

# **Energy Tidbits**

Israel media: Netanyahu says "historic opportunity that should not be missed" to hit Iran's nuclear or oil facilities

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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	\$81	\$78
Retail gasoline price (dollars per gallon)	\$3.50	\$3.30	\$3.20
U.S. crude oil production (million barrels per day)	12.9	13.2	13.5
<b>Natural gas price at Henry Hub</b> (dollars per million British thermal units)	\$2.50	\$2.30	\$3.10
<b>U.S. liquefied natural gas gross exports</b> (billion cubic feet per day)	12	12	14
Shares of U.S. electricity generation			
Natural gas	42%	42%	39%
Coal	17%	16%	16%
Renewables	21%	23%	25%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	2.5%	2.7%	1.9%
U.S. CO <sub>2</sub> emissions (billion metric tons)	4.8	4.8	4.8

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

- Winter Fuels Outlook. This month we published the Winter Fuels Outlook that details our
  expectations for energy expenditures this winter. In general, we expect relatively little change in
  energy bills for much of the country this winter from last winter as lower energy prices mostly
  offset colder weather.
- **Crude oil prices.** We reduced our forecast for the Brent crude oil spot price through the end of next year. In this month's outlook, we expect the Brent price will average \$78 per barrel (b) in 2025, \$7/b less than we expected in last month's STEO. In our forecast, lower crude oil prices largely reflect a reduction for global oil demand growth in 2025. Although we reduced our crude oil price forecast, crude oil prices have risen in recent days because of escalating conflict in the Middle East, raising the possibility of oil supply disruptions and further crude oil price increases.
- **Petroleum product price.** Lower crude oil prices reduce our forecast prices for most petroleum products. The largest change from our last forecast is for propane. We forecast the Mont Belvieu propane spot price will average 72 cents per gallon (gal) in 2025, down 15% from our forecast of 84 cents/gal last month. For other products, we now expect the retail diesel price will average about \$3.50/gal next year, down by 5% from last month's forecast. We expect the U.S. average retail gasoline price will average \$3.20/gal next year, down 2% from last month.
- Natural gas prices. The Henry Hub natural gas spot price rose by 15% to \$2.28 per million British thermal units (MMBtu) in September. We expect the Henry Hub price to continue rising to around \$2.80/MMBtu in the fourth guarter of 2024 and to further increase to around

- \$3.10/MMBtu on average in 2025 as liquefied natural gas exports, a component of total natural gas demand, increase with the addition of capacity.
- **Electricity consumption.** Hot summer temperatures increased U.S. electricity demand across all sectors in 2024. We expect residential electricity sales to increase by 3% in 2024 and by another 1% in 2025. Similarly, electricity demand in the commercial and industrial sectors is expected to grow, increasing by a combined 2% in both 2024 and 2025.

# **Notable forecast changes**

Current forecast: October 8, 2024; previous forecast: September 10, 2024	2024	2025
Brent crude oil spot price (dollars per barrel)	\$81	\$78
Previous forecast	\$83	\$84
Percentage change	-2.3%	-7.7%
Wholesale diesel price (dollars per gallon)	\$2.40	\$2.30
Previous forecast	\$2.50	\$2.50
Percentage change	-3.0%	-8.4%
Mt. Belvieu propane spot price (dollars per gallon)	\$0.80	\$0.70
Previous forecast	\$0.80	\$0.80
Percentage change	-4.8%	-14.7%

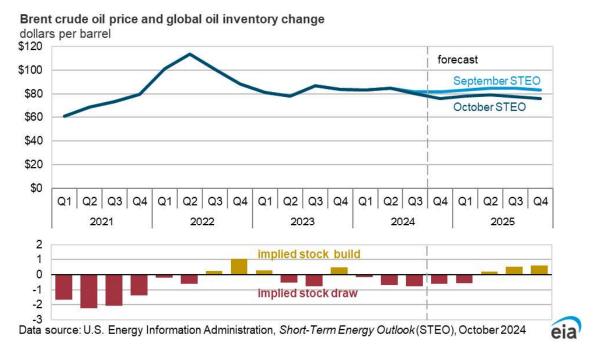
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook

# Global Oil Markets

# Global oil prices and inventories

The Brent crude oil spot price averaged \$74 per barrel (b) in September, down \$6/b from August. Prices fell in September as concerns over global oil demand growth outweighed declines in oil inventories and OPEC+ members' decision to delay production increases until December 2024. However, after recent military actions involving Israel, Lebanon, and Iran, the Brent spot price rose to \$79/b on October 4, up 11% from a week earlier. The potential for further escalation— such as an Israeli response to Iran's missile attack on October 1— have injected significant uncertainty and volatility into oil markets in recent days.

Following the September drop in prices and our expectation that oil demand growth will be lower next year than we had previously forecast, we have lowered our forecast for crude oil prices despite increasing oil prices in early October. We now expect Brent will average \$78/b in 2025, \$7/b less than our forecast from last month.



No oil supplies have been affected by increased military action in the Middle East at the time of STEO publication, and we do not assume any disruption in our forecast. However, the conflict has escalated in recent weeks with no timeline for a potential resolution, increasing the possibility for supply disruptions and price volatility. At the same time, we assess that significant surplus crude oil production capacity is available, which could be brought online in the event of a disruption.

OPEC+ production cuts continue to mean less oil is being produced globally than is being consumed, and oil is being withdrawn from inventories. We estimate that global oil inventories fell by 0.8 million barrels per day (b/d) in the third quarter of 2024 (3Q24), and we expect inventories will fall by 0.6 million b/d

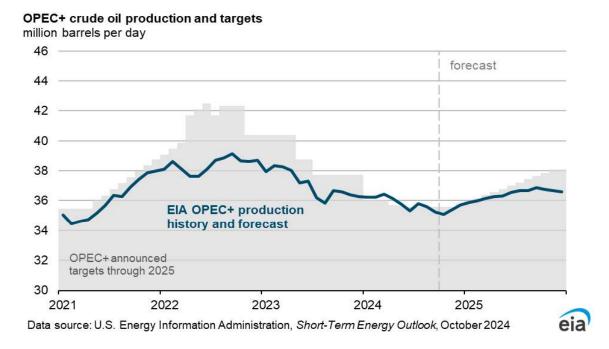
through 1Q25. As a result, we expect Brent prices will rise from \$74/b in September to average \$79/b in 1H25, which is about \$6/b lower than in last month's STEO.

By the middle of next year, we anticipate accelerated growth in oil production as OPEC+ increases its production and as production continues to grow in the United States, Guyana, Brazil, and Canada. We forecast oil inventories will increase by an average of almost 0.6 million b/d in 2H25 as production growth globally begins to outweigh global oil demand growth.

In addition to the escalating Middle East conflict, other sources of uncertainty remain. We now expect production in Libya will begin increasing in the coming weeks, following recent production outages. But production in Libya can be volatile, and returning crude oil production volumes might fall short of our expectations. We also assess that OPEC+ producers are likely to continue to limit production below recently announced targets in 2025. However, if OPEC+ producers stick closely to announced production levels in 2H25, it would be a downside risk to oil prices.

# Global oil production and consumption

We anticipate that production growth outside of OPEC+ will remain strong over the forecast period, and as a result we anticipate OPEC+ producers will likely keep production less than their recently announced targets for much of next year.



We expect that global production of petroleum and other liquid fuels will increase by 2.0 million b/d in 2025, up from growth of just 0.5 million b/d this year. We assume countries outside of OPEC+ increase production by 1.4 million b/d next year, while OPEC+ production increases by 0.7 million b/d, after the voluntary cuts reduced OPEC+ production by 1.3 million b/d this year.

In addition to voluntary cuts to OPEC+ production, a force majeure in Libya in August and September reduced oil production. We estimate Libya's crude oil production fell to 0.4 million b/d in September

2024 from nearly 1.2 million b/d in July 2024 before the disruptions began. As of early October, it appears the cause of the disruption has come to a resolution, with affected production potentially restarting in October. We assume Libya's oil production will average 0.6 million b/d for the rest of this year.

We revised our estimate of Iraq's crude oil production, including historical production, up by an average of 0.2 million b/d in 2024 to account for our assessment that more crude oil is being used in new refining capacity in Iraq than we had previously determined. Although we raised our assessment of Iraq's oil production, we still estimate that Iraq cut its crude oil production by 0.3 million b/d from July through September 2024 to comply with OPEC+ production quotas.

We forecast that global consumption of liquid fuels will increase by 0.9 million b/d in 2024 and 1.3 million b/d in 2025. Our 2024 forecast is down from last month due to downward revisions to demand in China and our 2025 forecast is down primarily because of downward revisions to demand in OECD countries.

We reduced our forecast for China's liquid fuels consumption in 2024 because of continued declines in the country's crude oil imports and refinery runs in 3Q24. Although the Chinese government recently announced monetary stimulus measures that could result in higher economic growth and petroleum consumption in 2025, we have kept our forecast 2025 growth rate largely unchanged. We forecast China's petroleum and liquid fuels consumption will grow by about 0.1 million b/d in 2024 and 0.3 million b/d in 2025.

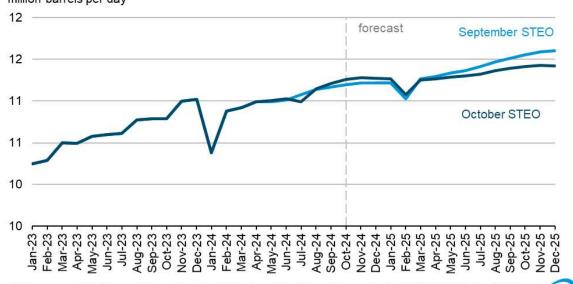
We reduced our forecast of total OECD oil consumption by 0.2 million b/d in 2025 compared with last month's STEO as a result of weaker expectations for industrial production and manufacturing growth in the United States and Canada. Most of our expected global liquid fuels demand growth is from non-OECD countries where liquid fuels consumption increases by 1.0 million b/d in 2024 and 1.2 million b/d in 2025, in contrast to consumption in OECD countries, which falls by 0.1 million b/d in 2024 before increasing by a similar amount in 2025.

# **U.S. Petroleum Products**

## U.S. crude oil production

We reduced our 2025 forecast for U.S. Lower 48 states (L48) crude oil production in the October STEO from last month by 1% to 11.3 million b/d. This reduction reflects a downward revision to our West Texas Intermediate (WTI) crude oil price forecast. We now expect WTI will average \$72/b in 4Q24, about \$6/b lower than last month's forecast. Because there is about a six-month lag between price changes and producer activity, the recent price declines will begin reducing U.S. crude oil production in mid-2025. By December 2025, U.S. L48 crude oil production will be 11.4 million b/d, 2% lower than our September STEO forecast.

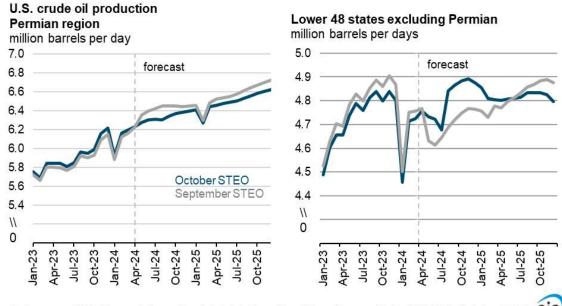
# Crude oil production in the lower 48 states excluding the Gulf of Mexico million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook (STEO), October 2024

Recent industry survey results align with a slowdown in U.S. exploration and production company activity. The Dallas Fed Energy Survey's Business Activity Index for 3Q24 indicates a contraction, signaling concerns about demand in the oil and natural gas sector. This contraction is the first in the activity index since 3Q20.

Our expectation of lower crude oil prices reduced our production forecasts the most for the Permian region. Although we lowered our forecast for crude oil production in the Permian, we still expect production in the region to increase over time. In addition to ongoing improvements in oil well productivity in the region, the Matterhorn Express pipeline recently began operation, which will help alleviate constrained takeaway capacity for associated natural gas and allow for additional crude oil production.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook (STEO), October 2024

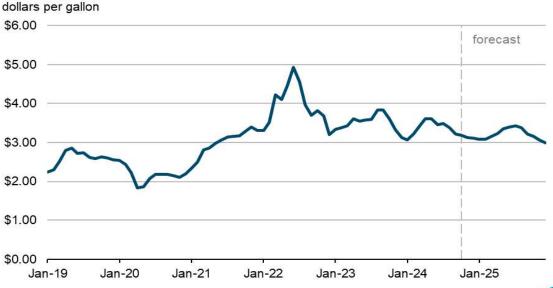
More production from regions outside the Permian, such as the Eagle Ford and Bakken, offset our reduction of Permian production early in the forecast period. The increase in our production forecast for these regions in the coming months relative to the September STEO primarily reflects historical revisions in our survey, EIA-914, *Monthly Crude Oil and Natural Gas Production*. However, similar to our forecast for the Permian region, we expect lower prices to bring down production in these regions compared with last month's forecast beginning in mid-2025.

Hurricane Helene, a Category 4 storm, led to the shutdown of 29% of oil production in the Gulf of Mexico (GOM) in September. This disruption followed Hurricane Francine, which shut in up to 42% of crude oil production in GOM. As a result, we reduced our estimates and forecasts for both September and October GOM crude oil production. However, we expect GOM will return to our previously forecast level by November.

## **Gasoline prices**

Our lower crude oil price forecast reduced our gasoline price forecast. We now expect the U.S. retail gasoline price to average \$3.20 per gallon (gal) in 2025, down 10 cents/gal from the September forecast. We also expect the \$3.20/gal average next year to be down 10 cents/gal from the 2024 average retail gasoline price.

#### U.S. average retail gasoline price



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



# **Natural Gas**

# **Natural gas exports**

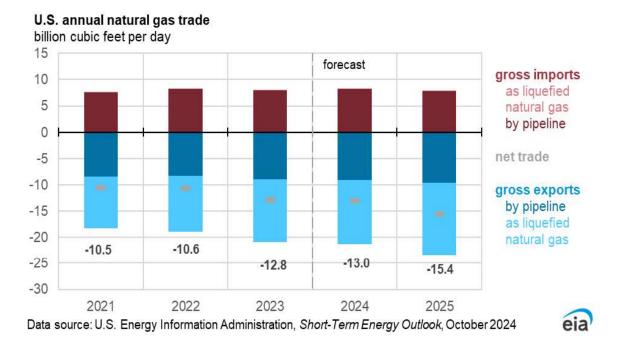
U.S. natural gas exports, particularly in the form of liquefied natural gas (LNG), are the primary driver of growth in U.S. natural gas demand in our forecast. Total natural gas demand is made up of domestic consumption from the residential, commercial, industrial, and electric power sectors as well as natural gas exports as LNG and by pipeline. We expect U.S. LNG exports to average 12.1 billion cubic feet per day (Bcf/d) in 2024 and 13.8 Bcf/d in 2025, with domestic consumption of natural gas falling by about 1 Bcf/d compared with this year.

Because there is ample demand for U.S. LNG in the international market, changes in our U.S. LNG export forecast depend more on the start-up timing of export facilities rather than global market conditions. The expected start-up of Golden Pass LNG has moved from 4Q25 to 2H26. We assume Corpus Christi LNG Stage 3 will fully ramp up LNG production in 2H27 rather than by the middle of 2025. Corpus Christi LNG Stage 3, along with Plaquemines LNG, are in the commissioning phase to start LNG export operations. We expect that each of these facilities will begin exporting LNG by the end of 2024.

Plaquemines LNG is a greenfield facility located in Plaquemines Parish, Louisiana. Plaquemines LNG is being developed in two phases. Each of the two phases consists of nine blocks, each containing two liquefaction units called trains. LNG production capacity of each phase is 1.3 Bcf/d nominal or almost 1.6 Bcf/d peak. We assume the start of LNG exports from Plaquemines LNG by December 2024 and the full ramp up of all blocks of Phase 1 by spring 2025. We assume the start of LNG exports from Phase 2 by the end of 2025.

Corpus Christi LNG Stage 3 is an expansion of the existing Corpus Christi LNG export terminal located in San Patricio County, Texas. The expansion facility consists of seven trains with a combined nominal

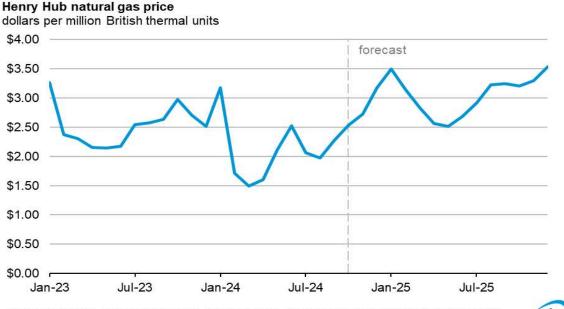
capacity of 1.3 Bcf/d and peak capacity of 1.5 Bcf/d. We expect the start of LNG exports from this facility by December 2024. We assume that Corpus Christi Stage 3 will place three of its mid-scale liquefaction trains in service by the end of 2025.



# **Natural gas prices**

Natural gas prices rose in September as natural gas production fell slightly from August. The U.S. benchmark Henry Hub price averaged \$2.28 per million British thermal units (MMBtu) in September, 15% higher than the August average of \$1.98/MMBtu. The decline in production was partly due to an 11% drop in in Gulf of Mexico (GOM) natural gas production. About 53% of GOM production capacity was taken off-line because of Hurricane Francine, which made landfall on the Louisiana coast on September 11. GOM production capacity was unable to return to full capacity because Category 4 Hurricane Helene went through a nearby area two weeks later, extensively disrupting energy systems.

We expect the Henry Hub price will rise to average nearly \$2.80/MMBtu in 4Q24 and around \$3.10/MMBtu in 2025. We expect prices to rise in 2025 as LNG exports increase while domestic consumption and production remain relatively flat. We forecast U.S. consumption of natural gas to average 89 Bcf/d in 2025, which is about the same as our forecast for consumption in 2024. However, we expect that LNG exports will rise by nearly 2 Bcf/d next year with continued strong international demand as export capacity expands.



## Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2024



# **Electricity, Coal, and Renewables**

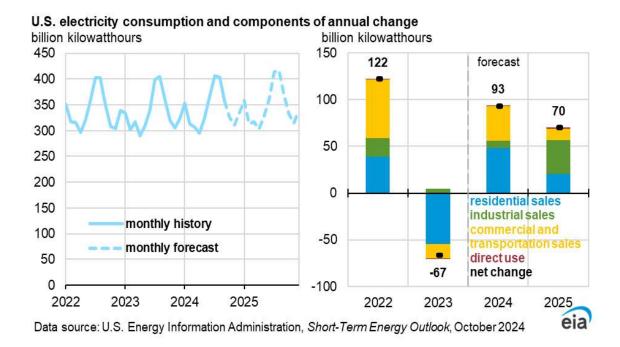
# **Electricity consumption**

Summer temperatures this year were warmer in the United States than last summer, especially in the upper Midwest and Northeast regions, which helped to push up U.S. electricity demand. We expect 2% more U.S. sales of electricity to ultimate customers in 2024 than in 2023, followed by another 2% forecast increase in 2025.

We expect electricity sales to increase across economic sectors. In 2024, electricity use increases the most in the residential and commercial sectors. We expect 3% more electricity consumption in the U.S. residential sector than last year, which mostly reflects the hot summer this year. Changes in temperature have the most effect on electricity use by residential customers. Forecast residential electricity sales increase by just 1% in 2025 along with our expectation that summer temperatures next year will be closer to the 10-year average.

Commercial sector electricity use is rising this year because of warmer temperatures as well as increasing demand from data centers in some regions. We expect commercial electricity sales will increase by 3% this year followed by a 1% increase in 2025.

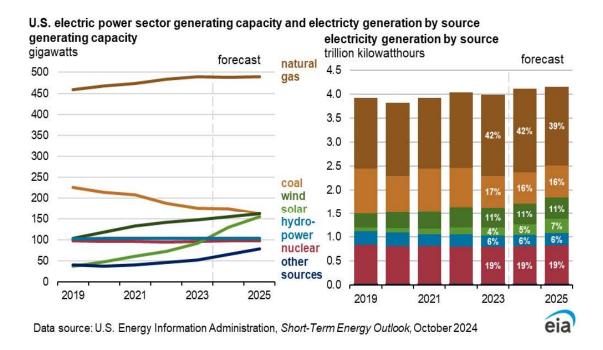
We expect U.S. electricity demand to grow fastest in 2025 in the industrial sector, almost 4%, after growing only 1% in 2024. The electricity demand expected from some new battery and semiconductor chip manufacturing facilities that are currently under development contributes to our forecast increase in industrial sector electricity sales next year.



# **Electricity generation**

New solar photovoltaic power projects are driving our forecast that solar will be the fastest-growing source of electricity in 2024 and 2025. We expect that the share of total U.S. electricity generation from solar will grow from 4% in 2023 to 5% in 2024 and to 7% in 2025.

Although we expect the amount of U.S. solar generating capacity will approach the amount of U.S. coal-fired capacity by the end of 2025, coal power plants tend to run at higher utilization rates over time. We expect that coal will account for about 16% of total U.S. generation in 2024 and 2025, down from 17% last year. Increasing generation from new solar is likely to most affect natural gas generation, which we expect will fall from 42% of U.S. generation in 2024 to 39% in 2025. In addition to the effect of more solar generation, we expect less natural gas generation in 2025 as a result of rising natural gas prices as well as very little new generating capacity coming online.

