prompt, Singapore close, midpoint price.

Export duty was abolished at the end of 2023 as part of Russia’s long-running tax reform plans.

Origin-to-Location Flows

The following table shows the number of ships leaving each export terminal.

A total of 30 tankers loaded 23 million barrels of Russian crude in the week to Jan. 7, vessel-tracking data and port agent reports show. That was down by about 3.5 million barrels from the previous week’s six-month high.

Strong winds at Kozmino, topping 50 miles an hour according to weather data provide Visual Crossing, is likely to have hampered mooring operations toward the end of the week, when loading slowed.

Tankers Loading Crude at Russian Terminals

30 tankers loaded Russian crude in the week to January 7

Week ending	Jan. 7	Dec. 31	Dec. 24
Primorsk (Baltic)	9	9	8
Ust-Luga (Baltic)	6	6	8
Novorossiysk (Black Sea)	3	2	2
Murmansk (Arctic)	1	3	2
Kozmino (Pacific)	8	11	7
De Kastri (Pacific)	2	2	2
Prigorodnoye (Pacific)	1	1	1
Total	30	34	30

Source: Vessel tracking data monitored by Bloomberg

Note: Based on date of completion of cargo loading. Excludes ships loading cargoes identified as Kazakhstan's KEBCO grade.

Bloomberg

All figures exclude cargoes identified as Kazakhstan's KEBCO grade. One cargo of KEBCO was loaded at Novorossiysk and one at Ust-Luga during the week.

NOTES
Note: This story forms part of a weekly series tracking shipments of crude from Russian export terminals and the export duty revenues earned from them by the Russian government. Weeks run from Monday to Sunday. The next update will be on Tuesday, Jan. 16.

Note: All figures exclude cargoes owned by Kazakhstan's KazTransOil JSC, which transit Russia and are shipped from Novorossiysk and Ust-Luga as KEBCO grade crude.

If you are reading this story on the Bloomberg terminal, click here for a link to a PDF file of four-week average flows from Russia to key destinations.

--With assistance from Sherry Su.

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Much of Houthis' Offensive Capability Remains Intact After U.S.-led Airstrikes 2024-01-14 03:14:23.678 GMT

By Eric Schmitt

(New York Times) -- The strikes damaged the group's ability to carry out complex missile and drone attacks, U.S. officials said, but identifying targets has proved to be a challenge.

The United States-led airstrikes on Thursday and Friday against sites in Yemen controlled by the Houthi militia damaged or destroyed about 90 percent of the targets struck, but the group retained about three-quarters of its ability to fire missiles and drones at ships transiting the Red Sea, two U.S. officials said on Saturday.

The damage estimates are the first detailed assessments of the strikes by American and British attack planes and warships against nearly 30 locations in Yemen, and they reveal the serious challenges facing the Biden administration and its allies as they seek to deter the Iran-backed Houthis from retaliating, secure critical shipping routes between Europe and Asia, and contain the spread of regional conflict.

A top U.S. military officer, Lt. Gen. Douglas Sims, the director of the military's Joint Staff, said on Friday that the strikes had achieved their objective of damaging the Houthis' ability to launch the kind of complex drone and missile attack they had conducted on Tuesday.

But the two U.S. officials cautioned on Saturday that even after hitting more than 60 missile and drone targets with more than 150 precision-guided munitions, the strikes had damaged or destroyed only about 20 to 30 percent of the Houthis' offensive capability, much of which is mounted on mobile platforms and can be readily moved or hidden.

The two U.S. officials spoke on the condition of anonymity to discuss internal military assessments.

Finding Houthi targets is proving to be more challenging than anticipated. American and other Western intelligence agencies have not spent significant time or resources in recent years collecting data on the location of Houthi air defenses, command hubs, munitions depots and storage and production facilities for drones and missiles, the officials said.

That all changed after the Hamas attacks on Israel on Oct. 7, and the Israeli military's responding ground campaign in the Gaza Strip. The Houthis have been attacking commercial ships transiting the Red Sea in solidarity with Palestinians in Gaza, and have said they will continue until Israel withdraws. U.S. analysts have been rushing to catch up and catalog more potential Houthi targets every day, the officials said.

Thursday night's air and naval barrage illustrated this approach, military officials said. The first wave of U.S.-led strikes hit 60 preplanned targets in 16 locations with more than 100 precision-guided bombs and missiles. About 30 to 60 minutes after that, a second wave of strikes was carried out against

12 more targets that analysts had identified as posing threats to aircraft and ships.

Hitting pop-up targets on short notice, a practice the military calls dynamic targeting, would likely be an important part of any additional strikes that President Biden might order, one of the U.S. officials said.

A senior Defense Department official said on Saturday that a U.S. Tomahawk cruise missile strike on a radar facility in Yemen on Friday was a "reattack" of a target originally hit in Thursday's barrage that had not been adequately degraded or destroyed.

Other U.S. military officials said that as analysts review the damage from Thursday night's airstrikes, there may be additional reattacks.

Despite their fiery rhetoric and vows of retaliation, the Houthis' military response to Thursday night's attack so far has been muted: just a single anti-ship missile lobbed harmlessly into the Red Sea, far from any passing vessel, General Sims said on Friday.

But the general and the two U.S. officials on Saturday said they were bracing for the Houthis to lash out once they determined how much firepower they had left and settled on an attack plan.

One of the two U.S. officials said the Houthis appeared to be divided internally over how to respond.

"I would expect that they will attempt some sort of retaliation," General Sims said on Friday, adding that that would be a mistake. "We simply are not going to be messed with here."

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-0- Jan/14/2024 03:14 GMT

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Armed Forces: US-British Aggression Will Not Go Without Punishment



News - Yemen: The Yemeni Armed Forces have announced that the US-British aggression against Yemen will not go unpunished, affirming that they will not hesitate to target hostile threat sources on land and at sea.

The Armed Forces also emphasized the continuation of the Zionist navigation ban in the Red Sea and the Arabian Gulf.

"US-British enemy, as part of its support for the ongoing Israeli crimes in Gaza, launched a brutal aggression against Yemen with 73 airstrikes," the official spokesman for Yemeni Armed Forces, Yahya Sare'e said in a statement.

He clarified that the aggression targeted the capital Sana'a, the provinces of Hodeidah, Taiz, Hajjah, and Sa'adah. "The airstrikes resulted in the martyrdom of five and the injury of six others."

Sare'e affirmed that the US and UK bear full responsibility for their criminal aggression against the Yemeni people. He affirm that this aggression will not go unanswered and without punishment.

He emphasized that the Yemeni Armed Forces will not hesitate to target threat sources **and all hostile targets on land and at sea**, in defense of Yemen, its sovereignty, and independence.

He stressed that this brutal aggression will not deter Yemen from its supportive and supportive stance towards the plight of the Palestinian people.

The Yemeni Armed Forces affirm their continued prevention of Israeli ships or any ships heading to the occupied ports of Palestine from navigating in the Arabian Gulf and the Red Sea.

The capital Sana'a, several provinces were subjected on Friday to US-British aggression through a series of airstrikes.

Deputy Foreign Minister Hussein Al-Azzi unequivocally stated that the US and UK must be prepared to face severe repercussions and bear full responsibility for their blatant aggression against Yemen.

Yesterday, Sayyed Abdulmalik emphasized that no potential American aggression will go unanswered, and the Yemeni people will not hesitate to do whatever is necessary to confront American aggression.

He emphasized that the response to any American aggression will not be limited to the scale of the recent operation, which involved over 24 drones and several missiles. It will be more significant than that.

"The American and British position of protecting ships affiliated with Israel, allowing the Israelis to continue their crimes without disturbance, will not deter us," Sayyed Abdulmalik said. "The Yemeni position of preventing ships affiliated with Israel from crossing the Red Sea and targeting them is an effective and influential stance."

He added that the Yemeni position at sea has caused significant economic losses to the Zionist enemy and has extended its impact to those who stand with and support them. He pointed out that those who belittled the Yemeni position and tried to mock it turned to exaggeration after the American aggression took place.

He also affirmed that the Yemeni people are not afraid of America, and their stance is not limited by the need to avoid angering America. They do not shy away from the battlefield and confronting any enemy, regardless of their capabilities. He noted that the American attack on the Naval Forces was evidence of the impact of Yemen's stance on the Zionist enemy.

about 2 hours

who are we

This page is the English version of Almasirah Media Network website and it focuses on delivering all leading News and developments in Yemen, the Middle East and the world. In the era of misinformation imposed by the main stream media in the Middle East and abroad, Almasirah Media Network strives towards promoting knowledge, principle values and justice, among all societies and cultures in the world



Revolution leader calls for exit of millions supervisors in Al-Sabeen Square & provinces in marches of "Promised conquest & holy jihad"

Revolution leader calls for exit of millions supervisors in Al-Sabeen Square & provinces in marches of "Promised conquest & holy jihad"

[11/January/2024]

SANA'A Jan [11. 2024](#) (Saba) - The revolution leader of the , Mr. Abdul-Malik Badr al-Din al-Houthi, called for the honorable exit of millions in Sabaeen Square in the capital, Sana'a, and the squares of the provinces in the "Promised Conquest and Holy Jihad" marches.

In his speech on Thursday on the occasion of Friday of Rajab, the Leader of the Revolution stressed that going out in demonstrations expresses faith, is part of jihad for the sake of God, and is a great stance that is important according to the standard of faith.

He pointed out that the nation faces a great test in this era, **challenges and dangers from its enemies, at the forefront of which is the Jewish Zionist lobby, which is the main enemy of the Islamic nation**, and this hostility is evident in what the Zionists do against the oppressed

Muslim people of Palestine. Pointing out that targeting Al-Aqsa Mosque comes in the context of hostility to the Islamic religion and the nation and all Jewish practices in its courtyards of hatred and aggression.

Comprehensive action:

The Leader of the Revolution affirmed that the Yemeni people took all possible action, comprehensively, with demonstrations and marches that are unparalleled in any other country in the world, and with the military stance of targeting the enemy with missiles and drones, and in preventing ships linked to the Zionist entity from crossing the Red Sea, the Arabian Sea, and Bab al-Mandab, **and targeting them at any level the Yemeni people can reach it with their capabilities and means and will not hesitate to act on its basis.**

He added, "Our ceiling as a Yemeni people is high within the framework of this great and sacred stance in which we take a leap of faith, and our people are moving at all levels with broad military mobilization activities that have included most of the governorates, and those joining it have become thousands, this is a very important path, activities at the level of movement in various events, donating money, and media activities are moving at all levels in every possible way and on an ongoing basis." Stressing that the greatest scourge on the nation, especially in Arab countries, is boredom. They react at the beginning of events and then become tamed and slandered.

The leader of the revolution pointed out that the Yemeni people came out in a very large way in Al-Sabeen Square and the governorates, and their interaction increased after the American crime in the Red Sea, stressing the importance of continuing as it expresses the firmness of the emotional state and the alertness of conscience.

He stated that the American insists on the continuation of the crime and massacre, for which he provided missiles, bombs, and money and supervised its perpetration, and provided the Zionist enemy with protection at the regional and international levels... indicating that the American expresses and announces with all insolence that he opposes the ceasefire and embraces the Zionist crime against the oppressed Palestinian people.

Expansion of the boycott circle :

Mr. Abdulmalik Badr al-Din al-Houthi pointed out that the American, British, and Israeli are the arms of Jewish Zionism in the world. He wondered, "Doesn't this insistence on the Israeli side, the American side, and the British side provoke us to continue killing children and women?!"

He said, "We as a Muslim nation have a responsibility to take action and not to get bored and to escalate our position. The scope of the boycott of American and Israeli goods in the Gulf countries must expand, and I address this call to all peoples in the Gulf to boycott American and Israeli goods."

He added, "I appeal to the Egyptian people and remind them of their moral, Islamic and humanitarian responsibility to boycott American and Israeli goods."

The leader of the revolution called on the people of the nation to increasingly express their voice in support of the Palestinian people and their indignation at the crimes of the Americans, the Israelis and the British, and this is the least they can do. He said, "Listen to the calls of children and women, open your hearts to them, deal with them with your conscience, and feel your responsibility."

He stressed that the escalation of the Israeli enemy in Lebanon increases the resolve and determination of our brothers in Hezbollah, their steadfastness, their escalation, and their stance of faith... indicating that the position of the Iraqi people in the Popular Mobilization Forces and the Mujahideen of the Iraqi people is increasing.

He also called on the people of the nation to be active, to regain the momentum of demonstrations and marches, and to be in a state of continuous mobilization.

Faith-based position :

The leader of the revolution said, "We in Yemen will not hesitate, God willing, to do everything we can and we will confront the American aggression. Any American aggression will never remain without a response, and the response will not be at the level of the operation that was recently carried out in targeting the American at sea with more than 24 aircraft and a number of missiles, the response is greater than that."

He added, "The American and British position will not stop us from protecting ships linked to Israel, so that the Israelis will continue their crimes without disturbance. The Yemeni position in preventing ships linked to Israel from crossing the Red Sea and targeting them is a very effective and influential position, the Zionist enemy inflicted great losses on its economy, and its effects extend to those who stand with it and support it."

He pointed out that those who belittled the Yemeni position and tried to mock it, after its influence became clear, turned to exaggeration when the American attack occurred.

The Leader of the Revolution affirmed that the Yemeni people are not among those who fear America, nor are they among those whose stance is so extreme that it does not anger America... Pointing out that the American attack on the naval forces is evidence of the influence of Yemen's position on the Zionist enemy, and therefore it is very disturbing to the Zionist and American enemy accordingly and annoying for the British.

He pointed out that what matters to the American who is involving himself more and more in the service of Zionism is to implicate others with him, and he is making every effort with the British to implicate other countries with him in the confrontation with the Yemeni people.

He added, "There is no problem for the Europeans, China, and the whole world to pass through the Red Sea. The only and exclusive target are ships linked to Israel, but whoever wants to get involved and attack our people and target our naval forces and army is actually risking his navigation and commercial ships, and risks at the military level by entering into a confrontation that will pay the price." Stressing that the Yemeni people do not evade the field of confrontation and with any enemy, regardless of their capabilities.

The leader of the revolution advised all Asian and European countries in the East and West and all countries not to get America involved. He said, "Let it get involved and watch it, and let Britain get involved with it."

He added, "Our soul is long and our people have the ability to endure and remain steadfast in their positions in large and long confrontations, and the loser is the one who implicates himself in attacks on our people in the service of Israel and the continuation of crimes against the Palestinian people."

The leader of the revolution also advised all Arab and Islamic countries not to partner with the Americans in an effort to protect Israeli ships...pointing out that the biggest criminal in the world is the Israeli and whoever serves him to continue his crimes against the Palestinian people. It is not appropriate for any Arab country to serve Israel and stand with the Zionist enemy to continue its crimes in Gaza.

He stated that what happened from the Bahraini regime does not represent the rebellious, dear and oppressed people of Bahrain, indicating that the Al Khalifa in Bahrain are slaves of the Zionists and involved in corruption and crimes that subjected them to the Zionist Jews, while the position of the people of Bahrain is an honorable and great position towards the Palestinian people.

He publicly expressed the hope that the rest of the Arab and Islamic countries would never get involved with the

Americans, the Israelis and the British.

Direct confrontation:

The leader of the revolution said, "Thank God, we are at ease when there is a direct confrontation with the Americans and the Israelis, and no matter how many martyrs we offer in the direct confrontation with the Americans and the Israelis, this will not affect us or weaken our position."

He added, "We offered thousands of martyrs as we confronted America's agents, and direct confrontation with the Americans, the British, and the Israelis is dearer to us. We are ready to do what is necessary and we will fight with all boldness because we rely on God in our stance toward the aggression against the Palestinian people."

He stressed that the martyrs from the naval forces in the battle of the Promised Conquest, the Holy Jihad, and on the road to Jerusalem won a great victory to obtain martyrdom in the direct battle and during a direct American attack. He said, "We are more determined to continue the path and target ships linked to Israel, and we will not back down from that, and our position is faith-based."

The leader of the revolution called on the Yemeni people to continue all mobilization activities, combat training, demonstrations, marches, and donating money, despite the difficult circumstances, and within the framework of media activity and the situation.

He also called on the negligent members of the Islamic nation to take action...and said, "Isn't it time for you to take a stand?!"

He said, "Our dear people will go out tomorrow, God willing, in an honorable and multi-million-man protest, without lethargy or boredom, in Al-Sabeen Square and in the other governorates."

The leader of the revolution added, "I hope that you, with your honorable positions and values, will not be like those who are affected by boredom and apathy and are unable even to attend a demonstration or march."

Historical station:

Mr. Abdul Malik Badr al-Din al-Houthi pointed out that Friday of Rajab is one of the most important, holiest, highest, and greatest historical stations for the Yemeni people in their faith affiliation and entry into Islam.

He said, "On the Friday of Rajab, a very large number of the Yemeni people converted to Islam after the Commander of the Faithful (Amir Al-Mu'minin), Ali bin Abi Talib, read to them the message of the Messenger of God, may God's prayers and peace be upon him and his family, in a large meeting in Sana'a calling on them to Islam. They converted to Islam voluntarily, and Islam spread and spread to many regions, and that day was one of the most important historical milestones for our people."

The Leader of the Revolution extended his congratulations and blessings to the Yemeni people on this occasion because it is a very important milestone and a great and great blessing, honor and great favor from God and divine success in belonging to Islam.

He pointed out that celebrating this blessing is an expression of gratitude to God Almighty, an acknowledgment of the great blessing, and pride in one of the brightest pages in the history of the Yemeni people.

He explained that one of the most important things related to this occasion is working to consolidate and strengthen the identity and faith affiliation of the Yemeni people through cultural, pedagogical and awareness-raising activities, as well as raising, protecting and preserving the emerging generation, which targets them in their faith affiliation.

He added, "When we talk about this occasion that brings us to this important stage in our people's affiliation to Islam, it is important that we understand the characteristics of this faith affiliation to the point that the Messenger, may God bless him and his family and grant them peace, said (Faith is Yemeni and wisdom is Yemeni). This is a great and very important expression that indicates the deep-rooted affiliation to our people and their firmness of faith."

E.M

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Maersk chief warns Red Sea shipping disruption may last for months

Vincent Clerc says container ship attacks by Houthis could have 'significant consequences' for global growth

Vincent Clerc says attacks could have wide-ranging consequences 'not only for the industry but for end consumers, product availability, the global economy as a whole' © Bloomberg

Richard Milne, Nordic and Baltic Correspondent 2 HOURS AGO

Roula Khalaf, Editor of the FT, selects her favourite stories in this weekly newsletter.

The boss of shipping giant AP Møller-Maersk has warned it could take months to reopen the crucial Red Sea trading route, risking an economic and inflationary hit to the global economy, companies and consumers.

Vincent Clerc, Maersk's chief executive, told the Financial Times on Thursday that the closure of the Red Sea to most container shipping after a series of attacks from Yemen's Houthi militants was "brutal and dramatic". He added there were "no winners" as a result of the situation, which has forced vessels to take long and costly detours around South Africa.

"It's unclear to us if we are talking about re-establishing safe passage into the Red Sea in a matter of days, weeks or months . . . It could potentially have quite significant consequences on global growth," he said.

Maersk is a bellwether of global trade, carrying about a fifth of ocean freight. Clerc urged the international community — led by the US — to do more to allow the Red Sea to reopen for ships following a recent escalation of attacks in the region.

In an indication that threats have also spread to the Gulf, an oil tanker off the coast of Oman was seized on Thursday by what UK maritime authorities said were people in black military-style uniforms.

While no one has yet claimed responsibility for the incident, Tanker Trackers, a private maritime intelligence service, suggested it was likely to be Iran.

A Maersk vessel was attacked in mid-December, causing the Danish group to suspend journeys through the Red Sea, a crucial link between Asia and Europe. The group restarted trips a few days later after a US-led military coalition tried to create safe passage, but it suffered a further attack at the end of December. Last week, Maersk said it would divert ships from the Red Sea around Africa "for the foreseeable future".

Diverting container ships via the Cape of Good Hope adds about 13,000km in distance for an Asia-Europe round trip, and hundreds of dollars per container, Clerc said.

"At this time when inflation is a big issue, it's putting inflationary pressure on our costs, on our customers, and ultimately on consumers in Europe and the US," he added. "In the short run, it could cause significant disruptions at the end of January, February and into March."

Maersk's fuel bill will be 50 per cent higher as a result of ships taking the longer route. If unresolved, ships will soon be out of position, threatening logistics and global supply chains, Clerc said.

"We are urging the international community to mobilise and do what it needs to do to reopen the [Bab-el-Mandeb] strait. It is one of the main arteries of the global economy, and it is clogged right now.

“It could have wider ranging consequences not only for the industry but for end consumers, product availability, the global economy as a whole,” he added.

Maersk’s share price has risen by a quarter in the past month as container freight rates have shot up.

Asked how it felt to be making more money from a situation that was hurting his customers and the global economy, Clerc replied: “Let me be completely unambiguous: our goal is to establish safe passage and go back to a normal trading pattern. That is what we are deploying all our assets in doing. While we are doing this, we have to sail around the Cape of Good Hope and there are consequences of this.”

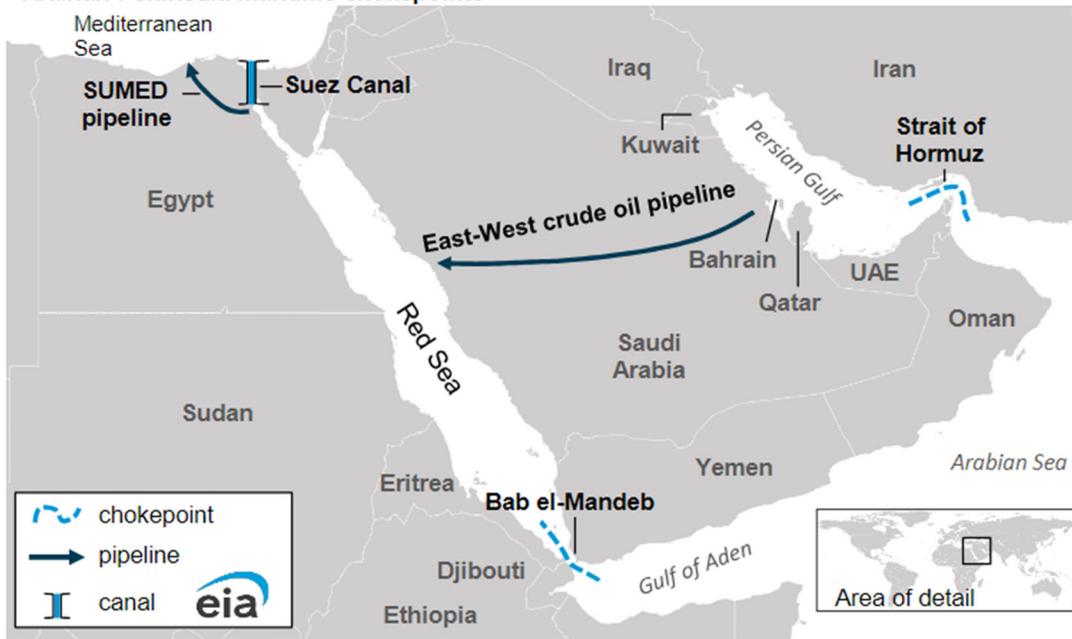
He added that Maersk had little visibility over the security situation around the Red Sea as it was “morphing” all the time as well as being linked to the Israeli-Palestinian conflict.

