Energy Tidbits

Is Min. Guilbeault Setting the Stage to Delay Canada's Mandatory EVs Sales Targets by Saying EVs Are Not a Panacea?

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February 18, 2024

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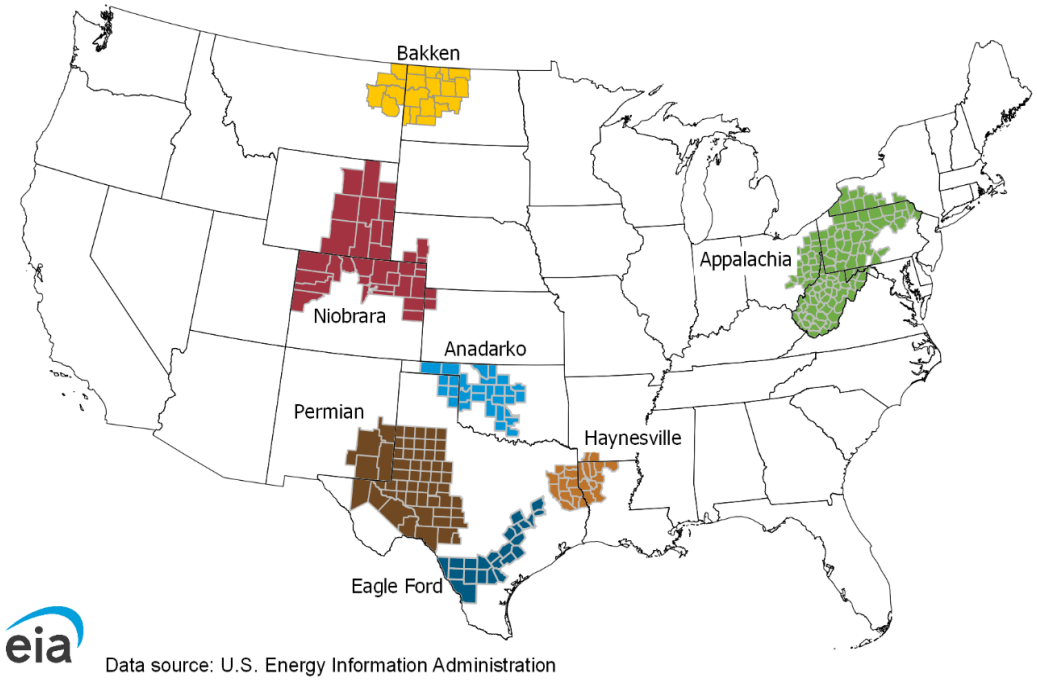
Independent Statistics & Analysis

U.S. Energy Information Administration

February 2024

Drilling Productivity Report

For key tight oil and shale gas regions



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projected production through March

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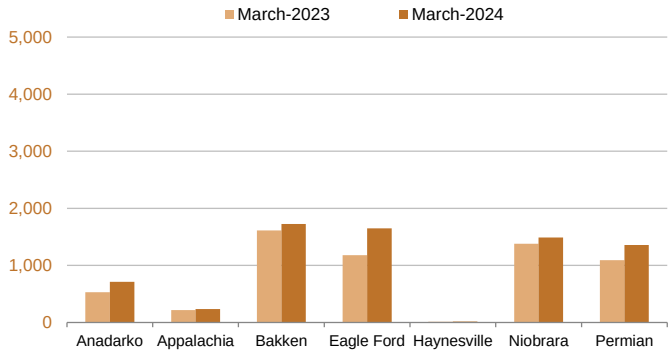
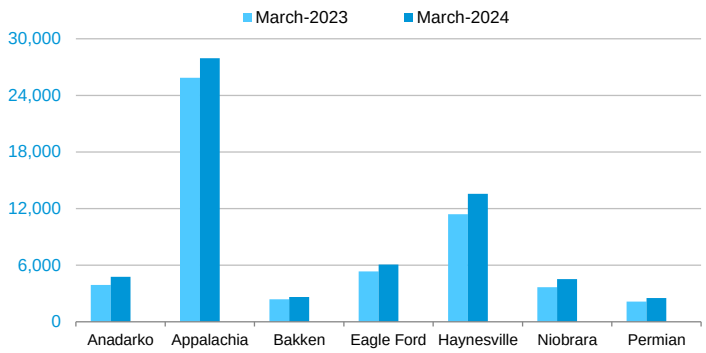
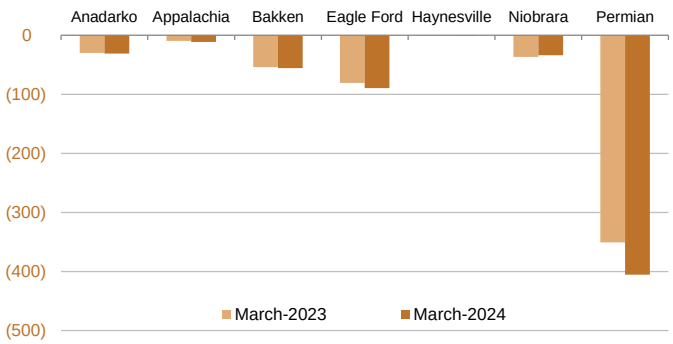
barrels/day