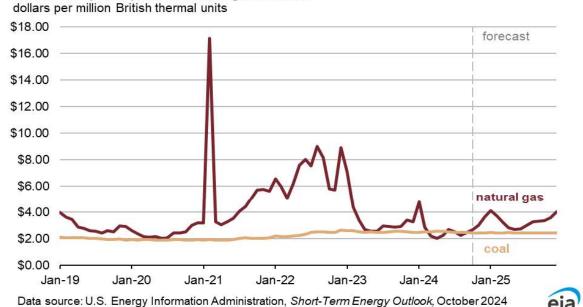


### **Coal markets**

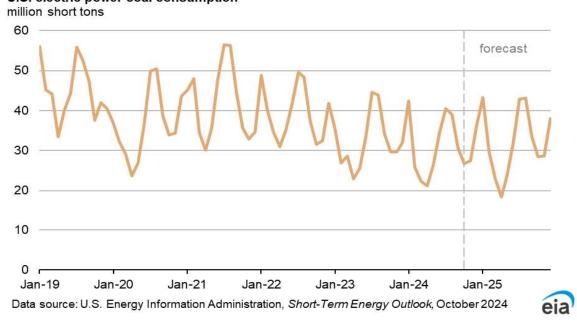
We expect 12% less coal will be consumed in the electric power sector during October than in September, when power sector coal consumption dropped 22% from August. The drop in coal consumption typically happens during the September and October shoulder season , which reduces overall electricity generation, and as natural gas prices remain at competitive levels. We forecast a 3% increase in U.S. power sector coal consumption in November, and then a sharper 32% increase in December, as the winter season begins, power demand rises, and forecast natural gas prices approach \$3.20/MMBtu in December while coal prices remain relatively low.

Although coal remains a significant fuel source for U.S. power generation in the mid-Atlantic and Midwest, natural gas has become more cost competitive with coal over the past decade due to the greater thermal efficiency of combined-cycle natural gas turbine plants. The higher energy yield that comes with lower heat rates means that the effective price of natural gas relative to coal is even lower than the nominal price indicates. However, with increases in electricity demand expected from the growth of data centers and other sources, we expect overall electric power sector coal consumption to increase from this year, even as coal production declines in 2025. As a result, we expect coal inventories held by electric power plants to fall to about 100 MMst by December 2025 from 130 MMst at the end of 2024.

# U.S. electric power price for natural gas and coal



# U.S. electric power coal consumption



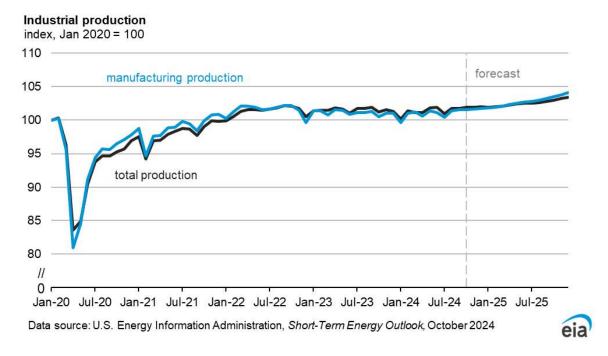
# Economy, Weather, and CO<sub>2</sub>

### **U.S.** macroeconomics

Our forecast for October 2024 assumes real U.S. GDP will grow by 2.7% in 2024 and 1.9% in 2025, up from last month's forecast of 2.6% and 1.8% respectively, as a result of updated data from the Bureau of Economic Analysis. Their second estimate of 2Q24 GDP growth showed that real U.S. GDP grew at an annualized rate of 3.0% last quarter, which is slightly higher than assumed in last month's forecast.

The increase was primarily driven by higher consumer spending, which we now assume will grow by 2.5% in 2024 and 2.3% in 2025. From 2021–2023, real consumer spending growth averaged 4.8%, and it grew by 2.4% in 1H24. Despite the steady growth of consumer spending over the last several years, growth of manufacturing has lagged both the overall industrial sector and GDP.

Following the initial boom in spending on manufactured goods that started in 2H20, consumers shifted their spending toward services as pandemic-related closures subsided. During this period, manufacturing growth lagged that of both the service sector and overall industrial production. Looking forward into 2025, we assume consumer habits will shift back toward their pre-pandemic relationship between goods and services spending. As a result, our forecast assumes that the manufacturing sector will grow faster than the wider industrial sector in the near term.



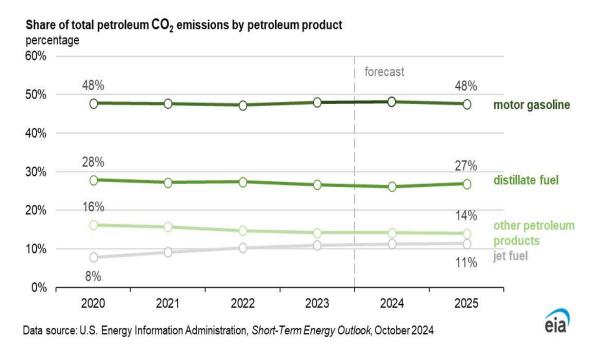
The macroeconomic forecasts are based on S&P Global's macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain our final macroeconomic assumptions.

## **Emissions**

We expect U.S. energy-related carbon dioxide ( $CO_2$ ) emissions to remain flat between 2023 and 2025. This forecast is a result of small, counteracting changes in emissions from use of coal, natural gas, and petroleum products. In 2024, these changes are mostly focused in the electric power sector. Increases in electricity generation and  $CO_2$  emissions from natural gas are offset by decreasing generation and  $CO_2$  emissions from coal. In 2025, less electricity generation and emissions from natural gas are offset by more generation and emissions from coal, with both returning to 2023 levels, as well as rising  $CO_2$  emissions from petroleum, associated mostly with higher diesel consumption.

Collectively, petroleum products make up the largest share, about one-half, of U.S. energy-related CO<sub>2</sub> emissions. Although around 20 different products are represented in our petroleum emissions forecast, more than 80% of U.S. petroleum-related emissions come from only three fuels, all of which are closely

related with the U.S. transportation sector. Motor gasoline makes up the largest share of U.S. petroleum emissions, followed by distillate fuel oil and jet fuel. Motor gasoline and distillate fuel oil are largely associated with on-road vehicle travel, and jet fuel with air travel. The shares of each of these fuels in petroleum emissions have remained relatively consistent over time. One noticeable exception to this trend is jet fuel, the relative share of which has grown over the last several years along with increases in air travel following the COVID-19 pandemic.



## Weather

We expect the United States will experience a cooler October this year compared to last, with about 220 heating degree days (HDDs) in October, 7% more than in October 2023. October weather contributes to a slightly cooler fourth quarter in 2024 with 7% more HDDs than in 4Q23. Overall, our forecast assumes the 2024–2025 winter heating season (November–March) will be slightly cooler than the previous winter season with an average of 3,200 HDDs (5% more HDDs), increasing energy use for space heating this winter. Our expectations for energy expenditures for the 2024–2025 winter season are further discussed in our *Winter Fuels Outlook*.

Table 3a. World Petroleum and Other Liquid Fuels Production, Consumption, and Inventories

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

		20	23			20	24		2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Production (million barrels per day) (a)															
World total	101.54	101.58	101.81	103.06	102.02	102.45	102.48	103.03	103.38	104.27	105.10	105.38	102.00	102.50	104.54
Crude oil	76.92	76.31	75.92	77.06	76.69	76.17	76.22	76.95	77.75	77.94	78.64	78.94	76.55	76.51	78.32
Other liquids	24.62	25.28	25.89	26.00	25.34	26.29	26.26	26.08	25.63	26.32	26.47	26.45	25.45	25.99	26.22
World total	101.54	101.58	101.81	103.06	102.02	102.45	102.48	103.03	103.38	104.27	105.10	105.38	102.00	102.50	104.54
OPEC total (b)	32.71	32.44	31.63	31.93	32.16	32.09	31.91	32.02	32.28	32.56	32.82	32.72	32.17	32.05	32.60
Crude oil	27.38	27.23	26.37	26.63	26.77	26.82	26.62	26.69	27.00	27.28	27.54	27.45	26.90	26.72	27.32
Other liquids	5.33	5.21	5.26	5.30	5.40	5.26	5.29	5.33	5.28	5.28	5.28	5.28	5.27	5.32	5.28
Non-OPEC total	68.83	69.14	70.18	71.13	69.86	70.37	70.57	71.01	71.10	71.71	72.29	72.66	69.83	70.45	71.94
Crude oil	49.54	49.07	49.55	50.43	49.92	49.34	49.61	50.26	50.75	50.66	51.10	51.49	49.65	49.78	51.00
Other liquids	19.29	20.07	20.63	20.70	19.94	21.03	20.97	20.75	20.35	21.04	21.19	21.17	20.18	20.67	20.94
Consumption (million barrels per day) (c)															
World total	101.27	102.12	102.56	102.59	102.19	103.13	103.25	103.64	103.95	104.07	104.58	104.77	102.14	103.06	104.35
OECD total (d)	45.26	45.52	45.90	46.00	44.80	45.55	45.88	46.19	45.50	45.25	45.91	46.10	45.67	45.61	45.69
Canada	2.34	2.48	2.63	2.37	2.37	2.28	2.52	2.50	2.43	2.37	2.48	2.46	2.45	2.42	2.43
Europe	13.12	13.57	13.69	13.39	12.85	13.62	13.75	13.51	13.14	13.29	13.70	13.47	13.45	13.43	13.40
Japan	3.68	3.05	3.06	3.38	3.44	2.96	3.06	3.38	3.48	2.89	2.99	3.31	3.29	3.21	3.16
United States	19.83	20.35	20.32	20.59	19.80	20.36	20.42	20.54	20.19	20.57	20.59	20.60	20.28	20.28	20.49
U.S. Territories	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Other OECD	6.19	5.96	6.09	6.16	6.22	6.21	6.01	6.14	6.14	6.01	6.03	6.16	6.10	6.15	6.08
Non-OECD total	56.01	56.60	56.66	56.59	57.39	57.59	57.37	57.46	58.45	58.82	58.68	58.67	56.47	57.45	58.66
China	16.33	16.55	16.24	16.48	16.75	16.65	16.11	16.45	16.88	16.92	16.49	16.72	16.40	16.49	16.75
Eurasia	4.66	4.82	5.16	5.06	4.71	4.87	5.22	5.12	4.74	4.91	5.26	5.16	4.93	4.98	5.02
Europe	0.74	0.76	0.77	0.77	0.75	0.77	0.77	0.77	0.75	0.77	0.78	0.78	0.76	0.76	0.77
Other Asia		14.44	13.91	14.14	15.04	14.88	14.43	14.73	15.51	15.49	14.85	15.19	14.26	14.77	15.26
Other non-OECD	19.71	20.02	20.59	20.13	20.15	20.41	20.84	20.38	20.57	20.74	21.30	20.82	20.12	20.45	20.86
Total crude oil and other liquids inventory net withdrawals (mill	ion barrels	per day)													
World total	-0.27	0.54	0.76	-0.47	0.17	0.68	0.77	0.61	0.57	-0.19	-0.52	-0.61	0.14	0.56	-0.19
United States	-0.07	-0.10	-0.26	0.30	0.13	-0.64	-0.11	0.17	-0.02	-0.36	-0.02	0.30	-0.03	-0.11	-0.03
Other OECD	0.33	0.01	-0.17	0.21	-0.13	-0.32	0.27	0.13	0.18	0.05	-0.15	-0.28	0.09	-0.01	-0.05
Other inventory draws and balance	-0.52	0.63	1.19	-0.98	0.17	1.64	0.61	0.30	0.41	0.12	-0.35	-0.63	0.08	0.68	-0.12
End-of-period commercial crude oil and other liquids inventorie	es (million	barrels)													
OECD total	2,748	2,781	2,816	2,766	2,757	2,836	2,811	2,770	2,749	2,775	2,791	2,789	2,766	2,770	2,789
United States	1,230	1,263	1,282	1,251	1,230	1,280	1,279	1,251	1,246	1,276	1,278	1,251	1,251	1,251	1,251
Other OECD	1,518	1,518	1,534	1,515	1,527	1,556	1,532	1,519	1,503	1,499	1,512	1,538	1,515	1,519	1,538

<sup>(</sup>a) Includes crude oil, lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids. Differences in the reported historical production data across countries could result in some inconsistencies in the delineation between crude oil and other liquid fuels.

(d) 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, Turkiye, United Kingdom, and United States.

Notes:

EIA completed modeling and analysis for this report on October 3, 2024.

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

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

#### Sources

Historical data: Energy Information Administration International Energy Statistics (https://www.eia.gov/international/data/world).

Forecasts: EIA Short-Term Integrated Forecasting System.

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

<sup>(</sup>c) Consumption of petroleum by the OECD countries is the same as "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.

<sup>- =</sup> no data available

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

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

		20:	ober 202 23			20	24			20	25			Year	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (million barrels per day)															
U.S. total crude oil production (a)	12.67	12.76	13.05	13.25	12.94	13.23	13.27	13.45	13.46	13.53	13.54	13.64	12.93	13.22	13.54
Alaska	0.44	0.43	0.40	0.43	0.43	0.42	0.40	0.42	0.42	0.40	0.39	0.41	0.43	0.42	0.40
Federal Gulf of Mexico (b)	1.88	1.77	1.92	1.88	1.78	1.80	1.75	1.76	1.84	1.84	1.79	1.81	1.87	1.77	1.82
Lower 48 States (excl GOM) (c)	10.35	10.56	10.72	10.94	10.73	11.01	11.11	11.27	11.20	11.28	11.36	11.42	10.64	11.03	11.32
Appalachia region	0.15	0.15	0.15	0.16	0.15	0.16	0.16	0.18	0.20	0.21	0.22	0.23	0.15	0.16	0.21
Bakken region	1.14	1.16	1.25	1.30	1.22	1.23	1.26	1.33	1.33	1.32	1.35	1.36	1.21	1.26	1.34
Eagle Ford region	1.14	1.18	1.17	1.11	1.09	1.17	1.19	1.18	1.13	1.12	1.10	1.09	1.15	1.16	1.11
Haynesville region	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Permian region Rest of Lower 48 States	5.77 2.12	5.83 2.19	5.92 2.19	6.12 2.20	6.10 2.14	6.27 2.13	6.32 2.14	6.39 2.16	6.38 2.13	6.48 2.12	6.53 2.12	6.60 2.11	5.91 2.18	6.27 2.14	6.50 2.12
Nest of Lower 40 States	2.12	2.19	2.19	2.20	2.14	2.13	2.14	2.10	2.13	2.12	2.12	2.11	2.10	2.14	2.12
Total Supply	19.83	20.35	20.32	20.59	19.79	20.36	20.42	20.54	20.19	20.57	20.59	20.60	20.27	20.28	20.49
Crude oil input to refineries	15.25	16.15	16.52	15.93	15.39	16.47	16.51	15.66	15.21	16.06	16.09	15.43	15.97	16.01	15.70
U.S. total crude oil production (a)	12.67	12.76	13.05	13.25	12.94	13.23	13.27	13.45	13.46	13.53	13.54	13.64	12.93	13.22	13.54
Transfers to crude oil supply	0.42	0.47	0.64	0.56	0.50	0.64	0.53	0.51	0.49	0.52	0.55	0.53	0.53	0.54	0.52
Crude oil net imports (d)	2.43	2.44	2.50	2.26	2.12	2.62	2.67	1.69	1.40	1.76	1.60	1.10	2.41	2.27	1.46
SPR net withdrawals (e)	0.01	0.26	-0.04	-0.04	-0.10	-0.10	-0.11	-0.13	-0.08	-0.03	0.00	0.00	0.05	-0.11	-0.03
Commercial inventory net withdrawals	-0.39	0.12	0.40	-0.09	-0.23	0.08	0.25	-0.08	-0.30	0.07	0.21	-0.04	0.01	0.01	-0.01
Crude oil adjustment (f)	0.10	0.11	-0.03	-0.01	0.16	0.02	-0.10	0.22	0.24	0.21	0.18	0.21	0.04	0.08	0.21
Refinery processing gain	0.97	1.00	1.06	1.05	0.91	0.97	0.97	1.04	0.97	1.03	1.07	1.04	1.02	0.97	1.03
Natural Gas Plant Liquids Production	6.17	6.43	6.64	6.74	6.51	7.01	6.81	6.70	6.66	6.84	6.83	6.88	6.50	6.76	6.80
Renewables and oxygenate production (g)	1.24	1.29	1.31	1.35	1.34	1.33	1.40	1.37	1.37	1.39	1.39	1.42	1.30	1.36	1.39
Fuel ethanol production	1.00	1.00	1.01	1.05	1.04	1.01	1.07	1.05	1.04	1.04	1.02	1.05	1.02	1.04	1.04
Petroleum products adjustment (h)	0.20	0.22	0.23	0.23	0.21	0.22	0.22	0.22	0.20	0.21	0.21	0.21	0.22	0.22	0.21
Petroleum products transfers to crude oil supply	-0.42	-0.47	-0.64	-0.56	-0.50	-0.64	-0.53	-0.51	-0.49	-0.52	-0.55	-0.53	-0.53	-0.54	-0.52
Petroleum product net imports (d)	-3.89	-3.79	-4.19	-4.59	-4.53	-4.40	-4.70	-4.33	-4.09	-4.05	-4.20	-4.20	-4.12	-4.49	-4.13
Hydrocarbon gas liquids	-2.48	-2.48	-2.50	-2.59	-2.59	-2.68	-2.72	-2.59	-2.74	-2.91	-2.82	-2.72	-2.51	-2.64	-2.80
Unfinished oils	0.28	0.27 -0.06	0.21 -0.04	0.18 -0.05	0.09 -0.06	0.21 -0.08	0.23 -0.07	0.25 -0.06	0.18 -0.10	0.25 -0.09	0.28 -0.08	0.19 -0.09	0.24 -0.05	0.19 -0.07	0.23 -0.09
Other hydrocarbons and oxygenates	-0.04 -0.28	0.08	-0.04	-0.05	-0.06	0.00	-0.07	-0.30	-0.10	0.19	0.05	-0.09	-0.03	-0.07	-0.09
Total motor gasoline	-0.26	0.08	-0.11	-0.40	-0.09	-0.08	-0.04		-0.19	-0.01	-0.02	-0.13	-0.16	-0.17	-0.02
Jet fuel Distillate fuel oil	-0.04	-0.96	-1.06	-1.02	-0.09	-1.20	-1.30	-0.07 -1.00	-0.60	-0.83	-0.02	-0.79	-0.05	-1.09	-0.03
Residual fuel oil	0.01	-0.90	-0.03	-0.01	-0.03	-0.04	-0.05	0.00	0.01	0.01	-0.93	-0.79	-0.93	-0.03	-0.79
Other oils (i)	-0.59	-0.61	-0.60	-0.62	-0.64	-0.54	-0.56	-0.57	-0.58	-0.66	-0.65	-0.64	-0.60	-0.58	-0.63
Petroleum product inventory net withdrawals	0.31	-0.48	-0.61	0.43	0.46	-0.62	-0.25	0.39	0.36	-0.40	-0.03	0.34	-0.09	0.00	0.01
•															
Consumption (million barrels per day)	40.00	20.25	20.20	20.50	40.00	20.20	20.40	20.54	20.40	00.57	20.50	20.00	20.00	20.20	20.40
U.S. total petroleum products consumption	19.83	20.35	20.32	20.59	19.80	20.36	20.42	20.54	20.19	20.57	20.59	20.60	20.28	20.28	20.49
Hydrocarbon gas liquids	3.53	3.32	3.32	3.85	3.80	3.39	3.27	3.88	3.85	3.34	3.40	3.88	3.50	3.58	3.62
Other hydrocarbons and oxygenates	0.22 8.69	0.28 9.13	0.28 9.02	0.29 8.94	0.30 8.57	0.33 9.12	0.33 9.12	0.32 8.83	0.30 8.65	0.31 9.13	0.32 9.03	0.35 8.79	0.27 8.94	0.32 8.91	0.32 8.90
Motor gasoline												1.71			1.73
Jet fuel	1.55 4.03	1.68 3.92	1.72 3.83	1.66 3.88	1.58 3.82	1.73 3.73	1.77 3.79	1.69 3.89	1.62 4.01	1.79 3.97	1.79 3.91	3.98	1.65 3.92	1.69 3.81	3.97
Distillate fuel oil	0.29	0.22	0.26	0.32	0.28	0.30	0.28	0.28	0.26	0.29	0.27	0.27	0.27	0.29	0.27
Other oils (i)	1.52	1.79	1.88	1.65	1.44	1.77	1.86	1.65	1.49	1.73	1.87	1.62	1.71	1.68	1.68
Total petroleum and other liquid fuels net imports (d)	-1.46	-1.35	-1.69	-2.33	-2.41	-1.78	-2.03	-2.64	-2.69	-2.29	-2.60	-3.09	-1.71	-2.21	-2.67
End-of-period inventories (million barrels)	40000	4005 :	4005 :	405	4000.5	4077.5	4055	4051	40/22	4072	4055.5	4051.5	405	405.	40
Total commercial inventory		1263.1	1282.4	1251.4	1230.3	1279.6	1279.1	1251.1	1246.2	1276.1	1278.2	1251.0	1251.4	1251.1	1251.0
Crude oil (excluding SPR)		454.7	417.9	426.5	447.2	440.2	416.8	424.4	451.5	444.7	425.2	429.1	426.5	424.4	429.1
Hydrocarbon gas liquids		225.7	277.2	223.3	169.2	235.1	286.2	236.1	195.5	245.2	283.5	240.6	223.3	236.1	240.6
Unfinished oils	88.9	87.3	88.4	84.2	91.7	87.8	82.5	78.6	88.6	86.9	86.0	80.1	84.2	78.6	80.1
Other hydrocarbons and oxygenates	34.5	30.2	30.3	33.1	38.2	33.4	34.0	34.3	36.4	35.1	34.9	35.1	33.1	34.3	35.1
Total motor gasoline	225.2	222.1	227.9	240.7	233.4	232.4	221.7	238.7	232.8	224.5	220.6	239.4	240.7	238.7	239.4
Jet fuel	37.8	42.4	43.5	39.8	42.2	45.3	45.7	41.5	39.9	38.9	39.2	35.6	39.8	41.5	35.6
Distillate fuel oil		112.0	118.8	130.5	121.2	123.1	120.4	124.1	117.5	119.0	117.9	118.7	130.5	124.1	118.7
Residual fuel oil Other oils (i)	29.6 63.2	30.5 58.2	27.8 50.6	24.1 49.3	29.9 57.3	27.5 54.9	24.5 47.4	24.5 48.9	25.8 58.1	25.8 56.1	24.0 46.9	23.9 48.5	24.1 49.3	24.5 48.9	23.9 48.5
						<del>.</del>									
Crude oil in SPR (e)	371.2	347.2	351.3	354.7	363.9	373.1	383.6	395.5	402.5	405.5	405.5	405.5	354.7	395.5	405.5

(a) Includes lease condensate.