“The modus operandi evolves. The type of weapon evolves. The geographical range expands. There are a lot of things for us that make the risk levels hard to assess. So we need to be prudent,” Clerc said.

DECEMBER 4, 2023

Red Sea chokepoints are critical for international oil and natural gas flows

Arabian Peninsula maritime chokepoints



Data source: U.S. Energy Information Administration

The Suez Canal, the SUMED pipeline, and the Bab el-Mandeb Strait are strategic routes for Persian Gulf oil and natural gas shipments to Europe and North America. Total oil shipments via these routes accounted for about 12% of total seaborne-traded oil in the first half of 2023, and liquefied natural gas (LNG) shipments accounted for about 8% of worldwide LNG trade.

The Suez Canal and SUMED pipeline are located in Egypt and connect the Red Sea with the Mediterranean Sea. The SUMED pipeline transports crude oil north through Egypt and has a capacity of 2.5 million barrels per day. The Bab el-Mandeb Strait is between the Horn of Africa and the Middle East, connecting the Red Sea to the Gulf of Aden and Arabian Sea. Most exports of petroleum and natural gas from the Persian Gulf to Europe and North America pass through multiple [chokepoints](#), including the Suez Canal or the SUMED pipeline and both the Bab el-Mandeb and the [Strait of Hormuz](#).

Volume of crude oil, condensate, and petroleum products transported through the Suez Canal, SUMED pipeline, and Bab el-Mandeb Strait (2018–1H23)

million barrels per day



	2018	2019	2020	2021	2022	1H23
Total oil flows through Suez Canal and SUMED pipeline	6.4	6.2	5.3	5.1	7.2	9.2
crude oil and condensate	3.4	3.1	2.6	2.2	3.6	4.9
petroleum products	3.0	3.1	2.6	2.9	3.6	4.3
LNG flows through Suez Canal (billion cubic feet per day)	3.3	4.1	3.7	4.5	4.5	4.1
Total oil flows through Bab el-Mandeb Strait	6.1	5.9	5.0	4.9	7.1	8.8
crude oil and condensate	3.0	2.7	2.2	1.9	3.3	4.5
petroleum products	3.1	3.2	2.8	3.1	3.8	4.4
LNG flows through Bab el-Mandeb Strait (billion cubic feet per day)	3.1	3.9	3.7	4.5	4.5	4.1

Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking

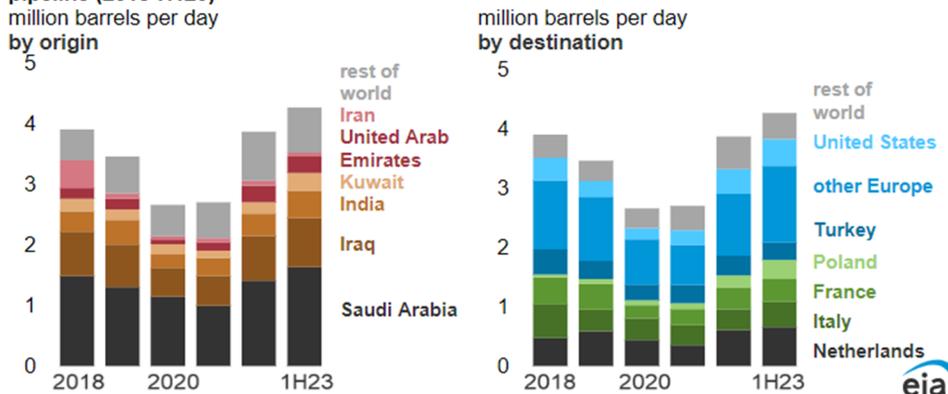
Note: 1 LNG=liquefied natural gas. 1H23=first half of 2023

Oil shipments

Northbound oil flows toward Europe via the Suez Canal and SUMED pipeline fell between 2018 and 2020. Renewed U.S. sanctions on

Iran reduced all exports from Iran, including those through the Suez Canal. In addition, less crude oil and oil products from Middle East producers moved through the Suez Canal because Europe imported less oil from the Middle East and more from the United States. The COVID-19 pandemic further reduced flows through the Suez Canal because of slowing global oil demand. In the first half of 2023, northbound crude oil flowing through the Suez Canal and SUMED pipeline had increased by more than 60% from 2020, as demand in Europe and the United States rose from pandemic-induced lows. Also, Western sanctions on Russia's oil beginning in early 2022 shifted global trade patterns, leading Europe to import more oil from the Middle East via the Suez Canal and SUMED pipeline and less from Russia.

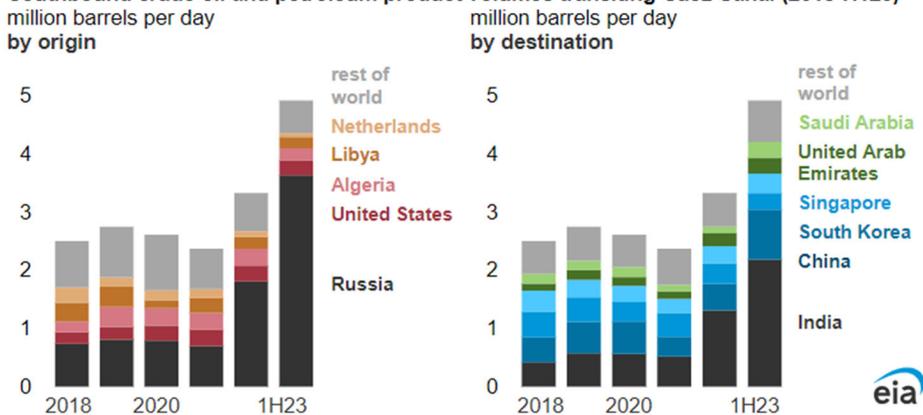
Northbound crude oil and petroleum product volumes transiting Suez Canal and SUMED pipeline (2018-H123)



Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking
 Note: 1H23=first half of 2023.

Southbound shipments through the Suez Canal rose significantly between 2021 and 2023, largely because of Western sanctions on Russia's oil exports. Oil exports from Russia accounted for 74% of Suez southbound oil traffic in the first half of 2023, up from 30% in 2021. Most of those export volumes were destined for India and China, which imported mostly crude oil from Russia. The Middle East, primarily [Saudi Arabia](#) and the [United Arab Emirates](#), increased imports of refined oil products from Russia in 2022 and the first half of 2023 in order to generate electric power or to store or re-export.

Southbound crude oil and petroleum product volumes transiting Suez Canal (2018-H123)

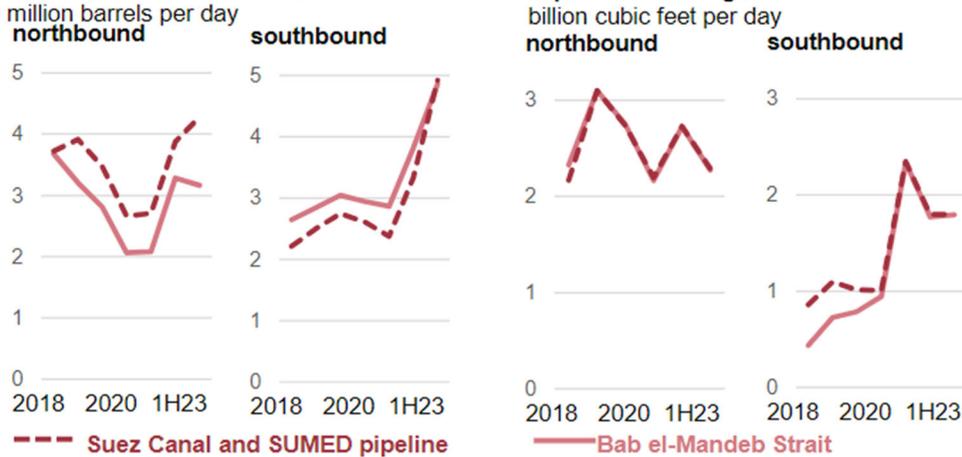


Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking

LNG shipments

LNG flows through the Suez Canal in both directions rose to a combined peak in 2021 and 2022 of 4.5 billion cubic feet per day (Bcf/d) before total flows declined in the first half of 2023 to 4.1 Bcf/d. Southbound LNG flows more than doubled from 2020 to 2021, mainly driven by [growing exports from the United States](#) and Egypt heading to Asia. In 2022 and the first half of 2023, southbound LNG volumes via the Suez Canal declined as U.S. and Egyptian LNG exports both favored European destinations over Asian markets, supplanting some of the natural gas exports that Russia historically sent to Europe. Most of the variation in northbound volumes reflects changes in Qatar's exports to Europe (via the Suez Canal) compared with Asia. Qatar also sent more LNG to Europe in 2022 to replace some volumes from Russia, increasing northbound flows.

**Flows through the Suez Canal, SUMED pipeline, and the Bab el-Mandeb Strait
crude oil, condensate, and petroleum products liquefied natural gas**



Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking
 Note: 1H23=first half of 2023.

Data source: U.S. Energy Information

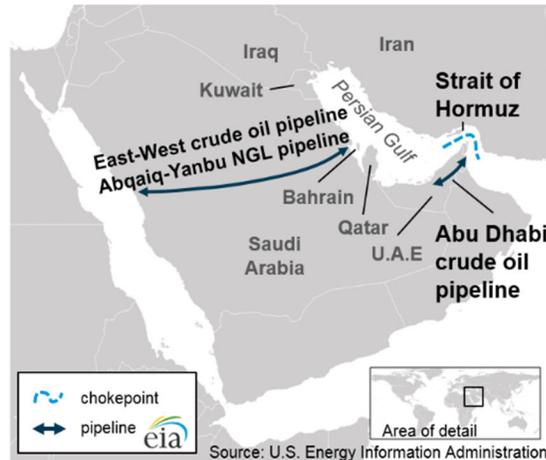
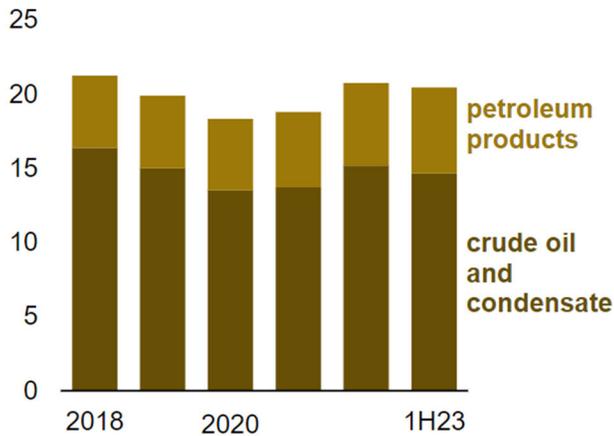
Although oil flow trends through the Bab al-Mandeb Strait are similar to those of the Suez Canal, more oil exits the Red Sea (northbound via the Suez Canal and southbound via the Bab el-Mandeb Strait) than enters the Red Sea through these chokepoints. Saudi Arabia transports some crude oil from the Persian Gulf via pipeline to the Red Sea for export mostly to Europe. LNG flows through the Bab el-Mandeb Strait have matched those in the Suez Canal over the last few years because the few LNG import terminals in the Red Sea have been used less.

Principal contributors: Candace Dunn, Justine Barden

NOVEMBER 21, 2023

The Strait of Hormuz is the world's most important oil transit chokepoint

Annual volumes of crude oil, condensate and petroleum products transported through the Strait of Hormuz (2018–1H23)
million barrels per day



Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking and FACTS Global Energy
Note: 1H23=first half of 2023

The Strait of Hormuz, located between Oman and Iran, connects the Persian Gulf with the Gulf of Oman and the Arabian Sea. The Strait of Hormuz is the world's most important oil chokepoint because large volumes of oil flow through the strait. In 2022, its oil flow averaged 21 million barrels per day (b/d), or the equivalent of about 21% of global petroleum liquids consumption. In the first half of 2023, total oil flows through the Strait of Hormuz remained relatively flat compared with 2022 because increased flows of oil products partially offset declines in crude oil and condensate.

Chokepoints are narrow channels along widely used global sea routes that are critical to global energy security. The inability of oil to transit a major chokepoint, even temporarily, can create substantial supply delays and raise shipping costs, increasing world energy prices. Although most chokepoints can be circumvented by using other routes, which often add significantly to transit time, some chokepoints have no practical alternatives.

Between 2020 and 2022, volumes of crude oil, condensate, and petroleum products transiting the Strait of Hormuz rose by 2.4 million b/d as oil demand recovered after the economic downturn from the COVID-19 pandemic. In the first half of 2023, shipments of crude oil and condensates dropped because OPEC+ members implemented crude oil production cuts starting in November 2022. Flows through the Strait of Hormuz in 2022 and the first half of 2023 made up more than one-quarter of total global seaborne traded oil. In addition, around one-fifth of global liquefied natural gas trade also transited the Strait of Hormuz in 2022.

Volume of crude oil, condensate, and petroleum products transported through the Strait of Hormuz (2018–1H23)
million barrels per day

	2018	2019	2020	2021	2022	1H23
Total oil flows through Strait of Hormuz	21.3	19.9	18.3	18.8	20.8	20.5
Crude oil and condensate	16.4	15.0	13.5	13.7	15.2	14.7
Petroleum products	4.9	4.9	4.8	5.1	5.6	5.8
World maritime oil trade	77.4	77.1	71.9	73.2	75.2	76.3
World total petroleum and other liquids consumption	100.1	100.9	91.6	97.1	99.6	100.3
LNG flows through Strait of Hormuz (billion cubic feet per day)	10.3	10.6	10.4	10.6	10.9	10.8

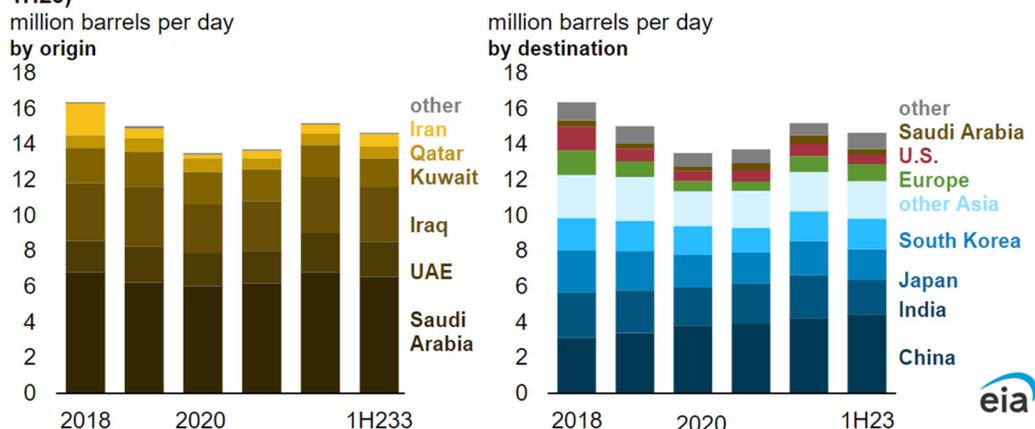
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, and U.S. Energy Information Administration analysis based on Vortexa tanker tracking and FACTS Global Energy
 Note: World maritime oil trade excludes intra-country volumes except those volumes that transit the Strait of Hormuz.
 LNG=liquefied natural gas. 1H23=first half of 2023.

Only Saudi Arabia and the United Arab Emirates (UAE) have operating pipelines that can circumvent the Strait of Hormuz. Saudi Aramco operates the 5-million-b/d East-West crude oil pipeline and temporarily expanded the pipeline’s capacity to 7 million b/d in 2019 when it converted some natural gas liquids pipelines to accept crude oil. The UAE links its onshore oil fields to the Fujairah export terminal on the Gulf of Oman with a 1.5 million b/d pipeline.

Iran inaugurated the Goreh-Jask pipeline and the Jask export terminal on the Gulf of Oman with a single export cargo in July 2021. The pipeline’s capacity was 0.3 million b/d at that time, although Iran has not used the pipeline since then. We estimate that around 3.5 million b/d of effective unused capacity from these pipelines could be available to bypass the strait in the event of a supply disruption. Based on tanker tracking data published by Vortexa, Saudi Arabia moves more crude oil and condensate through the Strait of Hormuz than any other country, most of which is exported to other countries. Around 0.5 million b/d transited the strait in 2022 from Saudi ports in the Persian Gulf to Saudi ports in the Red Sea.

We estimate that 82% of the crude oil and condensate that moved through the Strait of Hormuz went to Asian markets in 2022. China, India, Japan, and South Korea were the top destinations for crude oil moving through the Strait of Hormuz to Asia, accounting for 67% of all Hormuz crude oil and condensate flows in 2022 and the first half of 2023.

Annual volumes (crude oil and condensate) transported through the Strait of Hormuz (2018–1H23)



Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking data
 Note: 1H23=first half of 2023.

In 2022, the United States imported about 0.7 million b/d of crude oil and condensate from Persian Gulf countries through the Strait of Hormuz, accounting for about 11% of U.S. crude oil and condensate imports and 3% of U.S. petroleum liquids consumption. U.S. crude oil imports from countries in the Persian Gulf have fallen by half since 2018 as domestic production has increased.

Principal contributors: Candace Dunn, Justine Barden

Iran's oil output to reach 3.5 mln bpd by late September: NIOC chief

Wednesday, 09 August 2023 6:24 PM [Last Update: Wednesday, 09 August 2023 6:24 PM]



CEO of Iran's state-run NIOC says oil output in the country will reach 3.5 million bpd in late September.

Iran will reach a milestone oil production figure of 3.5 million barrels per day (bpd) in late September, according to the CEO of state oil company NIOC, despite sanctions imposed on the country by the US.

Mohsen Khojasteh Mehr said on Wednesday that Iran's oil output will increase by 150,000 bpd within the next week and by another 100,000 bpd by the end of the month to September 22 to reach a total of 3.5 million bpd.

The figure would be a major increase from 2.2 million bpd of oil production reported in August 2021 when the current administrative government led by President Raisi took office, said Khojasteh Mehr.

He said the growth in oil output will entirely serve Iran's plans to increase its oil exports.

The comments, which came in a meeting with reporters at the headquarters of the National Iranian Oil Company, is the latest sign that Iran is pumping increased amounts of oil to the international markets despite continued pressure of the US sanctions.

Reports earlier this year had indicated that Iran's nominal oil production capacity had been restored to levels above 3.8 million bpd for a first time since 2018 when Washington imposed its sanctions on the country.

However, reaching an actual output of 3.5 million bpd shows Iran is effectively nearing export levels seen before the sanctions when the country used to sell 2.2 million bpd of oil to international customers.

Central Bank of Iran Governor Mohammad Reza Farzin also said on Wednesday that Iran's oil exports had risen by 41% year on year in the calendar month to late July to reach a record high in five years.

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Jan 12, 2024 11:19:45

OIL DEMAND MONITOR: Growth Persists; Non-OPEC+ Supply Rises (1)

Banks cut oil price forecasts as they focus on supply gains
Views vary on demand trajectory; geopolitical tensions remain

By John Deane

(Bloomberg) -- Oil demand growth looks set to continue this year, though potentially at a slower pace, while ample flows from non-OPEC+ countries loosen balances and keep a lid on prices.

Many analysts see surging supplies from producers beyond the OPEC+ alliance – led by US shale drillers – being enough to satisfy growth in global demand. That appetite for oil is likely to be restrained this year as the post-pandemic rebound loses steam.

“There’s more oil available from more sources than there has been for a very long time,” Mike Muller, head of Asia at trading giant Vitol Group, said at a conference this week. “We have oil coming from everywhere.”

In the round, demand looks healthy enough. Global liquid fuels consumption should grow by 1.4 million barrels a day this year and 1.2 million in 2025, the US Energy Information Administration said in its monthly market report on Tuesday. While below the 1.9 million barrels a day of growth seen last year, that would be consistent with the 1.2% average annual gains over the 20 years from 2004–23. Usage will likely hit a new record of more than 103.5 million barrels a day in 2025.

Still, the agency also highlighted how growing supplies from producers outside the OPEC+ alliance are gradually loosening global balances. It raised its estimate for the US’s own crude production, which is now seen at a new record above 13 million barrels a day in 2024.

Traders will scrutinize carefully the monthly market reports of the Vienna-based Organization of Petroleum Exporting Countries and the Paris-based International Energy Agency, to be published on Wednesday and Thursday next week, respectively, for further clues on the trajectory for supply and demand.

Read More: A (Very) Early Look at the Oil Market In 2025: Javier Blas



Typically, there’s a diversity of views among market analysts, with some sharply dissenting views on the outlook for demand.

In a report earlier this week, Bank of America Corp. cut its 2024 price forecast for Brent, the global crude benchmark, by \$10 a barrel.

“You have had a lot of supply, and demand is decelerating,” Francisco Blanch, the bank’s global head of commodities research, said in an interview with Bloomberg Television. “Across the world high interest rates are putting some pressure on the economy. That’s our kind of baseline for the year – slower demand growth.”



Source: Bloomberg

That came after Morgan Stanley last week cut forecasts for Brent this year, joining UBS Group AG in downgrading its price outlook, a few weeks after Goldman Sachs Group Inc. did the same. Barclays Plc also cut its 2024 Brent forecast this week.

In their Jan. 3 report, Morgan Stanley analysts Martijn Rats, Charlotte Firkins and Amy Gower said that growth in world oil demand is set to slow as post-Covid recovery tailwinds abate. They pegged 2024 demand growth at 1.2 million barrels a day, down from 2.2 million in 2023. They saw non-OPEC supply decelerating too, but less so, still growing by about 1.7 million barrels a day in 2024, partially driven by the US but also Brazil, Guyana, Canada and others.

In contrast, Standard Chartered Plc’s Paul Horsnell, in a Jan. 5 report, saw demand growth remaining “robust” at 1.54 million barrels a day in 2024 and 1.41 million next year, with non-OPEC supply growth falling behind demand gains in both years.

And in a note released this week, consultant Wood Mackenzie projected demand growing by almost 2 million barrels a day this year, with supplies lagging demand additions as a result of OPEC+ restraint.

“Much of the growth will be coming in the second half of the year,” said Alan Gelder, senior vice president of research at Wood Mackenzie. “This will be fuelled by improving economic growth and lower interest rates.”

Read More: [Commodities Veteran Jeff Currie Remains Bullish for This Year](#)

Demand-supply projections remain vulnerable to geopolitical twists, and in particular potential escalations in two major conflicts. The war between Hamas and Israel war rages on, with its spillover impact on shipping through the Red Sea, while the conflict in Ukraine-Russia will enter a third year shortly.

Oil is “being under-priced by at least \$10 a barrel” as current levels don’t reflect supportive fundamentals or the risks in the Middle East, Standard Chartered’s Horsnell said in another report this week. “We think none of the risk of a misstep that could widen the current conflict is priced in currently,” he cautioned.

Read More: [Oil’s Red Sea Pinch Point Could Get Tighter After US Airstrikes](#)

The Bloomberg oil demand monitor uses a range of high-frequency data to help identify emerging trends. Following are the latest indicators. The first two tables show fuel demand and road congestion, the next shows air travel globally and the last is refinery activity.