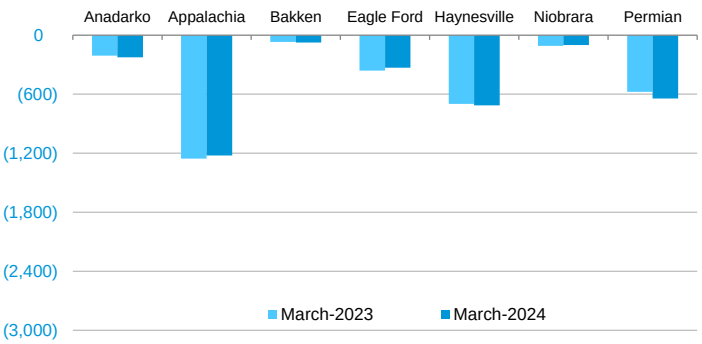
New-well gas production per rig
thousand cubic feet/day



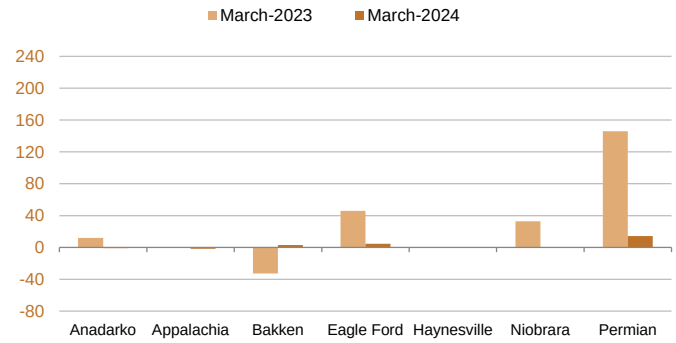
Legacy oil production change
thousand barrels/day



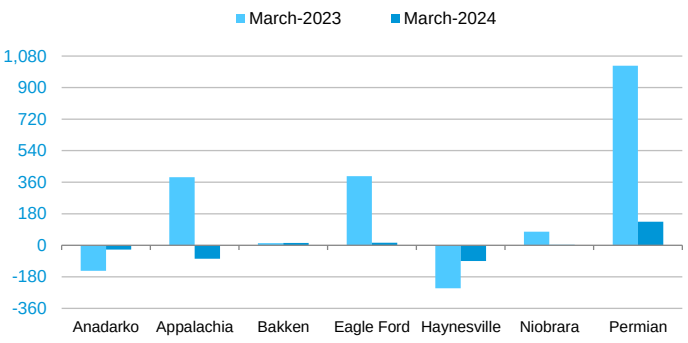
Legacy gas production change
million cubic feet/day



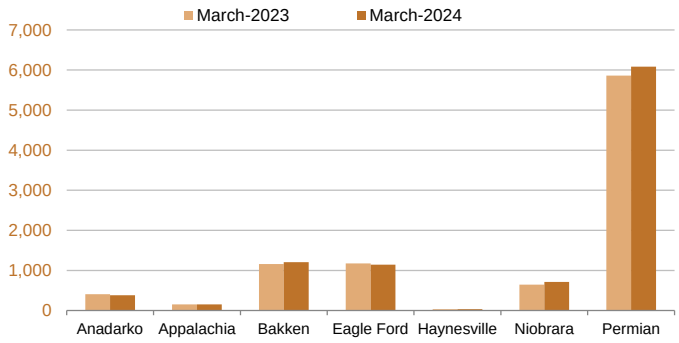
Indicated monthly change in oil production (Mar vs. Feb)
thousand barrels/day



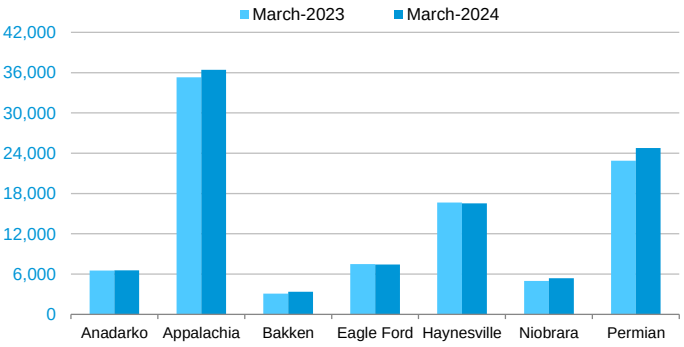
Indicated monthly change in gas production (Mar vs. Feb)
million cubic feet/day