- (b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).
- (c) Regional production in this table is based on geographic regions and not geologic formations.
- (d) Net imports equal gross imports minus gross exports.
- (e) SPR: Strategic Petroleum Reserve
- (f) The crude oil adjustment equals the sum of disposition items (e.g. refinery inputs) minus the sum of supply items (e.g. production).
- (g) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.
- (h) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blending components, and finished motor gasoline.
- (i) Other oils includes aviation gasoline blending components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

#### Notes:

EIA completed modeling and analysis for this report on October 3, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

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

#### Sources:

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

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

O.O. Energy information / Ghore ren	l	202				202	24		2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (billion cubic feet per day)		-	•		•			-							
U.S. total marketed natural gas production	111.2	112.5	113.6	115.2	113.4	112.1	113.7	113.6	113.8	114.6	114.3	114.9	113.1	113.2	114.4
Alaska	1.1	1.0	0.9	1.0	1.1	1.0	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0
Federal Gulf of Mexico (a)	2.1	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	2.0	1.8	1.7
Lower 48 States (excl GOM) (b)	108.0	109.6	110.7	112.2	110.4	109.3	110.9	110.8	110.9	111.9	111.7	112.2	110.1	110.4	111.7
Appalachia region	35.4	35.7	36.0	36.7	35.9	35.0	35.5	35.3	35.8	35.6	35.1	35.3	35.9	35.4	35.4
Bakken region	2.9	3.0	3.2	3.3	3.2	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.1	3.3	3.3
Eagle Ford region	6.5	6.6	6.6	6.6	6.6	6.7	7.1	7.0	6.9	7.2	7.2	7.2	6.6	6.9	7.1
Haynesville region	16.5	16.7	16.5	16.2	15.7	14.2	14.9	14.8	14.7	14.9	15.2	15.6	16.5	14.9	15.1
Permian region	21.5	22.4	23.1	23.9	23.9	24.6	24.5	25.1	24.9	26.0	26.2	26.3	22.7	24.5	25.8
Rest of Lower 48 States	25.1	25.2	25.3	25.5	25.1	25.5	25.7	25.3	25.3	24.9	24.7	24.3	25.3	25.4	24.8
Total primary supply	103.0	78.0	83.9	91.6	104.0	78.6	85.1	92.8	104.2	77.0	83.4	91.9	89.1	90.1	89.1
Balancing item (c)	0.4	-0.4	-1.4	-0.7	-0.2	-1.6	-1.8	-0.6	-0.6	-1.3	0.3	-0.2	-0.5	-1.1	-0.4
Total supply	102.6	78.5	85.2	92.3	104.1	80.2	86.9	93.4	104.8	78.3	83.1	92.0	89.6	91.2	89.5
U.S. total dry natural gas production	102.2	103.2	104.1	105.5	104.0	102.0	103.9	104.0	104.2	104.8	104.5	105.0	103.8	103.5	104.6
Net inventory withdrawals	12.0	-11.7	-6.4	0.3	12.7	-9.6	-4.9	3.7	15.0	-11.3	-6.4	3.5	-1.5	0.5	0.2
Supplemental gaseous fuels	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Net imports	-11.8	-13.2	-12.6	-13.7	-12.7	-12.4	-12.3	-14.4	-14.5	-15.4	-15.3	-16.6	-12.8	-13.0	-15.4
LNG gross imports (d)	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1
LNG gross exports (d)	11.4	11.8	11.4	13.0	12.4	11.3	11.5	13.2	13.8	13.3	13.0	14.9	11.9	12.1	13.8
Pipeline gross imports	8.4	7.3	7.9	8.2	8.9	7.8	8.2	8.0	8.6	7.4	7.6	7.9	8.0	8.2	7.9
Pipeline gross exports	8.9	8.7	9.2	8.9	9.4	8.9	9.0	9.2	9.4	9.5	9.9	9.6	8.9	9.1	9.6
Consumption (billion cubic feet per day)															
Total consumption	103.0	78.0	83.9	91.6	104.0	78.6	85.1	92.8	104.2	77.0	83.4	91.9	89.1	90.1	89.1
Residential	23.5	7.3	3.6	15.0	22.8	6.7	3.5	15.9	24.2	7.3	3.8	16.1	12.3	12.2	12.8
Commercial	14.5	6.4	4.7	10.7	14.3	6.3	5.0	11.3	15.1	6.8	5.3	11.4	9.1	9.2	9.6
Industrial	24.8	22.4	22.0	24.3	24.9	22.3	22.1	24.0	24.9	22.1	21.7	24.0	23.4	23.3	23.2
Electric power (e)	30.8	33.4	44.8	32.6	32.5	34.7	45.7	32.6	30.5	32.3	43.8	31.1	35.4	36.4	34.4
Lease and plant fuel	5.3	5.4	5.4	5.5	5.4	5.4	5.4	5.4	5.4	5.5	5.5	5.5	5.4	5.4	5.5
Pipeline and distribution	3.9	2.9	3.1	3.4	3.9	2.9	3.2	3.5	4.0	2.9	3.1	3.5	3.3	3.4	3.4
Vehicle	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
End-of-period working natural gas inventories (billion cubic f	eet) (f)														
United States total	1,850	2,902	3,490	3,457	2,306	3,175	3,622	3,285	1,939	2,963	3,548	3,230	3,457	3,285	3,230
East region	334	646	853	787	369	670	858	760	355	629	807	731	787	760	731
Midwest region	417	701	993	950	507	781	1,027	924	454	726	1,023	894	950	924	894
South Central region	919	1,138	1,092	1,183	1,007	1,172	1,125	1,118	825	1,134	1,170	1,125	1,183	1,118	1,125
Mountain region	79	171	239	228	168	238	285	211	124	190	239	206	228	211	206
Pacific region	74	216	278	280	231	286	294	243	158	258	277	244	280	243	244
Alaska	27	30	35	30	24	28	32	29	24	27	32	28	30	29	28

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

#### Notes:

EIA completed modeling and analysis for this report on October 3, 2024.

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

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

#### Sources

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: Natural Gas Monthly, DOE/EIA-0130; and Electric Power Monthly, DOE/EIA-0226. Forecasts: EIA Short-Term Integrated Forecasting System.

<sup>(</sup>b) Regional production in this table is based on geographic regions and not geologic formations.

<sup>(</sup>c) The balancing item is the difference between total natural gas consumption (NGTCPUS) and total natural gas supply (NGPSUPP).

<sup>(</sup>d) LNG: liquefied natural gas

<sup>(</sup>e) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

<sup>(</sup>f) 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).

<sup>- =</sup> no data available

# Petro suggests Ecopetrol to do an "exorcism"

Petro reiterated his commitment for Colombia to abandon hydrocarbons and adopt a development model based on artificial intelligence and clean energy. That is why he called for an "exorcism" at Ecopetrol

5 October, 2024



President Gustavo Petro urged Ecopetrol to carry out an "exorcism" to free itself from its focus on hydrocarbons and focus on artificial intelligence and clean energy. In his speech at the Economy for Life Fair, he addressed Ricardo Roa, president of the company, and emphasized the importance of transforming it so that it becomes a leader in sustainable technologies.

"Ricardo (Roa), you who have been in the meetings, Ecopetrol has to do a kind of exorcism, take the oil out of its head and put artificial intelligence in it, so that it is a more powerful company," he said.

The national president indicated that it is necessary for Colombia in the next 10 years to have stopped being dependent on hydrocarbons and suggested that Barranquilla could be the ideal city to begin this transition, through clean energy projects and increasingly advanced technologies.

"This can be expanded, because we only have to gather clean energy through electricity networks and electricity generation, which is possible here, up to 65 gigabytes, that is, three times more than what all of Colombia generates at this time here in the Caribbean," he said.

In addition, he criticized recent discoveries of oil and gas fields, considering them more of a concern than a cause for celebration. He reiterated that the government's central policy is to reduce the demand for gas in the country and move towards a future free of fossil fuels.

**News Story** 

10/08/2024 05:00:06 [BN] Bloomberg News

# Russia's Four-Week Crude Exports Climb to the Highest Since July

Refinery run cuts boost crude for export even as production trails OPEC+ target for the first time since February

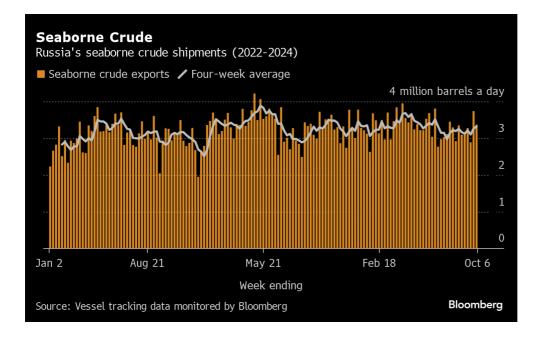
By Julian Lee

(Bloomberg) -- Russia's crude shipments rose to the highest in three months, with more oil available for export after the country's refineries embarked on seasonal maintenance.

Four-week average cargoes grew by about 60,000 barrels a day in the week to Oct. 6, reaching the highest since early July. Russia's oil processing during most of September fell to the lowest since June amid works at plants nationwide, a trend that continued in the early days of this month.

The increase in four-week flows came despite shipments from Baltic and Asian ports dropping over a seven day period. Crude production dipped below the country's OPEC+ target last month, Moscow said.

The gross value of Russia's crude exports slipped to \$1.54 billion in the seven days to Oct. 6, from \$1.68 billion in the period to Sept. 29. The drop in weekly shipments was partly offset by gains in average prices for Russia's crude, which were lifted by a broader increase in global benchmarks amid market worries that the deepening conflict between Iran and Israel could disrupt Middle East supplies.



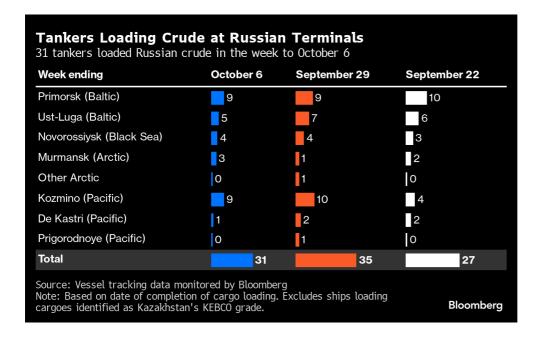
The Russian state's oil revenue showed a small annual increase in September, which came at the expense of the country's oil producers. The government offset weaker energy prices by halving monthly subsidies to the nation's crude producers. Oil remains a key source of funds for the Kremlin as it seeks to withstand Western sanctions and

**News Story** 

cover the growing military cost of the invasion of Ukraine.

# **Crude Shipments**

A total of 31 tankers loaded 23.58 million barrels of Russian crude in the week to Oct. 6, vessel-tracking data and port-agent reports show. The volume was down from 26.17 million barrels on 35 ships the previous week.



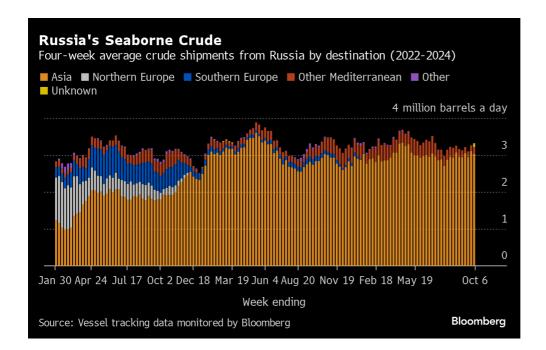
It means Russia's seaborne daily crude flows in the week to Oct. 6 fell by about 370,000 barrels to 3.37 million, giving up nearly half of the previous week's gain.

In contrast, the less volatile four-week average edged higher, increasing by 60,000 barrels a day to 3.32 million from 3.26 million the previous week.

Crude shipments so far this year are about 50,000 barrels a day, or 1.4%, below the average for the whole of 2023.

Two cargoes of Kazakhstan's KEBCO crude were loaded at Novorossiysk on the Black Sea and one at Ust-Luga on the Baltic during the week.

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Russia terminated its export targets at the end of May, opting instead to restrict production, in line with its partners in the OPEC+ oil producers' group. The country's output target is set at 8.978 million barrels a day until the end of November, after a planned easing of some output cuts was delayed by two months.

Moscow has also pledged to make deeper output cuts in October and November this year, then between March and September of 2025, to compensate for pumping above its OPEC+ quota earlier this year.

Russian data show the nation pumped <u>marginally below</u> its OPEC+ crude-output target in September, following a push from the group to improve adherence to its supply deal. At 8.97 million barrels a day, the official production number was 8,000 barrels a day below the country's target, after taking account of the deeper compensation cut it agreed to make last month.

## **Export Value**

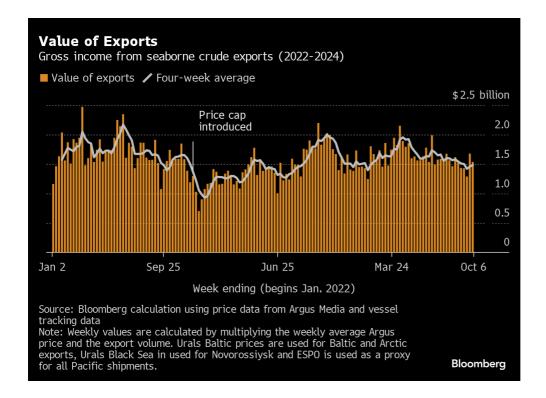
The gross value of Russia's crude exports fell to \$1.54 billion in the seven days to Oct. 6, from \$1.68 billion in the period to Sept. 29. The big drop in weekly flows was partly offset by an increase in weekly-average prices for Russia's major crude streams, which were buoyed up by a broader gain in oil prices amid rising tensions in the Middle East, as Israel considers its response to an Iranian missile attack.

Export values at Baltic ports were up week-on-week by about \$1.50 a barrel, while shipments from the Black Sea rose by about \$2 a barrel. Prices for key Pacific grade ESPO rose by about \$1 compared with the previous week. Delivered prices in India were also up, rising by about \$2.10 a barrel, all according to numbers from Argus Media.

Four-week average income rose slightly, increasing to about \$1.47 billion a week, from \$1.46 billion in the period to Sept. 29. The four-week average peak of \$2.17 billion a week was reached in the period to June 19, 2022.

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.

**News Story** 

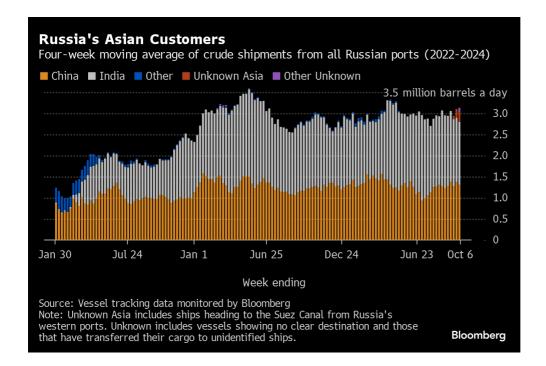


# Flows by Destination

## Asia

Observed shipments to Russia's Asian customers, including those showing no final destination, were steady at 3.14 million barrels a day in the four weeks to Oct. 6. That's about 3% below the average level seen during the recent peak in April.

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About 1.31 million barrels a day of crude was loaded onto tankers heading to China. The Asian nation's seaborne imports are boosted by about 800,000 barrels a day of crude delivered from Russia by pipeline, either directly, or via Kazakhstan.

Flows on ships signaling destinations in India averaged 1.49 million barrels a day, down from a revised 1.53 million for the period to Sept. 29.

Both the Chinese and Indian figures are likely to rise as the discharge ports become clear for vessels that are not currently showing final destinations.

The equivalent of about 230,000 barrels a day was on vessels signaling Port Said or Suez in Egypt. Those voyages typically end at ports in India or China and show up as "Unknown Asia" until a final destination becomes apparent.

The "Other Unknown" volumes, running at about 100,000 barrels a day in the four weeks to Oct. 6, are those on tankers showing no clear destination. Most originate from Russia's western ports and go on to transit the Suez Canal, but some could end up in Turkey. Others may be moved from one vessel to another.

Greece has extended naval exercises until November in an area that's become associated with the transfer of Russian crude. These naval drills haven't entirely halted ship-to-ship transfers of Russian crude in the area, though. The supertanker Alma recently received crude from two smaller tankers, Sagar Violet and Arlan, in a narrow channel located between two areas that have been closed to shipping.

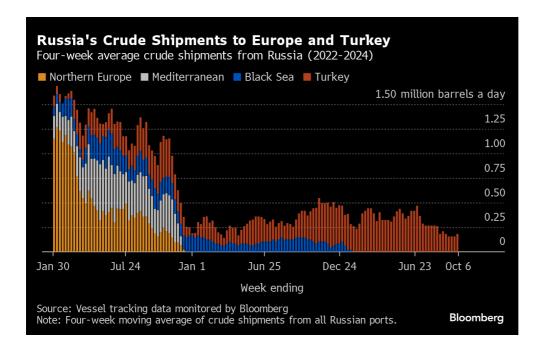
**News Story** 

<b>Crude Shipments</b> to Shipments of Russia		Asian bu	yers in n	nillion barr	els a day	
4 weeks ending	China	India	Other	Unknown Asia	Other Unknown	Total
September 1, 2024	1.23	1.73	0.00	0.00	0.00	2.96
September 8, 2024	1.27	1.67	0.00	0.00	0.00	2.94
September 15, 2024	1.39	1.67	0.00	0.00	0.00	3.06
September 22, 2024	1.27	1.59	0.00	80.0	0.00	2.94
September 29, 2024	1.37	1.53	0.00	0.21	0.00	3.11
October 6, 2024	1.31	1.49	0.00	0.23	0.10	3.14
Source: Vessel tracking da	ata compiled by	Bloomberg				Bloomberg

# Europe and Turkey

Russia's seaborne crude exports to European countries have ceased, with flows to Bulgaria halted at the end of last year. Moscow also lost about 500,000 barrels a day of pipeline exports to Poland and Germany at the start of 2023, when those countries stopped purchases.

Turkey is now the only short-haul market for shipments from Russia's western ports, with flows in the 28 days to Oct. 6 edging higher to about 180,000 barrels a day.



### **NOTES**

This story forms part of a weekly series tracking shipments of crude from Russian export terminals and the gross value

**News Story** 

of those flows. The next update will be on Tuesday, Oct. 15.

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 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 stream. Since Russia's invasion of Ukraine, Kazakhstan has rebranded its cargoes to distinguish them from those shipped by Russian companies.

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.

If you are reading this story on the Bloomberg terminal, click 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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# Assessment: Biden and Harris oppose an attack on Iran mainly because of the elections

## Menachem Helfgott

## 2 Hours ago

The US believes that what is behind Biden's demand that Israel not harm Iran's nuclear or oil facilities is actually the upcoming elections in the country • The US administration is concerned about the possibility that they will have to involve American soldiers in the war, but more so about the increase in oil and gas prices and Trump's use of the issue in the final stretch of the campaign

The political-security cabinet is expected to convene Thursday evening to vote on the nature and intensity of Israel's response to the ballistic missile attack from Tehran, CNN reported, following the conversation between Prime Minister Benjamin Netanyahu and US President Joe Biden last night.

According to our political correspondent Moti Castel, the outgoing president demanded that Netanyahu not attack Iran's nuclear or oil facilities, while the latter replied that it was "a historic opportunity that should not be missed" and refused to commit to meeting his demands.

According to NBC, the reason behind Biden's demand not to hit the IRGC's strategic targets is the fear that the Israeli move could "plunge the United States into the conflict" and even force it to involve American soldiers in the war on the eve of the elections.