Demand Measure	Location	% vs 2023	% vs 2022	% vs 2021	% vs 2020	% vs 2019	% m / m	Freq	Latest Date	Latest Value	Source
Gasoline product supplied	US	+10	+5.3	+11	+2.4	-4.7	-6	w	Jan. 5	8.33m b/d	EIA
Distillates product supplied	US	-10	-8.5	-4.9	+1.7	+16	-9	w	Jan. 5	3.43m b/d	EIA
Jet fuel product supplied	US	+14	-0.5	+8.9	-0.9	-12	-15	w	Jan. 5	1.6m b/d	EIA
Total oil products	US	+11	-5.9	unch.	+1.2	-0.8	-7	w	Jan. 5	19.61m b/d	EIA

supplied									
Car use	UK	-1.1	+6.1 +55	-13	-9.4 m		Jan. 887	DfT	
Heavy goods vehicle use	UK	-3	-3,9 +1	-2	-6.7 m		Jan. 898	DfT	
All motor vehicle use index	UK	-1.1	+5,7 +46	-8	-8,9 m		Jan. 892	DfT	
Gasoline (petrol) avg sales per filling station	UK		+1,9 +9,8 +42	-28	-29 m		Week to Dec. 31	5,210 liters/d	BEIS
Diesel avg sales per station	UK		-5,7 -6 +6,7	-54	-48 m		Week to Dec. 31	4,762 liters/d	BEIS
Total road fuels sales per station	UK		-1,9 +1,7 +23	-43	-40 m		Week to Dec. 31	9,972 liters/d	BEIS
Diesel sales	India		-2,3		+1 m		December	7,605m tons	PPAC
Gasoline sales	India		+0,2		-4,4 m		December	2,99m tons	PPAC
Jet fuel sales	India		+9,3		+4,3 m		December	720k tons	PPAC
LPG sales	India		+2,3		+5,7 m		December	2,628m tons	PPAC
Total oil products	India		+2,6		+6,2 m		December	20,05m tons	PPAC
Naphtha	Germany		-7	-18	+9,7 m		October	804k tons	BAFA
Gasoline	Germany		+8,5	-3,5	+1,1 m		October	1,53m tons	BAFA
Diesel	Germany		+2,8	-13	+5,8 m		October	2,92m tons	BAFA
Heating oil	Germany		-8	-17	+43 m		October	1,03m tons	BAFA
LPG	Germany		-10	-33	-19 m		October	185k tons	BAFA
Jet fuel	Germany		-6	-5	+1,6 m		October	888k tons	BAFA
Total oil product sales	Germany		-0,2	-14	+8,8 m		October	7,7m tons	BAFA
Gasoline deliveries	Spain		+1,1		+7,2 m		December	551k m3	Exolum
Diesel (and heating oil) deliveries	Spain		-8,5		+3,2 m		December	2,324k m3	Exolum
Jet fuel deliveries	Spain		+18		+3,6 m		December	525k m3	Exolum
Total oil products deliveries	Spain		-3,9		+3,8 m		December	3,399k m3	Exolum
Road fuel sales	France		-4,5		-7,1 m		November	3,858m m3	UFIP
Gasoline sales	France		-0,2		m		November	n/a	UFIP
Road diesel sales	France		-6,1		m		November	n/a	UFIP
Jet fuel sales	France		+11	-4	-13 m		November	609k m3	UFIP
All petroleum products sales	France		-4		-10 m		November	4,348m tons	UFIP
All vehicles traffic	Italy		unch.		-2 m		December	n/a	Anas
Heavy vehicle traffic	Italy		-3		-16 m		December	n/a	Anas
Gasoline sales	Italy		-3,1	+19	-7,4 m		November	654k tons	Energy Ministry
Transport diesel sales	Italy		-5,4	+2,9	-4,1 m		November	1,93m tons	Energy Ministry
Diesel/gasoil sales	Italy		-3,1	+2,4	-3,9 m		November	2,22m tons	Energy Ministry
LPG sales	Italy		+2,8	-5,6	+8,1 m		November	254k tons	Energy Ministry
Jet fuel sales	Italy		+19	+1,5	-21 m		November	342k tons	Energy Ministry

Total oil product sales	Italy	-0.2	+0.1	-5.5 m	November	4,262m tons	Energy Ministry	
Gasoline consumption	Portugal	+9,5	+16	+38	+14	-5,6 m	November 93,900 tons	ENSE
Diesel consumption	Portugal	+1,1	-0,9	+7,1	-3,1	-6,4 m	November 398,107 tons	ENSE
Jet fuel consumption	Portugal	+9	+19	+228	+12	-22 m	November 125,263 tons	ENSE
% change in toll roads kms traveled	France	+1.1			-2.1	m	December n/a	Mundys
% change in toll roads kms traveled	Italy	+3			+1.8	m	December n/a	Mundys
% change in toll roads kms traveled	Spain	+4.6			-2.9	m	December n/a	Mundys
% change in toll roads kms traveled	Brazil	+11			+8,2	m	December n/a	Mundys
% change in toll roads kms traveled	Chile	-1.7			+5.5	m	December n/a	Mundys
% change in toll roads kms traveled	Mexico	-0.1			+13	m	December n/a	Mundys

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.

Note: Some month-on-month comparisons were likely affected by Christmas and New Year holidays.

Congestion:

Measure		Jan. 1	Dec. 25	Dec. 18	Dec. 11	Dec. 4	Nov. 27	Nov. 20	Nov. 13	Nov. 6	Oct. 30
Congestion US		56	84	102	99	100	76	100	94	95	97
Congestion UK		56	95	125	133	128	122	121	124	116	115
Congestion Germany		57	97	128	139	141	132	135	127	111	128
Congestion France		66	118	139	141	136	134	136	136	105	119
Congestion Italy		64	125	140	124	131	128	126	130	111	134
Congestion Spain		79	106	119	87	120	115	107	115	103	115
Congestion India		47	56	57	57	56	54	31	55	60	50
Congestion Taiwan		94	106	96	97	94	95	91	93	89	89
Congestion Australia		69	95	118	121	121	122	119	117	112	111
Congestion Brazil		33	60	77	81	79	82	69	82	67	77
Congestion S. Africa		92	108	114	123	118	120	117	114	129	119

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

Note: TomTom changed its methodology for calculating traffic delays with data for Feb. 20 and no longer publishes comparisons with pre-Covid levels. We have therefore switched to using figures calculated by BNEF, which show seven-day moving-average congestion indexed to average 2019 levels. Scope of indices has changed from tracking the largest cities only to tracking as many cities as possible for which data is available and grouping them under economy aggregates.

The congestion levels relative to 2019 averages have changed throughout the table from previous versions of this story. BNEF has revised the way it calculates annual average congestion for 2019 from the TomTom data to bring pre-pandemic traffic in early 2020 closer to the 2019 levels. For a more detailed explanation of the methodology change, please contact Wayne Tan at BNEF.

Note: Some recent data were likely affected by Christmas and New Year holidays.

Air Travel:

Measure	Location	vs 2023	vs 2022	vs 2021	vs 2020	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
changes shown as %												
All flights	Worldwide	+7,3	+14	+36	+3,9	+12	-5,3	+21 d		Jan. 8	183,659	Flightradar24
Commercial flights	Worldwide	+14	+32	+66	+4,3	+10	-0,9	+14 d		Jan. 8	117,671	Flightradar24
Air traffic (flights)	Europe					-3,2	-3,5	+15 d		Jan. 8	24,869	Eurocontrol
Airline passenger throughput (7-day avg)	US	+11	+41	+149	+11	+9	+10	-5 w		Jan. 7	2,34m	TSA

Air passenger traffic per month	China	+289	+128	+10	-7.7	-13	m	November	49m CAAC
Heathrow airport passengers	UK	+10	+100	+720	-1.7	-12	m	November	6.13m Heathrow
Rome % change in passengers carried	Italy	+28			+0.3		m	December	n/a Mundys

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

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

Refineries:

Measure	Location	vs 2023	vs 2022	vs 2021	vs 2019	m/m chg	Latest as of Date	Latest Value	Source
Changes are in ppt unless noted									
Crude intake	US	+13	+6.1%	+13%	-6%	+2.6%	Jan. 5	16.52m b/d	EIA
Utilization	US	+8.8	+4.5	+11	-3.1	+2.7	Jan. 5	92.9%	EIA
Utilization	US Gulf	+10	+4.8	+12	-3.2	+4.1	Jan. 5	94.5%	EIA
Utilization	US East	-0.8	+1.2	+21	+0.3	-3.3	Jan. 5	88.2%	EIA
Utilization	US Midwest	+10	+1.9	+7.7	-1.9	+1.6	Jan. 5	95.2%	EIA
Utilization (indep. refs)	Shandong, China	-0.6	-1.9	-11	-0.7	+2.9	Jan. 12	62.66%	Oilchem

Note: US refinery data is weekly. Changes are shown in percentages for the row on crude intake, while refinery utilization changes are shown in percentage points.

Previous versions/related stories:

Click here for prior versions of the OIL DEMAND MONITOR or run NI OILDEMON

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- Road Traffic Indicators: Global Post-Holiday Rebound
- Global Traffic Levels Surge at Start of the New Year: BNEF Chart
- Aviation Indicators Weekly: Small Step Back for Demand
- Asia, North America Lead Downtick in Jet Fuel Demand: BNEF Chart
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- Oil Product Demand in India Swells to Record as Economy Booms
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- Oil Demand Growth Stalls to Slowest in Nine Months: JPMorgan
- China's Oil-Products Demand Growth to Slow in 2024, Sinopec Says
- Oil Demand to Remain 'Relatively Robust,' ANZ Says (Video)
- Italy's Jet Fuel Sales Top Pre-Pandemic Level for First Time
- Portugal's ENSE Says Gasoline Consumption Rose 9.5% in November

(Updates with Exolum data for December in first table, Mundys data for December in first and third tables.)

--With assistance from Julian Lee, Bill Lehane, Prejula Prem, Grant Smith and Rachel Graham.

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This story was produced with the assistance of Bloomberg Automation.



Press Release No: 2

Date: 10 January 2024



Air Travel Reaches 99% of 2019 Levels as Recovery Continues in November



Geneva - The International Air Transport Association (IATA) released data for November 2023 air travel performance indicating that air travel demand topped 99% of 2019 levels.

Total traffic in November 2023 (measured in revenue passenger kilometers or RPKs) rose 29.7% compared to November 2022. Globally, traffic is now at 99.1% of November 2019 levels.

International traffic rose 26.4% versus November 2022. The Asia-Pacific region continued to report the strongest year-over-year results (+63.8%) with all regions showing improvement compared to the prior year. November 2023 international RPKs reached 94.5% of November 2019 levels.

Domestic traffic for November 2023 was up 34.8% compared to November 2022. Total November 2023 domestic traffic was 6.7% above the November 2019 level. Growth was particularly strong in China (+272%) as it recovered from the COVID travel restrictions that were still in place a year ago. US domestic travel, benefitting from strong Thanksgiving holidays demand, reached a new high, expanding +9.1% over November 2019.

"We are moving ever closer to surpassing the 2019 peak year for air travel. Economic headwinds are not deterring people from taking to the skies. International travel remains 5.5% below pre-pandemic levels but that gap is rapidly closing. And domestic markets have been above their pre-pandemic levels continuously since April," said Willie Walsh, IATA's Director General.

Air Passenger Market in Detail

NOVEMBER 2023 (% YEAR-ON-YEAR)	Total Market
WORLD SHARE ¹	100%
RPK	29.7%
ASK	28.6%
PLF(%-PT) ²	0.7%
PLF(LEVEL) ³	81.8%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Africa
WORLD SHARE ¹	2.1%
RPK	20.3%
ASK	27.1%

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YES, GOT IT

NOVEMBER 2023 (% YEAR-ON-YEAR)	Asia Pacific
WORLD SHARE1	22.1%
RPK	80.1%
ASK	71.7%
PLF(%-PT)2	3.8%
PLF(LEVEL)3	81.4%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Europe
WORLD SHARE1	30.8%
RPK	13.6%
ASK	13.5%
PLF(%-PT)2	0.1%
PLF(LEVEL)3	83.7%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Latin America
WORLD SHARE1	6.4%
RPK	12.0%
ASK	9.1%
PLF(%-PT)2	2.2%
PLF(LEVEL)3	84.4%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Middle East
WORLD SHARE1	9.8%
RPK	18.7%
ASK	18.4%
PLF(%-PT)2	0.2%
PLF(LEVEL)3	77.7%
NOVEMBER 2023 (% YEAR-ON-YEAR)	North America
WORLD SHARE1	28.8%
RPK	10.2%
ASK	11.3%
PLF(%-PT)2	-0.8%
PLF(LEVEL)3	82.7%

1) % of industry RPKs in 2022 2) Year-on-year change in load factor 3) Load Factor Level

International Passenger Markets

Asia-Pacific airlines had a 63.8% rise in November traffic compared to November 2022, which was the strongest year-over-year rate among the regions. Capacity

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North American carriers experienced a 14.3% traffic rise in November versus the 2022 period. Capacity increased 16.3%, and load factor fell 1.4 percentage points to 80.0%.

Latin American airlines' November traffic rose 20.0% compared to the same month in 2022. November capacity climbed 17.7% and load factor increased 1.7 percentage points to 84.9%, the highest of any region.

African airlines had a 22.1% rise in November RPKs versus a year ago. November 2023 capacity was up 29.6% and load factor fell 4.3 percentage points to 69.7%, the lowest among regions.

Domestic Passenger Markets

NOVEMBER 2023 (% YEAR-ON-YEAR)	Domestic
WORLD SHARE1	41.9%
RPK	34.8%
ASK	32.5%
PLF(%-PT)2	1.4%
PLF(LEVEL)3	82.4%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Domestic Australia
WORLD SHARE1	1.0%
RPK	13.2%
ASK	7.6%
PLF(%-PT)2	4.3%
PLF(LEVEL)3	85.3%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Domestic Brazil
WORLD SHARE1	1.5%
RPK	2.3%
ASK	-0.1%
PLF(%-PT)2	1.9%
PLF(LEVEL)3	82.7%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Domestic China P.R.
WORLD SHARE1	6.4%
RPK	272.0%
ASK	212.4%
PLF(%-PT)2	12.4%
PLF(LEVEL)3	77.4%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Domestic India
WORLD SHARE1	2.0%
RPK	10.9%
ASK	12.9%

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NOVEMBER 2023 (% YEAR-ON-YEAR)	Domestic Japan
WORLD SHARE1	1.2%
RPK	5.9%
ASK	0.4%
PLF(%-PT)2	4.2%
PLF(LEVEL)3	80.0%
NOVEMBER 2023 (% YEAR-ON-YEAR)	Domestic US
WORLD SHARE1	19.2%
RPK	8.9%
ASK	9.8%
PLF(%-PT)2	-0.7%
PLF(LEVEL)3	83.7%

1) % of industry RPKs in 2022 2) year-on-year change in load factor 3) Load Factor Level

Air Passenger Market Overview - November 2023

NOVEMBER 2023 (% CH VS SAME MONTH IN 2019)	Total Market
WORLD SHARE1	100.0%
RPK	-0.9%
ASK	-1.8%
PLF (%-PT)2	0.8%
PLF (LEVEL)3	81.8%
NOVEMBER 2023 (% CH VS SAME MONTH IN 2019)	International
WORLD SHARE1	58.1%
RPK	-5.5%
ASK	-6.8%
PLF (%-PT)2	1.1%
PLF (LEVEL)3	81.3%
NOVEMBER 2023 (% CH VS SAME MONTH IN 2019)	Domestic
WORLD SHARE1	41.9%
RPK	6.7%
ASK	6.4%
PLF (%-PT)2	0.2%
PLF (LEVEL)3	82.4%

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The Bottom Line

"Aviation's rapid recovery from COVID demonstrates just how important flying is to people and to businesses. In parallel to aviation's recovery, governments recognized the urgency of transitioning from jet fuel to Sustainable Aviation Fuel (SAF) for aviation's decarbonization. The Third Conference on Aviation Alternative Fuels (CAAF/3) in November saw governments agree that we should see 5% carbon savings by 2030 from SAF. This was followed up at COP28 in December where governments agreed that we need a broad transition from fossil fuels to avoid the worst effects of climate change. Airlines don't need convincing. They agreed to achieve net zero carbon emissions by 2050 and every drop of SAF ever made in that effort has been bought and used. There simply is not enough SAF being produced. So we look to 2024 to be the year when governments follow-up on their own declarations and finally deliver comprehensive policy measures to incentivize the rapid scaling-up of SAF production," said Walsh.

> [View the November Air Passenger Market Analysis \(pdf\)](#)

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Notes for Editors:

- IATA (International Air Transport Association) represents some 320 airlines comprising 83% of global air traffic.
- You can follow us at 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 42.1% of the total market in 2022. The six domestic markets in this report account for 31.4% of global RPKs.
- 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 by region of carriers for 2022 in terms of RPK are: Asia-Pacific 22.1%, Europe 30.8%, North America 28.8%, Middle East 9.8%, Latin America 6.4%, and Africa 2.1%.

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Press Release No: 1

Date: 9 January 2024



Air Cargo Demand Up 8.3% in November



Geneva - The International Air Transport Association (IATA) released data for November 2023 global air cargo markets indicating the strongest year-on-year growth in roughly two years. This is partly due to weakness in November 2022, but also reflects a fourth consecutive month of strengthening demand for air cargo.

Global demand for air cargo, measured in cargo tonne-kilometres (CTKs), increased by 8.3% compared to November 2022. For international operations, demand growth was 8.1%.

Capacity, measured in available cargo tonne-kilometres (ACTKs), was up 13.7% compared to November 2022 (+11.6% for international operations). Most of the capacity growth continues to be attributable to the increase in belly capacity as international passenger markets continue their post-COVID recovery.

Compared to November 2019 (pre-COVID-19), demand is down 2.5% while capacity is up 4.1%.

Some indicators to note include:

- Both the manufacturing output and new export order Purchasing Managers Indexes (PMIs) – two leading indicators of global air cargo demand—continued to hover just below the 50-mark in November with small positive movements indicating a deceleration of the economic slowdown.
- Global cross-border trade recorded growth for the third consecutive month in October, reversing its previous downward trend.
- Inflation in major advanced economies continued to soften in November as measured by the corresponding Consumer Price Index (CPI), centering around 3% year-on-year for the United States, Japan, as well as the EU, in November. In the meantime, China exhibited negative annual growth in its CPI for the second time in a row.
- Air cargo yields (including surcharges) continued their significant upward trend (+8.9% since October). Rising yields are in line with improving air cargo load factors over recent months. This could be tied in part to booming e-commerce deliveries from China to western markets.

“November air cargo demand was up 8.3% on 2022—the strongest year-on-year growth in almost two years. That is a doubling of October’s 3.8% increase and a fourth month of positive market development. It is shaping up to be an encouraging year-end for air cargo despite the significant economic concerns that were present throughout 2023 and continue on the horizon,” said Willie Walsh, IATA’s Director General.

Air Cargo Market in Detail

NOVEMBER 2023 (%YEAR-ON-YEAR)	Total Market
WORLD SHARE *1	100%
CTK	8.3%
ACTK	13.7%
CLF (%-PT) *2	-2.3%
CLF (LEVEL) *3	46.7%

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NOVEMBER 2023 (%YEAR-ON-YEAR)	Africa
WORLD SHARE *1	2.0%
CTK	3.9%
ACTK	14.0%
CLF (%-PT) *2	-4.1%
CLF (LEVEL) *3	42.1%
NOVEMBER 2023 (%YEAR-ON-YEAR)	Asia Pacific
WORLD SHARE *1	32.4%
CTK	13.8%
ACTK	29.6%
CLF (%-PT) *2	-6.6%
CLF (LEVEL) *3	47.9%
NOVEMBER 2023 (%YEAR-ON-YEAR)	Europe
WORLD SHARE *1	21.8%
CTK	6.7%
ACTK	6.5%
CLF (%-PT) *2	0.1%
CLF (LEVEL) *3	57.0%
NOVEMBER 2023 (%YEAR-ON-YEAR)	Latin America
WORLD SHARE *1	2.7%
CTK	4.2%
ACTK	7.7%
CLF (%-PT) *2	-1.2%
CLF (LEVEL) *3	36.3%
NOVEMBER 2023 (%YEAR-ON-YEAR)	Middle East
WORLD SHARE *1	13.0%
CTK	13.5%
ACTK	15.4%
CLF (%-PT) *2	-0.8%
CLF (LEVEL) *3	46.9%
NOVEMBER 2023 (%YEAR-ON-YEAR)	North America
WORLD SHARE *1	28.1%
CTK	1.8%

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(*1) % of industry CTks in 2022 (*2) Year-on-year change in load factor (*3) Load factor level

November Regional Performance (Total Market)

Asia-Pacific airlines saw their air cargo volumes increase by 13.8% in November 2023 compared to the same month in 2022. This performance was significantly above the previous month's growth of 7.6%. Available capacity for the region's airlines increased by 29.6% compared to November 2022 as more belly capacity came online with the removal of COVID-19 restrictions.

North American carriers had the weakest demand growth in November with a 1.8% increase (YoY) in cargo volumes. This was, nonetheless, a significant improvement in performance compared to October's -1.8% contraction. Capacity increased by 4.0% compared to November 2022.

European carriers saw their air cargo volumes increase by 6.7% in November compared to the same month in 2022. This was a stronger performance than in October (1.0%). Capacity increased 6.5% in November 2023 compared to 2022.

Middle Eastern carriers had the strongest performance in November 2023, with a 13.5% year-on-year increase in cargo volumes. This was similar to the significant improvement noted in the previous month's performance (+13.0%). Capacity increased 15.4% compared to November 2022.

Latin American carriers experienced a 4.2% increase in cargo volumes compared to November 2022, very similar to the 4.0% year-on-year increase recorded for October. Capacity in November was up 7.7% compared to the same month in 2022.

African airlines saw their air cargo volumes increase by 3.9% in November 2023, slightly improved compared to October's +2.9% growth performance. Capacity was 14.0% above November 2022 levels.

> [View November 2023 Air Cargo Market Analysis](#) (pdf)

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Notes for Editors:

- IATA (International Air Transport Association) represents some 320 airlines comprising 83% of global air traffic.
- You can follow us at twitter.com/iata for announcements, policy positions, and other useful industry information.
- * 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.
- 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 21.8%, North America 28.1%, Middle East 13.0%, Latin America 2.7%, and Africa 2.0%.

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

FORM 8-K

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

Date of Report (Date of earliest event reported): **January 11, 2024**

**HERTZ GLOBAL HOLDINGS, INC.
THE HERTZ CORPORATION**

(Exact name of registrant as specified in its charter)

Delaware
Delaware
(State or other jurisdiction of
incorporation)

001-37665
001-07541
(Commission File Number)

61-1770902
13-1938568
(I.R.S. Employer Identification No.)

8501 Williams Road
Estero, Florida 33928
239-301-7000

(Address, including Zip Code, and
telephone number, including area code,
of registrant's principal executive offices)

Not Applicable
Not Applicable

(Former name, former address and
former fiscal year, if changed since last report.)

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

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

	Title of Each Class		Trading Symbol(s)	Name of Each Exchange on which Registered
Hertz Global Holdings, Inc.	Common Stock	Par value \$0.01 per share	HTZ	The Nasdaq Stock Market LLC
Hertz Global Holdings, Inc.	Warrants to purchase Common Stock	Each exercisable for one share of Hertz Global Holdings, Inc. common stock at an exercise price of \$13.80 per share, subject to adjustment	HTZWW	The Nasdaq Stock Market LLC
The Hertz Corporation	None		None	None

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

Emerging growth company

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

Item 2.02 Results of Operations and Financial Condition

Hertz Global Holdings, Inc. (the "Company" or "Hertz") has made the strategic decision to sell approximately 20,000 electric vehicles ("EVs") from its U.S. fleet, or about one-third of the global EV fleet. These vehicle dispositions, which were initiated in December 2023 and are expected to take place in an orderly fashion over the course of 2024, will cover multiple makes and models. EVs held for sale will remain eligible for rental within the Company's fleet during the sales process. The Company expects to reinvest a portion of the proceeds from the sale of EVs into the purchase of internal combustion engine ("ICE") vehicles to meet customer demand.