Oil production
thousand barrels/day



Natural gas production
million cubic feet/day



Anadarko Region

Drilling Productivity Report

February 2024

drilling data through January
projected production through March

Oil +1
barrels/day
month over month

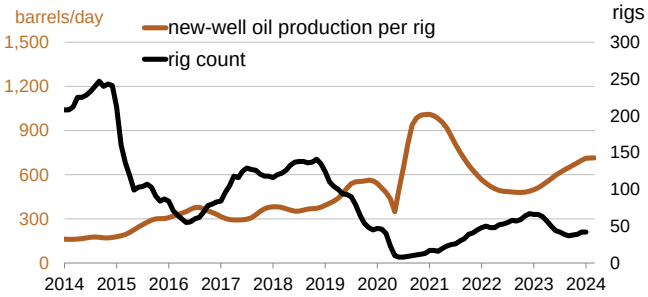
714 *March*
713 *February*
barrels/day

Monthly additions from one average rig

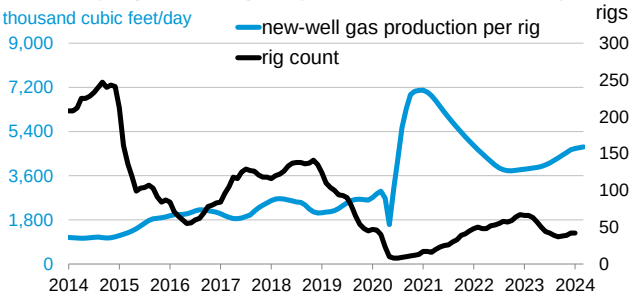
March **4,772**
February **4,739**
thousand cubic feet/day

Gas +33
thousand cubic feet/day
month over month

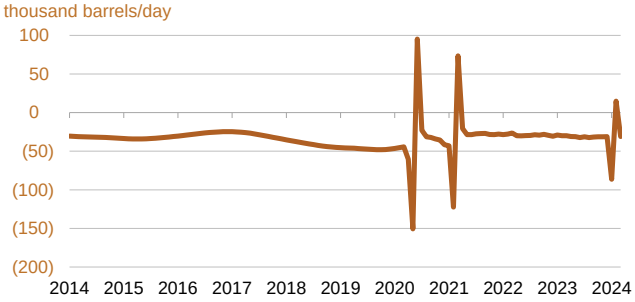
Anadarko Region
New-well oil production per rig



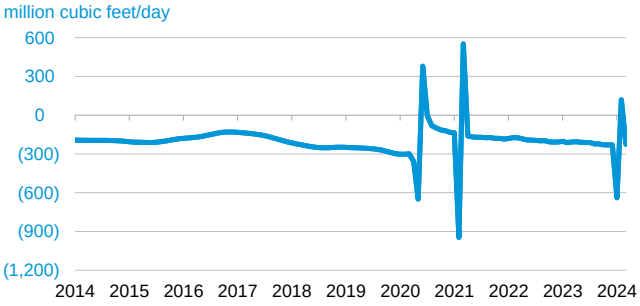
Anadarko Region
New-well gas production per rig



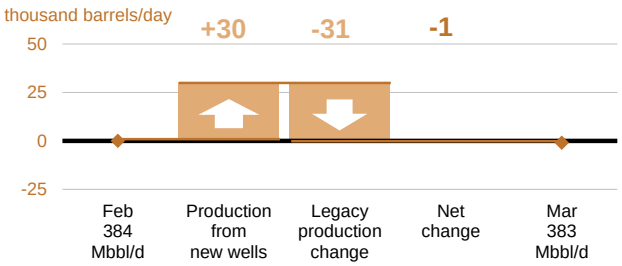
Anadarko Region
Legacy oil production change



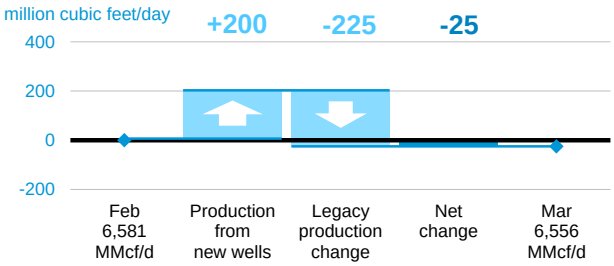
Anadarko Region
Legacy gas production change



Anadarko Region
Indicated change in oil production (Mar vs. Feb)

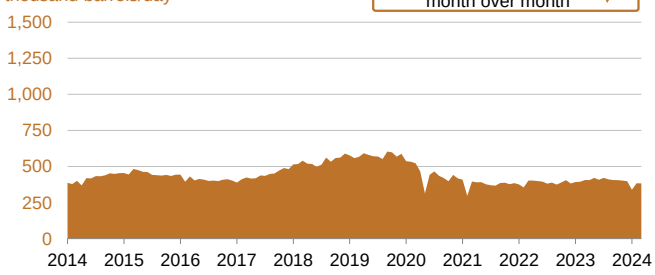


Anadarko Region
Indicated change in natural gas production (Mar vs. Feb)