Democrats believe that an Israeli strike would cause a sharp rise in the price of oil and gas, allowing Republican candidate Donald Trump to place the cost of living at the center of his campaign against Vice President and Democratic candidate Kamala Harris.

"This may encourage support for former President Donald Trump, who has repeatedly criticized the Biden administration for its handling of the wars in Ukraine and the Middle East," said Richard Engel, NBC's foreign news correspondent.

# U.S. officials say Israel has narrowed down its targets for strike on Iran

The strike could happen at any time, U.S. and Israeli officials told NBC News, and could come during this weekend's Yom Kippur holiday.

Oct. 12, 2024, 1:32 AM MDT

By Courtney Kube, Monica Alba, Andrea Mitchell, Mosheh Gains and Carol E. Lee

U.S. officials believe Israel has narrowed down what they will target in their <u>response to Iran's attack</u>, which these officials describe as Iranian military and energy infrastructure.

There is no indication that Israel <u>will target nuclear facilities</u> or carry out assassinations, but U.S. officials stressed that the Israelis have not made a final decision about how and when to act.

The region has been on edge awaiting Isreal's response to an Iranian missile barrage launched on Oct. 1, which Iran said was in response to Israel's invasion of Lebanon and the assasination of its allies, including Hamas' Ismail Haniyeh in Tehran, and Hezbollah's powerful leader, Hassan Nasrallah in Beirut.

Iran's attack caused little damage in Israel.

The U.S. does not know when Israel's response could come but officials said the Israeli military is poised and ready to go at any time <u>once the order is given</u>.

U.S. officials stressed that they have no information to indicate the response will come today but admitted that <u>Israel has not shared a specific timeline with them</u> — and it is not clear Israeli officials have even agreed on one yet.

U.S. and Israeli officials said a response could come during the Yom Kippur holiday.

Israel has shared more information with the U.S. about the retaliation, the officials said, but they withheld many details out of <u>operational security concerns</u>. The U.S. is poised to defend its assets in the region from any immediate counterattack from Iran but is not likely to provide direct military support to the operation.

Secretary of Defense Lloyd Austin spoke with his Israeli counterpart, Yoav Gallant, last night and they discussed broad strokes about an Israeli response. However, it's not clear that Gallant provided any concrete details. Their call came after an Israeli Cabinet meeting about the retaliation, but Gallant did not share the specific targets discussed in that meeting.

U.S. officials have continued to urge the Israeli government to make their response proportional, sticking to military targets and avoiding oil, gas and nuclear facilities.

President Joe Biden and Prime Minister Benjamin Netanyahu did not discuss specifics in their call this week either, U.S. officials said.

Biden <u>strongly urged Netanyahu</u> to focus on the humanitarian situation in Gaza and in Lebanon and urged him to bring an end to the fighting. The U.S. president also stressed that Israel needs to consider how

difficult it would be to successfully carry out the war in Lebanon and face a strong threat on a second front from Iran.

# **Exclusive: Stop Israel from bombing Iran's oil sites, Gulf states urge US**

By <u>Samia Nakhoul</u>, <u>Parisa Hafezi</u> and <u>Pesha Magid</u> October 10, 20247:39 AM MDTUpdated 2 hours ago

By Samia Nakhoul, Parisa Hafezi and Pesha Magid

DUBAI (Reuters) - Gulf states are lobbying Washington to stop Israel from attacking Iran's oil sites because they are concerned their own oil facilities could come under fire from Tehran's proxies if the conflict escalates, three Gulf sources told Reuters.

During meetings this week, Iran warned Saudi Arabia it could not guarantee the safety of the Gulf kingdom's oil facilities if Israel were given any assistance in carrying out an attack, a senior Iranian official and an Iranian diplomat told Reuters.

Ali Shihabi, a Saudi analyst close to the Saudi royal court, said: "The Iranians have stated: 'If the Gulf states open up their airspace to Israel, that would be an act of war'."

The diplomat said Tehran had sent a clear message to Riyadh that its allies in countries such as Iraq or Yemen might respond if there was any regional support for Israel against Iran.

A potential Israeli strike was the focus of talks on Wednesday between Saudi de facto ruler, Crown Prince Mohammed bin Salman, and Iranian Foreign Minister Abbas Araqchi, who was on a Gulf tour to rally support, Gulf and Iranian sources said.

But much of that spare capacity is in the Gulf region so if oil facilities in Saudi Arabia or the UAE, for example, were targeted too, the world could face an oil supply problem.

Saudi Arabia has been wary of an Iranian strike on its oil plants since a 2019 attack on its Aramco oilfield shut down over 5% of global oil supply. Iran denied involvement.

Riyadh has had a rapprochement with Tehran in recent years, but trust remains an issue. Bahrain, Kuwait, Qatar, Saudi Arabia and the UAE all host U.S. military facilities or troops.

Concerns over oil facilities and the potential for a wider regional conflict were also central to talks between Emirati officials and their U.S. counterparts, said another Gulf source.

In 2022, the Iran-aligned Houthis in Yemen fired missiles and drones at oil refuelling trucks near an oil refinery owned by UAE's state oil firm ADNOC and claimed the attack.

"The Gulf states aren't letting Israel use their airspace. They won't allow Israeli missiles to pass through, and there's also a hope that they won't strike the oil facilities," the Gulf source said.

The three Gulf sources emphasized that Israel could route strikes through Jordan or Iraq, but using Saudi, UAE, or Qatari airspace was off the table and strategically unnecessary.

Analysts also pointed out that Israel has other options, including mid-air refuelling capabilities that would enable its jets to fly down the Red Sea into the Indian Ocean, proceed to the Gulf and then fly back.

### 'MIDDLE OF A MISSILE WAR'

According to two senior Israeli officials, Israel is going to calibrate its response and, as of Wednesday, it had not yet decided whether it would strike Iran's oilfields.

The option was one of a number presented by the defence establishment to Israeli leaders, according to the officials.

Israeli Defence Minister Yoav Gallant said on Wednesday: "Our strike will be lethal, precise, and above all - surprising. They will not understand what happened and how it happened. They will see the results."

The three Gulf sources stated that Saudi Arabia, as a leading oil exporter along with oil-producing neighbours - the UAE, Qatar, Kuwait, Oman and Bahrain - had keen a interest in de-escalating the situation.

"We will be in the middle of a missile war. There is serious concern, especially if the Israeli strike targets Iran's oil installations," a second Gulf source said.

The three Gulf sources said an Israeli strike on Iran's oil infrastructure would have a global impact, particularly for China - Iran's top oil customer - as well as for Kamala Harris ahead of the Nov. 5 presidential election in which she is running against Donald Trump.

"If oil prices surge to \$120 per barrel, it would harm both the U.S. economy and Harris' chances in the election. So they (Americans) won't allow the oil war to expand," the first Gulf source said. Gulf sources said safeguarding all oil installations remained a challenge, despite having advanced missile and Patriot defence systems, so the primary approach remained diplomatic: signalling to Iran that Gulf states pose no threat.

Bernard Haykel, professor of Near East Studies at Princeton University, noted that Riyadh was vulnerable "because the Iranians can swarm those installations given the short distance from the mainland".

(Additional reporting by Maha El Dahan and Hadeel Al Sayegh in Dubai; Humeyra Pamuk, Matt Spetalnick and Jonathan Landay in Washington and Maayan Lubell in Jerusalem; Reporting and writing by Samia Nakhoul; Editing by David Clarke)



https://www.maersk.com/news/articles/2024/10/09/network-of-the-future-service-network-update

#### Advisories

## The Network of the Future: Service network update

9 October 2024

Ocean Transport Network of the Future Gemini Cooperation Network Update Routes

#### Share

Last month we reached out with an update on the Gemini Cooperation and the Network of the Future. We are now writing with further information about what network is expected to be phased in on February 01, 2025.

After thorough consideration, and given the continued safety concerns in the Red Sea, Hapag-Lloyd AG (Hapag-Lloyd) and Maersk A/S (Maersk), an entity under A.P. Moller - Maersk, confirm that they expect to phase in their Cape of Good Hope network for the commencement of the Gemini Cooperation on 1 February 2025. As the situation remains highly dynamic, Hapag-Lloyd and Maersk will return to the Red Sea when it is safe to do so.

The Gemini Cooperation's ambition is to deliver industry-leading schedule reliability of above 90 percent once fully phased in, ensuring efficient and flexible services across the East-West trades. The Cape of Good Hope network will include 29 mainliner services supported by 28 intraregional shuttle services and will be operated by a fleet of around 340 vessels with a total capacity of 3.7m TEU.

From now until the commencement of the Gemini Cooperation

We will continue to update you with news of our new network. In the meantime, you can continue to find news and information on the Network of the Future on our webpage dedicated to it here.

If you have any further questions about the new network and what it means for you and your business, please <u>contact us</u> - our teams are ready to assist and guide you.

For more information on the new network and services, plus answers to frequently asked questions, please see our dedicated page on Maersk.com.

As your trusted logistics partner, we look forward to embarking on this exciting new chapter together.

https://www.maersk.com/support/faqs/gemini-cooperation-october-announcement

# What is being announced on 9 October that is new and an addition to what was shared in September 2024?

On 10 September, Maersk and Hapag-Lloyd released a network update presenting an alternative Cape of Good Hope network due to the on-going disruptions and safety concerns in the Red Sea. On 9 October, the two companies confirm that they expect to phase in the alternative Cape of Good Hope network for the commencement of the Gemini Cooperation in February 2025.

#### 1. Network:

- Due to the on-going disruptions in the Red Sea, the two companies confirm that they expect to phase in the Cape of Good Hope network for the start of the Gemini Cooperation in February 2025.
- The Cape of Good Hope network follows the same design principles as the original Trans Suez Network and has been developed to deliver the reliability goals of the Gemini partnership.
- We have and will continue monitoring the situation in the Middle East very closely and hope that the situation will soon be resolved.
- We return to the Red Sea when it is safe to do so, but as the situation remains highly dynamic, we will be prepared for either scenario - a return to the Red Sea, or a continuation of the route south of the Cape of Good Hope.
- Also the alternative Cape of Good Hope Network, the ambition is to provide industry-leading schedule reliability (90% SeaIntel when fully phased in), reach, and speed.
- **2. Operational network update.** Since the initial announcement, Maersk and Hapag-Lloyd have further improved the network, reflected in the following updates:

## Cape Network

- o Around 340 vessels
- o 3.7m TEU capacity
- o 57 services (29 mainliners, 28 shuttles)

## https://www.maersk.com/support/faqs/decision-making-criteria-gemini-cooperation

# What are the decision-making criteria for phasing in the Trans Suez network or the alternative Cape of Good Hope network?

The safety of our crews is always a top priority and guiding principle. We will return to a Trans Suez network as soon as it is safe to do so, but as the situation remains highly dynamic, we will be prepared for either scenario. We expect to confirm the network selected for phase-in in October.

In August, our crisis management team provided an overview of the current security situation and an outlook assessment. To decide how to proceed, we look at certain triggers like demonstrated protection, threat levels and the geopolitical context to assess the security situation. There is currently no indication that we can expect the situation in the Red Sea to get better or resolved in the short term. However, there is also still some time until the phase in of the Network of the Future in February 2025, and the situation remains highly dynamic. We will return to the Red Sea as soon as it is safe to do so. For now, we are focusing on ensuring we are ready and in a strong position for either scenario, whether Trans Suez or Cape of Good Hope - and will provide further updates as we get closer to February.

China's Home Sales Jump During Holiday as 130 Cities Offer Perks 2024-10-07 21:00:00.1 GMT

# By Krystal Chia

(Bloomberg) -- China's latest steps to revive the housing market have had an immediate impact, judging from reports of brisk sales and buyer interest during the nation's week-long holiday. Whether the rebound will be sustained is another matter.

In cities with residential projects running promotions, visits by prospective homebuyers climbed at least 50% from a year earlier, CCTV news reported, citing the Ministry of Housing and Urban-Rural Development. About 130 cities across 20 provinces have rolled out various perks to entice buyers. Beijing city saw expressions of intent to buy new homes double in the first three days of October, the state broadcaster said. In Shenzhen, sales of new homes jumped more than 10 times in the first six days of the month, while used-home transactions more than tripled, Cailian reported, citing Shenzhen Centaline Property figures. Real estate agents in Shanghai rolled out a "no closing hour" policy after visitors increased, while some buyers in Shenzhen even paid deposits for apartments without viewing them in person, according to the Securities Times. "It seems like the number of visitors to showrooms and transactions in first-tier cities has risen," Citic Securities Co. analysts including Chen Cong wrote in a report Monday. "Price declines in these cities have a chance of stopping this year."

Days before the National Day celebrations, authorities announced a series of policies to stabilize the real estate sector, including by lowering existing mortgage rates and minimum downpayment requirements for second-home purchases. At the local level, Beijing and Shanghai were among cities that widened eligibility to purchase properties.

Chinese developer shares have soared since the moves were announced, and those traded in Hong Kong continued to rally while the mainland exchanges were closed. A Bloomberg Intelligence gauge of Chinese real estate stocks has more than doubled since the stimulus was announced on Sept. 24. Mainland trading is set to resume Tuesday.

Despite the property easing, some experts have warned that

more is needed to cement a rebound, including a greater focus on rebalancing the economy toward domestic consumption.

"A solid recovery in the real economy, reflected in improving job and income outlooks, holds the key to a turnaround of confidence in housing," Bloomberg Intelligence analyst Kristy Hung wrote in a report. Persistent concerns about unfinished homes could lead buyers to prefer secondhand properties over new ones, she said.

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Read more on China's property market

Chinese Homebuyers Scout Showrooms at Midnight After Easing Xi's Economic Adrenaline Shot Is Only Buying China a Little Time What's Wrong With China's Economy? What's Xi Doing?: QuickTake \*T

While property sales "may have improved" in early October, broader economic data is expected to suggest weak momentum, according to UBS Group AG economists Tao Wang and Ning Zhang. Authorities may announce a fiscal package after the holiday or around Oct. 18, when third-quarter figures are released, they wrote on Monday. China's top economic planner is scheduled to hold a news briefing on Tuesday.

The latest stimulus measures will give a marginal boost to the housing market in the fourth quarter, according to analysts at China Index Academy. They expect annual sales of homes by area to fall between 15% and 18% this year.

"The measures must hit the ground running in the early period of the fourth quarter," the China Index analysts said. "Only then can these measures actually, in a stable manner, support the market into next year."

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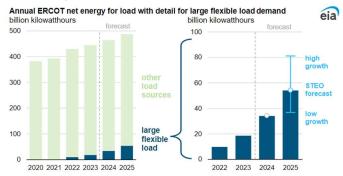
Russell Ward

To view this story in Bloomberg click here:

https://blinks.bloomberg.com/news/stories/SKZBFST1UM0W

### Data centers and cryptocurrency mining in Texas drive strong power demand growth





**Data source:** U.S. Energy Information Administration, <u>Short-Term Energy Outlook</u> (STEO), September 2024

**Note:** The Electric Reliability Council of Texas (ERCOT) defines *large flexible load* as any facility drawing power from the grid with an expected peak demand capacity of 75 megawatts or more.

In the United States, electricity consumption is growing fastest in Texas, where the Electric Reliability Council of Texas (ERCOT) manages 90% of the load on the state's power grid. One of the main sources of growing demand for power is <a href="large-scale computing facilities">large-scale computing facilities</a> such as data centers and cryptocurrency mining operations, although their future demands are uncertain. In our latest <a href="Short-Term Energy">Short-Term Energy</a>
<a href="Outlook">Outlook</a> (STEO), we expect electricity demand from customers identified by ERCOT as <a href="large flexible">large flexible</a>
<a href="load">load</a> (LFL) will total 54 billion kilowatthours (kWh) in 2025, up almost 60% from expected demand in 2024. This expected demand from LFL customers would represent about 10% of total forecast electricity consumption on the ERCOT grid next year.

These facilities consume large amounts of electricity, both to run their computing equipment and to keep them cool. Some of the larger facilities can consume as much electricity as a medium-sized power plant. In mid-2022, ERCOT developed a program for approving proposed LFL customers (those with an expected peak demand capacity of 75 megawatts [MW] or greater) to ensure grid reliability. The <a href="LFL Task Force">LFL Task Force</a> publishes periodic status updates that indicate how much capacity has been approved and is expected in upcoming years.

Certain large-load facilities, primarily cryptocurrency mining facilities but also data centers and some industrial factories, have entered into voluntary curtailment agreements with ERCOT to temporarily reduce their power consumption during periods of particularly high system demand or low generator availability. As part of the program, LFL facilities can participate in ERCOT's energy and ancillary service markets. This flexibility in large-load operations can help mitigate some of the effects that strong growth in electricity demand is having on the ERCOT system.

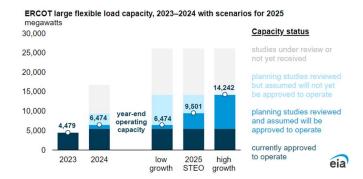
We use the information from ERCOT about current and future LFL demand in developing our STEO forecasts of regional electric load. We assume that by the end of 2025 ERCOT will have approved operations of 9,500 MW of LFL demand capacity, which would be 73% more than is currently approved (5,479 MW of which 1,570 MW was approved over the past 12 months).

Historically, LFL customers have consumed about 65% of their total approved capacity. In the STEO, we assume that LFL demand is constant throughout the day at this percentage, so the expected 2025 capacity and its utilization translate to an assumed total LFL of 54 billion kWh next year. This new electricity consumption from large computing and industrial facilities contributes to our forecast that ERCOT's load across all customers will grow by 5% between 2024 and 2025.

### Uncertainty about future levels of large-load demand

Although much planned capacity for large-load customers is awaiting approval from ERCOT, when or if the capacity will be brought online remains uncertain. ERCOT's <u>status update</u> from early September indicates that projects representing about 26,500 MW of LFL capacity have applied to become operational by the end of 2025. This amount includes about 2,000 MW of capacity for projects that have not yet submitted plans and more than 12,000 MW of capacity for projects that currently have plans under review by ERCOT. Given the typical approval timeline, these projects are unlikely to come online by the end of next year.

To analyze the potential effects of different levels of future large-load electricity demand on power generation and wholesale prices in ERCOT, we modeled two scenarios with different assumptions about 2025 LFL capacity and compared the results with the September STEO forecast as a base case. In all three cases, we assume that LFL facilities will be demand-responsive, cutting back part of their electricity consumption during hours when potential wholesale power prices exceed \$100 per megawatthour (MWh). The actual level of curtailment observed could vary greatly from these assumptions depending on whether the large-load customer believes the incentives are worthwhile.



**Data source:** U.S. Energy Information Administration, <u>Short-Term Energy Outlook</u> (STEO), September 2024

Delays in the large-load approval process or in developers' plans could reduce new large-load power demand next year. In our low-growth scenario, we assume that no additional LFL capacity comes online next year beyond what we expect to be operational at the end of 2024 (6,500 MW). This assumption would translate into about 37 billion kWh of LFL electricity consumption in 2025 (32% lower than the baseline forecast of 54 billion kWh).

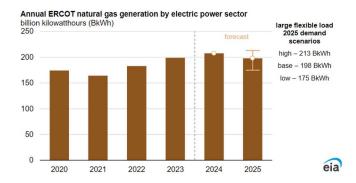
Conversely, it's possible that ERCOT could quickly begin approving projects in the LFL queue at a faster pace. Our high-growth scenario assumes that about 14,200 MW of LFL capacity will be operational by the end of next year, leading to a forecasted 81 billion kWh of electricity consumption from LFL customers in 2025 (50% higher than the baseline STEO assumption).

In our baseline September STEO, we forecast that ERCOT's electricity load across all types of customers will grow by 5% from 464 billion kWh in 2024 to 487 billion kWh in 2025. In contrast, in our low-growth scenario, overall ERCOT load would grow by only 1% next year, and in our high-growth scenario, ERCOT load would grow by 10%. For both the low- and high-growth scenarios, we assume all other factors (such as generator fuel costs and non-LFL) remain the same as in the baseline forecast.

### How growing demand from large flexible load sources could affect power generation

The largest source of electricity generation in ERCOT is natural gas, accounting for 45% of that region's generation in 2023. We assume that existing and planned generating capacity is the same across the three scenarios, and our different assumptions about future electricity demand have the most effect on natural gas generation. In reality, the electric power sector could respond to the expected level of future demand by expanding the capacity available from other sources of generation.

In our September STEO, we forecast that annual natural gas-fired generation in ERCOT will fall by 5% between 2024 and 2025 to an annual total of 198 billion kWh in response to increased generation from renewable energy sources, particularly solar. Our scenario with stronger growth in large-load demand results in 8% more natural gas-fired generation in 2025 than the baseline forecast, at 213 billion kWh. Our low-growth scenario forecasts 12% less natural gas-fired generation than the baseline.