The Company's decision to reduce its EV fleet will result in the recognition, during the fourth quarter of 2023, of approximately \$245 million of incremental net depreciation expense related to the sale. This non-cash charge represents the write down of the EVs' carrying values as of December 31, 2023 to their fair values, less related expenses associated with the disposition of the vehicles. This charge is in addition to the depreciation expense that the Company will report for the fourth quarter in the ordinary course with respect to the remainder of its fleet. Future depreciation expense on the specific vehicles held for sale is expected to be limited to impacts from changes in the vehicles' condition and general market factors. Any gain or loss associated with the ultimate disposition of any specific EV will be recognized in the period of sale. The Company does not expect this EV fleet reduction and the corresponding addition of ICE vehicles to have a material impact on its asset-backed securitization facilities, nor does it anticipate the need to make additional cash contributions to such facilities as a result of this strategic action.

The Company expects this action to better balance supply against expected demand of EVs. This will position the Company to eliminate a disproportionate number of lower margin rentals and reduce damage expense associated with EVs. The Company will continue to execute its strategy around EV mobility and offer customers a wide selection of vehicles. The Company continues to implement a series of initiatives that it anticipates will continue to improve the profitability of the remaining EV fleet. These initiatives include the expansion of EV charging infrastructure, growing relationships with EV manufacturers, particularly related to more affordable access to parts and labor, and continued implementation of policies and educational tools to help enhance the EV experience for customers. Going forward, the Company will continue to actively manage the total size of its EV fleet, as well as the allocation of EVs among customer segments, including leisure, corporate, government and rideshare.

It is expected that the planned reduction in the EV fleet and reinvestment in additional ICE vehicles will improve Adjusted Corporate EBITDA across 2024, as vehicles are rotated, and in 2025, by which time all of the vehicles included in this plan are expected to be sold. By year end 2025, it is expected that the aggregate two-year benefit to Adjusted Corporate EBITDA related to the sale will approximate the incremental net depreciation expense to be recognized in the fourth quarter of 2023. It is expected that this benefit to the Company's financial results will be derived from higher revenue per day and lower depreciation and operating expenses related to its remaining fleet. The Company further anticipates that incremental free cash flow generation related to this action will approximate \$250 million to \$300 million in the aggregate over 2024 and 2025.

The Company expects to report financial results for the fourth quarter ended December 31, 2023 on February 6, 2024. Consistent with expectations, the Company expects to report revenue for the fourth quarter of 2023 in the range of \$2.1 billion to \$2.2 billion, in line with historical seasonality relative to its third quarter. Adjusted Corporate EBITDA for the fourth quarter of 2023 will be negatively impacted by the incremental net depreciation expense associated with the EV sales plan, and further burdened by higher depreciation expense in the ordinary course as residual values for vehicles generally fell throughout the quarter greater than previously expected. While direct operating expenses per transaction day, excluding collision and damage, will be flat for the quarter and down for the year, expenses related to collision and damage, primarily associated with EVs, remained high in the quarter, thereby supporting the Company's decision to initiate the material reduction in the EV fleet. The Company expects to report a negative Adjusted Corporate EBITDA (excluding the impact of the non-cash charge related to the EV sales plan) for the fourth quarter in the range of (\$120 million) to (\$130 million).

The Company's estimated results for the fourth quarter ended December 31, 2023, are preliminary in nature and subject to change as results for such period are finalized. Estimates of results are inherently uncertain and subject to change, and the Company undertakes no obligation to update the estimated results. The Company's estimates contained in this Current Report on Form 8-K may differ, perhaps materially, from actual results. Hertz is in the process of finalizing its fourth quarter 2023 financial statements and will discuss actual performance and more details in its regularly scheduled earnings release and conference call, which are planned for February 6, 2024.

The Company cannot, without unreasonable effort, reconcile its forecasted range of Adjusted Corporate EBITDA, a non-GAAP financial measure, to its most directly comparable GAAP financial measure, net income (loss) attributable to the Company, due to the uncertainty and inherent difficulty of predicting the occurrence and the financial impact of items impacting comparability as of the date of this Current Report on Form 8-K. Management uses Adjusted Corporate EBITDA as an operating performance metric for internal monitoring and planning purposes, including the preparation of the Company's annual operating budget and monthly operating reviews, and analysis of investment decisions, profitability and performance trends. This measure enables management and investors to isolate the effects on profitability of operating metrics most meaningful to the business of renting and leasing vehicles. It also allows management and investors to assess the performance of the entire business on the same basis as its reportable segments.

Bloomberg Billionaires Index as of January 12, 2024/ The Bloomberg Billionaires Index is a daily ranking of the world's richest people. Details about the calculations are provided in the net work analysis on each billionaire's profile page. The figures are updated at the close of every trading day in New York.

Rank	Name	Total net worth	\$ Last change	\$ YTD change	Country / Region	Industry
1	Elon Musk	\$206B	-\$5.96B	-\$23.0B	United States	Technology
2	Jeff Bezos	\$179B	-\$553M	+\$2.55B	United States	Technology
3	Bernard Arnault	\$162B	-\$2.03B	-\$17.5B	France	Consumer
4	Bill Gates	\$140B	+\$376M	-\$291M	United States	Technology
5	Mark Zuckerberg	\$135B	-\$1.66B	-\$7.15B	United States	Technology
6	Steve Ballmer	\$135B	-\$1.23B	-\$3.89B	United States	Technology
7	Larry Page	\$129B	+\$419M	+\$2.34B	United States	Technology
8	Larry Ellison	\$122B	-\$1.14B	-\$495M	United States	Technology
9	Sergey Brin	\$122B	+\$393M	+\$2.20B	United States	Technology
10	Warren Buffett	\$122B	-\$70.8M	+\$2.00B	United States	Diversified
11	Carlos Slim	\$103B	+\$321M	-\$1.88B	Mexico	Diversified
12	Mukesh Ambani	\$103B	+\$990M	+\$6.46B	India	Energy
13	Francoise Bettencourt Meyers	\$97.8B	+\$596M	-\$1.88B	France	Consumer
14	Gautam Adani	\$96.5B	+\$325M	+\$12.2B	India	Industrial
15	Amancio Ortega	\$86.0B	-\$1.58B	-\$1.51B	Spain	Retail
16	Michael Dell	\$79.1B	-\$30.4M	+\$724M	United States	Technology
17	Jim Walton	\$73.8B	-\$26.9M	-\$1.16B	United States	Retail
18	Rob Walton	\$72.4B	-\$31.7M	-\$1.15B	United States	Retail
19	Alice Walton	\$71.2B	-\$16.2M	-\$1.16B	United States	Retail
20	Julia Flesher Koch & family	\$66.1B	-\$34.7M	-\$383M	United States	Industrial
21	Zhong Shanshan	\$62.6B	-\$257M	-\$5.14B	China	Diversified
22	Charles Koch	\$62.0B	-\$33.7M	-\$353M	United States	Industrial
23	Colin Huang	\$52.4B	-\$952M	+\$818M	China	Technology
24	Jensen Huang	\$48.5B	-\$97.0M	+\$4.49B	United States	Technology
25	Jacqueline Badger Mars	\$47.0B	+\$303M	+\$429M	United States	Food & Beverage
26	John Mars	\$47.0B	+\$303M	+\$429M	United States	Food & Beverage
27	Klaus-Michael Kuehne	\$45.3B	-\$28.3M	+\$1.18B	Germany	Industrial
28	Alain Wertheimer	\$44.8B	-\$292M	-\$2.33B	France	Consumer
29	Gerard Wertheimer	\$44.8B	-\$292M	-\$2.33B	France	Consumer
30	Zhang Yiming	\$42.3B	\$0	\$0	China	Technology
31	Phil Knight & family	\$41.4B	-\$281M	-\$1.07B	United States	Consumer
32	Tadashi Yanai	\$41.1B	-\$2.34B	-\$2.73B	Japan	Retail
33	Len Blavatnik	\$40.6B	+\$267M	-\$285M	United States	Diversified
34	Stephen Schwarzman	\$39.6B	-\$159M	-\$2.80B	United States	Finance
35	MacKenzie Scott	\$36.4B	-\$149M	-\$713M	United States	Technology
36	Shapoor Mistry	\$36.2B	+\$952M	+\$926M	India	Industrial
37	Ken Griffin	\$36.2B	-\$36.9M	-\$326M	United States	Finance
38	Shiv Nadar	\$35.5B	-\$1.15B	+\$1.59B	India	Technology
39	Abigail Johnson	\$35.4B	-\$663M	-\$1.24B	United States	Finance
40	Miriam Adelson	\$34.2B	-\$79.2M	-\$54.8M	United States	Entertainment
41	Ma Huateng	\$34.0B	-\$70.0M	-\$689M	China	Technology
42	German Larrea	\$33.9B	+\$414M	-\$2.02B	Mexico	Commodities
43	Giovanni Ferrero & family	\$33.7B	+\$113M	-\$60.4M	Italy	Food & Beverage
44	Francois Pinault	\$33.3B	-\$290M	-\$2.14B	France	Consumer
45	Dieter Schwarz	\$32.1B	+\$361M	-\$1.39B	Germany	Retail
46	Vladimir Potanin	\$31.4B	-\$97.3M	+\$300M	Russian Federation	Commodities
47	James Simons	\$29.6B	-\$25.0M	-\$125M	United States	Finance
48	Jack Ma	\$29.4B	-\$76.7M	-\$644M	China	Technology
49	Jeff Yass	\$29.3B	-\$25.0M	-\$100M	United States	Finance
50	William Ding	\$28.6B	+\$186M	-\$634M	China	Technology

51	Andrew Forrest	\$28.2B	-\$239M	-\$1.83B	Australia	Commodities
52	Eric Schmidt	\$28.1B	+\$85.6M	-\$409M	United States	Technology
53	Inis Fontbona & family	\$27.9B	-\$452M	-\$291M	Chile	Commodities
54	Low Tuck Kwong	\$27.9B	-\$226M	-\$234M	Indonesia	Energy
55	Leonid Mikhelson	\$27.9B	-\$12.4M	+\$393M	Russian Federation	Energy
56	Li Ka-shing	\$27.8B	-\$117M	-\$762M	Hong Kong	Real Estate
57	Susanne Klatten	\$27.5B	-\$312M	-\$1.12B	Germany	Industrial
58	Thomas Peterffy	\$27.2B	-\$150M	+\$1.55B	United States	Finance
59	Dan Gilbert	\$26.6B	-\$255M	-\$3.14B	United States	Real Estate
60	Changpeng Zhao	\$26.2B	-\$2.76B	-\$8.17B	Canada	Finance
61	Azim Premji	\$26.1B	-\$691M	-\$142M	India	Technology
62	Lukas Walton	\$25.9B	-\$6.33M	-\$346M	United States	Retail
63	Takemitsu Takizaki	\$25.8B	-\$485M	-\$764M	Japan	Technology
64	Thomas Frist	\$25.3B	-\$48.8M	-\$754M	United States	Health Care
65	Vagit Alekperov	\$25.2B	-\$7.28M	+\$553M	Russian Federation	Energy
66	Savitri Jindal	\$25.2B	+\$79.9M	-\$495M	India	Commodities
67	Reinhold Wuerth	\$25.0B	-\$168M	-\$720M	Germany	Industrial
68	Vladimir Lisin	\$25.0B	+\$56.2M	+\$1.03B	Russian Federation	Industrial
69	Gina Rinehart	\$24.5B	-\$21.3M	-\$2.63B	Australia	Commodities
70	Ernesto Bertarelli & family	\$24.4B	+\$25.7M	-\$520M	Switzerland	Diversified
71	Elaine Marshall	\$24.4B	-\$13.1M	-\$104M	United States	Industrial
72	Rodolphe Saade & family	\$24.4B	-\$336M	+\$2.43B	France	Services
73	Jorge Paulo Lemann	\$24.0B	-\$362M	+\$379M	Brazil	Food & Beverage
74	He Xiangjian	\$23.8B	-\$6.98M	-\$197M	China	Consumer
75	Stefan Quandt	\$23.6B	-\$298M	-\$862M	Germany	Industrial
76	Prajogo Pangestu	\$23.6B	-\$719M	-\$7.48B	Indonesia	Energy
77	Budi Hartono	\$23.5B	-\$274M	-\$522M	Indonesia	Diversified
78	Zeng Yuqun	\$22.8B	-\$28.8M	-\$1.48B	Hong Kong	Industrial
79	Eyal Ofer	\$22.6B	-\$170M	-\$341M	Monaco	Diversified
80	Michael Hartono	\$22.3B	-\$263M	-\$505M	Indonesia	Diversified
81	Dilip Shanghi	\$22.3B	+\$201M	+\$1.48B	India	Health Care
82	Alexey Mordashov	\$22.2B	+\$83.5M	+\$1.32B	Russian Federation	Industrial
83	Mark Mateschitz	\$21.8B	-\$13.0M	-\$221M	Austria	Food & Beverage
84	Xu Yangtian	\$21.5B	\$0	\$0	China	Retail
85	Henry Cheng	\$21.2B	-\$73.1M	-\$753M	Hong Kong	Retail
86	John Menard	\$20.8B	-\$36.1M	-\$305M	United States	Retail
87	Lee Chau Kee	\$20.8B	+\$11.5M	-\$725M	Hong Kong	Real Estate
88	Dustin Moskovitz	\$20.6B	-\$133M	-\$585M	United States	Technology
89	Alisher Usmanov	\$20.4B	+\$52.3M	-\$665M	Russian Federation	Diversified
90	Eduardo Saverin	\$20.4B	-\$258M	+\$1.07B	Brazil	Technology
91	Gianluigi Aponte	\$20.4B	+\$74.3M	-\$77.9M	Switzerland	Services
92	Idan Ofer	\$20.0B	+\$12.2M	-\$32.6M	Israel	Energy
93	Vicky Safra	\$19.8B	+\$21.9M	-\$239M	Greece	Finance
94	Lakshmi Mittal	\$19.8B	-\$5.60M	-\$721M	India	Commodities
95	James Dyson	\$19.5B	-\$76.7M	-\$538M	United Kingdom	Consumer
96	David Tepper	\$19.4B	-\$25.0M	+\$1.83B	United States	Finance
97	Liu Yongxing	\$19.1B	-\$101M	-\$699M	China	Industrial
98	Cyrus Poonawalla	\$19.1B	-\$78.6M	+\$1.40B	India	Health Care
99	Leonard Lauder	\$18.9B	-\$297M	-\$973M	United States	Consumer
100	Stefan Persson	\$18.9B	+\$46.2M	-\$1.27B	Sweden	Retail

101	Andrey Melnichenko	\$18.6B	-\$159M	-\$214M	Russian Federation	Industrial
102	Jim Ratcliffe	\$18.6B	-\$11.8M	-\$932M	United Kingdom	Industrial
103	Radhakishan Damani	\$18.5B	-\$114M	-\$1.06B	India	Retail
104	Hasso Plattner	\$18.4B	-\$241M	-\$308M	Germany	Technology
105	Kumar Birla	\$18.4B	+\$94.0M	-\$255M	India	Industrial
106	K P Singh	\$17.8B	+\$90.5M	+\$1.69B	India	Real Estate
107	Jeffery Hildebrand	\$17.6B	-\$268M	-\$124M	United States	Energy
108	Stan Kroenke	\$17.6B	\$0	\$0	United States	Real Estate
109	Sherry Brydson	\$17.4B	+\$80.5M	-\$198M	Canada	Media & Telecom
110	Donald Bren	\$17.2B	\$0	\$0	United States	Real Estate
111	Robert Kuok	\$17.0B	+\$25.9M	-\$313M	Malaysia	Diversified
112	Dave Duffield	\$16.8B	-\$194M	-\$301M	United States	Technology
113	Sunil Mittal	\$16.7B	-\$252M	-\$824M	India	Media & Telecom
114	Ray Dalio	\$16.5B	\$0	-\$25.0M	United States	Finance
115	Charlene de Carvalho-Heineken	\$16.0B	+\$59.2M	+\$43.8M	Netherlands	Food & Beverage
116	Harry Triguboff	\$15.9B	\$0	\$0	Australia	Real Estate
117	Harold Hamm	\$15.8B	-\$807M	-\$388M	United States	Energy
118	Mikhail Prokhorov	\$15.7B	+\$6.97M	-\$48.6M	Russian Federation	Diversified
119	Donald Newhouse	\$15.7B	-\$29.5M	-\$358M	United States	Media & Telecom
120	Andy Bechtolsheim	\$15.6B	+\$13.3M	-\$733M	Germany	Technology
121	Philip Anschutz	\$15.5B	-\$24.5M	-\$122M	United States	Diversified
122	Karl Albrecht Jr	\$15.5B	+\$432M	-\$130M	Germany	Retail
123	Beate Heister	\$15.5B	+\$432M	-\$130M	Germany	Retail
124	Sammy Lee	\$15.4B	+\$37.0M	+\$426M	Hong Kong	Consumer
125	Aliko Dangote	\$15.3B	-\$110M	-\$262M	Nigeria	Industrial
126	Wang Chuan-Fu	\$15.0B	-\$66.9M	-\$291M	China	Consumer
127	Peter Woo	\$14.9B	-\$147M	-\$1.18B	Hong Kong	Real Estate
128	Jan Koum	\$14.9B	-\$450M	-\$100M	United States	Technology
129	David Sun	\$14.9B	\$0	-\$612M	United States	Technology
130	John Tu	\$14.9B	\$0	-\$612M	United States	Technology
131	Li Xiting	\$14.8B	-\$155M	-\$813M	Singapore	Health Care
132	Alwaleed Bin Talal	\$14.7B	-\$11.4M	-\$113M	Saudi Arabia	Diversified
133	Gennady Timchenko	\$14.6B	-\$11.4M	-\$432M	Russian Federation	Diversified
134	Ravi Jaipuria	\$14.6B	-\$121M	-\$267M	India	Consumer
135	Paolo Rocco & family	\$14.5B	+\$31.1M	-\$522M	Italy	Commodities
136	Ricardo Salinas	\$14.5B	-\$45.6M	-\$132M	Mexico	Diversified
137	Lui Che-Woo	\$14.3B	-\$97.0M	-\$777M	Hong Kong	Entertainment
138	Uday Kotak	\$14.2B	+\$78.5M	-\$423M	India	Finance
139	Scott Farquhar	\$14.1B	-\$269M	-\$44.8M	Australia	Technology
140	Mike Cannon-Brookes	\$14.1B	-\$279M	-\$101M	Australia	Technology
141	Judy Love	\$14.0B	+\$52.9M	-\$643M	United States	Retail
142	Steve Cohen	\$14.0B	+\$3.21M	+\$7.61M	United States	Finance
143	George Kaiser	\$13.7B	-\$134M	-\$133M	United States	Energy
144	Jay Chaudhry	\$13.7B	-\$127M	-\$520M	United States	Technology
145	Alejandro Santo Domingo & family	\$13.4B	+\$25.0M	-\$20.8M	Colombia	Food & Beverage
146	Qin Yinglin	\$13.4B	-\$267M	-\$1.31B	China	Food & Beverage
147	Zhang Bo	\$13.4B	-\$109M	-\$179M	China	Industrial
148	Lei Jun	\$13.3B	-\$153M	-\$1.12B	China	Technology
149	Zhang Zhidong	\$13.2B	+\$31.0M	-\$285M	China	Technology
150	George Roberts	\$13.2B	-\$31.8M	-\$140M	United States	Finance

151	Martin Viessmann & family	\$13.2B	-\$61.9M	+\$361M	Germany	Industrial
152	Michael Platt	\$13.0B	-\$25.0M	-\$75.0M	United Kingdom	Finance
153	Thomas Struengmann	\$12.8B	-\$6.74M	-\$135M	Germany	Health Care
154	Andreas Struengmann	\$12.8B	-\$6.74M	-\$135M	Germany	Health Care
155	Micky Arison	\$12.7B	-\$48.8M	-\$185M	United States	Entertainment
156	Henry Kravis	\$12.7B	-\$6.16M	-\$107M	United States	Finance
157	Hugh Grosvenor	\$12.6B	\$0	\$0	United Kingdom	Real Estate
158	Charoen Sirivadhanabhakdi	\$12.6B	+\$16.7M	+\$615M	Thailand	Food & Beverage
159	Leon Black	\$12.6B	+\$4.19M	+\$108M	United States	Finance
160	Jerry Jones	\$12.5B	+\$52.9M	-\$10.9M	United States	Entertainment
161	Mikhail Fridman	\$12.4B	-\$7.45M	+\$113M	Russian Federation	Diversified
162	Henry Samueli	\$12.2B	-\$43.7M	-\$101M	United States	Technology
163	Melinda French Gates	\$12.1B	-\$14.4M	-\$152M	United States	Diversified
164	Xu Hang	\$12.1B	-\$121M	-\$643M	Hong Kong	Health Care
165	Andy Beal	\$12.1B	-\$34.7M	-\$224M	United States	Finance
166	Renata Kellnerova	\$12.0B	+\$56.5M	+\$168M	Czech Republic	Diversified
167	Laurence Graff	\$11.9B	-\$67.3M	+\$104M	United Kingdom	Consumer
168	John Fredriksen	\$11.8B	-\$214M	-\$92.3M	Cyprus	Industrial
169	Johann Rupert & family	\$11.8B	-\$26.7M	-\$645M	South Africa	Diversified
170	Elizabeth Johnson	\$11.8B	-\$148M	-\$327M	United States	Finance
171	Ned Johnson IV	\$11.7B	-\$145M	-\$327M	United States	Finance
172	Marijke Mars	\$11.7B	+\$75.5M	+\$107M	United States	Food & Beverage
173	Victoria Mars	\$11.7B	+\$75.5M	+\$107M	United States	Food & Beverage
174	Pamela Mars-Wright	\$11.7B	+\$75.5M	+\$107M	United States	Food & Beverage
175	Valerie Mars	\$11.7B	+\$75.5M	+\$107M	United States	Food & Beverage
177	Jiang Rensheng	\$11.6B	-\$164M	-\$1.55B	China	Health Care
178	Izzy Englander	\$11.6B	+\$5.96M	+\$11.3M	United States	Finance
179	Dmitry Rybolovlev	\$11.5B	-\$23.5M	-\$67.5M	Russian Federation	Diversified
180	Charles Schwab	\$11.5B	-\$3.01M	-\$385M	United States	Finance
181	Christy Walton	\$11.4B	+\$9.33M	+\$186M	United States	Retail
182	Goh Cheng Liang	\$11.4B	+\$12.7M	-\$222M	Singapore	Industrial
183	Robert Smith	\$11.4B	\$0	\$0	United States	Finance
184	Masayoshi Son	\$11.3B	+\$97.0M	-\$90.0M	Japan	Technology
185	Tom Gores	\$11.2B	-\$25.0M	-\$25.0M	United States	Finance
186	Raymond Kwok	\$11.2B	-\$48.0M	-\$426M	Hong Kong	Real Estate
187	Melker Schorling	\$11.1B	+\$86.7M	-\$503M	Sweden	Diversified
188	Barry Lam	\$11.1B	-\$216M	-\$19.4M	Taiwan	Technology
189	Brian Chesky	\$11.0B	-\$180M	-\$78.0M	United States	Services
190	Carl Cook	\$11.0B	+\$65.6M	+\$459M	United States	Health Care
191	Mangal Prabhat Lodha	\$11.0B	-\$671M	-\$1.64B	India	Real Estate
192	Marcel Telles	\$10.9B	+\$85.1M	+\$129M	Brazil	Food & Beverage
193	Dietmar Hopp	\$10.8B	-\$216M	+\$266M	Germany	Technology
194	Thomas Kwok	\$10.8B	-\$45.2M	-\$404M	Hong Kong	Real Estate
195	Tilman Fertitta	\$10.8B	-\$64.7M	-\$240M	United States	Entertainment
196	Taylor Thomson	\$10.8B	+\$63.6M	-\$106M	Canada	Media & Telecom
197	Peter Thomson	\$10.8B	+\$63.6M	-\$106M	Canada	Media & Telecom
198	David Thomson	\$10.8B	+\$54.6M	-\$108M	Canada	Media & Telecom
199	Les Wexner	\$10.7B	-\$29.5M	-\$79.7M	United States	Retail
200	Huang Shilin	\$10.7B	-\$13.2M	-\$668M	China	Industrial
201	Sarath Ratanavadi	\$10.7B	-\$178M	-\$45.8M	Thailand	Energy