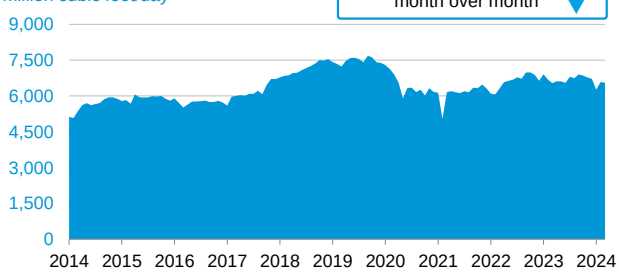
Anadarko Region
Oil production

Oil -1
thousand barrels/day
month over month



Anadarko Region
Natural gas production

Gas -25
million cubic feet/day
month over month



Appalachia Region
Drilling Productivity Report

February 2024

drilling data through January
projected production through March

Oil +1
barrels/day
month over month

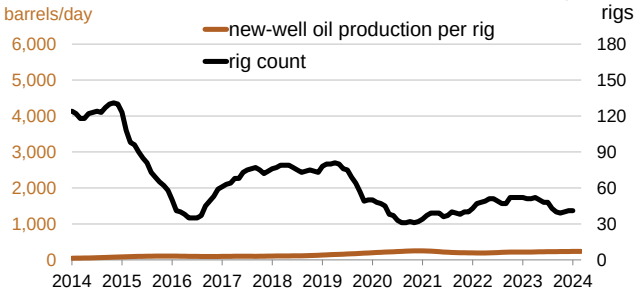
236 *March*
235 *February*
barrels/day

Monthly additions from one average rig

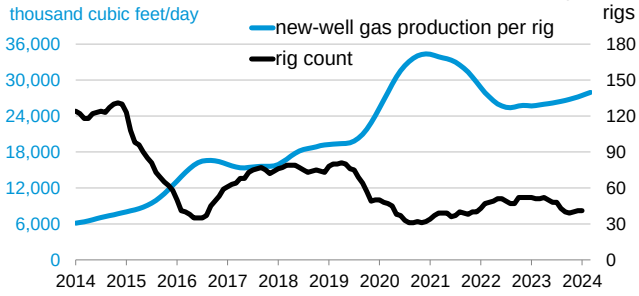
March **27,950**
February **27,695**
thousand cubic feet/day

Gas +255
thousand cubic feet/day
month over month

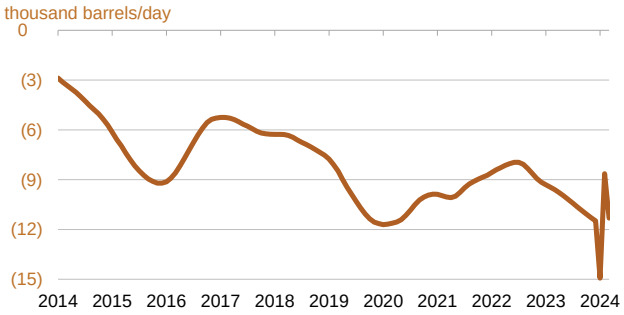
Appalachia Region
New-well oil production per rig



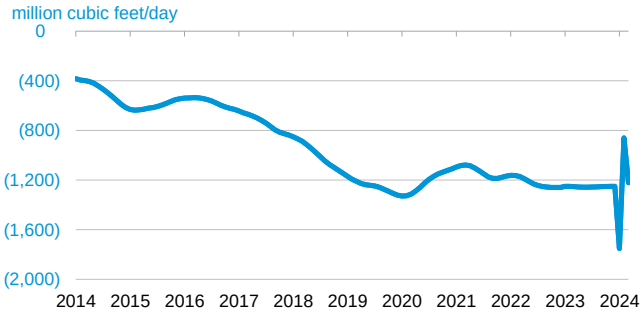
Appalachia Region
New-well gas production per rig



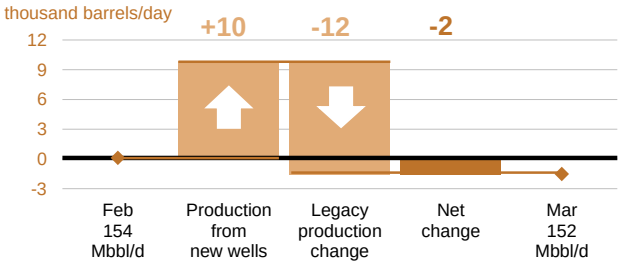
Appalachia Region
Legacy oil production change



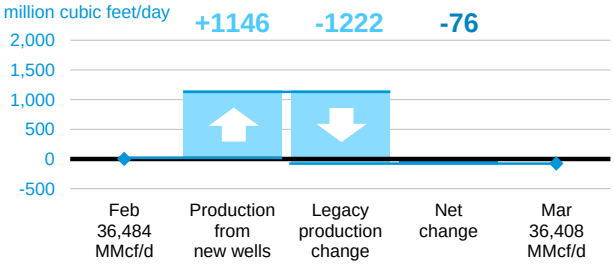
Appalachia Region
Legacy gas production change



Appalachia Region
Indicated change in oil production (Mar vs. Feb)