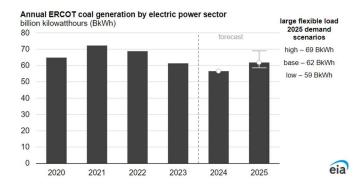


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2024

Note: ERCOT=Electric Reliability Council of Texas

The fastest-growing source of <a href="new electric generating capacity">new electric generating capacity</a> in the United States is solar power, with growth concentrated in Texas. Our base case STEO forecasts that solar generation in ERCOT by the electric power sector will grow by 54% in 2025 to 67 billion kWh. Solar power is generally dispatched as generation whenever it's available because it does not have operating costs like fossil-fuel generators. It can also be curtailed to avoid grid congestion or if electricity demand is low at a particular time. In 2023, about 3% of solar output in ERCOT was curtailed. In our high-growth scenario, we forecast 2% more solar generation than in the base case in 2025 because less output would need to be curtailed.

The other major source of power generation that could change under different assumptions about electricity demand trends would be coal, which accounted for 14% of ERCOT generation in 2023. Like natural gas, coal has more flexible generation patterns than renewables, and so changes in demand are more likely to raise or lower coal-fired generation. In our low-growth scenario, we forecast 5% less ERCOT coal-fired generation in 2025 than the STEO base case forecast of 62 billion kWh and 12% more in the high-growth scenario.



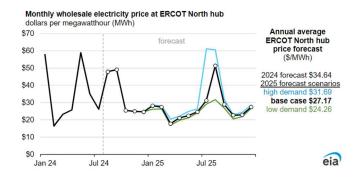
Data source: U.S. Energy Information Administration, <u>Short-Term Energy Outlook</u>, September 2024

Note: ERCOT=Electric Reliability Council of Texas

### Impact of uncertain large-load demand on wholesale power prices

The effect of uncertain future electricity consumption is most evident in wholesale power prices, which reflect how well generating supply can meet electricity demand. As a representative wholesale price for ERCOT, the STEO uses average settlement point prices (SPP) during peak hours at the North zone hub, which includes the Dallas-Fort Worth metropolitan area. The base case STEO forecasts ERCOT wholesale power prices in 2025 will average about \$27/MWh, which would be 22% lower than our expected wholesale price for 2024. Lower prices are a result of expected lower fuels costs for natural gas along with increased penetration of solar generation.

The scenario with less-than-expected growth in large-load demand reduces forecasted 2025 wholesale power by 11% from the base case STEO forecast, while the high-growth scenario increases prices by 17% from the base case. In both scenarios the largest differences from the base case scenario occur in the summer months. LFL demand was curtailed only during 10 hours of the high-growth and base case scenarios, averaging 23% of LFL in the high-growth scenario and 13% of LFL in the base case during those hours.



Data source: U.S. Energy Information Administration, <u>Short-Term Energy Outlook</u> (STEO), September

2024

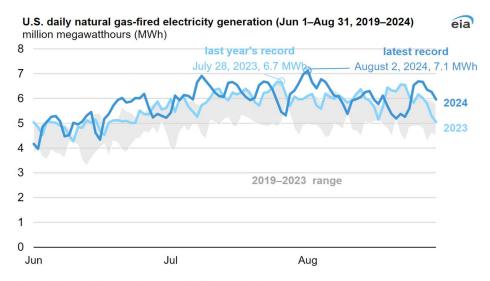
Note: ERCOT=The Electric Reliability Council of Texas

ERCOT set up its LFL program for large-load customers to help manage the impact of potentially strong growth in demand. By requiring approval of the projects and encouraging curtailment of demand when needed, the LFL process intends to minimize the risk of wholesale power prices spiking to levels of \$1,000/MWh or more. Texas is pursuing other avenues to accommodate the expected increase in power demand from large computing facilities such as the <u>Texas Energy Fund</u>, which is designed to encourage development of new dispatchable generating capacity.

### In-brief analysis

October 8, 2024

### U.S. natural gas-fired electricity generation set new daily records in summer 2024



Data source: U.S. Energy Information Administration, Hourly Electric Grid Monitor

U.S. natural gas-fired power plants generated more than 7 million megawatthours (MWh) of electricity on August 2, 2024, according to our <u>Hourly Electric Grid Monitor</u>, making up almost half of all electricity generated in the contiguous United States that day.

On August 2, 2024, 7.1 million MWh of natural gas-fired electricity was generated in the United States, 6.8% more than the previous summer's record set on July 28, 2023. Nine out of the ten days with the most U.S. natural gas-fired electricity generation on record occurred in the summer of 2024; of those, six occurred in August 2024. Overall electricity generation for the summer (June–August) of 2024 was up by 3% from summer 2023. The daily average for natural gas-fired electricity generation for the summer also increased 3% to 5.9 million MWh.

Reasons for increased U.S. natural gas-fired electricity generation included <u>hotter weather</u>, <u>low natural gas prices</u>, the addition of new <u>combined-cycle</u> generating capacity, and increased <u>generator capacity factors</u>.

Over the past few years, the balance of <u>sources of electricity generation</u> in the United States—especially in the summer—has shifted to more renewables and natural gas and less coal. As electric generation capacity from renewable sources grows, natural gas is used increasingly to balance the <u>intermittent nature</u> of electricity produced from wind and solar. Since 2014, the <u>share of U.S. electricity generation</u> from natural gas in the summer has increased every year except 2021, increasing from 29% in 2014 to 45% in 2024.

Principal contributors: Grace Wheaton, Corrina Ricker

### intelligence driving up power demand Recent alarmism about artificial

power demand 160% by Al will spike data centre

Keep Power-Hungry Data Sites Green A.I. Frenzy Complicates Efforts to

Artificial intelligence's booming growth is radically reshaping an already red-hot data center market, raising questions about whether these sites can be operated sustainably.

> A single Chatant amount concurred naarly 10 OCTOBER 13, 2023 5 MIN READ

times the

The AI Boom Could Use a Shocking Amount of **Electricity** 

Al could drive a natural gas boom as

power companies face surging

electricity demand

Powering artificial intelligence models takes a lot of energy. A new analysis demonstrates just how big the problem could become

BY LAUREN LEFFER

WREAKING HAVOC POWER SYSTEMS

TECHNOLOGY | ARTIFICIAL INTELLIGENCE | KEYWORDS: CHRISTOPHER MIMS

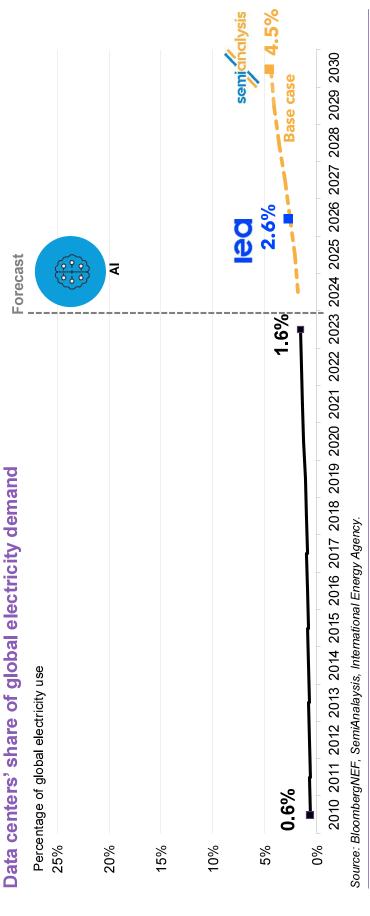
AI Is Ravenous for Energy. Can It Be Satisfied?

The revolution in artificial intelligence may soon require more electricity than all electric vehicles

Source: BloombergNEF, Scientific American, New York Times, Computing UK, CNBC, Bloomberg News, Google.

How Significant Will Al Data Centers' Electricity Demand Be?

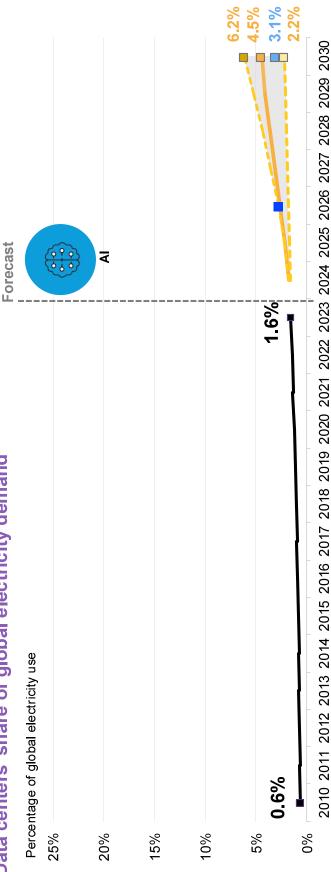
### ...to triple to 4.5% of global electricity nse



How Significant Will Al Data Centers' Electricity Demand Be?

### There is a wide range of forecast estimates and uncertainty

Data centers' share of global electricity demand

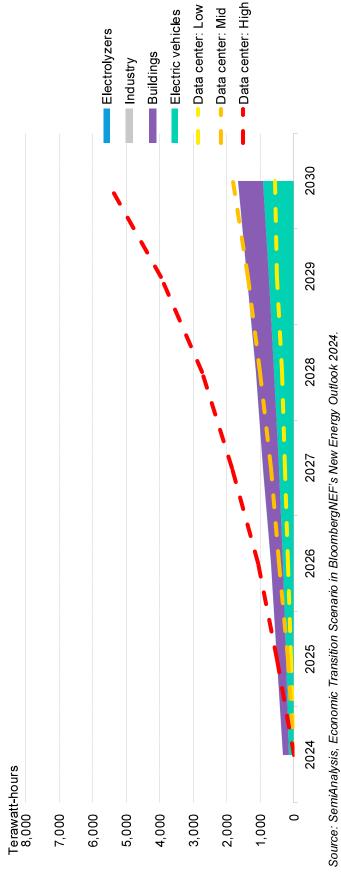


How Significant Will Al Data Centers' Electricity Demand Be?

Source: BloombergNEF, SemiAnalaysis, International Energy Agency, Goldman Sachs.

### Data center power demand is likely to exceed that of electric vehicles

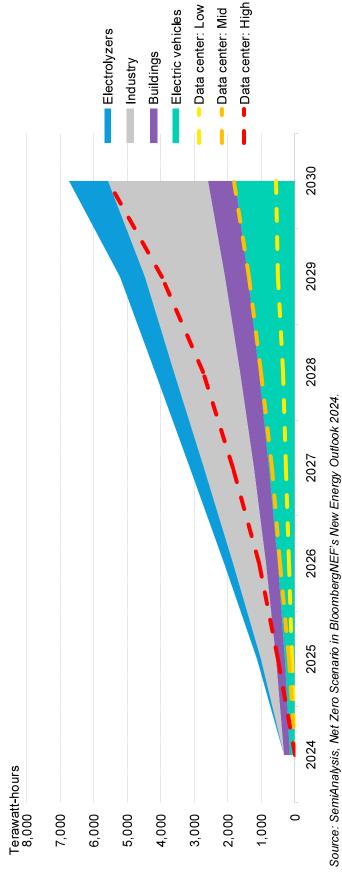
## New sources of electricity demand, by sector



How Significant Will Al Data Centers' Electricity Demand Be?

### Data center power demand could even dominate in a Net Zero Scenario

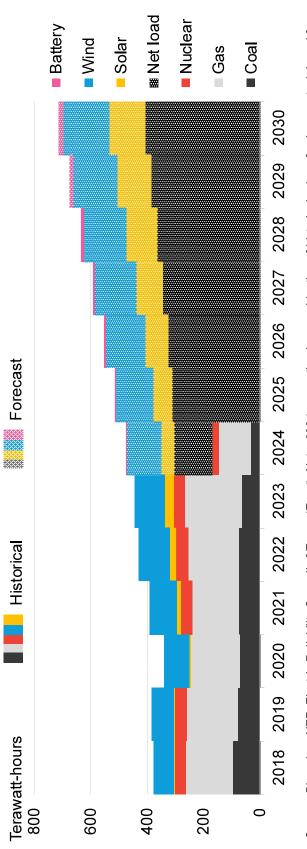
## New sources of electricity demand, by sector



How Significant Will Al Data Centers' Electricity Demand Be?

### Coal and gas generation will grow to meet new power demand

Annual energy consumption in Ercot in BNEF's base-case forecast

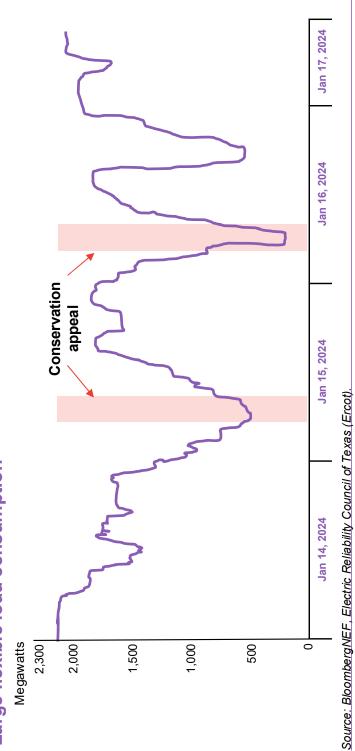


Source: BloombergNEF, Electric Reliability Council of Texas (Ercot). Note: 2024 generation is a combination of historical values for January to July and forecast values for August to December. Forecast is the average of the weather years.

How Significant Will Al Data Centers' Electricity Demand Be?

14

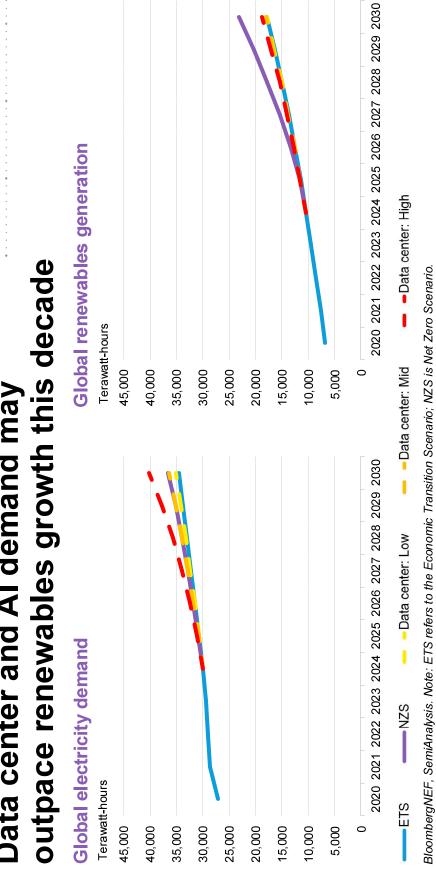
## Large flexible load consumption



**BloombergNEF** 

15 How Significant Will AI Data Centers' Electricity Demand Be?

# Data center and AI demand may



How Significant Will Al Data Centers' Electricity Demand Be?

https://media.polestar.com/global/en/media/pressreleases/683500

2024.10.11 ID 683500

### Polestar announces global volumes for the third quarter; to provide business and strategy update on 16 January 2025



### Media contact

Bojana Flint <u>bojana.flint@polestar.com</u> Head of Investor Relations Global CET (Gothenburg)

Theo Kjellberg <a href="mailto:theo.kjellberg@polestar.com">theo.kjellberg@polestar.com</a> Head of Corporate PR Global CET (Gothenburg)

- 11,900 cars delivered in Q3 2024 and 32,300 year-to-end September
- First markets to implement active sales model showing solid order intake
- Business and strategy update, including select Q3 financial and operational highlights, to take place on 16 January 2025

**GOTHENBURG, SWEDEN – 11 October 2024.** Polestar (Nasdaq: PSNY) delivered approximately 11,900 cars in the third quarter, taking total deliveries for the first nine months of the year to 32,300 (2023: 41,844).

Michael Lohscheller, Polestar CEO, says: "Polestar has a great foundation to build upon, with access to the best EV technology, a global manufacturing capability and strong support from Geely. Together with the management team, we are conducting a review of our strategy and operations, to set out a clear path for Polestar's development."

"A key to our future success will be the development of our commercial capabilities: going from showing to actively selling cars. Adopting a more active sales model is already supporting our ambitions, as the first markets to implement it are showing solid order intake."

### Outlook

With current market conditions and announced import duties impacting the automotive industry, the Company expects revenue in 2024 to be similar to 2023 and to achieve a positive gross profit margin in the fourth quarter. The Company reaffirms its target of achieving cash flow break-even towards the end of 2025 – at lower volume than previously targeted.

Given market conditions and the Company's anticipated performance in 2024, the Company, alongside Geely, is engaged in constructive dialogue with its club loan lenders, who remain supportive, regarding its loan covenants.

### **Upcoming events**

On 16 January 2025, Polestar management will host a live webcast to provide a business and strategy update, including the publication of select Q3 financial and operational highlights. Reducing Q3 reporting

disclosures will help focus company resources on the ongoing business and strategy review and on fulfilling 2024 annual reporting requirements.

Webcast access details will be made available on the Polestar Investor Relations website: <a href="https://investors.polestar.com/">https://investors.polestar.com/</a>

Ends.

**About Polestar** Polestar (Nasdaq: PSNY) is the Swedish electric performance car brand determined to improve society by using design and technology to accelerate the shift to sustainable mobility. Headquartered in Gothenburg, Sweden, its cars are available in 27 markets globally across North America, Europe and Asia Pacific. Polestar is scheduled to expand into additional markets in 2025.

Polestar has three models in its line-up: Polestar 2, an electric performance fastback; Polestar 3, the SUV for the electric age; and Polestar 4, the SUV coupé transformed. With plans to have a line-up of five performance EVs by 2026, Polestar 5, an electric four-door GT and Polestar 6, an electric roadster, are coming soon.

The Polestar 0 project supports the company's ambitious goal of creating a truly climate-neutral production car by 2030. The research initiative also aims to create a sense of urgency to act on the climate crisis, by challenging employees, suppliers and the wider automotive industry, to drive towards zero.

NO. 115/2024

Media information 11.10.2024

### Volkswagen Group delivers 6.5 million vehicles by September

"After nine months, Volkswagen Group deliveries are around three percent down on the same period last year in a market environment that remains challenging. We grew significantly in North and South America and increased our market share. In Europe, we were able to keep our vehicle handovers to customers largely stable, but are experiencing significant headwinds from the market. The competitive situation in China is particularly intense, which is the main reason for the global decline in our deliveries. In the coming months, numerous attractive new models across all brands will strengthen our market position worldwide. In addition, however, a better cost base, particularly in Germany, is essential to remain successful in this environment in the future."





### Key figures

6.52 million vehicles delivered worldwide after 3 quarters, down 2.8 percent on the previous year (6.72 million vehicles)

Growth in North America (+7%) and South America (+15%) was offset by declines in Western Europe (-1%) and particularly in China (-10%).

506,500 vehicles worldwide BEV deliveries after 3 quarters down 4.7 percent on the previous year (531,500 vehicles) BEV share of around 8 percent at the end of September is at the previous year's level, significantly more BEVs delivered in China (+27 percent), declining development in the USA (-26 percent). Volkswagen Group remains BEV market leader in Europe

despite lower deliveries (market share around 19 percent).

BEV order intake in Western Europe doubled by the end of September BEV order bank in Western Europe stands at around 170,000 vehicles, deliveries of new models such as the VW ID.7 Tourer, Audi Q6 e-tron and Porsche Macan Electric will provide a further tailwind in Q4.

192,000 vehicles worldwide PHEV deliveries are around 9 percent higher than in the same period last year Demand for vehicles with modern secondgeneration plug-in hybrid drives (PHEV) and purely electric ranges of up to 143 km<sup>1</sup> is increasing.

### Development of core regions

### Europe

The region as a whole declined by 0.9 percent to 2.79 million vehicles. Western Europe fell by 0.7 percent, while Central and Eastern Europe lost 1.7 percent. In the home market of Germany, the decline amounted to 1.6 percent.

### North America

769,000 vehicles delivered represent a significant increase of 7.4 percent. The Volkswagen Group grew by 1.5 percent in the main market **USA**.

### South America

At 14.6 percent, the region recorded the strongest growth to 419,100 vehicles. The largest contribution to this positive development was made by the core market of **Brazil** with growth of 19.1 percent.

### Asia-Pacific

The region recorded a decline of 11.0 percent to 2.27 million vehicles. Main reason was the intense competitive situation in **China**, as a result of which Volkswagen Group deliveries fell by 10.2 percent.