202	Charles Butt & family	\$10.6B	\$0	\$0	United States	Retail
203	Graeme Hart	\$10.6B	-\$48.9M	-\$160M	New Zealand	Finance
204	Victor Rashnikov	\$10.4B	-\$158M	-\$612M	Russian Federation	Industrial
205	Wee Cho Yaw	\$10.4B	-\$28.0M	-\$165M	Singapore	Finance
206	Anthoni Salim	\$10.4B	-\$14.5M	-\$393M	Indonesia	Diversified
207	Hansjoerg Wyss	\$10.4B	-\$26.2M	-\$238M	Switzerland	Health Care
208	Diane Hendricks	\$10.4B	\$0	-\$352M	United States	Services
209	Terry Pegula	\$10.4B	-\$26.4M	-\$36.5M	United States	Energy
210	Steven Rales	\$10.3B	-\$78.9M	-\$270M	United States	Industrial
211	John Albert Sobrato	\$10.3B	\$0	\$0	United States	Real Estate
212	Antonia Axson Johnson	\$10.3B	-\$104M	-\$219M	Sweden	Industrial
213	Gong Hongjia	\$10.3B	-\$55.3M	-\$691M	China	Technology
214	Pierre Omidyar	\$10.3B	\$0	-\$75.0M	United States	Technology
215	Laurene Powell Jobs	\$10.2B	+\$17.4M	-\$23.8M	United States	Media & Telecom
216	Laurent Dassault	\$10.2B	-\$276M	-\$155M	France	Diversified
217	Marie-Helene Habert-Dassault	\$10.2B	-\$276M	+\$154M	France	Diversified
218	Thierry Dassault	\$10.2B	-\$276M	-\$154M	France	Diversified
219	Ralph Sonnenberg	\$10.2B	-\$25.0M	-\$125M	Netherlands	Consumer
220	Wang Wei	\$10.1B	-\$145M	-\$490M	China	Services
221	Andre Esteves	\$10.0B	-\$189M	-\$105M	Brazil	Finance
222	Wei Jianjun	\$10.0B	-\$35.4M	-\$792M	China	Consumer
223	Leonid Fedun	\$10.0B	-\$28.0M	-\$225M	Russian Federation	Energy
224	Sandra Ortega Mera	\$9.97B	-\$134M	-\$171M	Spain	Retail
225	Lv Xiang-yang	\$9.93B	-\$35.6M	-\$182M	China	Consumer
226	Michael Rubin	\$9.89B	\$0	\$0	United States	Retail
227	Stan Druckenmiller	\$9.88B	\$0	\$0	United States	Finance
228	Jim Goodnight	\$9.85B	-\$190M	-\$247M	United States	Technology
229	Andrey Guryev	\$9.84B	-\$16.5M	+\$87.8M	Russian Federation	Industrial
230	Karel Komarek	\$9.84B	-\$25.5M	-\$4.13M	Czech Republic	Diversified
231	Tony Ressler	\$9.80B	-\$14.1M	-\$96.1M	United States	Finance
232	Nicky Oppenheimer	\$9.80B	\$0	-\$50.0M	South Africa	Diversified
233	Anthony Pratt	\$9.78B	\$0	-\$133M	Australia	Industrial
234	Patrick Soon-Shiong	\$9.78B	-\$63.9M	-\$673M	United States	Health Care
235	Nusli Wadia	\$9.76B	+\$44.0M	-\$199M	India	Diversified
236	Alex Gerko	\$9.75B	+\$18.3M	-\$231M	United Kingdom	Finance
237	Marc Benioff	\$9.71B	+\$9.04M	-\$142M	United States	Technology
238	Theo Albrecht Jr	\$9.70B	-\$70.6M	+\$98.4M	Germany	Retail
239	Leo Koguan	\$9.70B	-\$225M	-\$799M	United States	Technology
240	Prince Hans-Adam II	\$9.63B	+\$9.75M	-\$196M	Liechtenstein	Finance
241	Richard Kinder	\$9.52B	+\$33.4M	+\$59.8M	United States	Energy
242	Michael Kadoorie	\$9.52B	-\$5.41M	-\$163M	Hong Kong	Energy
243	Dang Yanbao	\$9.49B	-\$166M	-\$252M	China	Energy
244	David Shaw	\$9.47B	-\$4.89M	-\$74.2M	United States	Finance
245	Manuel Villar	\$9.42B	+\$17.0M	-\$296M	Philippines	Diversified
246	Sun Piao yang	\$9.41B	-\$76.2M	-\$934M	China	Health Care
247	Gabe Newell	\$9.35B	-\$108M	-\$240M	United States	Technology
248	Li Shu Fu	\$9.34B	-\$59.0M	-\$464M	China	Industrial
249	Carlos Sicupira	\$9.26B	+\$190M	-\$248M	Brazil	Food & Beverage
250	David Steward	\$9.23B	-\$95.3M	-\$286M	United States	Technology
251	Blair Parry-Okenen	\$9.20B	+\$4.04M	-\$95.5M	United States	Media & Telecom

252	Jim Kennedy	\$9.20B	+\$4.04M	-\$85.5M	United States	Media & Telecom
253	David Velez	\$9.19B	-\$188M	-\$923M	Colombia	Finance
254	Nathan Blecharczyk	\$9.18B	-\$146M	+\$63.4M	United States	Services
255	Jay Y. Lee	\$9.15B	+\$4.10M	-\$734M	Korea, Republic of	Diversified
256	Ma Jianrong	\$9.13B	+\$46.8M	-\$315M	China	Consumer
257	Vincent Bolloré	\$9.12B	-\$33.3M	-\$334M	France	Diversified
258	Peter Thiel	\$9.10B	-\$10.9M	-\$88.2M	United States	Finance
259	David Geffen	\$9.10B	\$0	\$0	United States	Entertainment
260	Suleiman Kerimov	\$9.07B	-\$25.0M	+\$25.0M	Russian Federation	Commodities
261	Ronda Stryker	\$9.06B	+\$77.6M	-\$267M	United States	Health Care
262	Ralph Lauren	\$9.01B	-\$114M	-\$181M	United States	Consumer
263	Rupert Murdoch	\$8.92B	-\$11.1M	+\$83.3M	United States	Media & Telecom
264	Mohammed Al Amoudi	\$8.92B	-\$4.07M	-\$138M	Saudi Arabia	Energy
265	Arthur Irving	\$8.85B	-\$142M	-\$528M	Canada	Energy
266	John Malone	\$8.85B	+\$997k	-\$69.5M	United States	Media & Telecom
267	Jude Reyes	\$8.74B	\$0	-\$190M	United States	Consumer
268	Chris Reyes	\$8.74B	\$0	-\$190M	United States	Consumer
269	Randa Williams	\$8.73B	-\$32.1M	+\$75.9M	United States	Energy
270	Dannine Avara	\$8.71B	-\$32.0M	+\$75.5M	United States	Energy
271	Scott Duncan	\$8.71B	-\$32.0M	+\$75.5M	United States	Energy
272	Milane Frantz	\$8.71B	-\$32.0M	+\$75.5M	United States	Energy
273	Stephen Ross	\$8.64B	\$0	\$0	United States	Real Estate
274	Anthony Bamford & family	\$8.62B	-\$42.3M	+\$11.4M	United Kingdom	Industrial
275	Dan Friedkin	\$8.57B	-\$86.7M	-\$434M	United States	Retail
276	Pang Kang	\$8.55B	-\$81.4M	-\$953M	China	Food & Beverage
277	Pham Nhat Vuong	\$8.49B	-\$250M	-\$2.06B	Viet Nam	Real Estate
278	Ivan Glasenberg	\$8.47B	+\$38.0M	-\$389M	Australia	Commodities
279	Tammy Gustavson	\$8.47B	-\$80.0M	-\$152M	United States	Services
280	Josh Harris	\$8.46B	+\$2.28M	-\$899M	United States	Finance
281	Linda Campbell	\$8.45B	+\$50.0M	-\$99.2M	Canada	Media & Telecom
282	Gaye Farncombe	\$8.45B	+\$50.0M	-\$99.2M	Canada	Media & Telecom
283	Joe Gebbia	\$8.41B	-\$110M	+\$47.5M	United States	Services
284	Steven Spielberg	\$8.38B	\$0	-\$25.0M	United States	Entertainment
285	John Grayken	\$8.34B	+\$13.1M	-\$377M	Ireland	Finance
286	Bob Rich	\$8.34B	+\$82.6M	-\$124M	United States	Food & Beverage
287	Chip Wilson	\$8.33B	-\$86.6M	-\$483M	Canada	Retail
288	Stef Wertheimer	\$8.33B	\$0	-\$50.0M	Israel	Diversified
289	Carl Bennet	\$8.29B	-\$104M	+\$67.9M	Sweden	Finance
290	German Khan	\$8.25B	-\$17.7M	-\$42.6M	Russian Federation	Diversified
291	Robin Li	\$8.24B	-\$554M	-\$674M	China	Technology
292	Robert Kraft	\$8.17B	\$0	\$0	United States	Entertainment
293	Patrick Ryan	\$8.16B	-\$34.0M	-\$79.1M	United States	Services
294	Nancy Laurie	\$8.14B	-\$8.38M	+\$171M	United States	Retail
295	Frank Lowy	\$8.13B	+\$25.0M	-\$225M	Australia	Real Estate
296	Magdalena Martullo	\$8.11B	+\$49.6M	-\$363M	Switzerland	Industrial
297	Nassef Sawiris	\$8.10B	-\$69.4M	-\$312M	Egypt	Industrial
298	Shahid Khan	\$8.09B	-\$110M	-\$375M	United States	Consumer
299	Roman Abramovich	\$8.08B	-\$2.98M	+\$19.5M	Russian Federation	Diversified
300	Zhong Huijuan	\$8.00B	-\$22.6M	-\$1.10B	China	Health Care
301	Zhang Congyuan	\$7.96B	-\$246M	-\$117M	Taiwan	Industrial

302	Chen Bang	\$7.94B	-\$115M	-\$673M	China	Health Care
303	Rocco Comisso	\$7.93B	\$0	-\$99.3M	United States	Media & Telecom
304	Jimmy Haslam	\$7.91B	\$0	-\$25.0M		
305	Heinrich Deichmann & family	\$7.90B	-\$5.05M	-\$213M	Germany	Retail
306	Daniel Kretinsky	\$7.88B	-\$7.30M	-\$156M	Czech Republic	Energy
307	Woody Johnson	\$7.84B	+\$1.94M	-\$16.2M	United States	Diversified
308	Ray Hunt	\$7.81B	+\$69.1M	+\$167M	United States	Energy
309	Xu Shihui	\$7.79B	\$0	-\$225M	China	Food & Beverage
310	Rahel Blocher	\$7.78B	-\$49.1M	-\$364M	Switzerland	Industrial
311	Ludwig Merckle	\$7.75B	+\$15.3M	+\$258M	Germany	Industrial
312	Stefano Pessina	\$7.72B	-\$111M	-\$439M	Monaco	Retail
313	Joe Lewis	\$7.71B	+\$22.9M	+\$28.2M	United Kingdom	Diversified
314	Li Shuirong	\$7.70B	-\$138M	+\$802M	China	Energy
315	Marc Rowan	\$7.69B	+\$2.42M	+\$23.7M	United States	Finance
316	Natie Kirsh	\$7.64B	+\$75.0M	+\$23.2M	South Africa	Food & Beverage
317	David Cheriton	\$7.61B	-\$3.47M	+\$173M	Canada	Technology
318	Jorge Moll & family	\$7.60B	+\$95.6M	-\$131M	Brazil	Health Care
319	Benu Bangur	\$7.54B	-\$674k	-\$458M	India	Commodities
320	Alain Bouchard	\$7.51B	-\$177M	-\$94.7M	Canada	Retail
321	Wang Liping	\$7.49B	+\$6.86M	+\$128M	China	Industrial
322	Lynn Schusterman	\$7.47B	+\$1.16M	-\$49.4M	United States	Energy
323	Sri Prakash Lohia	\$7.46B	-\$5.80M	+\$21.6M	Indonesia	Industrial
324	Thomas Schmidheiny	\$7.46B	+\$45.7M	-\$173M	Switzerland	Industrial
325	Marcos Galperin	\$7.45B	-\$254M	-\$331M	Argentina	Technology
326	Georg Schaeffler	\$7.44B	-\$84.9M	-\$309M	Germany	Industrial
327	Lin Shu-Hong	\$7.44B	-\$3.46M	-\$458M	Taiwan	Industrial
328	Alexander Abramov	\$7.42B	+\$1.98M	-\$12.0M	Russian Federation	Industrial
329	Tito Beveridge	\$7.41B	-\$12.4M	-\$179M	United States	Consumer
330	Gwendolyn Sontheim Meyer	\$7.41B	\$0	-\$208M	United States	Commodities
331	Pauline Keinath	\$7.41B	\$0	-\$208M	United States	Commodities
332	Liu Hanyuan	\$7.38B	+\$153M	+\$149M	China	Industrial
333	Niels Louis-Hansen	\$7.36B	+\$111M	+\$329M	Denmark	Health Care
334	Piero Ferrari	\$7.36B	+\$13.9M	+\$216M	Italy	Consumer
335	Shari Arison	\$7.34B	-\$50.4k	-\$274M	Israel	Diversified
336	Simon Reuben	\$7.33B	\$0	-\$25.0M	United Kingdom	Diversified
337	David Reuben	\$7.33B	\$0	-\$25.0M	United Kingdom	Diversified
338	Richard Liu	\$7.31B	-\$143M	-\$867M	China	Technology
339	Terry Gou	\$7.29B	-\$23.9M	-\$251M	Taiwan	Industrial
340	Takahisa Takahara	\$7.28B	+\$154M	+\$117M	Japan	Consumer
341	Pedro Moreira Salles	\$7.24B	+\$5.17M	-\$143M	Brazil	Finance
342	Vladimir Kim	\$7.23B	\$0	+\$76.9M	Kazakhstan	Commodities
343	Vikram Lal	\$7.23B	-\$21.3M	-\$420M	India	Industrial
344	Andrey Skoch	\$7.22B	+\$32.0M	-\$425M	Russian Federation	Diversified
345	Dan Cathy	\$7.16B	-\$6.26M	-\$93.3M	United States	Food & Beverage
346	Bubba Cathy	\$7.16B	-\$16.4M	-\$93.3M	United States	Food & Beverage
347	Viktor Vekselberg	\$7.16B	+\$24.5M	-\$70.6M	Russian Federation	Industrial
348	George Soros	\$7.16B	\$0	\$0	United States	Finance
349	Enrique Razon	\$7.14B	+\$152M	-\$75.3M	Philippines	Services
350	Tobi Lutke	\$7.14B	+\$18.1M	+\$312M	Canada	Technology
351	Fernando Moreira Salles	\$7.14B	+\$3.59M	-\$101M	Brazil	Finance

352	Reinhold Schmieding	\$7.13B	\$0	-\$29.5M	United States	Health Care
353	Tom Morris	\$7.13B	+\$19.1M	-\$19.9M	United Kingdom	Retail
354	Ann Kroenke	\$7.09B	+\$8.38M	+\$171M	United States	Retail
355	Juan Beckmann Vidal & family	\$7.09B	-\$154M	-\$205M	Mexico	Food & Beverage
356	Mitchell Rales	\$7.06B	-\$63.8M	-\$202M	United States	Industrial
357	Todd Graves	\$7.05B	+\$9.09M	-\$63.7M	United States	Consumer
358	Pat Stryker	\$7.03B	+\$46.3M	+\$134M	United States	Health Care
359	Luis Sarmiento	\$7.01B	+\$64.5M	+\$171M	Colombia	Finance
360	Henry Laufer	\$7.00B	\$0	-\$25.0M	United States	Finance
361	Eric Smidt	\$7.00B	+\$47.8M	-\$222M	United States	Retail
362	John Doerr	\$6.94B	+\$22.5M	+\$125M	United States	Finance
363	Rafael Del Pino	\$6.93B	+\$34.2M	+\$218M	Spain	Industrial
364	Yu Yong	\$6.92B	+\$23.2M	-\$33.8M	China	Finance
365	J K Irving	\$6.91B	+\$5.57M	-\$32.0M	Canada	Commodities
366	Pankaj Patel	\$6.89B	+\$4.77M	+\$153M	India	Health Care
368	Robert Pera	\$6.85B	-\$114M	-\$477M	United States	Technology
369	Mark Cuban	\$6.84B	\$0	-\$25.0M	United States	Technology
370	Murali Divi	\$6.83B	-\$27.3M	-\$11.1M	India	Health Care
371	George Lucas	\$6.81B	+\$33.4M	-\$22.8M	United States	Entertainment
372	Liz Mohn	\$6.79B	+\$55.2M	-\$73.7M	Germany	Media & Telecom
373	James Pattison	\$6.79B	-\$19.4M	-\$88.0M	Canada	Media & Telecom
374	Todd Boehly	\$6.78B	-\$1.48M	-\$34.4M	United States	Diversified
375	Jon Gray	\$6.78B	-\$24.0M	-\$503M	United States	Finance
376	Clive Calder	\$6.78B	-\$25.0M	-\$50.0M	United Kingdom	Entertainment
377	Wang Wenyin	\$6.77B	+\$77.5M	-\$373M	China	Commodities
378	Liu Yonghao	\$6.77B	+\$6.19M	-\$301M	China	Diversified
379	Alejandro Bailleres	\$6.75B	+\$22.2M	-\$116M	Mexico	Commodities
380	Qi Shi	\$6.74B	-\$112M	-\$618M	China	Finance
381	Wang Xing	\$6.73B	-\$112M	-\$817M	China	Technology
382	Frederik Paulsen	\$6.73B	+\$40.0M	-\$16.8M	Sweden	Health Care
383	John Brown	\$6.70B	+\$78.4M	+\$270M	United States	Technology
384	Anders Holch Povlsen & family	\$6.70B	-\$135M	-\$180M	Denmark	Retail
385	Abdullah Al Ghurair	\$6.68B	+\$17.0M	+\$12.4M	United Arab Emirates	Diversified
386	Alain Merieux	\$6.68B	+\$37.3M	-\$70.7M	France	Health Care
387	Andre Hoffmann	\$6.67B	+\$29.8M	+\$32.6M	Switzerland	Health Care
388	Jeff Skoll	\$6.65B	-\$25.0M	-\$50.0M	United States	Technology
389	Giorgio Armani	\$6.59B	-\$119M	-\$272M	Italy	Consumer
390	Scott Cook	\$6.58B	+\$22.0M	-\$119M	United States	Technology
391	Kenneth Dart	\$6.57B	+\$9.29M	+\$215M	Cayman Islands	Finance
392	Rahul Bhatia	\$6.57B	+\$42.9M	+\$203M	India	Consumer
393	Bidzina Ivanishvili	\$6.57B	\$0	-\$25.0M	Georgia	Diversified
394	Ernie Garcia	\$6.57B	-\$207M	-\$701M	United States	Consumer
395	Edward Cadogan	\$6.54B	\$0	\$0	United Kingdom	Real Estate
396	Wu Jianshu	\$6.53B	-\$18.6M	-\$1.03B	Hong Kong	Industrial
397	Geoffrey Kwok	\$6.52B	-\$35.1M	-\$277M	Hong Kong	Real Estate
398	Joe Ricketts	\$6.47B	\$0	-\$25.0M	United States	Finance
399	Samuel Yin	\$6.44B	-\$11.2M	-\$179M	Taiwan	Diversified
400	Ding Shizhong	\$6.42B	+\$44.4M	-\$157M	China	Consumer
401	Francis Choi	\$6.40B	-\$82.3k	+\$597M	Hong Kong	Real Estate
402	Bernie Marcus	\$6.40B	\$0	-\$50.0M	United States	Retail