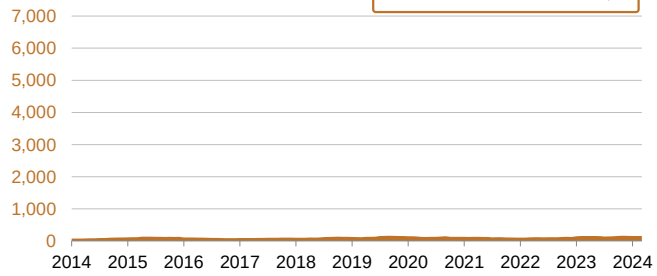


Appalachia Region
Indicated change in natural gas production (Mar vs. Feb)



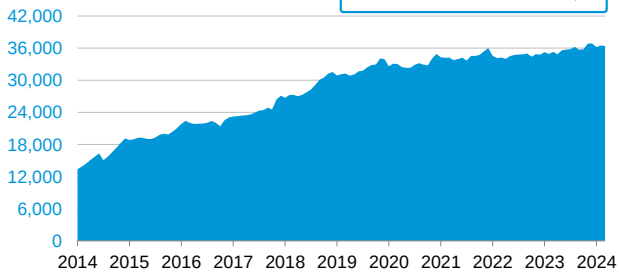
Appalachia Region
Oil production

Oil -2
thousand barrels/day
month over month



Appalachia Region
Natural gas production

Gas -76
million cubic feet/day
month over month



Bakken Region

Drilling Productivity Report

February 2024

drilling data through January
projected production through March

Oil +9
barrels/day
month over month

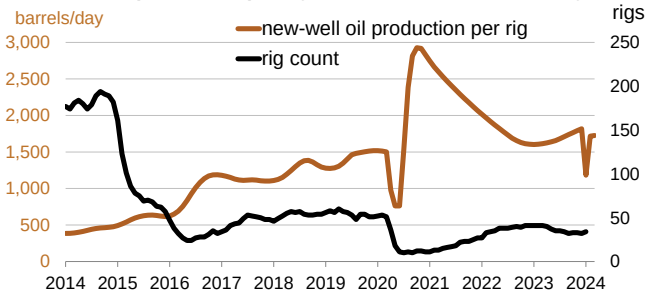
1,726 *March*
1,717 *February*
barrels/day

Monthly additions from one average rig

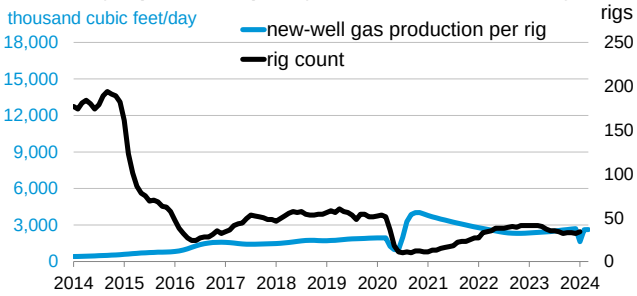
March **2,624**
February **2,611**
thousand cubic feet/day

Gas +13
thousand cubic feet/day
month over month

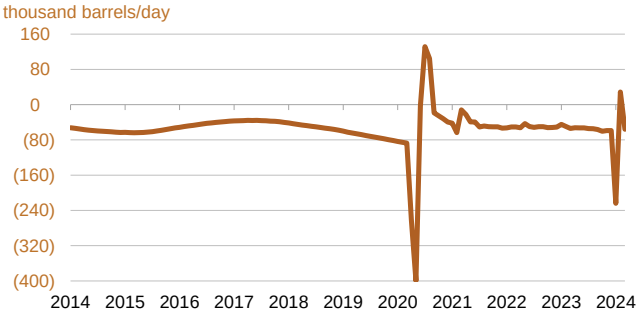
Bakken Region
New-well oil production per rig



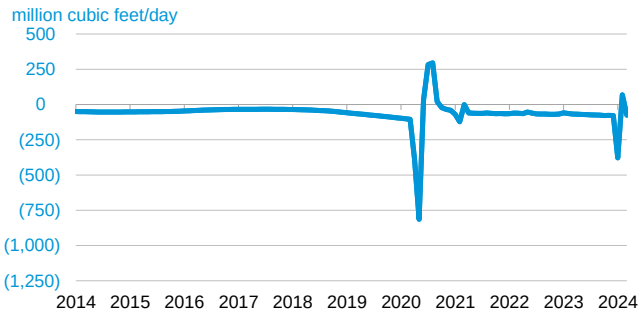
Bakken Region
New-well gas production per rig



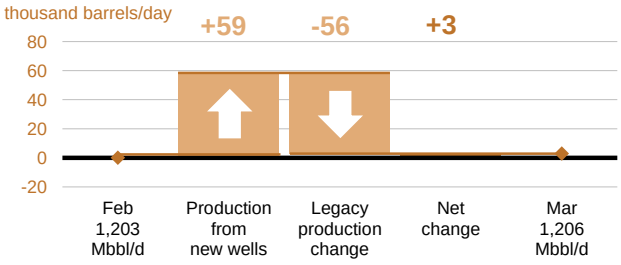
Bakken Region
Legacy oil production change