### Best-selling all-electric vehicles (BEV)

Volkswagen ID.4/ID.5 135,200

Volkswagen ID.3 105,900

Audi Q4 e-tron (incl. Sportback) 78,800

Škoda Enyaq (incl. Coupé) 50,800

CUPRA Born 29,600

Audi Q8 e-tron (incl. Sportback) 23,900

Volkswagen ID.7 (incl. Tourer) 22,200

Volkswagen ID. Buzz (incl. Cargo) 20,000

 $<sup>^{1)}</sup>$  Volkswagen Golf 1.5 eHybrid: energy consumption weighted combined 15.7-14.7 kWh/100 km plus 0.4-0.3 l/100 km; fuel consumption with discharged battery combined: 5.3-5.0 l/100 km; CO<sub>2</sub> emissions weighted combined 9-6 g/km; CO<sub>2</sub> class weighted combined: B; CO<sub>2</sub>-class with discharged battery: D-C

### Deliveries Volkswagen Group - All drive types

Deliveries to customers by market	Jul Sep. 2024	Jul Sep. 2023	Delta (%)	Jan Sep. 2024	Jan Sep. 2023	Delta (%)
Western Europe	743,600	799,300	-7.0	2,424,400	2,442,600	-0.7
Central and Eastern Europe	117,000	121,500	-3.7	368,600	374,900	-1.7
North America	273,800	257,400	+6.4	769,000	716,100	+7.4
South America	163,800	144,400	+13.4	419,100	365,700	+14.6
China	711,500	837,200	-15.0	2,056,600	2,289,100	-10.2
Asia-Pacific Rest	70,300	91,700	-23.4	214,800	262,700	-18.3
Middle East/Africa	96,400	91,900	+4.9	271,700	264,300	+2.8
World	2,176,300	2,343,300	-7.1	6,524,300	6,715,400	-2.8

Deliveries to customers by <u>brand</u>	Jul Sep. 2024	Jul Sep. 2023	Delta (%)	Jan Sep. 2024	Jan Sep. 2023	Delta (%)
Brand Group Core	1,613,600	1,701,700	-5.2	4,801,500	4,818,800	-0.4
Volkswagen Passenger Cars	1,176,400	1,259,500	-6.6	3,396,800	3,484,200	-2.5
Škoda	222,700	210,000	+6.0	671,300	642,200	+4.5
SEAT/CUPRA	124,700	130,400	-4.4	422,100	391,800	+7.7
Volkswagen Commercial Vehicles	89,800	101,800	-11.8	311,300	300,500	+3.6
Brand Group Progressive	407,400	484,900	-16.0	1,251,400	1,404,400	-10.9
Audi	402,600	479,500	-16.0	1,235,600	1,386,600	-10.9
Bentley	1,900	3,000	-35.6	7,400	10,100	-26.6
Lamborghini	2,900	2,400	+18.7	8,400	7,700	+8.6
Brand Group Sport Luxury	70,100	75,400	-7.0	226,000	242,700	-6.9
Porsche	70,100	75,400	-7.0	226,000	242,700	-6.9
Brand Group Trucks / TRATON	85,300	81,400	+4.8	245,400	249,500	-1.6
MAN	19,800	28,000	-29.4	68,900	84,000	-18.0
Volkswagen Truck & Bus	12,400	9,600	+28.4	35,700	29,700	+20.5
Scania	21,700	21,400	+1.6	74,000	67,700	+9.3
International	31,500	22,400	+40.5	66,800	68,200	-2.1
Volkswagen Group (total)	2,176,300	2,343,300	-7.1	6,524,300	6,715,400	-2.8

### Deliveries Volkswagen Group - All-electric vehicles (BEV)

Deliveries to customers by market	Jul Sep. 2024	Jul Sep. 2023	Delta (%)	Jan Sep. 2024	Jan Sep. 2023	Delta (%)
Europe	109,200	124,000	-11.9	293,300	341,100	-14.0
USA	11,900	20,500	-41.7	37,100	50,300	-26.2
China	57,500	54,700	+5.2	148,100	117,100	+26.5
Rest of the world	10,700	10,800	-0.7	28,100	23,100	+21.4
World	189,400	209,900	-9.8	506,500	531,500	-4.7

Deliveries to customers by brand	Jul Sep. 2024	Jul Sep. 2023	Delta (%)	Jan Sep. 2024	Jan Sep. 2023	Delta (%)
Brand Group Core	142,300	152,100	-6.5	373,200	379,400	-1.6
Volkswagen Passenger Cars	102,700	108,200	-5.1	271,200	273,000	-0.7
Škoda	21,300	23,100	-7.8	50,800	54,400	-6.7
SEAT/CUPRA	12,900	13,500	-4.4	31,200	32,300	-3.7
Volkswagen Commercial vehicles	5,400	7,300	-26.3	20,000	19,600	+2.2
Brand Group Progressive	39,100	47,400	-17.4	115,800	123,000	-5.9
Audi	39,100	47,400	-17.4	115,800	123,000	-5.9
Bentley	-	-	-	1	-	-
Lamborghini	-	-	1	-	1	-
Brand Group Sport Luxury	7,400	9,900	-25.0	16,400	27,900	-41.0
Porsche	7,400	9,900	-25.0	16,400	27,900	-41.0
Brand Group Trucks / TRATON	500	500	-1.3	1,100	1,200	-4.4
MAN	150	280	-46.7	380	670	-43.0
Volkswagen Truck & Bus	10	10	+180.0	100	40	+139.0
Scania	80	40	+81.8	190	190	+0.0
International	290	210	+37.0	460	280	+65.1
Volkswagen Group (total)	189,400	209,900	-9.8	506,500	531,500	-4.7

### Contact

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### About the Volkswagen Group

The Volkswagen Group is one of the world's leading car makers, headquartered in Wolfsburg, Germany. It operates globally, with 114 production facilities in 19 European countries and 10 countries in the Americas, Asia and Africa. With around 684,000 employees worldwide. The Group's vehicles are sold in over 150 countries.

With an unrivalled portfolio of strong global brands, leading technologies at scale, innovative ideas to tap into future profit pools and an entrepreneurial leadership team, the Volkswagen Group is committed to shaping the future of mobility through investments in electric and autonomous driving vehicles, digitalization and sustainability.

In 2023, the total number of vehicles delivered to customers by the Group globally was 9.2 million (2022: 8.3 million). Group sales revenue in 2023 totaled EUR 322.3 billion (2022: EUR 279.1 billion). The operating result before special items in 2023 amounted to EUR 22.6 billion (2022: EUR 22.5 billion).

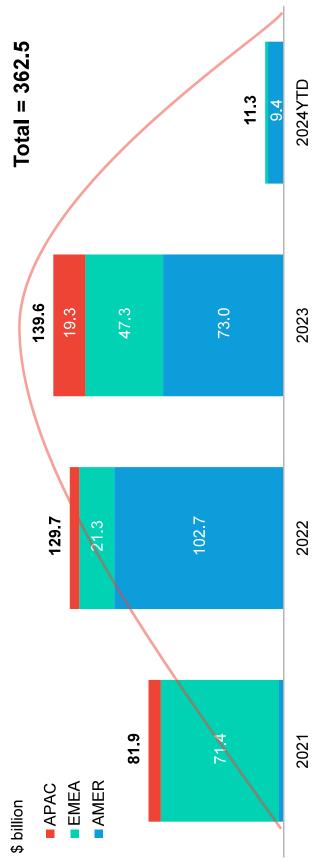
### **BloombergNEF**

### End of the Hydrogen Hype Cycle?

October 9, 2024

## Promised funding for hydrogen has quadrupled since 2021

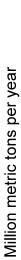
## Annual promised hydrogen funding by region

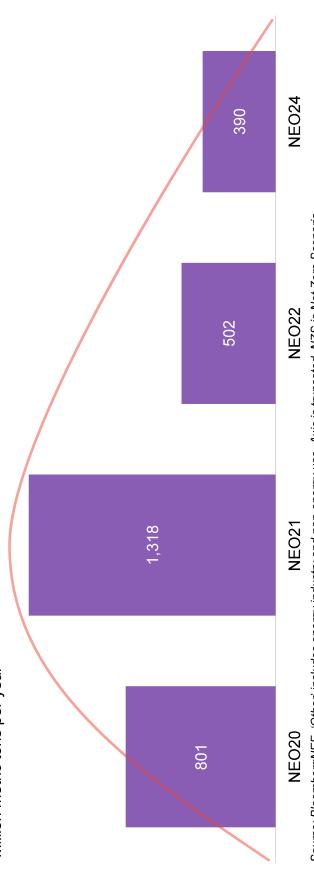


Source: BloombergNEF Hydrogen Subsidies Tracker. Note: 2024 YTD data is as of April 30, 2024. APAC is Asia Pacific; EMEA is Europe, Middle East and Africa; AMER is Americas.

## Hydrogen demand under BNEF's Net Zero Scenario has fallen by 411 million tons since 2020

## Change in hydrogen demand in NZS 2050





Source: BloombergNEF. 'Other' includes energy industry and non-energy use. Axis is truncated. NZS is Net Zero Scenario.

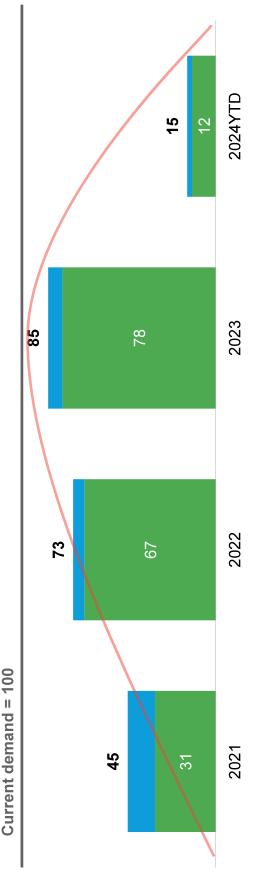
10 End of the Hydrogen Hype Cycle?

### Announced global hydrogen production tops 200 million tons per year

# Annual announced global hydrogen production volume, by production method

Million metric tons per year

Total = 217.5

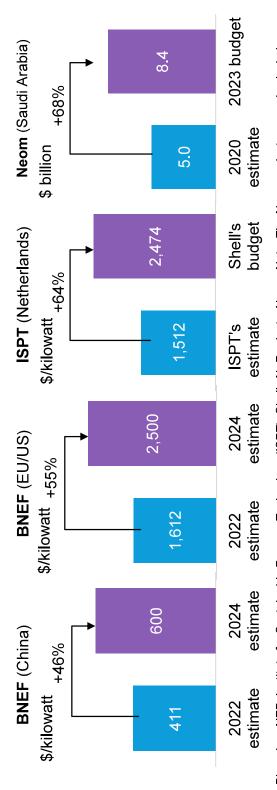


Source: BloombergNEF Hydrogen Project Database. Note: Data as of September 5, 2024. This is not a forecast but a pipeline of proposed projects. N/A refers to projects without a disclosed commissioning date.

### 1 End of the Hydrogen Hype Cycle?

## Electrolyzer project costs are often underestimated

## Cases where system costs were underestimated

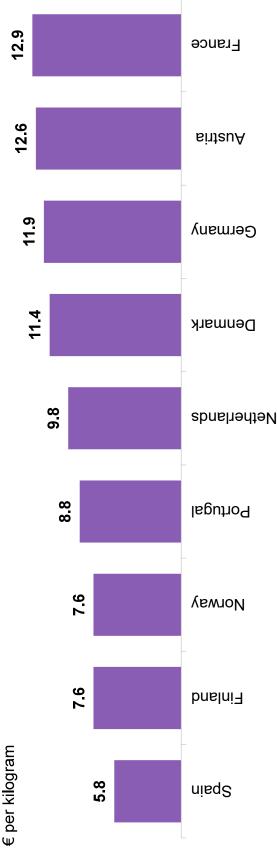


facility. BNEF China values refer to the mid-scenario of alkaline project capex; BNEF EU/US values refer to the average of mid-scenario capex of alkaline and proton Source: BloombergNEF, Institute for Sustainable Process Technology (ISPT), Shell, Air Products, Neom. Note: The Neom project capex also includes an ammonia exchange membrane projects. ISPT value refers to alkaline project capex, which is comparable with Shell's project to be equipped with alkaline electrolyzer stacks.

4

### This means green hydrogen production costs are much higher than expected

# Latest pilot auction results for European hydrogen projects



Source: European Commission. Shows disclosed average levelized cost of RFNBO hydrogen in the European Hydrogen Bank pilot auction. Note: 'RFNBO' stands for renewable fuel of non-biological origin and refers to the <u>EU definition</u> for electrolytic hydrogen that qualifies for European Hydrogen Bank subsidies and quotas under the Revision of the Renewable Energy Directive, REFueIEU Aviation and FueIEU Maritime. Excludes values for countries with less than five bids.

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## Only 12% of clean hydrogen capacity has identified offtakers

## Clean hydrogen supply and offtake by 2030

Million metric tons per year

Potential

Binding

Source: BloombergNEF. Note: Data as of April 1, 2024. BNEF's Hydrogen Offtake Agreement Database only includes projects of over 20 megawatts or 2,800 metric tons/year of capacity. Potential offtake includes letters of intent, heads of terms, memorandums of understanding, and unspecified offtake agreements disclosed in

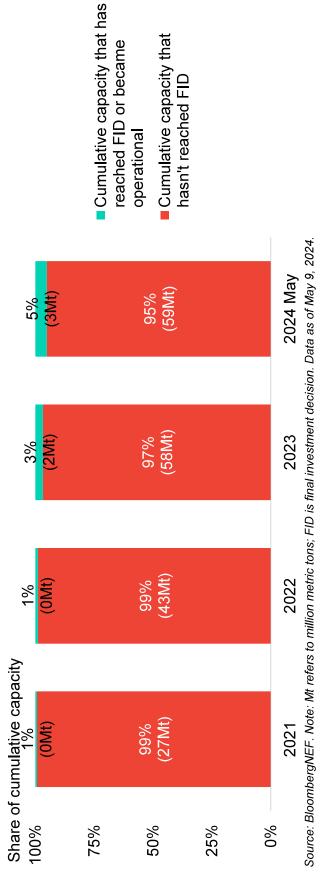
Offtake

Supply

0

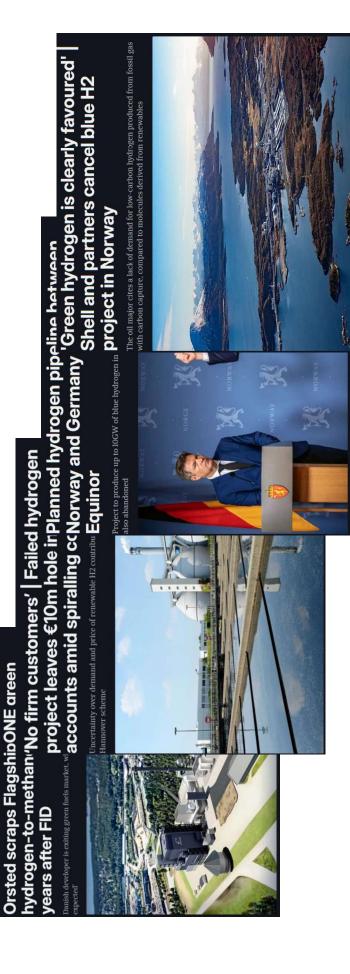
## Only 5% of announced production volume until 2030 has reached a final investment decision

Share of clean hydrogen production volume announced to come online by 2030 that has made a final investment decision or started production



7 End of the Hydrogen Hype Cycle?

## Developers are cancelling projects

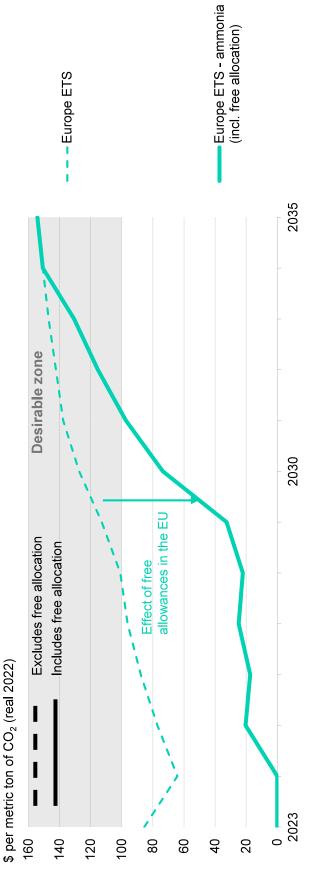


End of the Hydrogen Hype Cycle?

Source: Hydrogen Insight

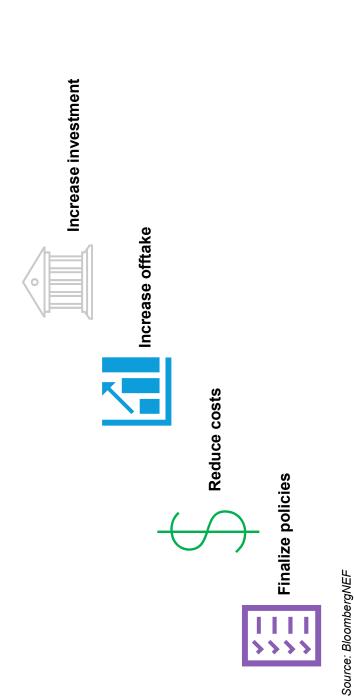
# Carbon prices are also essential for H<sub>2</sub> demand. Right now, none have the necessary bite.

## Carbon price projections by region



Source: BloombergNEF. Note: Europe ETS — ammonia values assume 2017-2021 average emissions from the ammonia sector and do not account for any activity level change. Benchmark values assumed to decline every 5-year period by 3%.

## The steps to success



Caree. Elocation and a large

https://myfloridacfo.com/news/pressreleases/press-release-details/2024/10/07/fire-safety-alert-cfo---state-fire-marshal-jimmy-patronis-calls-on-ev-manufacturers-to-take-steps-to-protect-lives-for-milton?utm\_source=sfmc&utm\_medium=email&utm\_campaign=RET\_CON\_ENG\_RES\_Milton+Electric+Vehicle+Safety+Alert\_D000\_V01\_GEC0677&utm\_id=278300&utm\_batchid=6554&sfmc\_id=290751443&soa=45466&utm\_content=https%3a%2f%2fmyfloridacfo.com%2fnews%2fpressreleases%2fpress-release-details%2f2024%2f10%2f07%2ffire-safety-alert-cfo---state-fire-marshal-jimmy-patronis-calls-on-ev-manufacturers-to-take-steps-to-protect-lives-for-milton

### \*\*FIRE SAFETY ALERT\*\* CFO & State Fire Marshal Jimmy Patronis Calls on EV Manufacturers to Take Steps to Protect Lives for Milton

10/7/2024

For Immediate Release: Monday, October 7, 2024

Contact: Office of Communications, <u>Communications@MyFloridaCFO.com</u>, 850.413.2842

\*\*FIRE SAFETY ALERT\*\*

### CFO & State Fire Marshal Jimmy Patronis Calls on EV Manufacturers to Take Steps to Protect Lives for Milton

**TALLAHASSEE, Fla.** — Today, Chief Financial Officer (CFO) and State Fire Marshal Jimmy Patronis issued a warning to residents and first responders about an alarming fire hazard with Lithium-ion batteries, Electric Vehicles (EV), as well as hybrid and fuel cell vehicles in preparation of Hurricane Milton, now a Category 5 storm. The CFO's Division of State Fire Marshal has confirmed 48 lithium-ion battery fires related to storm surge from Hurricane Helene, with 11 of those fires associated with EVs. Consumer items containing lithium-ion batteries include cars, scooters, hover boards, golf carts or children's toys. The CFO also called on EV manufacturers to be pro-active by alerting consumers to place their EVs to higher ground. Finally, the CFO provided tips on Lithium-Ion Battery safety and how to prepare similar devices in areas prone to storm surge flooding.

CFO & State Fire Marshal Jimmy Patronis said, "In the aftermath of Hurricane Helene, we have seen nearly 50 fires caused by lithium-ion batteries with 11 of those fires being caused by EVs. Floridians living on the coastline who own EVs are at risk of those EVs being inundated with saltwater storm surge which presents a dangerous fire threat to Florida families and their homes. If you have one of these vehicles including cars, scooters, hover boards, golf carts or children's toys that have been compromised by flooding, please unplug the vehicle or device, and move it safely away from your home or apartment into a clear open space. If a vehicle needs to be towed, contact a reputable tow company in your area to safely remove it from your property. EVs and lithium-battery powered devices cannot be disposed of in a typical car lot or trash bin, so you will also want to contact your local government on the best locations for safe disposal.

"As Hurricane Milton approaches, I am calling on EV manufactures across the country to take pro-active measures by notifying customers in storm surge areas to relocate their vehicles. As I've stated before, these compromised vehicles and devices are ticking time bombs, and my office will continue to coordinate with federal, state, and local officials to ensure consumers and first responders are aware of these fire hazards following Hurricane Milton. In the meantime, please take heed of the tips below and

ensure that you place your EV at a high level in a parking garage or at a higher elevation that possesses a minor risk of flooding. After the storm, if you do have an EV that has been flooded by saltwater and it remains in your garage or near your home, please remove it immediately to a safe location so that you can worry about fixing your home, instead of rebuilding it due to fire."

### Follow these fire safety tips if your EV, hybrid, or alternative fuel vehicle is flooded during Hurricane Milton:

- Leave all windows and/or doors open to allow any potentially flammable gases to vent from the passenger compartment.
- If the vehicle is being stored indoors, and can be moved, move it outside into an open-air location. If it cannot be moved, try to keep the storage area open and vented.
- Unplug and do not attempt to charge the vehicle.
- Disable the vehicle by chocking the wheels, placing the gearshift in park, and removing the ignition key and/or disconnecting the 12V battery.
- Avoid contact with the HV battery especially if a vehicle is showing signs of a damaged or overheating HV battery.
- Follow manufacturers recommendations for your specific vehicle.