403	Leonard Stern	\$6.38B	\$0	\$0	United States	Real Estate
404	Yeung Kin-Man	\$6.38B	-\$92.8M	-\$550M	Hong Kong	Technology
405	Mahendra Choksi & family	\$6.38B	-\$11.7M	-\$210M	India	Industrial
406	Pei Zhenhua	\$6.34B	-\$15.4M	-\$335M	China	Industrial
407	Gary Rollins	\$6.31B	-\$7.75M	-\$57.9M	United States	Industrial
408	Fredrik Lundberg	\$6.30B	+\$67.2M	-\$196M	Sweden	Real Estate
409	Chris Hohn	\$6.28B	+\$8.55M	-\$42.8M	United Kingdom	Finance
410	Naguib Sawiris	\$6.28B	+\$32.8M	-\$201M	Egypt	Media & Telecom
411	Michael Smith	\$6.25B	\$0	\$0	United States	Energy
412	Thomas Pritzker	\$6.24B	-\$21.5M	-\$57.3M	United States	Finance
413	Vyacheslav Kantor	\$6.23B	+\$22.2M	+\$15.6M	Russian Federation	Industrial
414	Edward Roski	\$6.22B	\$0	-\$432M	United States	Real Estate
415	Tim Sweeney	\$6.21B	\$0	\$0	United States	Technology
416	Trevor Rees-Jones	\$6.20B	\$0	-\$50.0M	United States	Energy
417	Ronald McAulay	\$6.18B	-\$616k	-\$93.1M	Hong Kong	Energy
418	Ding Shijia	\$6.18B	+\$42.3M	-\$153M	China	Consumer
419	Kelcy Warren	\$6.16B	+\$26.7M	-\$37.3M	United States	Energy
420	David Siegel	\$6.15B	+\$4.30M	-\$20.3M	United States	Finance
421	Rinat Akhmetov	\$6.15B	+\$17.2M	+\$308M	Ukraine	Industrial
422	John Overdeck	\$6.15B	+\$4.30M	-\$20.3M	United States	Finance
423	Walther Moreira Salles Jr	\$6.13B	+\$1.46M	-\$41.3M	Brazil	Finance
424	Joao Moreira Salles	\$6.13B	+\$1.46M	-\$41.3M	Brazil	Finance
425	Xavier Niel	\$6.13B	+\$31.8M	+\$57.2M	France	Technology
426	Wu Shaoxun	\$6.13B	-\$85.1M	+\$1.01B	China	Food & Beverage
427	Marian Ilitch	\$6.11B	-\$12.5M	-\$62.5M	United States	Food & Beverage
428	Margaretta Taylor	\$6.08B	+\$2.67M	-\$56.5M	United States	Media & Telecom
429	James Cox Chambers	\$6.08B	+\$2.67M	-\$56.5M	United States	Media & Telecom
430	Katharine Rayner	\$6.08B	+\$2.67M	-\$56.5M	United States	Media & Telecom
431	Vera Michalski-Hoffmann	\$6.07B	+\$30.1M	+\$83.0M	Switzerland	Health Care
432	Maja Hoffmann	\$6.07B	+\$29.8M	+\$82.6M	Switzerland	Health Care
433	Mark Shoen	\$6.07B	+\$50.9M	-\$424M	United States	Services
434	Mat Ishbia	\$6.07B	+\$15.7M	-\$543M	United States	Finance
435	Alexey Kuzmichev	\$6.06B	+\$5.73M	-\$19.2M	Russian Federation	Diversified
436	David Filo	\$6.05B	-\$25.0M	-\$50.0M	United States	Technology
437	Zhou Qunfei	\$6.05B	-\$121M	-\$582M	China	Technology
438	M A Yusuff Ali	\$6.03B	-\$67.7M	-\$4.52M	United Arab Emirates	Food & Beverage
439	Yasumitsu Shigetata	\$6.00B	+\$1.02M	+\$73.9M	Japan	Media & Telecom
440	Margot Perot & family	\$5.98B	\$0	-\$50.0M	United States	Diversified
441	Charles Johnson	\$5.97B	-\$12.5M	-\$130M	United States	Finance
442	Sophie Bellon	\$5.96B	-\$20.4M	+\$140M	France	Retail
443	Petr Aven	\$5.95B	+\$2.12M	-\$3.15M	Russian Federation	Diversified
444	Richard LeFrak	\$5.95B	+\$4.22M	-\$26.0M	United States	Real Estate
445	Richard White	\$5.93B	-\$2.49M	-\$334M	Australia	Technology
446	Lu Weiding	\$5.93B	-\$12.6M	-\$449M	China	Diversified
447	Autry Stephens	\$5.91B	\$0	\$0	United States	Energy
448	Cen Junda	\$5.91B	-\$56.4M	-\$874M	China	Health Care
449	Reed Hastings	\$5.89B	-\$584k	-\$44.0M	United States	Technology
450	Tsai Eng-Meng	\$5.88B	-\$18.4M	-\$112M	Taiwan	Food & Beverage
452	Wang Jianlin	\$5.88B	-\$79.1M	-\$525M	China	Real Estate
453	Theo Mueller	\$5.87B	-\$11.6M	+\$67.7M	Germany	Food & Beverage

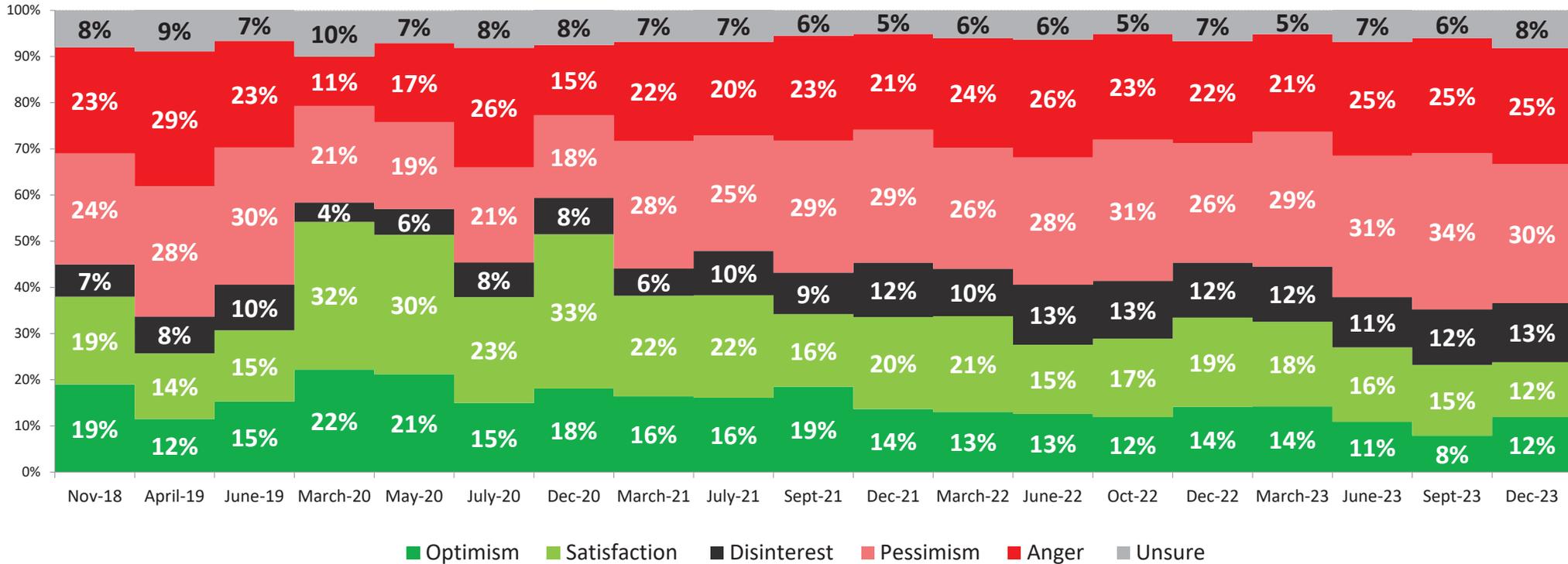
454	Joe Mansueto	\$5.84B	-\$30.8M	-\$169M	United States	Technology
455	Joseph Lau	\$5.83B	-\$1.98M	-\$20.4M	Hong Kong	Real Estate
456	Johann Graf	\$5.83B	+\$26.5M	-\$43.7M	Austria	Entertainment
457	Charles Dolan & family	\$5.81B	+\$12.9k	-\$67.8M	United States	Media & Telecom
458	Jason Chang	\$5.78B	-\$9.12M	-\$437M	Singapore	Technology
459	Mark Scheinberg	\$5.78B	-\$25.0M	-\$50.0M	Isle of Man	Entertainment
460	Brian Acton	\$5.75B	\$0	-\$50.0M	United States	Technology
461	Gordon Getty	\$5.75B	\$0	-\$50.0M	United States	Diversified
462	Agnete Kirk Thinggaard	\$5.73B	-\$33.4M	-\$155M	Denmark	Consumer
463	Thomas Kirk Kristiansen	\$5.73B	-\$33.4M	-\$155M	Denmark	Consumer
464	Rudolf Maag	\$5.71B	-\$23.9M	-\$323M	Switzerland	Health Care
465	Andrew Currie	\$5.71B	-\$3.65M	-\$289M	United Kingdom	Industrial
466	Seo Jung-Jin	\$5.70B	+\$267M	+\$219M	Korea, Republic of	Health Care
467	Sergey Galitskiy	\$5.69B	-\$27.0M	-\$44.9M	Russian Federation	Retail
468	Maria Angelicoussis	\$5.69B	\$0	\$0	Greece	Industrial
469	Zhang Lei	\$5.69B	+\$5.13M	-\$24.9M	China	Finance
470	Thai Lee	\$5.69B	\$0	\$0	United States	Technology
471	Tony James	\$5.67B	-\$9.63M	-\$207M	United States	Finance
472	John Reece	\$5.67B	-\$3.62M	-\$287M	United Kingdom	Industrial
473	Bertil Hult	\$5.67B	\$0	-\$53.5M	Sweden	Diversified
474	Dagmar Dolby	\$5.64B	+\$3.63M	-\$40.6M	United States	Entertainment
475	Richard Tsai	\$5.64B	+\$6.38M	-\$151M	Taiwan	Finance
476	Ira Rennert	\$5.63B	+\$38.2M	-\$232M	United States	Commodities
477	Lin Bin	\$5.63B	-\$90.5M	-\$422M	United States	Technology
478	Red Emmerson	\$5.60B	\$0	\$0	United States	Industrial
479	Mary Malone	\$5.59B	-\$27.1M	-\$14.9M	United States	Food & Beverage
480	Guillaume Pousaz	\$5.58B	\$0	\$0	Switzerland	Technology
481	Li Ge	\$5.57B	-\$37.1M	-\$102M	United States	Health Care
482	Sofie Kirk Kristiansen	\$5.56B	-\$54.8M	-\$166M	Denmark	Consumer
483	Ruan Liping	\$5.55B	-\$60.2M	-\$409M	China	Industrial
484	Li Xiang	\$5.53B	-\$244M	-\$1.03B	China	Technology
485	Ruan Xueping	\$5.53B	-\$57.4M	-\$391M	China	Industrial
486	Sergei Popov	\$5.53B	-\$25.0M	-\$50.0M	Russian Federation	Diversified
487	Joseph Tsai	\$5.52B	-\$17.7M	-\$186M	Canada	Technology
488	Ahmet Ahlatci	\$5.52B	+\$26.4M	-\$5.79M	Turkey	Industrial
489	Daniel Tsai	\$5.50B	+\$6.37M	-\$148M	Taiwan	Finance
490	Michael Herz & family	\$5.46B	-\$15.7M	+\$22.4M	Germany	Consumer
491	Wolfgang Herz & family	\$5.46B	-\$15.7M	+\$22.4M	Germany	Consumer
492	Brian Armstrong	\$5.45B	-\$417M	-\$1.73B	United States	Technology
493	Rupert Johnson	\$5.45B	-\$16.2M	-\$143M	United States	Finance
494	Jorn Rausing	\$5.45B	-\$40.0M	-\$178M	Sweden	Services
495	Vyacheslav Kim	\$5.42B	-\$4.49M	+\$265M	Kazakhstan	Finance
496	Ben Chestnut	\$5.41B	-\$9.40M	-\$91.8M	United States	Technology
497	Cao Renxian	\$5.41B	+\$58.9M	-\$57.4M	China	Technology
498	David Green	\$5.41B	\$0	-\$366M	United States	Retail
499	Tatyana Bakalchuk	\$5.40B	-\$12.7M	-\$95.9M	Russian Federation	Technology
500	Lin Muqin	\$5.40B	-\$14.3M	-\$374M	China	Consumer



Feelings of satisfaction toward the federal government hit all time low since tracking started in 2018.

Feelings towards the federal government – Tracking

Q Which of the following feelings best describes your views of the federal government in Ottawa? [RANDOMIZE]

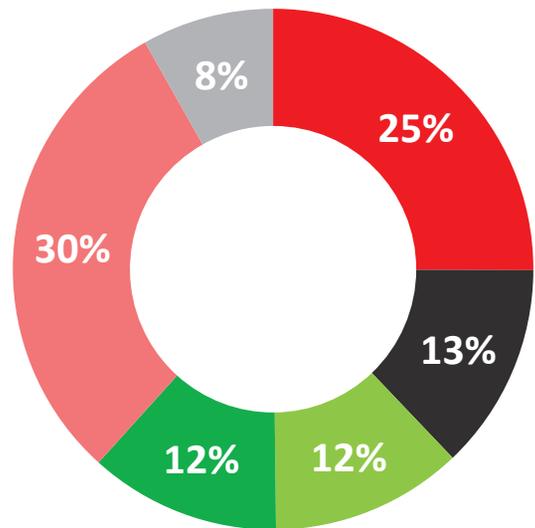


*Weighted to the true population proportion.
 *Charts may not add up to 100 due to rounding.

Source: Nanos Research, RDD dual frame hybrid telephone and online random survey, December 27th to 29th, 2023, n=1006, accurate 3.1 percentage points plus or minus, 19 times out of 20.



Feelings towards the federal government



■ Anger ■ Disinterest ■ Satisfaction
■ Optimism ■ Pessimism ■ Unsure

*Weighted to the true population proportion.

*Charts may not add up to 100 due to rounding.

Source: Nanos Research, RDD dual frame hybrid telephone and online random survey, December 27th to 29th, 2023, n=1006, accurate 3.1 percentage points plus or minus, 19 times out of 20.

Q

Which of the following feelings best describes your views of the federal government in Ottawa? [RANDOMIZE]

“

Overall, pessimism and anger continue to be the top emotions Canadians say best describe their views of the federal government in Ottawa. Feelings of satisfaction with the federal government hit an all time low at 12 per cent since tracking started. Feelings of disinterest are on the rise in Quebec (25%, compared to eight per cent in September 2023).

”

Feelings towards the federal government by region

Q Which of the following feelings best describes your views of the federal government in Ottawa? [RANDOMIZE]

	Canada			Atlantic			Quebec			Ontario			Prairies			British Columbia		
	2023-12 (n=1006)	2023-09 (n=1058)	2023-06 (n=1055)	2023-12 (n=106)	2023-09 (n=100)	2023-06 (n=72)	2023-12 (n=255)	2023-09 (n=226)	2023-06 (n=239)	2023-12 (n=339)	2023-09 (n=362)	2023-06 (n=354)	2023-12 (n=195)	2023-09 (n=212)	2023-06 (n=222)	2023-12 (n=111)	2023-09 (n=158)	2023-06 (n=168)
Pessimism	30.1%	33.8%	30.6%	34.0%	36.8%	33.4%	29.9%	36.4%	25.4%	27.7%	32.6%	31.2%	31.6%	32.4%	32.8%	33.5%	33.5%	33.4%
Anger	25.1%	24.9%	24.7%	20.7%	24.8%	21.2%	11.7%	14.4%	16.1%	27.1%	27.7%	25.0%	38.1%	32.1%	36.7%	27.2%	25.6%	24.4%
Disinterest	12.8%	7.9%	10.9%	5.1%	7.0%	8.6%	25.3%	8.0%	10.6%	11.0%	6.7%	13.2%	6.7%	8.6%	8.5%	8.5%	10.6%	8.8%
Satisfaction	11.9%	15.3%	16.1%	19.1%	15.8%	19.7%	11.0%	14.0%	18.6%	13.0%	16.8%	14.5%	6.1%	12.6%	12.5%	14.3%	16.8%	18.9%
Optimism	11.9%	12.0%	10.9%	13.8%	10.4%	10.1%	13.1%	19.4%	20.7%	11.8%	11.1%	8.3%	10.6%	9.7%	5.5%	10.6%	6.3%	9.3%
Unsure	8.2%	6.0%	6.9%	7.3%	5.2%	7.0%	8.9%	7.9%	8.5%	9.3%	5.2%	7.8%	6.9%	4.6%	4.0%	5.9%	7.3%	5.2%

Source: Nanos Research, RDD dual frame hybrid telephone and online random survey, December 27th to 29th, 2023, n=1006, accurate 3.1 percentage points plus or minus, 19 times out of 20.



Feelings towards the federal government by age

Q Which of the following feelings best describes your views of the federal government in Ottawa? [RANDOMIZE]

	Canada			18 to 34			35 to 54			55 plus		
	2023-12 (n=1006)	2023-09 (n=1058)	2023-06 (n=1055)	2023-12 (n=192)	2023-09 (n=177)	2023-06 (n=226)	2023-12 (n=320)	2023-09 (n=407)	2023-06 (n=423)	2023-12 (n=494)	2023-09 (n=474)	2023-06 (n=406)
Pessimism	30.1%	33.8%	30.6%	24.6%	32.8%	33.0%	28.4%	32.0%	30.7%	35.1%	36.0%	29.0%
Anger	25.1%	24.9%	24.7%	30.1%	25.6%	22.4%	25.8%	24.6%	29.7%	21.2%	24.7%	22.2%
Disinterest	12.8%	7.9%	10.9%	15.6%	8.1%	9.3%	15.6%	8.8%	11.4%	8.8%	7.0%	11.4%
Satisfaction	11.9%	15.3%	16.1%	10.7%	11.8%	12.5%	11.3%	15.3%	13.2%	13.3%	17.6%	20.6%
Optimism	11.9%	12.0%	10.9%	11.9%	16.4%	15.6%	11.0%	13.5%	10.0%	12.6%	8.0%	8.6%
Unsure	8.2%	6.0%	6.9%	7.1%	5.3%	7.3%	8.0%	5.8%	5.0%	9.0%	6.7%	8.1%

Source: Nanos Research, RDD dual frame hybrid telephone and online random survey, December 27th to 29th, 2023, n=1006, accurate 3.1 percentage points plus or minus, 19 times out of 20.



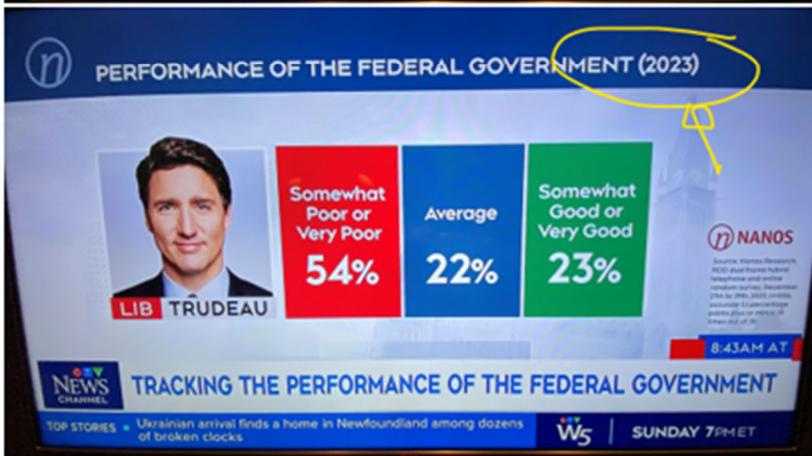
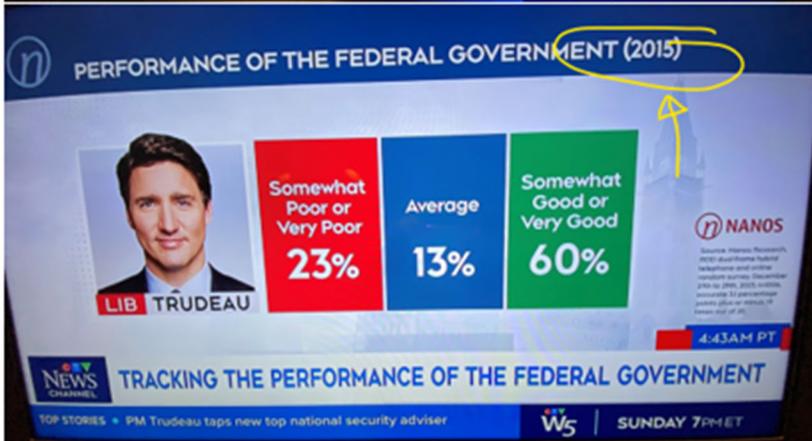
Feelings towards the federal government by gender

Q Which of the following feelings best describes your views of the federal government in Ottawa? [RANDOMIZE]

	Canada			Male			Female		
	2023-12 (n=1006)	2023-09 (n=1058)	2023-06 (n=1055)	2023-12 (n=557)	2023-09 (n=472)	2023-06 (n=543)	2023-12 (n=447)	2023-09 (n=485)	2023-06 (n=495)
Pessimism	30.1%	33.8%	30.6%	31.1%	36.1%	34.8%	29.3%	31.5%	26.7%
Anger	25.1%	24.9%	24.7%	31.7%	28.0%	29.0%	18.8%	22.0%	20.7%
Disinterest	12.8%	12.0%	10.9%	12.2%	10.7%	10.5%	13.2%	13.4%	11.4%
Satisfaction	11.9%	15.3%	16.1%	12.3%	14.4%	13.7%	11.6%	16.2%	18.4%
Optimism	11.9%	7.9%	10.9%	7.8%	6.9%	6.7%	15.8%	8.9%	14.4%
Unsure	8.2%	6.0%	6.9%	4.9%	4.0%	5.3%	11.2%	8.0%	8.4%

Source: Nanos Research, RDD dual frame hybrid telephone and online random survey, December 27th to 29th, 2023, n=1006, accurate 3.1 percentage points plus or minus, 19 times out of 20.





Source: Nanos Research, CTV News

2015 Canadian federal election



← 2011 October 19, 2015 2019 →

← outgoing members elected members →

338 seats in the House of Commons
170 seats needed for a majority

Opinion polls

68.3%^[1] (▲7.2pp)

Turnout



Leader	Justin Trudeau	Stephen Harper	Tom Mulcair
Party	Liberal	Conservative	New Democratic
Leader since	April 14, 2013	March 20, 2004	March 24, 2012
Leader's seat	Papineau	Calgary Heritage	Outremont
Last election	34 seats, 18.91%	166 seats, 39.62%	103 seats, 30.63%
Seats before	36	159	95
Seats won	184	99	44
Seat change	▲148	▼60	▼51
Popular vote	6,942,937	5,613,633	3,469,368
Percentage	39.47%	31.91%	19.72%
Swing	▲20.56pp	▼7.71pp	▼10.91pp



Leader	Gilles Duceppe	Elizabeth May
Party	Bloc Québécois	Green
Leader since	June 10, 2015	August 27, 2006
Leader's seat	Ran in <i>Laurier—Sainte-Marie</i> (lost)	Saanich—Gulf Islands
Last election	4 seats, 6.04%	1 seat, 3.91%
Seats before	2	2
Seats won	10	1
Seat change	▲8	▼1
Popular vote	821,144	602,933
Percentage	4.67%	3.43%
Swing	▼1.38pp	▼0.49pp

SAF Dan Tsubouchi @Energy_Tidbits · 2h
#Houthis

"But the two U.S. officials cautioned on Saturday the strikes had **damaged or destroyed only about 20 to 30 percent of the Houthis' offensive capability**, much of which is mounted on mobile platforms and can be readily moved or hidden."

Thx @EricSchmittNYT #OOTT

Eric Schmitt @EricSchmittNYT · 17h
NEW: U.S.-led strikes against Houthi militia in Yemen leaves intact much of the Iran-backed group's ability to attack with drones and missiles, a new assessment reveals nytimes.com/2024/01/13/us/...

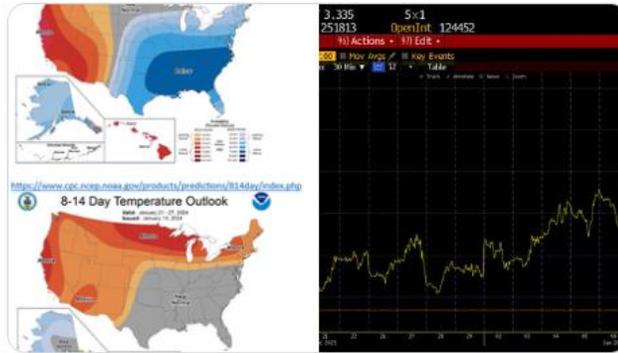
1.5K

SAF Dan Tsubouchi @Energy_Tidbits · 19h
Cold weather in US drove HH #NatGas +\$0.44 WoW to \$3.31.

NFL fans know its really cold this weekend so should support HH prices for most of next week.

But today's @NOAA temperature outlook covers Jan 19-27. Expected turning to warmer than normal in late Jan.

#OOTT



1 4 9 3.3K

SAF Dan Tsubouchi @Energy_Tidbits · Jan 13
 Floating #Oil storage 01/12 71.84 mmb, -15.41 WoW vs revised up 01/05 of 87.25 mmb.

01/05 revised +9.86 & 12/29 revised +3.02 mmb.

Expect to see ongoing revisions given Red Sea and Panama Canal issues.