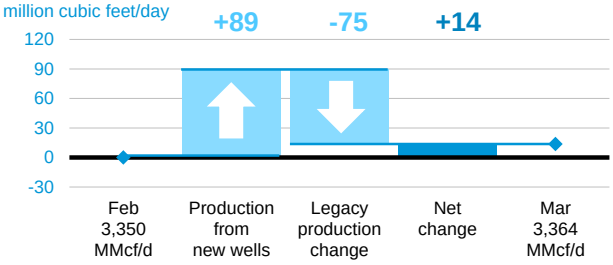
Bakken Region
Legacy gas production change



Bakken Region
Indicated change in oil production (Mar vs. Feb)

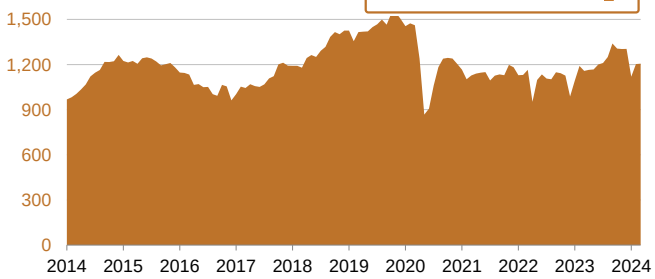


Bakken Region
Indicated change in natural gas production (Mar vs. Feb)



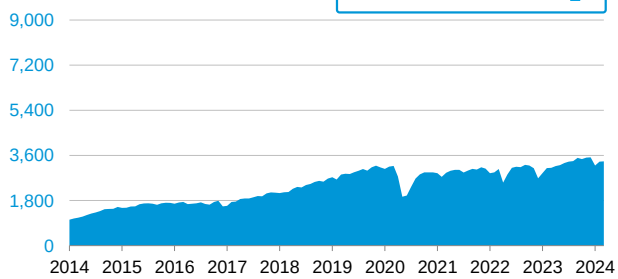
Bakken Region
Oil production

Oil +3
thousand barrels/day
month over month



Bakken Region
Natural gas production

Gas +14
million cubic feet/day
month over month



Eagle Ford Region

Drilling Productivity Report

February 2024

drilling data through January
projected production through March

Oil +5
barrels/day
month over month

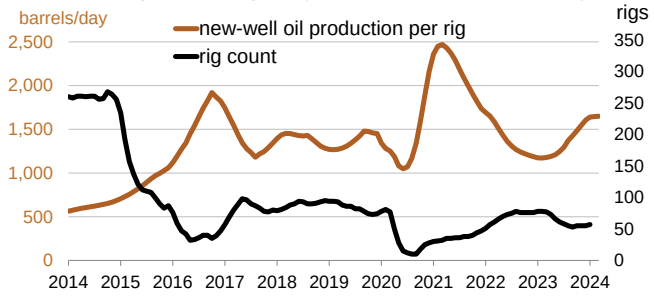
1,650 *March*
1,645 *February*
barrels/day

Monthly additions from one average rig

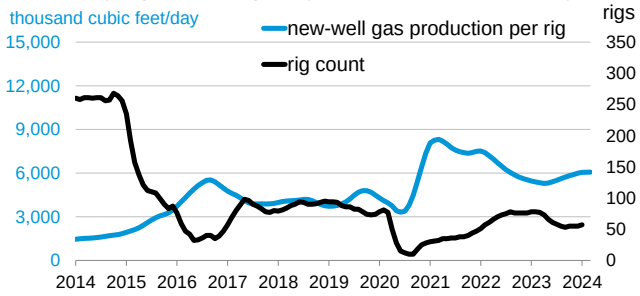
March **6,063**
February **6,057**
thousand cubic feet/day

Gas +6
thousand cubic feet/day
month over month

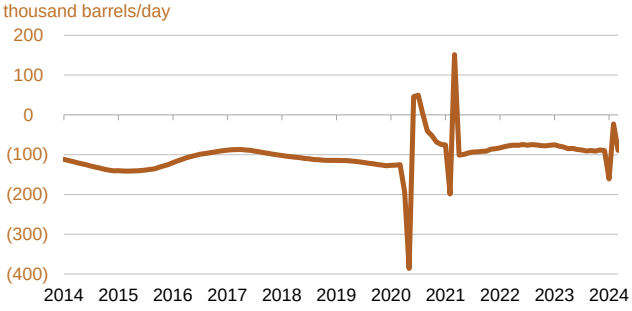
Eagle Ford Region
New-well oil production per rig