### Additional Resources and Fire Safety Guidance:

- <u>Lithium-Ion Battery Safety Guide</u> National Fire Protection Association
- <u>Electric Vehicle Owner/General Public Safety Guide</u> U.S. Department of Transportation Interim Guidance for Electric and Hybrid-Electric Vehicles Equipped With High-Voltage Batteries
- <u>Towing & Recovery Operators and Vehicle Storage Facilities Safety Guide</u> U.S. Department of Transportation - Interim Guidance for Electric and Hybrid-Electric Vehicles Equipped With High-Voltage Batteries

###

### **About CFO Jimmy Patronis**

Chief Financial Officer and State Fire Marshal Jimmy Patronis is a statewide elected official and a member of Florida's Cabinet who oversees the Department of Financial Services. CFO Patronis works each day to fight insurance fraud, support Florida's firefighters, and ensure the state's finances are stable to support economic growth in the state. Follow the activities of the Department on Facebook (FLDFS) and X (@FLDFS).

https://www.kefm.dk/aktuelt/nyheder/2024/okt/regeringen-stoetter-at-energinet-starter-paa-naeste-etape-for-brintroeret

# The government supports Energinet starting the next stage for the hydrogen pipeline

Published 08-10-2024

#### **Energy PtX New technology**

Energinet's initial market dialogue indicates great interest in the Danish hydrogen pipeline. The government is very pleased to see Energinet move forward with the next phase of the project, where work is now underway to ensure that commissioning can take place in 2031.

Energinet's initial market dialogue indicates that there is great interest in a Danish hydrogen infrastructure. This means that Energinet is now embarking on the next phase of their market dialogue and further updating of the business case for the project. This also follows the final sale of capacity in the pipeline, where the players must commit themselves financially and legally to capacity in the hydrogen pipeline.

Read more about the results from the first part of Energinet's market dialogue, including the potential for transport needs of hydrogen, at Energinet here.

"Green hydrogen is one of the keys to a more climate-neutral Europe – and now the next phase for a hydrogen pipeline in Denmark is getting underway. The dialogue with both the market and Germany shows that there is great interest in the project, and this is what Energinet will build on. From the government's side, we are still very positive about the project, so it bodes well with the feedback on the mature projects. We are still ready to put state co-financing on the table if the industry leans into the project and commits itself to capacity in the pipeline," says Minister for Climate, Energy and Utilities Lars Aagaard.

This means that the Government is still willing to give Energinet access to state co-financing for a full or reduced hydrogen backbone if, after the capacity sale, Energinet can, among other things, meet the condition that a state financing contribution is assessed as financially responsible and will not entail or constitute expenses for the state, cf. the 2nd sub-agreement on pipelined hydrogen infrastructure of 4 April 2024.

At the same time, work will be done to create the necessary framework conditions for the potential for a burgeoning start-up market to be realised.

#### **Energinet's updated timetable**

Energinet has updated the timetable for the establishment of the hydrogen pipeline, in which the start-up will be moved from 2028 to 2032. The Government will work on measures that can address parts of the delay and make Energinet's new timetable more robust. This is with a view to the first section of the hydrogen pipeline with connection to Germany being commissioned in 2031. The postponement does not affect the realisation of the Danish 2030 climate target.

"The timeline that has now been presented to us is not what we expected, and it comes with great risks. That is not satisfactory. Therefore, we have initiated work with the aim of making Energinet's schedule more secure and limiting the delay. This is to ensure interaction between the large amounts of green power from the offshore wind supply, the production of green hydrogen and the German demand," says Minister for Climate, Energy and Utilities Lars Aagaard.

Read more about Energinet's schedule, booking requirements and the upcoming milestones for the project <u>at Energinet here.</u>

The purpose of the hydrogen pipeline is to export green hydrogen produced in Denmark to the German market, including to German industrial companies. The work is therefore being carried out in close cooperation with the German government to support the establishment of a cross-border pipeline link. The clear signal from Germany is still that there is a very high demand for green hydrogen via Danish hydrogen infrastructure.

Contact the Ministry of Climate, Energy and Utilities' press hotline on +45 41 72 38 05

Sign up for the Ministry's newsletter

## Highlights

Considering only the fiscal impact of the federal fuel charge, PBO estimates that the average household in each of the backstop provinces (that is, all provinces except Quebec and British Columbia) in 2030-31 will see a net gain, receiving more from the Canada Carbon Rebate than the total amount they pay in the federal fuel charge (directly and indirectly) and related Goods and Services Tax.

Relative to household disposable income, the fiscal-only impact of the federal fuel charge is progressive. That is, lower income households face lower net costs (larger net gains) compared to higher income households, reflecting the per capita nature of the Canada Carbon Rebate.

In 2030-31, taking into consideration both fiscal and economic impacts, PBO estimates that the average household in each of the backstop provinces will see a net cost, paying more in the federal fuel charge and related Goods and Services Tax, as well as receiving lower incomes (due to the fuel charge), compared to the Canada Carbon Rebate they receive and lower net taxes they pay (due to lower incomes).

PBO estimates of household net cost (fiscal and economic impacts) of the federal fuel charge show a more progressive impact compared to the fiscal-only impact estimates. Given that the fuel charge lowers employment and investment income, which makes up a larger share of total income for higher income households, their net cost is higher.

For the backstop provinces, Environment and Climate Change Canada estimates that the fuel charge will account for almost 13 million tonnes of greenhouse gas (GHG) emissions reductions in 2030 and will lower real gross domestic product (GDP) by 0.6 per cent relative to a scenario without the fuel charge, but with all other emissions-reduction measures maintained, including large-emitter trading systems.

## Summary

This report provides an update of PBO's distributional analysis of the federal fuel charge to include recent policy changes and GHG emissions projections, as well as updated microsimulation data and computable general equilibrium (CGE) modelling.

To address the CGE modelling oversight in our March 2022 and March 2023 reports, our updated analysis provides estimates of household net costs that incorporate the economic impact of the fuel charge only. Moreover, given the provincial focus of our analysis, we have used estimates of the economic impact of the fuel charge provided by Environment and Climate Change Canada (ECCC) from their 10-province and 3-territory, multi-region, multi-sector CGE model of the Canadian economy, EC-PRO.

• ECCC estimates that the fuel charge rising to \$170 per tonne in 2030-31 will reduce real GDP in backstop provinces (that is, all provinces except Quebec and British Columbia) by 0.6 per cent and reduce emissions by almost 13 million tonnes in 2030 relative to levels projected under a counterfactual scenario without the fuel charge.

Consistent with our previous reports, our updated analysis does not account for the benefits of reducing Canada's emissions by, for example, reducing the economic costs of climate change. Further, our updated analysis does not provide estimates of the impacts of alternative policies that would achieve an equivalent reduction in emissions.

 PBO does not provide economic, fiscal or climate policy recommendations to parliamentarians, nor does PBO provide comparative policy or cost-benefit analyses.
 PBO does not initiate analysis to identify policy options or optimal policy decisions.

In PBO's recent distributional analyses, the economic impact of carbon pricing was presented relative to a counterfactual scenario in which carbon pricing did not exist. Such a scenario was considered to incorporate the economic impact of carbon pricing into household incomes. PBO's counterfactual scenario should not be seen as an alternative policy option of "doing nothing". Estimates of the impact of a given policy are often measured relative to a scenario without the policy in question, with the counterfactual serving as a "control" scenario.

 The counterfactual scenario in this report, prepared by ECCC, removes only the fuel charge and maintains all other emissions-reduction measures, including outputbased pricing systems (also referred to as large-emitter trading systems).

## Key results

# Household net cost of the federal fuel charge (fiscal impact only)

Our "fiscal impact only" estimates of household net cost include the federal fuel charge paid directly and indirectly, as well as the related Goods and Services Tax (GST) paid, less the Canada Carbon Rebate received. These estimates, however, do not incorporate the loss in employment and investment income from the fuel charge as a distinct cost to the household.

- Considering only the fiscal impact of the federal fuel charge, in 2030-31, we estimate
  that the average household in each of the backstop provinces will see a net gain,
  receiving more from the Canada Carbon Rebate than the total amount they pay in
  the federal fuel charge (directly and indirectly) and related GST. See Table 1 on
  page 13.
- Moreover, in 2030-31, for all backstop provinces, we estimate that the average
  household in each income quintile will see a net gain—except for the average
  household in the highest income quintile in Prince Edward Island, Nova Scotia and
  New Brunswick—when only the fiscal impact of the federal fuel charge is considered.

Relative to household disposable income, the fiscal-only impact of the federal fuel charge is progressive. That is, lower income households see larger net gains compared to higher income households, reflecting the per capita nature of the Canada Carbon Rebate.

• We estimate that the largest net gain in 2030-31 is for the average household in the lowest income quintile in Saskatchewan (4.5 per cent of disposable income); the largest net cost in 2030-31 is for the average household in the top income quintile in Prince Edward Island (0.1 per cent of disposable income).

Broadly speaking, our updated estimates (fiscal impact only) show larger net gains (lower net costs) for average households across income quintiles in backstop provinces compared to our March 2023 distributional analysis. This revision reflects changes to the projection of emissions subject to the federal fuel charge and changes to assumptions underlying our interprovincial input-output model simulations.

# Household net cost of the federal fuel charge (fiscal and economic impacts)

To provide a broader measure of the net cost to households in backstop provinces, we incorporate estimates of the loss in employment and investment income from the fuel charge—the "economic impact"—as an additional cost. Estimates of the economic impact capture the loss in employment and investment income that would result from the fuel charge in a general equilibrium, or macroeconomic, setting.

When the economic impact of the federal fuel charge is combined with the fiscal impact, the net cost increases for the average household across all income quintiles, reflecting the overall negative economic impact of the fuel charge.

- In 2030-31, taking into consideration both fiscal and economic impacts, we estimate that the average household in each of the backstop provinces will see a net cost, paying more in the federal fuel charge and GST, as well as receiving lower incomes (due to the fuel charge), compared to the Canada Carbon Rebate they receive and the lower net taxes they pay (due to lower incomes). See Table 3 on page 18.
- Moreover, in 2030-31, for all backstop provinces, we estimate that the average household in the top three income quintiles will face a net cost when both fiscal and economic impacts of the federal fuel charge are considered.

That said, relative to disposable income, our estimates of household net cost (fiscal and economic impacts) of the federal fuel charge show a more progressive impact compared to the fiscal-only impact estimates. Given that the fuel charge lowers employment and investment income, which makes up a larger share of total income for higher income households, their net cost is higher.

• In 2030-31, accounting for both fiscal and economic impacts, we estimate that the largest net gain is for the average household in the lowest income quintile in Saskatchewan (4.0 per cent of disposable income); the largest net cost is for the average household in the top income quintile is also in Saskatchewan (1.8 per cent of disposable income).

Our updated estimates (fiscal and economic impacts) show lower net costs for average households across income quintiles in backstop provinces compared to our March 2023 distributional analysis. This reflects lower "fiscal" costs of the fuel charge and lower "economic" costs based on ECCC's estimates from EC-PRO that included the removal of the fuel charge only. That said, consistent with our March 2023 report, the updated

estimates continue to show that the average household across most income quintiles will face a net cost when both fiscal and economic impacts of the federal fuel charge are considered.

Given the structure of the federal fuel charge, the overall budgetary impact will be limited to the reduction in net personal income tax revenues (due to the economic impact of the fuel charge on employment and investment income), which is only partially offset by higher GST revenue. We estimate that the federal fuel charge will reduce the budgetary balance (that is, increase the budgetary deficit) by \$1.5 billion in 2024-25 and ultimately by \$4.0 billion in 2030-31.

# GHG emissions reductions under carbon pricing – ECCC estimates

Environment and Climate Change Canada also provided the PBO with EC-PRO estimates of the reduction in GHG emissions attributable to the fuel charge, corresponding to its estimated economic impacts.

- ECCC estimates that the fuel charge in backstop provinces will account for almost 13 million tonnes (Mt) of emissions reductions in 2030 compared with what would have been emitted without the fuel charge.
- At the national level, ECCC estimates that the (equivalent) fuel charge in all provinces and territories will account for 15 Mt of emissions reductions in 2030 and will lower real GDP by 0.7 per cent relative to its level projected under the counterfactual scenario without the fuel charge.

In addition, ECCC provided the PBO with EC-PRO estimates of emissions reductions from the fuel charge and large-emitter trading systems combined (that is, carbon pricing in all provinces and territories).

• ECCC estimates that carbon pricing in Canada will account for 62 Mt of emissions reductions in 2030 and will lower real GDP by 0.9 per cent relative to a scenario without carbon pricing, but with all other emissions-reduction measures maintained.

EC-PRO estimates from ECCC suggest that large-emitter trading systems will be responsible for most of the GHG emissions reductions from carbon pricing in Canada—consistent with results from the Canadian Climate Institute. Moreover, ECCC's estimates suggest that (per Mt) emissions reductions from large-emitter trading systems are significantly less costly, in terms of their impact on Canadian real GDP.

## Introduction

## Background

With the coming into force of the federal carbon pricing system in 2018, PBO took steps to adjust its medium-term economic and fiscal projections to reflect, based on external estimates, the impact of carbon pricing on the Canadian economy. PBO then developed its analytical capacity to generate independent estimates of the impact of carbon pricing on the Canadian economy using a computable general equilibrium (CGE) model. These reports were published annually over 2019 to 2021.

Over the same period, PBO also provided parliamentarians with independent estimates of the distributional impacts of federal carbon pricing that were published in separate reports.<sup>3</sup> These estimates, however, did not incorporate the "economic impact" of the fuel charge that is, the loss in household employment and investment income.

Prior to March 2022, following PBO reports on the economic impact of carbon pricing (showing an overall negative impact)<sup>4</sup> and on the distributional impacts on households of federal carbon pricing (showing most households receiving rebates in excess of the fuel charges paid), PBO received questions from parliamentarians and the media regarding the apparent inconsistency between the two streams of reports.

To address these questions, PBO's <u>March 2022 report</u> incorporated the economic impact of carbon pricing into its distributional analysis to reflect households' loss in employment and investment income.<sup>5</sup> In March 2023, PBO published an update of the March 2022 report, <u>A Distributional Analysis of the Federal Fuel Charge under the 2030 Emissions Reduction Plan</u>, including additional provinces where the federal fuel charge applied.

Following an April 2024 review of the CGE analysis of carbon pricing that had been conducted for PBO's March 2022 report, staff discovered that both the fuel charge and the (federal-equivalent) output-based pricing system (OBPS) had inadvertently been removed in the counterfactual scenario. Consequently, estimates of household net costs incorporating fiscal and economic impacts published in these distributional analyses, reflected the broader economic impact of federal-equivalent carbon pricing that is, the fuel charge and the OBPS.

## Updated analysis

This report provides an update of PBO's distributional analysis of the federal fuel charge to include recent policy changes, new greenhouse gas (GHG) projections and updated microsimulation data. To address the CGE modelling oversight in our March 2022 and March 2023 reports, our updated analysis provides estimates of household net costs that incorporate the economic impact of the fuel charge only.

Our updated analysis includes recent policy changes to reflect the new allocation<sup>7</sup> of federal fuel charge proceeds (93 per cent) returned to households and the temporary exemption of the fuel charge on light fuel oil (from November 9, 2023 to March 31, 2027).<sup>8</sup> In addition, this analysis includes New Brunswick, where the federal fuel charge was effective as of July 1, 2023.

Our updated analysis uses emissions projections from Environment and Climate Change Canada, based on its E3MC simulation model, that were published in December 2023. We adopt ECCC's Additional Measures scenario, which includes all federal, provincial, and territorial policies and measures that were in place as of August 2023, as well as those that have been announced but have not been fully implemented. Further, we use ECCC's corresponding projections of fuel charge proceeds to determine the envelope for proceeds returned to households in backstop provinces (that is, the Canada Carbon Rebate) and to derive projected emissions under the federal fuel charge.

Our updated estimates of household net costs ("fiscal impact only") are calculated using an interprovincial input-output model based on Statistics Canada's 2019 Supply and Use Tables and household spending data from Statistics Canada's microsimulation database and model SPSD/M<sup>11</sup> (version 30.1).

On June 13, ECCC published its estimates of the economic impacts of carbon pricing<sup>12</sup> (that is, the fuel charge and OBPS) based on its 10-province and 3-territory, multi-region, multi-sector CGE model of the Canadian economy (EC-PRO)<sup>13</sup> that had been provided to the PBO in May under Information Request IR0776.<sup>14</sup> In July, under Information Request IR0790, PBO requested and received from ECCC, its estimates of the economic impacts of the fuel charge only.<sup>15</sup>

In updating our estimates of household net costs incorporating "fiscal and economic impacts", we have used ECCC's estimates of the economic impacts of the fuel charge from EC-PRO instead of estimates from our (national) CGE model of the Canadian economy. Given the provincial focus of our distributional analysis, we judge that

EC-PRO, with its provincial structure and detailed modelling of sectoral measures, should provide more accurate estimates of the economic impacts of the fuel charge in each province under the federal backstop. Moreover, at the national level, ECCC's estimates of the economic impacts of carbon pricing (that is, including both the fuel charge and OBPS) published in June, are broadly in line with PBO's estimates that were used in our March 2022 and March 2023 distributional analyses, based on the CGE model ENVISAGE. To

The following section highlights key limitations of PBO's carbon pricing analysis. The subsequent sections present our updated estimates of the net cost of the federal fuel charge to households in provinces under the federal backstop, incorporating the fiscal impact only and incorporating both fiscal and economic impacts, consistent with the structure in our previous reports. The next section presents PBO's estimates of the budgetary impacts of the federal fuel charge from the Government's perspective. The final section of the report provides ECCC's estimates of GHG emissions reductions under carbon pricing. Appendices A to C provide methodological detail and additional results.

Sydney Doesn't Have Enough Three-Bedroom Apartments for Boomers 2024-10-02 19:00:00.0 GMT

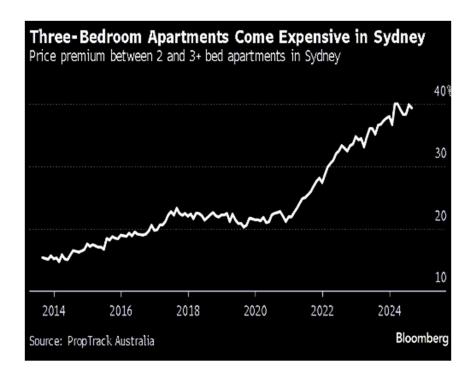
#### By Swati Pandey

(Bloomberg) -- Australian baby boomers looking to downsize from their large family homes are increasingly asking the same question: Where are all the three-bedroom apartments? Cashed-up older homeowners seeking to leave houses with empty bedrooms and high-maintenance gardens are finding their options are fewer than expected. In Sydney, there's almost triple the amount of two-bedroom apartments on the market as three-bedders, which is seeing the price of the larger properties soar three times the rate of the smaller ones— the biggest premium on record.

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One such downsizer is Cheryle Strickland, 75, and her husband, Laurie. The couple sold their large house on a 575 square meters (6,190 square feet)of land on a quiet cul-de-sac in the Sydney suburb of East Ryde for A\$2.38 million (\$1.64 million) in July 2023 and immediately started looking for a three-bedroom unit. They quickly realized their options were limited.

"We got a bit panicky," Strickland said of the time when they were house-hunting. "We looked at high rises, we would've loved, say a villa, but they don't make new villas anymore." The upshot is that many empty nesters are either staying put in their large houses, constraining a market already suffering from low supply. Or they're competing with young families and professionals for modern three-bedders with elevators, central cooling and a pretty vista, bidding prices higher in one of the world's most unaffordable markets.



It's adding more pressure to politicians who are facing the heat from voters for lack of residential supply, poor affordability and rising homelessness as Australia grapples with a once-in-a-generation housing crisis.

Clearing regulatory hurdles to boost high-density living — a sore topic for Australians — and building homes targeted at the baby boomer market are part of the solutions, according to industry experts and economists.

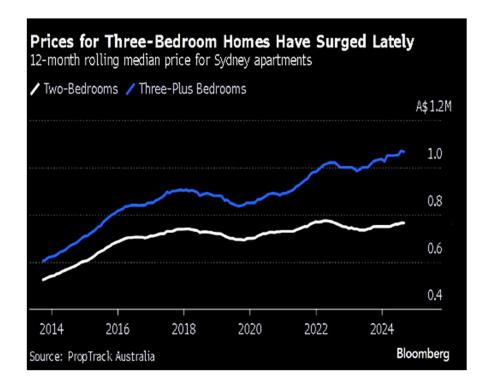
"We've obviously got a housing shortage but we also have an efficiency issue where a lot of older Australians are in very big homes," said Nerida Conisbee, chief economist at real estate group Ray White, pointing to 2021 Census data that shows Australia has 13 million spare bedrooms.

"We can't get a lot of older Australians out of their homes because there's nothing really for them to downsize to." Subscribe to The Bloomberg Australia Podcaston Apple, Spotify, on YouTube, or wherever you listen.

Housing has emerged as the most significant cost-of-living issue among voters, eclipsing grocery and energy bills ahead of next year's general election. Primary support for the ruling Labor party has dipped to its equal lowest since the 2022 election, according to a Newspoll survey published in the Australian newspaper.

Older Australians are more likely to have one or more extra bedrooms while most older Australians aged 55 and over who own a home don't downsize, research from the Australian Housing and Urban Research Institute shows.

The main issue is that older Australians have extra space, while families with kids are struggling to find suitable homes, according to Michael Fotheringham, AHURI managing director. Traditionally, Australians prefer living in a house while apartments are usually popular with renters, young couples or property investors. Builders typically favor one and two bedroom apartments in their projects because they are easier to sell, leaving a gap for retirees looking for a single-level, lowmaintenance yet roomy place.



During the pandemic, the median value of three-bedroom units in Sydney surpassed A\$1 million and the annual growth rate peaked at 18.2% in the 12 months to November 2021, far beyond the peak in units with two-bedrooms or below, data from consultancy CoreLogic Inc. shows.