Thx @Vortexa @business. #OOTT



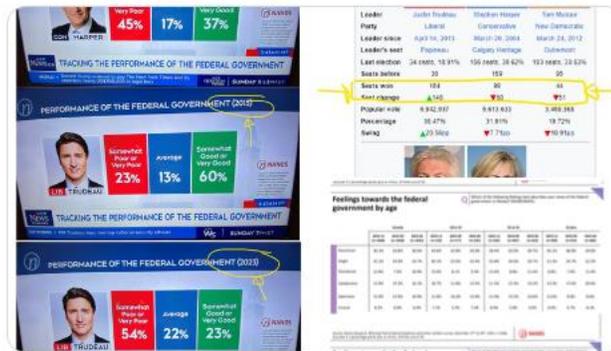
3 19 3.4K

SAF Dan Tsubouchi @Energy_Tidbits · Jan 13
 Brutal poll #s with <21 mths to 🇨🇦 election.

Does Trudeau have any choice but to go big on tax and spend if he wants to try to avoid what he did to Harper in 2015?

Logical targets: high income, corporates, wealth tax, 2nd homes, fossil fuels, etc?

Thx @niknanos #OOTT



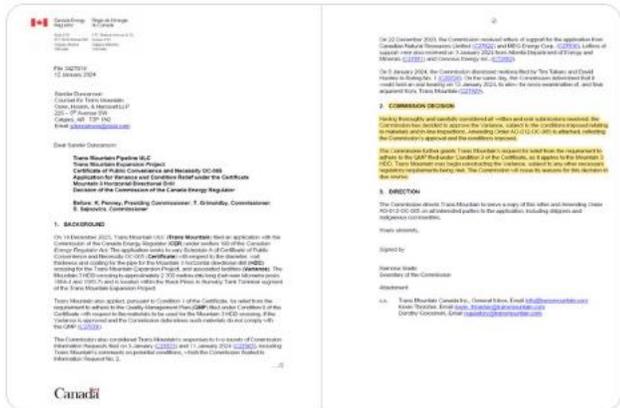
1 6 1.4K

SAF Dan Tsubouchi @Energy_Tidbits · Jan 13
Good news for Cdn #Oil.

📌 CER "the commission has decided to approve the Variance"

This lets Trans Mountain complete 590,000 b/d TMX expansion.
Hopefully in the next few months assuming no construction issues.

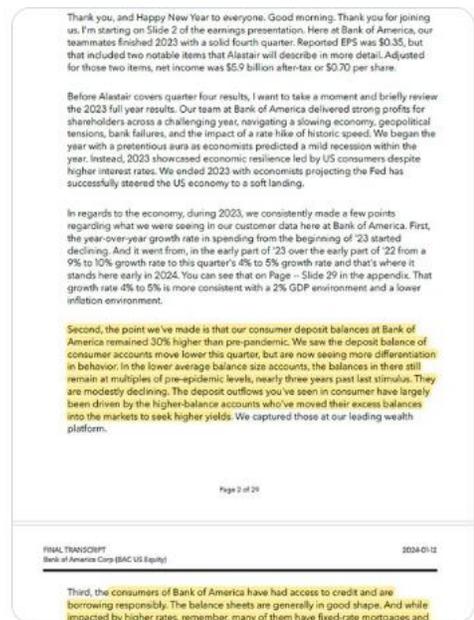
Thx @RodNickel_Rtrs @nia_elerl for flagging.
#OOTT



🗨️ 1 🔄 10 ❤️ 30 📊 4.1K 📌 📤

SAF Dan Tsubouchi @Energy_Tidbits · Jan 12
BoFA CEO Moynihan

Expected move of excess funds by higher income as rates drop out of deposits. "deposit outflows you've seen in consumer have largely been driven by the higher-balance accounts who've moved their excess balances into the markets to seek higher yields."
#OOTT



🗨️ 🔄 3 📊 1.5K 📌 📤

SAF

Dan Tsubouchi @Energy_Tidbits · 1h

...

Here's why JKM #LNG and Europe TTF #NatGas prices are basically half of a year ago.

And why the risk for repeat of 2023 with soft LNG and #NatGas prices carrying thru shoulder season.

Hottest average global temperature on record for BOTH Nov 2023 and Dec 2023.

#OOTT



910

SAF

Dan Tsubouchi @Energy_Tidbits · 7h

...

Saudi Arabia doing their best to avoid being aligned with US, UK & allies as hostile forces by the Houthis.

Saudi has enjoyed a Houthi missile/drone attack free period and doesn't want to become a target again as it is the simplest target. But also has the most to lose

#OOTT

<https://www.spa.gov.sa/stories/2024/02/23>
Saudi Arabia Closely Monitors with Great Concern Military Operations in Red Sea Region, Air Strikes on Sites in Yemen
 Thursday 20/02/1445

Riyadh, Jan 12, 2024. SPA – The Kingdom of Saudi Arabia is closely monitoring with great concern the military operations in the Red Sea region and the air strikes against a number of sites in the Republic of Yemen. While the Kingdom emphasizes the importance of maintaining the security and stability of the Red Sea region, as the freedom of navigation in it is an international demand due to its impact on the interests of the entire world, it calls for restraint and avoiding escalation in light of the events the region is witnessing.

—SPA
 05:46 Local Time 02:40 GMT
 0300

1K

SAF

Dan Tsubouchi @Energy_Tidbits · 8h

Houthi's threat to attack US/UK is also "on land" not just "at sea"

"the US and UK bear full responsibilitythis aggression will not go unanswered and without punishment. will not hesitate to target threat sources and all hostile targets on land and at sea ..."

#OOTT

News - Yemen: The Yemeni Armed Forces have announced that the US-British aggression against Yemen will not go unpunished, affirming that they will not hesitate to target hostile threat sources on land and at sea.

The Armed Forces also emphasized the continuation of the Zionist navigation ban in the Red Sea and the Arabian Gulf.

"US-British enemy, as part of its support for the ongoing Israeli crimes in Gaza, launched a brutal aggression against Yemen with 73 airstrikes," the official spokesman for Yemeni Armed Forces, Yahya Saeed, said in a statement.

He clarified that the aggression targeted the capital Sana'a, the provinces of Hadramout, Taiz, Hajjah, and Sa'adah. "The airstrikes resulted in the martyrdom of five and the injury of six others."

Saeed affirmed that the US and UK bear full responsibility for their criminal aggression against the Yemeni people. He affirm that the aggression will not go unanswered and without punishment.

He emphasized that the Yemeni Armed Forces will not hesitate to target threat sources **on land and at sea** in defense of Yemen, its sovereignty, and independence.

He stressed that this brutal aggression will not deter Yemen from its supportive and supportive stance towards the plight of the Palestinian people.

The Yemeni Armed Forces affirm their continued prevention of Israeli ships or any ships heading to the occupied ports of Palestine from navigating in the Arabian Gulf and the Red Sea.

The capital Sana'a, several provinces were subjected on Friday to US-British aggression through a series of airstrikes.

Deputy Foreign Minister Hussein Al-Azzi unequivocally stated that the US and UK must be prepared to face severe repercussions and bear full responsibility for their blatant aggression against Yemen.

Yesterday, Sayyed Abdulmalik emphasized that no potential American aggression will go unanswered, and the Yemeni people will not hesitate to do whatever is necessary to confront American aggression.

He emphasized that the response to any American aggression will not be limited to the scale of the recent operation, which involved over 24 drones and several missiles. It will be more significant than that.

"The American and British position of protecting ships affiliated with Israel, allowing the Israelis to continue their crimes without disturbance, will not deter us," Sayyed Abdulmalik said. "The Yemeni position of preventing ships affiliated with Israel from crossing the Red Sea and targeting them is an effective and influential stance."

He added that the Yemeni position at sea has caused significant economic losses to the Zionist enemy and has extended its impact to those who stand with and support them. He pointed out that those who belittled the Yemeni position and tried to mock it turned to exaggeration after the American aggression took place.

He also affirmed that the Yemeni people are not afraid of America, and their stance is not limited by the need to avoid angering America. They do not shy away from the battlefield and confronting any enemy, regardless of their capabilities. He noted that the American attack on the Naval Forces was evidence of the impact of Yemen's stance on the Zionist enemy.



1



8

1.1K



SAF

Dan Tsubouchi @Energy_Tidbits · 9h

Delta CEO 24 outlook - looks good excl China.

"strongest growth will continue to be international"

"we will continue to see what's happening in China, it's a bit limited"

"corporate travel is up ... now probably back almost 90% of where we were pre-pandemic & continuing to..."

Show more



2



5

2.9K



SAF

Dan Tsubouchi @EnergyTidbits · 21h

WTI +\$1.30 to \$73.32 with the reports of US bombing of Houthis sites in Yemen.

Key question now is when/how/against who and where will Houthis respond?

#OOTT



Dan Tsubouchi @EnergyTidbits · 21h



Biden "U.S. military forces—together with the United Kingdom and with support from Australia, Bahrain, Canada, and the Netherlands—successfully conducted strikes against a number of targets in Yemen used by Houthi rebels....."

[Show more](#)

2 18 2.7K

SAF

Dan Tsubouchi @EnergyTidbits · 21h

Biden "U.S. military forces—together with the United Kingdom and with support from Australia, Bahrain, Canada, and the Netherlands—successfully conducted strikes against a number of targets in Yemen used by Houthi rebels....."

When/how/against who will Houthis respond?

#OOTT

<https://www.whitehouse.gov/the-press-office/2024/01/11/statement-from-president-joe-biden-on-coalition-strikes-against-houthi-controlled-areas-in-yemen/>

JANUARY 11, 2024

Statement from President Joe Biden on Coalition Strikes in Houthi-Controlled Areas in Yemen

Today, at my direction, U.S. military forces—together with the United Kingdom and with support from Australia, Bahrain, Canada, and the Netherlands—successfully conducted strikes against a number of targets in Yemen used by Houthi rebels to endanger freedom of navigation in one of the world's most vital waterways.

These strikes are in direct response to unprecedented Houthi attacks against international maritime vessels in the Red Sea—including the use of anti-ship ballistic missiles for the first time in history. These attacks have endangered U.S. personnel, civilian mariners, and our partners, jeopardized trade, and threatened freedom of navigation. More than 50 nations have been affected by 27 attacks on international commercial shipping. Crews from more than 20 countries have been threatened or taken hostage in acts of piracy. More than 3,000 ships have been forced to divert thousands of miles to avoid the Red Sea—which can cause weeks of delays in product shipping lines. And on January 8, Houthis launched their targeted attack to deliberately target American ships.

The response of the international community to these reckless attacks has been united and resolute. Last month, the United States launched Operation Prosperity Guardian—a coalition of more than 20 nations committed to defending international shipping and deterring Houthi attacks in the Red Sea. We also joined more than 10 nations in condemning Houthi threats. Last week, together with 13 allies and partners, we issued an unequivocal warning that Houthi rebels would bear the consequences if their attacks did not cease. And yesterday, the United Nations Security Council passed a resolution demanding the Houthis end attacks on merchant and commercial vessels.

Today's decisive action follows this extensive diplomatic campaign and Houthi rebels' escalating attacks against commercial vessels. **These targeted strikes** are a clear message that the United States and our partners will not tolerate attacks on our personnel or allow hostile actors to impair freedom of navigation in one of the world's most critical commercial routes. I will not hesitate to direct further measures to protect our people and the free flow of international commerce as necessary.

3 11 4.7K

SAF Dan Tsubouchi  @Energy_Tidbits · 1h Breaking

See  @Steven_Swinford @thetimes thread

US/UK expected to make air strikes on Houthis

#OOTT

Steven Swinford  @Steven_Swinford · 1h BREAKING:

Joe Biden, the US President, is expected to make a statement tonight in the wake of military strikes against Houthi targets in Yemen

... [Show more](#)

   1  981  

SAF Dan Tsubouchi  @Energy_Tidbits · 8h OPEC will love it.

[@WoodMackenzie](#) forecasts #Oil demand around +2.0 mmb/d YoY in 2024.

OPEC fcast +2.2 mmb/d YoY in 2024 vs [@IEA](#) forecast +1.1 mmb/d YoY.

Thx [#WoodMac](#) Alan Gelder

#OOTT

Chemicals industry faces overcapacity and rationalisation

11 January 2024



Alan Gelder
VP Refining, Chemicals & Oil Markets

When it comes to oils and chemicals, 2023 turned out broadly as we expected. Economic uncertainty set the tone for the oil markets. China's demand recovery was sluggish, leading to oversupplied downstream markets. Petrochemical producer margins remained under pressure throughout the year, with asset rationalisation a common theme across base chemicals.

Both oil prices and refining margins were lower at the end of 2023 than 2022, refining margins markedly so. These values mask another volatile year in which the global crude oil and refined market proved its resilience amid significant geopolitical challenges.

But what's ahead for the next 12 months? We set out our predictions in *Oils & chemicals: 5 things to watch for in 2024*. Fill in the form to get your complimentary copy, and read on for an overview of some of the key themes.

China continues to lead oil demand growth

Our outlook on the fundamentals guides us to a more balanced environment for oil and refining in 2024. Oil demand will continue to break records, with annual demand growth of around 2 million b/d projected, skewed towards the second half of next year. China continues to lead, with growth around 0.53 million b/d in 2024.

Meanwhile, other emerging markets in Asia, as well as the US, will also be key growth markets this year. Read the full report to see charts on oil demand growth by market, plus a look at the impact of OPEC+ production cuts on oil market balance.

The US remains awash in propane as supply continues to outpace demand – with implications for naphtha

Barring a cold winter, 2024 is shaping up to be a bad year for propane. As the surplus must clear into China's naphtha crackers, it does not bode well for naphtha either.

Declining rig counts could alleviate supply pressure, despite the fact that gas production, driven by LNG demand, is forecast to increase.

Download the full report for more detail on the US propane/propylene inventory forecast.

The refining sector to remain middle distillate led, with high utilisation rates

 1  5  24  2.4K  

SAF

Dan Tsubouchi @EnergyTidbits · 8h

"neither agency I think is really helping us understand markets properly because I think they are talking their political book" re IEA and OPEC oil demand forecasts says @NeilAtkinson58, former Head Oil Markets Division at IEA.

2024 #Oil demand fcasts: @IEA +1.1 mmbd YoY. OPEC...

[Show more](#)

"neither agency I think is really helping us understand markets properly because I think they are talking their political book" re IEA and OPEC oil demand forecasts say Neil Atkinson, former Head Oil Markets Division at IEA.



SAF Group created transcript of comments by Neil Atkinson (Former Head of Oil Markets Division, International Energy Agency) on Gulf Intelligence's Global Energy Outlook Forum 2024 on Jan 10, 2024. https://twitter.com/gulf_intel/status/1745030496678129257

Items in *italics* are SAF Group created transcript

At 10:55 min mark, Atkinson "...On *oil demand*, I find, for example, OPEC's outlook, not just for 2024 but for further into the medium term, to be almost incredible. And I think that they are talking their book. And I think that also applies to my former colleagues at the International Energy Agency. And neither agency I think is really helping us understand markets properly because I think they are talking their political book. My own instincts as far as oil demand in 24 is concerned is that we are likely to see round about a million barrels a day but, if it is to be different than that, it is more likely to the upside than the downside because demand has tended to surprise. Perhaps I was affected by my years at the IEA but demand has tended to surprise to the upside rather than the downside in recent years. So I think we have underlying solid demand growth in 2024 and indeed will be the same in 25."

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

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1.4K

1

SAF

Dan Tsubouchi @Energy_Tidbits · 9h

Iran state media say they seized the tanker.

"Iran's Navy seizes US oil tanker with court order"
"The vessel had been loaded with 145,000 tonnes of crude oil in Basra, Iraq and was destined for Aliaga in Turkey via the Suez Canal"

#OOTT

<https://www.press.tv/detail/25249/11718018/iran-navy-seizes-us-oil-tanker-in-sea-of-oman>

Iran's Navy seizes US oil tanker with court order
Thursday, 11 January 2024 1:06 PM [Last Update: Thursday, 11 January 2024 1:28 PM]

The Navy of the Islamic Republic of Iran has announced the seizure of an American oil tanker with a court order in the Sea of Oman.

The United Kingdom Maritime Trade Operators (UKMTO) identified the tanker Marshall Islands-Flagged St Nikolai, saying it was boarded at about 7:30 am (0530 GMT) off Sohar in Oman and changed course towards Bandar-e-Jask in Iran.

Arbrey, a British maritime risk company, said the recently renamed tanker was previously prosecuted and fined for carrying Iranian oil, which was confiscated by US authorities.

"Iran has previously taken action against those it has accused of cooperating with the US," it added.

The vessel had been loaded with 145,000 tonnes of crude oil in Basra, Iraq and was destined for Aliaga in Turkey via the Suez Canal, the tanker's Greek-based management company Empire Navigation said.

Last August, the US Navy intercepted a tanker of stolen Iranian oil worth around \$28 million off the Texas port, despite warnings from Iran and after American oil firms had pleaded the complexities of tracking the 800,000-barrel tanker for fear of Iranian retaliation in the Persian Gulf anding.

The decision came as Iran was marking the 70th anniversary of the CIA-engineered military coup against Iran's then-PM Mohammad Mosaddeq.

The Marshall Islands-Flagged Suez Rajan tanker carrying Iranian oil was illegally seized by Washington in April 2023 under the guise of "a sanctions-enforcement operation" and guided toward the Texas port.

It came days after a group of US senators and House representatives, at the behest of the Israeli lobby in Washington, began mounting pressure on the Joe Biden administration to amend the tanker, without considering its possible repercussions.

It was not the first time the US had resorted to the unconventional step of seizing a sovereign country's cargo in international waters.

In May 2022, the US seized a Russia-operated ship, the Pegas, carrying Iranian oil off the shore of Karyolos near Greece to dispatch the oil cargo to the US but the Greek court ruled against the move.

In February 2021, Washington seized a tanker carrying Iranian oil off the coast of the Emirati city of Fujairah and sold more than a million barrels of oil confiscated from it for \$110 million, or \$55 a barrel.

The United States has also regularly stolen Syrian oil in recent years under the guise of anti-terror operations in the Arab country. In August 2022, the Syrian oil ministry accused the US and its mercenaries of stealing 60,000 barrels of oil per day, accounting for almost 80 percent of the country's oil production.

Press TV's website can also be accessed at the following alternate addresses:
www.press.tv

SAF Dan Tsubouchi @Energy_Tidbits · 11h



Breaking.

Brent spiked this morning

@UK_MTO, Vessel hijacked off coast off Oman, ...

Show more

2

2

13

2.3K

Share icons

SAF

Dan Tsubouchi @Energy_Tidbits · 9h

Reality check: a "chokepoint" impacting the world can be upset by a small group Houthis w/ relatively inexpensive drones & small boats!

See @rmlneNordic on Maersk CEO. Houthis forcing avoiding Red Sea/Suez Canal adding inflationary pressure and supply chain risk "If.."
Show more

2

2

2

1.4K

Share icons



Dan Tsubouchi @EnergyTidbits · 10h

US rental car customers speak - less EVs, more ICE.

@Hertz selling 20,000 EVs from US fleet "to better balance supply against demand of EVs".

To use portion of proceeds for "purchase of ICE vehicles to meet customer demand"

EV growth is happening, just a lot slower!

#OTT

Item 2.03 Results of Operations and Financial Condition

Hertz Global Holdings, Inc. (the "Company" or "Hertz") has made the strategic decision to sell approximately 20,000 electric vehicles ("EVs") from its U.S. fleet, or about one-third of the total EV fleet. These vehicles, disposables, which were introduced in December 2021 and are expected to take about an orderly fashion over the course of 2024, will cover multiple makes and models. EVs held for sale will remain eligible for rental within the Company's fleet during the sales process. The Company expects to reinvest a portion of the proceeds from the sale of EVs into the purchase of internal combustion engine ("ICE") vehicles to meet customer demand.

The Company's decision to reduce its EV fleet will result in the recognition, during the fourth quarter of 2023, of approximately \$245 million of incremental net depreciation expense related to the sale. This non-cash charge represents the write-down of the EVs' carrying values as of December 31, 2023 to their fair values, less related expenses associated with the disposition of the vehicles. This charge is in addition to the depreciation expense that the Company will report for the fourth quarter in the ordinary course with respect to the remainder of its fleet. Future depreciation expense on the specific vehicles held for sale is expected to be limited to impacts from changes in the vehicles' condition and general market factors. Any gain or loss associated with the ultimate disposition of any specific EV will be recognized in the period of sale. The Company does not expect this EV fleet reduction and the corresponding addition of ICE vehicles to have a material impact on its asset-backed securitization facilities, nor does it anticipate the need to make additional cash contributions to such facilities as a result of this strategic action.

The Company expects this action to better balance supply against expected demand of EVs. This will position the Company to eliminate a disproportionate number of lower margin rentals and reduce damage expense associated with EVs. The Company will continue to execute its strategy around EV mobility and offer customers a wide selection of vehicles. The Company continues to implement a series of initiatives that it anticipates will continue to improve the profitability of the remaining EV fleet. These initiatives include the expansion of EV charging infrastructure, growing relationships with EV manufacturers, particularly related to more affordable access to parts and labor, and continued implementation of policies and educational tools to help enhance the EV experience for customers. Going forward, the Company will continue to actively manage the total size of its EV fleet, as well as the allocation of EVs among customer segments, including leisure, corporate, government and ride-share.

It is expected that the planned reduction in the EV fleet and reinvestment in additional ICE vehicles will improve Adjusted Corporate EBITDA across 2024, as vehicles are rotated, and in 2025, by which time all of the vehicles included in this plan are expected to be sold. By year end 2025, it is expected that the aggregate two-year benefit to Adjusted Corporate EBITDA related to the sale will approximate the incremental net depreciation expense to be recognized in the fourth quarter of 2023. It is expected that this benefit to the Company's financial results will be derived from higher revenue per day and lower depreciation and operating expenses related to its remaining fleet. The Company further anticipates that incremental free cash flow generation related to this action will approximate \$250 million to \$300 million in the aggregate over 2024 and 2025.

The Company expects to report financial results for the fourth quarter ended December 31, 2023 on February 6, 2024. Consistent with expectations, the Company expects to report revenue for the fourth quarter of 2023 in the range of \$2.1 billion to \$2.2 billion, in line with historical seasonality relative to its third quarter. Adjusted Corporate EBITDA for the fourth quarter of 2023 will be negatively impacted by the incremental net depreciation expense associated with the EV sales plan, and further burdened by higher depreciation expense in the ordinary course as residual values for vehicles generally fell throughout the quarter greater than previously expected. While direct operating expenses per transaction day, excluding collision and damage, will be flat for the quarter and down for the year, expenses related to collision and damage, primarily associated with EVs, remained high in the quarter, thereby supporting the Company's decision to initiate the material reduction in the EV fleet. The Company expects to report a negative Adjusted Corporate EBITDA (excluding the impact of the non-cash charge related to the EV sales plan) for the fourth quarter in the range of (\$120 million) to (\$130 million).

The Company's estimated results for the fourth quarter ended December 31, 2023, are preliminary in nature and subject to change as results for each period are finalized. Estimates of results are inherently uncertain and subject to change, and the Company undertakes no obligation to update the estimated results. The Company's estimates contained in this Current Report on Form 8-K may differ, perhaps materially, from actual results. Hertz is in the process of finalizing its fourth quarter 2023 financial statements and will discuss actual performance and more details in its regularly scheduled earnings release and conference call, which are planned for February 6, 2024.