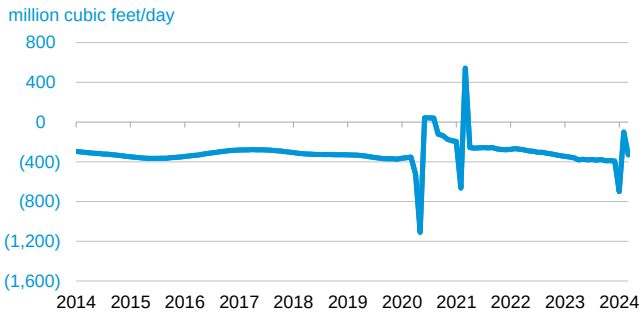
Eagle Ford Region
New-well gas production per rig



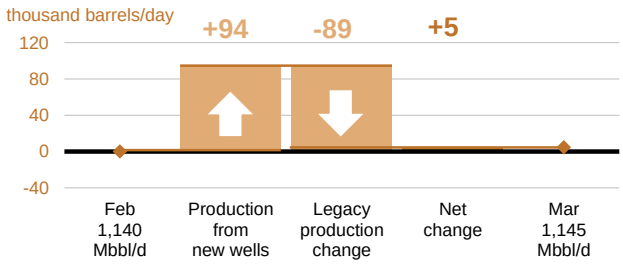
Eagle Ford Region
Legacy oil production change



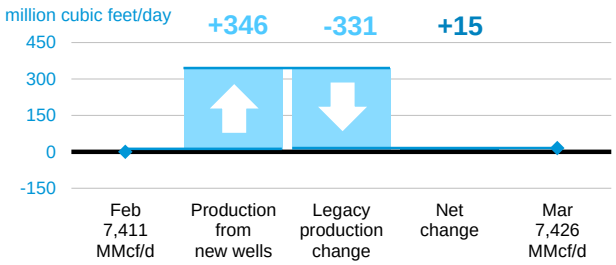
Eagle Ford Region
Legacy gas production change



Eagle Ford Region
Indicated change in oil production (Mar vs. Feb)

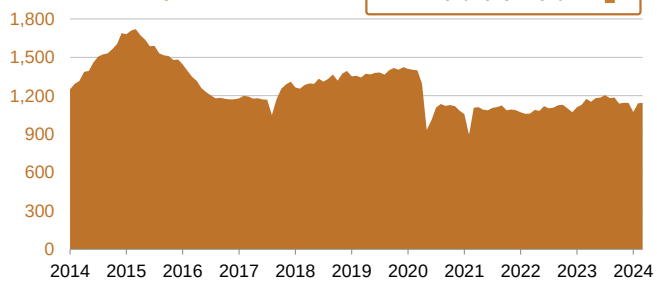


Eagle Ford Region
Indicated change in natural gas production (Mar vs. Feb)



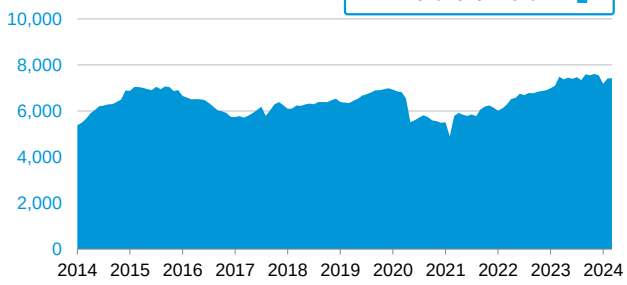
Eagle Ford Region
Oil production

Oil +5
thousand barrels/day
month over month



Eagle Ford Region
Natural gas production

Gas +15
million cubic feet/day
month over month



Haynesville Region

Drilling Productivity Report

February 2024

drilling data through January
projected production through March

Oil 0
barrels/day
month over month

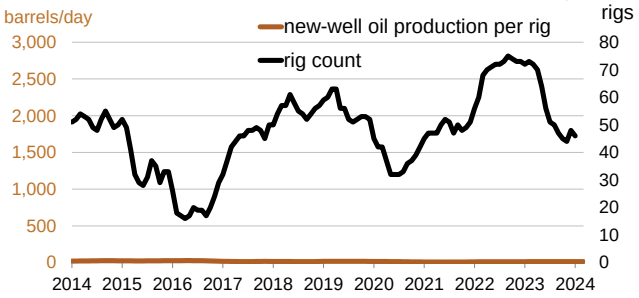
15 *March*
15 *February*
barrels/day

Monthly additions from one average rig

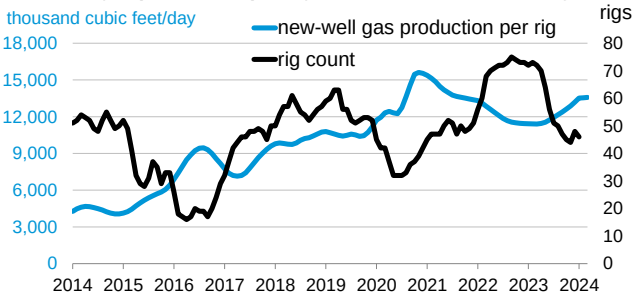
March **13,571**
February **13,544**
thousand cubic feet/day