Median sale prices for 3+ bedroom apartments have grown by 27% over 5 years, compared with 10% for 2-bed units, putting the premium for the roomier homes "at a historic extreme," said PropTrack economist Eleanor Creagh.

That is also compounded by limited supply - two-bedroom units made up 60% of apartment supply in Greater Sydney in 2021, census data shows, while under 16% had three bedrooms or more.

It's increasingly the case that downsizers have to lower their expectations, said Benjamin Mulae, a real estate agent for McGrath Hunters Hill, a wealthy suburb about nine kilometers northwest of central Sydney.

"We're not building enough of the right property," Mulae said. "We've got an aging population and we've got increasing demand for the right product," he said.

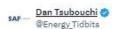
The Stricklands ultimately settled for a two-bedroom apartment for A\$1.5 million. They still think downsizing was the right decision, and are now looking forward to trips to the US and Japan.

"It's best to sell when you're able to sell and go and enjoy your life," Strickland said. "Now if something happens to either of us, God forbid, we're in a small place, it's manageable. If Laurie went before me, I don't have gardens to worry about."

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To view this story in Bloomberg click here:

https://blinks.bloomberg.com/news/stories/SJIW5NT0AFB4

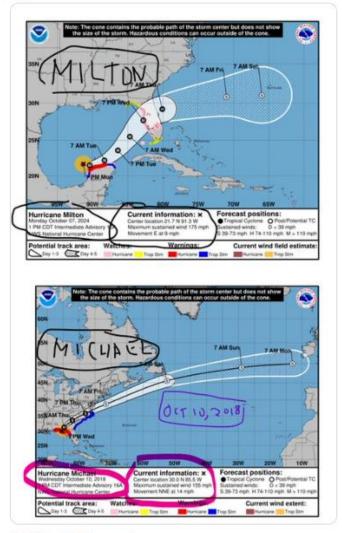


Milton now a Hurricane Cat 5 at 175 mph. Moving fast at 9 mph. @NHC\_Atlantic

IF unchanged, would be largest Cat 5 in history to hit Florida Gulf Coast.

Almost 6 yrs to the day when Michael hit at 155 mph moving at 14 mph & caused >\$25b damage.

Hope Floridians can stay safe! #OOTT



1:27 PM - Oct 7, 2024 - 9,988 Views

1st step to China home values bottoming post 15 mths of declines?

Chinese stepped up home buying during National Day weeklong holidays. See Rekrystalchia

Beijing: expressions of interest double in Oct 1-3.

Shenzhen, new homes sales jumped >10 times Oct 1-6.

See 09/13 tweet, most important asset for Chinese consumers, its home values declined MoM for >15 mths.

#### #OOTT

#### China's Home Sales Jump During Holiday as 130 Cities Offer Perks 2024-10-07 21:00:00.1 GMT

By Krystat Chia

Bloombergi – Chian is latest steps to revive the housing market have had an immediate impact, judging from reports of brisk sales and buyer interest cluring the nation's week-long holiday. Whether the rebound will be sustained is another market.

matter.

In cities with residential projects running promotions, waits by prospective homebuyers climbed at least 50% from a year earlier, CCTV news reported, citing the Ministry of Housing and Urban-Burst Development, About 130 cities across 20 provinces have roiled out vertous perks to entice buyers. Begling city saw expressions of intent to buy new homes double in the first three days of Outober, the state broadcaster said, in Shanzhan, sales of new homes jumped more than 10 times in the first six days of the month, while used-home transactions more than tripted, Callian reported, oiting Shanzhan Centalline Property figures. Real estate agents in Shanghai rolled out a "no closing hour" policy after visitors increased, while some buyers in Shanzhan even paid deposits for apartments without viewing them in person, according to the Securities Times, "it seems like the number of visitors to showrooms and transactions in first-lier cities has risem," Citic Securities Co. analysis including Chan. Cong wrates in a report Monday. "Price declines in these cities have a chance of stopping this year."

Days before the National Day celebrations, authorities announced a series of policies to stabilize the real estate sector, including by lowering existing mortgage rates and minimum downpayment requirements for second-home purchases. At the local level, Beijing and Shanghai were among cities that widened eligibility to purchase properties. Positive China indicator.

Chinese consumer sentiment for travel is up post stimulus.

"There's no question" "people have money, they have disposable income, their saving, their savings right now are huge" says @Accor Greater China CEO

Key to recovery if Chinese consumers start to spend their record savings. See § 09/21 tweet.

#OOTT
Thx @DavidInglesTV @YvonneManTV



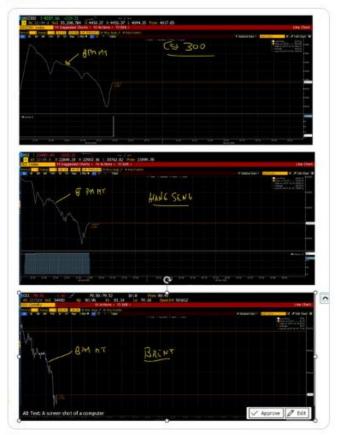


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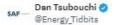
...

CSI 300, Hang Seng and Brent #OII prices down since China top economic planner presser started 8pm MT.

#### Thx @business #OOTT



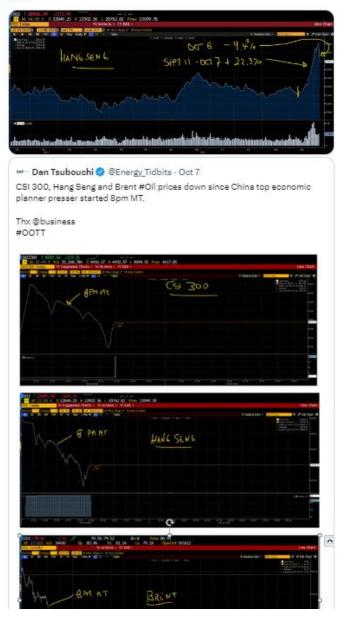
9:04 PM - Oct 7, 2024 - 3,893 Views



Hang Seng ended up worse post the China economic presser.

Hang Seng was -5.0% when presser started 8pm MT. Ended up -9.4%.

Have now given up 41% of +22.3% gains since Sept 11.





Chinese consumers are travelling & out spending but spending less.

"Golden Week is always a great time for celebration ... we saw record volumes ... some of the challenging side of that is spending is necessarily not the same as last year which was a peak year for hotel rates" @Accor

Greater China CEO.

Key to China recovery is getting consumer to spend their record savings. See  $\P.\,09/21$  tweet.

#### #OOTT Thx @DavidInglesTV @YvonneManTV



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Dan Tsubouchi @ @Energy_Tidbits - Sep 21

Big negstive China indicator.

Chinese consumers sren't out spending. Added record +$468b MoM to savings to $20.81t in Aug.

Show more

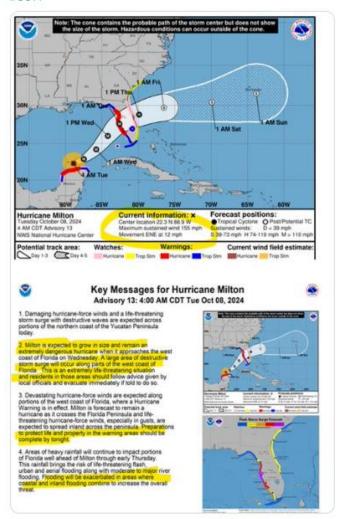
Created at 17 sepace of fund of $50... the Propin's Back of China (1907) and the proping Bac
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Nothing worse than having to warn Floridians that Milton is still a Cat  $5\,\&$  to hit Florida west coast late Wed.

@NHC\_Atlantic warns "Milton is expected to grow in size" large area of destructive storm surge"

Hope everyone gets to safety!



6:46 AM - Oct 8, 2024 - 2,044 Views



GM Investor Day just started at 11:45am MT

@GM CEO Barra: 1st item highlighted in look ahead at 2025 is introduction of several high margin ICE.

@GM President Reuss: EV market is growing slowing and surely.

Reinforced EV buyers are higher income. Not being hurt by not being PHEV focus.



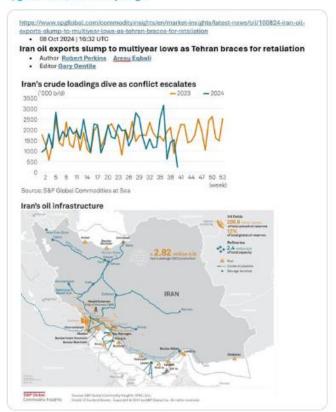
12:22 PM - Oct 8, 2024 - **989** Views

Iran sees real risk Israel could attack its #Oil facilities.

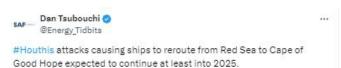
Iran's oil loadings down to 0.237 mmb/d for Oct 6 week vs 1.700 mmb/d average in 2024.

Great export loading graph & Iran oil infra map courtesy of @RobPana @AresuEobali @SPGlobal

#OOTT spglobal.com/commodityinsig...



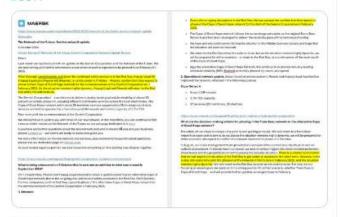
4:50 AM · Oct 9, 2024 · 2,045 Views



\*There is currently no indication that we can expect the situation in the Red Sea to get better or resolved in the short term." Maersk &

#### #OOTT

Hapag-Lloyd.



5:21 AM - Oct 9, 2024 - 1,164 Views



For those who aren't near their laptops, at 8:30am MT,

©EIAgov released #Oil #Gasoline #Distillates inventory as of Oct 4.

Table below compares EIA data vs @business expectations and vs

@APlenergy estimates yesterday. Prior to release, WTI was \$71.80.

#OOTT

(million barrels)	EIA	Expectations	API
Oil	5.81	1.60	11.00
Gasoline	-6.30	-1.00	-0.56
Distillates	-3.12	-1.75	-2.60
	-3.61	-1.15	7.84
Note: Oil is commercial.	So excludes a +0.	3 mb build in SPR for the	Oct 4 week
Note: Included in the oil	data, Cushing had	a 1.25 mmb build for Oct	4 week
Source EIA, Bloomberg			
Prepared by SAF Group	https://safgroup.	ca/news-insights/	

8:32 AM · Oct 9, 2024 · 1,271 Views



Already 340,000 without power in Florida and Hurricane Milton still a couple hours from landfall. @PowerOutage\_us

Good chunk is likely due to the tornadoes.

Wish everyone in Florida can stay safe.

#### #OOTT



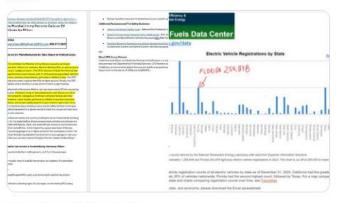
4:55 PM - Oct 9, 2024 - 1,535 Views



Hope EVs owners in Florida saw @JimmyPatronis - warning on Milton preparations.

Post Helene" nearly 50 fires caused by lithium-ion batteries with 11 of those fires being caused by EVs. Floridians living on the coastline who own EVs are at risk of those EVs being inundated with saltwater storm surge which presents a dangerous fire threat..."

Florida is #2 in US with 254,878 registered #EVs.



 $5:58 \ PM \cdot Oct 9, 2024 \cdot \mathbf{2,649} \ Views$ 



#### "End of the Hydrogen Hype Cycle?"

Great charts from @BloombergNEF Sami Alisawi.

- Funding for hydrogen in 2024 (annualized) is 1/4 of 2023 levels/
- BNEF cut its hydrogen demand in 2030 by 70% vs 2021 & by 22% vs 2022 fcast.
- Electrolyzer costs proving to be ~60% higher than estimated.
- Green hydrogen production costs are ~100% higher than expected.
- Only 5% of announced production volumes to 2030 have actually reached FID
- Developers are cancelling projects such as 🖣 Oct tweet.

Hydrogen nowhere near aspirations for Peak #Oil #NatGas by 2030.



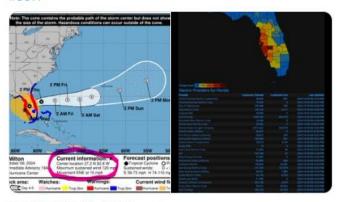


1.6 mm Florida customer without power as Milton made landfall. @PowerOutage\_us

**@NHC\_Atlantic:** Milton moving at 15 mph so hopefully will cross Florida and re-emerge in the Atlantic in the next 8 hours or so.

Hope everyone got to safety.

#### #OOTT



8:29 PM · Oct 9, 2024 · 2,170 Views

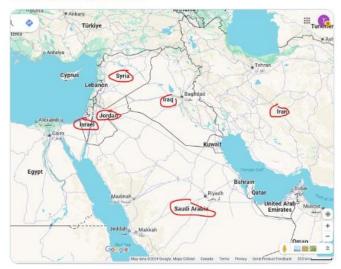


"During meetings this week, Iran warned Saudi Arabia it could not guarantee the safety of the Gulf kingdom's #oil facilities if Israel were given any assistance in carrying out an attack, a senior Iranian official and an Iranian diplomat told Reuters. Ali Shihabi, a Saudi analyst close to the Saudi royal court, said: "The Iranians have stated: 'If the Gulf states open up their airspace to Israel, that would be an act of war"."

Thx @samianakhoul

#### #OOTT

reuters.com/world/middle-e...



Last edited 10:44 AM - Oct 10, 2024 - 1,986 Views

#### WOW!

"According to our political correspondent Moti Castel, the outgoing president demanded that **Netanyahu** not attack Iran's nuclear or oil facilities, while the latter replied that it was "a historic opportunity that should not be missed" and refused to commit to meeting his demands." @Now14Israel

#### now14.co.il/article/1038661

11:14 AM · Oct 10, 2024 · 7,441 Views



Netanyahu told congress it's not if but WHEN Israel takes action vs Iran nuclear program. See ¶ July 24 tweet. x.com/Energy\_Tidbits...



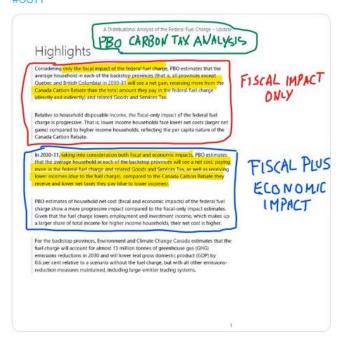
Liberals Carbon Tax Analysis by PBO.

IF only consider "fiscal" impact only, average household to see a net gain.

BUT "fiscal + economic impact" average household sees a net cost.

"Given that the fuel charge lowers employment and investment income, which makes up a larger share of total income for higher income households, their net cost is higher."

#### #OOTT



7:15 PM · Oct 10, 2024 · 1,712 Views



Electricity 101.

y\_Hubits

Increasing Solar + Wind Generation = Need for Increasing #NatGas Generation

"As electric generation capacity from renewable sources grows, natural gas is used increasingly to balance the intermittent nature of electricity produced from wind and solar. Since 2014, the share of U.S. electricity generation from natural gas in the summer has increased every year except 2021, increasing from 29% in 2014 to 45% in 2024." @EIAgov.

#NatGas is needed for 24/7 power.

#### #OOTT



8:43 PM · Oct 10, 2024 · 3,543 Views



EVs reality check.

"A key to our future success will be the development of our commercial capabilities: going from showing to actively selling [EVs] cars." Polestar CEO.

YTD Sept 30 EV sales -23% YoY.

"conducting a review of our strategy & operations"

"engaged in constructive dialogue with its club loan lenders..."



6:02 AM  $\cdot$  Oct 11, 2024  $\cdot$  **1,078** Views

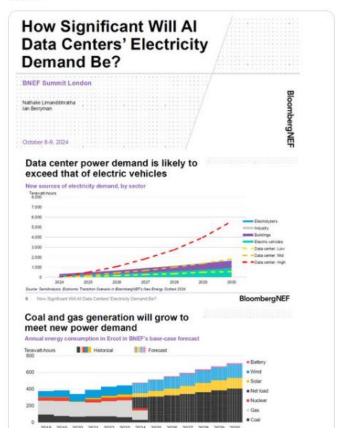


Bullish #NatGas #Coal

@BloombergNEF also sees massive relative growth of data center electricity demand.

Data center demand will take all the #Wind #Solar it can.

But absent long duration multi-day storage send out capacity, what NEW sources can provide near term (next 10 yrs) 24/7 baseload electricity in scale other than #NatGas and #coalecroux



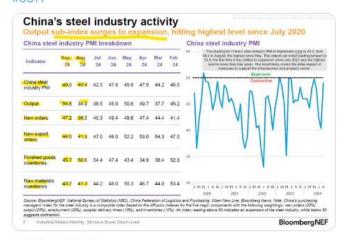
Positive initial reaction to China stimulus

Across-the-board positive MoM China steel indicators.

Steel industry PMI, Output, New Orders, New Export Orders & Raw Materials Inventories indicators all up.

Finished Goods Inventories indicator down MoM.

### Great recap table @BloombergNEF #OOTT



1:35 PM · Oct 11, 2024 · 365 Views

AF @Energy\_Tidbits

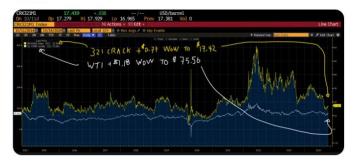
321 crack spreads +\$0.77 WoW to \$17.42 ie. middle of pre-Covid \$15-20 range.

WTI +\$1.18 WoW to \$75.56.

WTI continues to be impacted more by global markets than by crack spreads.

Since 09/27, 321 cracks +\$1.70 whereas WTI +\$7.38.

Thx @business #OOTT



Continued positive to Cdn #Oil in H2/24

Looks like ramp up of volumes on new 590,000 b/d TMX has, at least so far, kept WCS less WTI differentials from the normal Sept/Oct widening.

WCS less WTI diffs: 10/11/24: \$11.25 10/11/23: \$21.35 10/11/22: \$31.00

Thx @garquake. #OOTT



5:30 PM · Oct 11, 2024 · 14.1K Views



NW Europe #LNG imports up in Oct 6 week.

**BUT** if not for Israel/Iran risk, EU #NatGas prices would be lower in shoulder season.

Storage would be full if NW EU hadn't cut back LNG imports in Q2/Q3.

YTD Oct 6, NW EU #LNG imports down ~433 bcf or ~1.55 bcf/d YoY.

Thx @BloombergNEF LNG Trade Weekly. #OOTT





Daily Europe air traffic closer but still stuck below pre-Covid.

7-day moving average as of:

Oct 10: -1.7% below pre-Covid

Oct 3: -2.9%

Sept 26: -2.9%

Sept 19: -2.8%

Sept 12: -3.0%

Sept 5: -2.8%

Aug 29: -3.1%

Aug 22: -2.8%

Aug 15: -2.2%

Aug 8: -1.3%

#### Thx @eurocontrol #OOTT



6:10 AM · Oct 12, 2024 · 1,187 Views

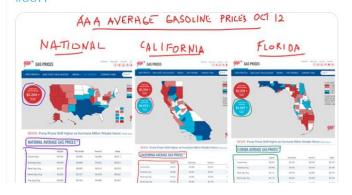


Good to see Florida average gasoline prices, despite back-to-back hurricanes, down -\$0.01 WoW & -\$0.07 MoM to \$3.10.

AAA National average prices +\$0.02 WoW to \$3.20 on Oct 12, -\$0.04 MoM & -\$0.45 YoY.

US election is Nov 5. National average prices were  ${\sim}\$3.80$  at time of 2022 mid-terms.

### Thx @AAAnews #OOTT





Llbya #Oil has been quickly restored and almost back to Aug 1 levels

Note Libya NOC isn't splitting out oil vs condensate.

Today: oil + condensate is back to 1.279 mmb/d.

Aug 1: oil + condensate was 1.324 mmb/d (1.271 oil, 0.053 condensa

#### #OOTT



Vortexa crude #Oil floating storage +10.52 mmb WoW but still only 57.56 mmb at Oct 11.

Only been 6 wks <60 mmb since Covid. 4 of which were in last 7 wks.

Oct 4 only revised +2.54 mmb to 47.05 mmb, still the only wk <50 mmb since 09/17/19.

### Thx @vortexa @business #OOTT



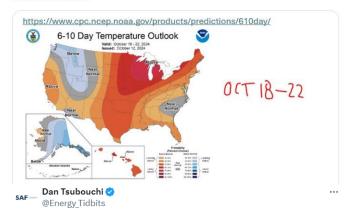
It's Fall so that is mostly leave the windows open temps and not major A/C during day or heating demand at night.

@NOAA updated 6-10 & 8-14 day temp outlook for Oct 18-26.

High/lows.

Chicago: 14-19C & 7-13C NYC: 19-21C & 9-14C Houston: 26-31C & 15-20C

#### #OOTT #NatGas



Israel strike on Iran "could happen at any time, U.S. and Israeli officials told NBC News, and could come during this weekend's Yom Kippur holiday. U.S. officials believe Israel has narrowed down what they will target in their response to Iran's attack, which these officials describe as Iranian military and energy infrastructure" @ckubeNBC

#### #OOTT



U.S. officials believe Israel has narrowed down what they will target in their response to Iran's attack, which these officials describe as Iranian military and energy infrastructure. nbcnews.com/news/world/us-...