The Company cannot, without unreasonable effort, reconcile its forecasted range of Adjusted Corporate EBITDA, a non-GAAP financial measure, to its most directly comparable GAAP financial measure, net income (loss) attributable to the Company, due to the uncertainty and inherent difficulty of predicting the occurrence and the financial impact of items impacting comparability as of the date of this Current Report on Form 8-K. Management uses Adjusted Corporate EBITDA as an operating performance metric for internal monitoring and planning purposes, including the preparation of the Company's annual operating budget and monthly operating reviews, and analysis of investment decisions, profitability and performance trends. This measure enables management and investors to isolate the effects on profitability of operating metrics most meaningful to the business of renting and leasing vehicles. It also allows management and investors to assess the performance of the entire business on the same basis as its reportable segments.



3



8



26

4.3K



SAF

Dan Tsubouchi @Energy_Tidbits · 11h

Breaking.

Brent spiked this morning

🚨 @UK_MTO, Vessel hijacked off coast off Oman, forced to alter course to Iran, communications lost.

Reported by @rakteem @alexlongley1 @A_DiPaola17 to be an #Oil tanker.

#OOT



United Kingdom Maritime Trade Operations (UKM) @UK_MTC · 13h
 UKMTO WARNING 006/JAN/2024 UPDATE 003
ukmto.org/indian-ocean/p...
 #MaritimeSecurity #MarSec

🗨️ 3 ❤️ 3 📊 3.9K 📌 🔄

SAF

Dan Tsubouchi  @Energy_Tidbits · 20h
Red Sea escalation.

...

"Largest attack on a Royal Navy warship in decades" says UK Secretary of State [@grantshapps](#).

Shapps confirms 7 of these Houthi drones were targeted at UK navy ship.

Sooner or later, don't the US and UK have to attack the Houthis??

#OOTT

<https://twitter.com/grantshapps/status/175126681390243022>

 **Rt Hon Grant Shapps MP**  [@grantshapps](#)

Yesterday saw the largest attack on a Royal Navy warship in decades.

I'd like to thank the crew of [@HMSDiamond](#) for their heroic service in the Red Sea, as they continue to defend innocent lives and global trade from these intolerable Houthi attacks.

The successful destruction of seven incoming attack drones was a powerful demonstration of the expertise, bravery and leadership of all sailors aboard and an undeniable display of the importance of the entire [@RoyalNavy](#) in keeping Britain safe from growing threats.



9:53 AM · Jan 10, 2024 · 262.3K Views

584 355 1.7K 27

— Dan Tsubouchi  @Energy_Tidbits · Jan 9

#Houthi attack.

"18 OVA UAVs, 2 anti-ship cruise missiles, and one anti-ship ballistic missile were shot down by combined effort of F/A-18s" See [@CENTCOM](#) [twitter.com/CENTCOM/status/.....](https://twitter.com/CENTCOM/status/175126681390243022)

[Show more](#)

1

1

8

2.8K

2



Dan Tsubouchi  @Energy_Tidbits · 20h
 #OilDemand 101.



"I think it [oil demand] will grow more for longer than some of the peak oil enthusiasts would like to think." "But the [demand] growth in developing countries is, I believe, going to surpass the savings that we make in developed countries for some time to come."...

[Show more](#)

"I think it [oil demand] will grow more for longer than some of the peak oil enthusiasts would like to think." "But the [demand] growth in developing countries is, I believe, going to surpass the savings that we make in developed countries for some time to come." Neil Atkinson.

 Gulf Intelligence 
 @gulf_intel

GEOF 2024 - How are market fundamentals changing and what will meet the grade in 2024?



SAF Group created transcript of comments by Neil Atkinson (Former Head of Oil Markets Division, International Energy Agency) on Gulf Intelligence's Global Energy Outlook Forum 2024 on Jan 10, 2024.
https://twitter.com/quill_intel/status/1745030496978126257

Items in *"italics"* are SAF Group created transcript

At 24:05 min mark, Atkinson "...Demand, although it's going to continue to grow. And I think it will grow more for longer than some of the peak oil enthusiasts would like to think. There is still going to be enough supply to meet that demand for the next few years. And just quickly because I am conscious of the time here. I am not in the camp that believes peak oil demand will come quickly. One of the reasons for that is if you look at the per capita consumption of energy as a whole. But let's look at oil in countries like India, the African continent and other developing countries. You've got India using 1.4 barrels per capita per year. I think it's 21 in the United States and something like 8 or 9 in European countries. Only 1.1 barrels per capita in Africa. Now I am not saying for a minute, they are suddenly going to go overnight from current levels of consumption per capita to the levels we enjoy in Europe and in the United States. Of course not. Their growth, their energy growth will come with a lot of renewables contributing to it. Of course it will. But they are still going to be using, over the next decade or so and beyond, an awful lot more oil. And that is a reality. And we can take measures in western Europe and the United States, which we are doing and we are seeing growth in sales of EVs, there is no question about that. But the growth in developing countries is, I believe, going to surpass the savings that we make in developed countries for some time to come."

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

 1  8  31  3.4K  



Dan Tsubouchi @Energy_Tidbits · 22h

#Oil 2024 outlook.

"fundamental view remains one of a relatively balanced market" & "fundamentals for 2024 look similar to 2023.... big focus is on the spare capacity that Christof been talking about how OPEC+ & RUS keep their various partners or factions in-line"

Show more



SAF Group created transcript of comments by Mike Muller (Head of Asia, Vitol) and Christof Ruhl (Senior Research Scholar, Center on Global Energy Policy, Columbia University) with Sean Evers (Managing Partner, Gulf Intelligence) on Gulf Intelligence "The 14th Global Energy Outlook Forum 2024: Europe Flexidex Chat" on January 19, 2024. [LINK](#)

Items in "italics" are SAF Group created transcript.

At 3:00 min mark, Muller "since your question was about oil, *indeed we started the year in the \$75 to \$79 per barrel type range for Brent. And the fundamental view remains one of a relatively balanced market. Whilst inventories are historically at the low end of the range, very much a product of OPEC+ price policy. There is also a very balanced view in terms of how demand is ebbing. We still have year-on-year demand growth. So whilst in the western hemisphere, there is very much a mood of peak oil demand being behind us, Asia is still racing ahead in terms of consumption and strata of population joining the consuming middle classes and all that. But the reason you are not seeing prices reflect black gaps, gaps and oil is these are not black swan events. They are very much necessary. Some of them carry great dangers. But things like the port military action to prevent missiles from Yemen hitting merchant feed ships coming *past the Bab el Mandeb* have not served to materially disrupt shipping routes and have not served to materially disrupt oil prices."*

At 7:35 min mark, Muller "if you just go back to the fundamentals of supply and demand starting with crude oil. With a couple of short-term exceptions, there is more oil available from more sources than has been the case for a very long time. *Venezuela's oil is back, General Lorenzo 44 is in place. Of course, Venezuela has seen chronic underinvestment and therefore it's not producing at what it used to do in the Venezuela glory days. Nonetheless that oil is coming to market. There is still question mark hanging over Kurdish evacuation, certainly to the Mediterranean although some of the oil is finding its way to domestic refinery and to southern exports. And, with the exception of a short-term blip in Libya in the El Sharaa field, which is significant, we have oil coming from everywhere. And sanctioned sources of crude, namely Iran and Russia, are finding their way to markets in desert quantities also still. So the entire thesis of underinvestment coming out of Covid on long-lead deepwater projects by the oil majors, which caused a lot of concern that there would be a consequent lack of non-OPEC production, the numbers for 2023 are roughly a million barrels a day from the Americas alone. With the USA, Brazil, Colombia and Guyana in that order, each of them at least 200-250,000 barrels a day year-on-year supply growth. Making up more than half of oil demand growth under anyone's demand growth measure in the consulting shops and research companies still offer a little bit on the 2023 oil consumption. But looking forward to 2024, will that continue? There is still a consensus of analysts that the US is going to grow crude supply from right now about 13.3 to the time next year, maybe 13.6 seems to be the mid-point consensus, maybe 13.5. So that's not the same pace of growth from the US. But it looks like the bringing on stream and the maintenance of production from the pre-salt Brazilian structures, the next phase from Guyana, will all add production, which challenges OPEC. And for OPEC to have some wiggle room to allow for the historic non-compliance, there is never 100% compliance, requires global demand growth to outpace that non-OPEC supply I talked about. I was just talking about the Americas, of course. Now on the demand side, you keep coming back to places like China and India. Those are the two major economies that are going to account for growth in 2024. We see some slowing in China although the official GDP growth number is still 4.5 and India is 6 point something. So those two are going to be the stewards of demand. But*

2 12 2.1K



Dan Tsubouchi @Energy_Tidbits · Jan 10

For those not near their laptops, @EIAgov just released at 8:30am MT its #Oil #Gasoline #Distillates inventory as of Jan 5. Table below compares EIA data vs @business expectations and vs @APIenergy yesterday. Prior to release, WTI was \$73.15. #OOT

Oil/Products Inventory Jan 5: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	1.34	-0.15	-5.20
Gasoline	8.03	2.13	4.90
Distillates	6.53	1.76	6.90
	15.90	3.74	6.60

Note: Oil is commercial so builds in +0.6 mmb in SPR for the Jan 5 week
 Note: Included in the oil data, Cushing had a 0.51 mmb draw for Jan 5 week
 Source EIA, Bloomberg
 Prepared by SAF Group <https://safgroup.ca/news-insights/>

15 1.7K



Dan Tsubouchi @Energy_Tidbits · Jan 10

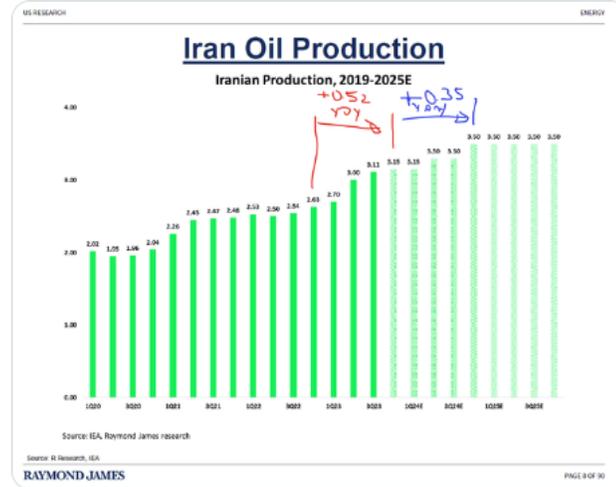


What Iran #Oil sanctions?

Lack of enforcement on Iran sanctions = Iran oil production +0.52 mmbd exit 2022 to exit 2023, and +0.35 mmbd exit 2023 to exit 2024.

Highlighted by @RaymondJames John Freeman Pavel Molchanov Justin Jenkins Jim Rollyson J.R. Weston

#OOTT



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17

57

6.6K



SAF

Dan Tsubouchi @Energy_Tidbits · Jan 10

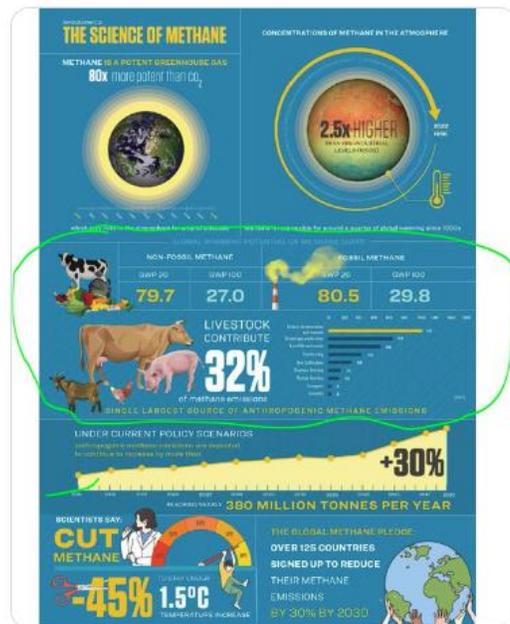
...

Here's why Zuckerberg's beer to his Wagyu cows should get climate change attention.

Livestock burps/farts generate 32% of world's #Methane emissions

Graphic from my 11/14/22 tweet twitter.com/Energy_Tidbits...

#OOT #EnergyTransition #ClimateChange



SAF Dan Tsubouchi @Energy_Tidbits · Jan 10



Add #ClimateChange/#MethaneEmissions to anti-red meat push

"my goal is to create some of the highest quality beef in the world. The cattle are wagyu and angus, and ...

Show more

Retweet, Reply, Like, Share icons

SAF **Dan Tsubouchi** @Energy_Tidbits · Jan 10
Add #ClimateChange/#MethaneEmissions to anti-red meat push

"my goal is to create some of the highest quality beef in the world. The cattle are wagyu and angus, and they'll grow up eating macadamia meal and **drinking beer** that we grow and produce here on the ranch"
Zuckerberg



1 3 3 4.4K

SAF **Dan Tsubouchi** @Energy_Tidbits · Jan 9
#Houthi attack.

"18 OWA UAVs, 2 anti-ship cruise missiles, and one anti-ship ballistic missile were shot down by combined effort of F/A-18s" See @CENTCOM twitter.com/CENTCOM/status...

#OOTT



3 4 6K

SAF **Dan Tsubouchi** @Energy_Tidbits · Jan 9
Breaking.

See @loriannlarocco report!

Houthis drone attack on ships in Red Sea

#OOTT



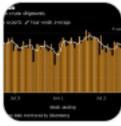
2 3 12 8.3K

SAF Dan Tsubouchi  @Energy_Tidbits · Jan 9 ...
Saudi will also like this.

Russia crude #Oil production in Dec was -60,000 b/d MoM to 9.57 mmbd in Dec, which was down 375,000 b/d vs Feb 2023 baseline reports @ja_herron.

#OOTT



SAF Dan Tsubouchi  @Energy_Tidbits · Jan 9
 "Russia's Crude Exports Start 2024 in Line With Pledged OPEC+ Cut" reports @JLeeEnergy/
Down 0.5 mmbd WoW to 3.28 mmbd for Jan 7 week,
...
[Show more](#)

  5  26  4.4K  

SAF

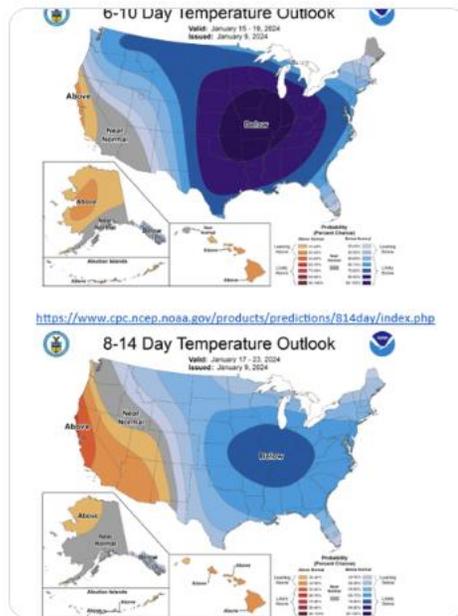
Dan Tsubouchi  @Energy_Tidbits · Jan 9
HH #NatGas is over \$3! closed at \$3.19.

Same story as last week, continued near-term temp support for #NatGas.

Today's @NOAA temp outlook covers Jan 15-23.

Below normal temps expected for most of US. Need sustained cold in Jan after warm Nov/Dec start to winter.

#OOTT



<https://www.cpc.ncep.noaa.gov/products/predictions/814day/index.php>

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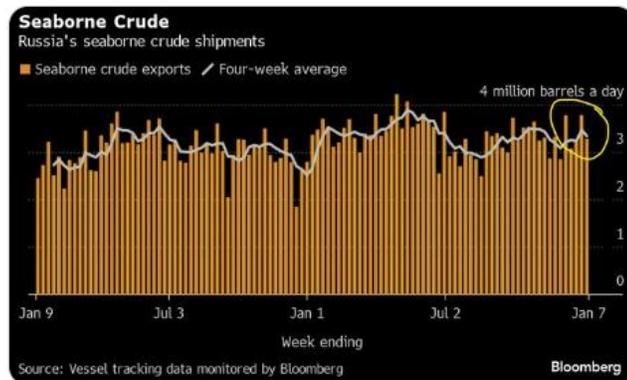
SAF

Dan Tsubouchi  @Energy_Tidbits · Jan 9
"Russia's Crude Exports Start 2024 in Line With Pledged OPEC+ Cut" reports @JLeeEnergy/

Down 0.5 mmbd WoW to 3.28 mmbd for Jan 7 week,

4-wk ave down 0.12 mmbd to ~3.34 mmb/d.

#OOTT



8 25 7K

SAF — **Dan Tsubouchi**  @Energy_Tidbits · Jan 9 ...
No details on this Houthi "incident"

Yesterday, US warned again of consequences if Houthis don't stop attacks.
Today, Houthis attacked something.

Surely, US has to follow up multiple warnings with an attack on Houthis?

Thx @UK_MTO @AJEnglish for reporting.
#OOTT

Hudaydah.
Authorities are investigating
Vessels are advised to transit with caution and report any suspicious activity to UKMTO.



UKMTO
United Kingdom Trade Operations

12:57 PM · Jan 9, 2024 · 53.1K Views

Al Jazeera English  @AJEnglish · 27m
A Yemeni military source told Al Jazeera Arabic that the Houthis had targeted a ship linked to Israel in the Red Sea.
LIVE updates: [@eJo/enw6r1](#)



SAF — **Dan Tsubouchi**  @Energy_Tidbits · Jan 9
 Another warning from US to Houthis they will face "consequences" if they don't stop Red Sea attacks. This time it's Blinken.
Will the Houthis take this latest warning as the US ...
[Show more](#)

 2   1  1.9K  



Dan Tsubouchi @Energy_Tidbits · Jan 9 ·

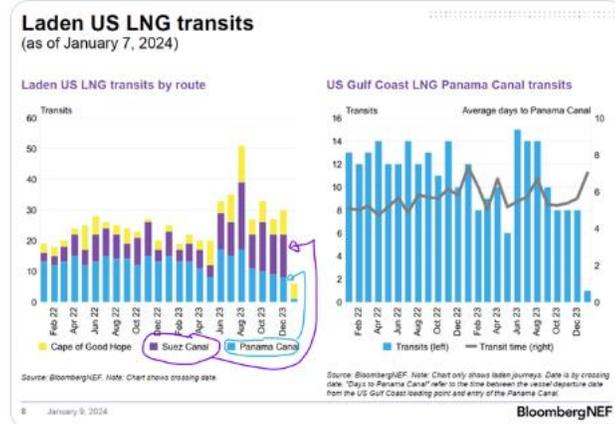
Good thing Asia isn't worried about #LNG this winter.

Suez Canal came to rescue for US LNG to Asia hit by Panama Canal restrictions.

Now Houthis hitting Suez Canal and forcing most via Cape of Good Hope to add some more days.

thx @BloombergNEF

Show more



3



2K



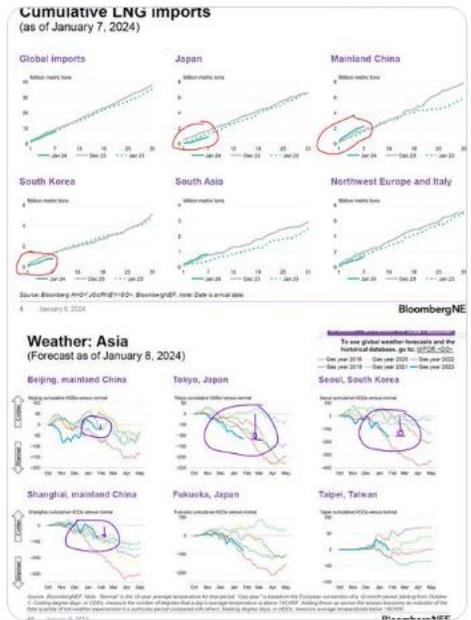


Dan Tsubouchi @Energy_Tidbits · Jan 9

It's Jan 9 & markets pricing in no real risk on winter Asian LNG ie. JKM Feb futures ~\$11.50.

@BloombergNEF: record high China #LNG imports in Jan 1-7 after "major cold snap in Dec, but the 0.6 mmt WoW increase was not enough to offset Korea & Japan's decline"

#OOTT #NatGas



2 6 2.8K

SAF

Dan Tsubouchi @EnergyTidbits · Jan 8

Only 1 wk, but 1st sign of a break out in China scheduled domestic flights as +3.3% WoW to 93,455 after being stuck -90,000 since Nov 11-17.

Next 4-wk is set to grow by 10% to 103,100 in the run up to Lunar New Year Feb 10.

Thx @BloombergNEF Claudio Lubis #OOTT



6 8 2.2K

SAF

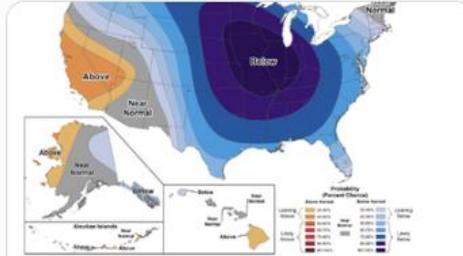
Dan Tsubouchi  @Energy_Tidbits · Jan 8
Continued near-term support for HH #NatGas prices.

Today's @NOAA temp outlook covers Jan 14-27.

Below normal temps expected for most of US.

Need sustained cold in Jan after warm Nov/Dec start to winter.

#OOTT



Colder than normal across most of the US expected to continue thru Jan 22

<https://www.cpc.ncep.noaa.gov/products/predictions/814day/index.php>



7

18

3.7K



SAF

Dan Tsubouchi @Energy_Tidbits · Jan 8

#Oil story today - Saudi's big MoM cuts in OSPs.

Global oil demand is always seasonally lower QoQ in Q1 of each year vs preceding Q4, BUT the bigger than expected MoM OSP cuts will bring concerns about underlying demand.

Thx @Amena_Bakr.

#OTT

Crude Oil (FOB) Differentials (in US\$) - FEBRUARY 2024

North America (versus ASCI)				
	JANUARY	FEBRUARY	Change	VS. Light
Extra Light	+9.30	+7.30	-2.00	+2.15
Light	+7.15	+5.15	-2.00	0.00
Medium	+7.85	+5.85	-2.00	+0.70
Heavy	+7.40	+5.40	-2.00	+0.25

North West Europe (versus ICE Brent)				
	JANUARY	FEBRUARY	Change	VS. Light
Extra Light	+4.20	+2.70	-1.50	+1.80
Light	+2.90	+0.90	-2.00	0.00
Medium	+1.70	+0.20	-1.50	-0.70
Heavy	-1.00	-2.50	-1.50	-3.40

Asia (versus Oman/Dubai)				
	JANUARY	FEBRUARY	Change	VS. Light
Super Light	+4.95	+2.95	-2.00	+1.45
Extra Light	+3.55	+1.55	-2.00	+0.05
Light	+3.50	+1.50	-2.00	0.00
Medium	+2.75	+0.75	-2.00	-0.75
Heavy	+1.70	-0.30	-2.00	-1.80

Mediterranean (versus ICE Brent)				
	JANUARY	FEBRUARY	Change	VS. Light
Extra Light	+3.80	+2.30	-1.50	+1.90
Light	+2.40	+0.40	-2.00	0.00
Medium	+1.40	-0.10	-1.50	-0.50
Heavy	-1.60	-3.10	-1.50	-3.50

1

6

19

4.5K

🔖 ↗