Gas +27
thousand cubic feet/day
month over month

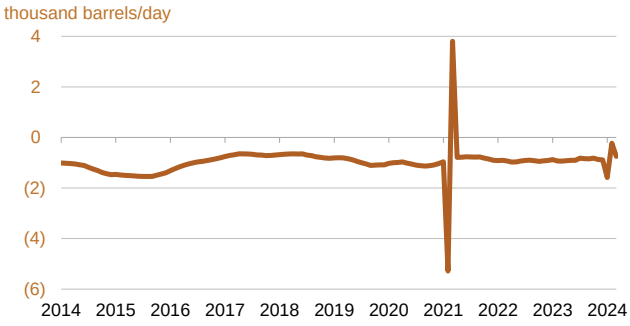
Haynesville Region
New-well oil production per rig



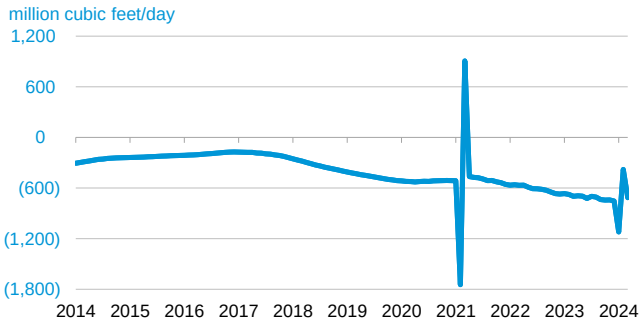
Haynesville Region
New-well gas production per rig



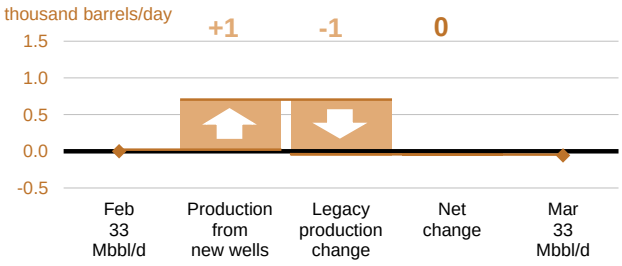
Haynesville Region
Legacy oil production change



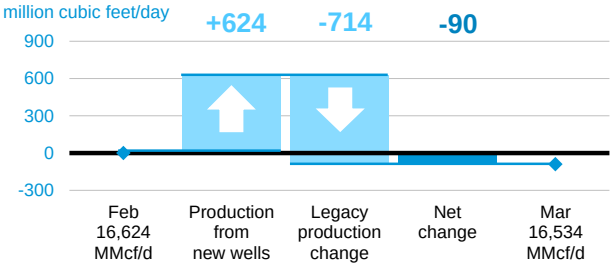
Haynesville Region
Legacy gas production change



Haynesville Region
Indicated change in oil production (Mar vs. Feb)

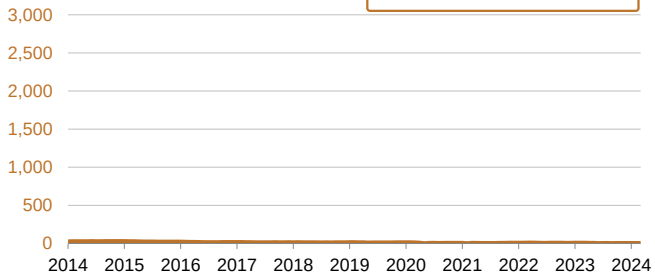


Haynesville Region
Indicated change in natural gas production (Mar vs. Feb)



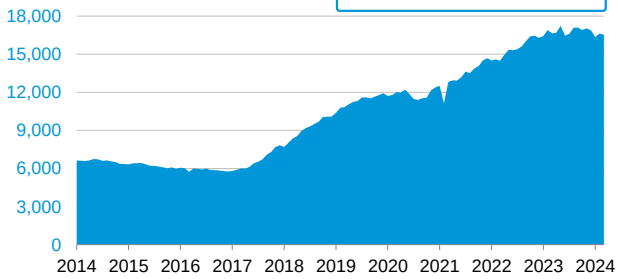
Haynesville Region
Oil production

Oil 0
thousand barrels/day
month over month



Haynesville Region
Natural gas production

Gas -90
million cubic feet/day
month over month



Niobrara Region

Drilling Productivity Report

February 2024

drilling data through January
projected production through March

Oil +2
barrels/day
month over month

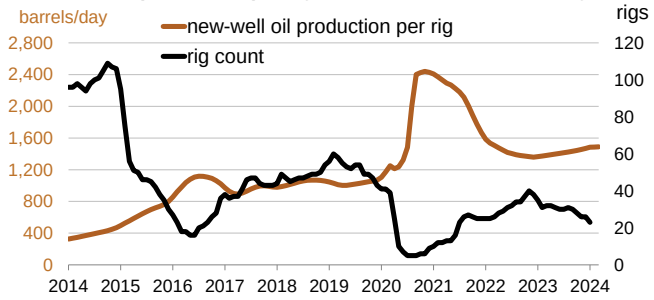
1,488 *March*
1,486 *February*
barrels/day

Monthly additions from one average rig

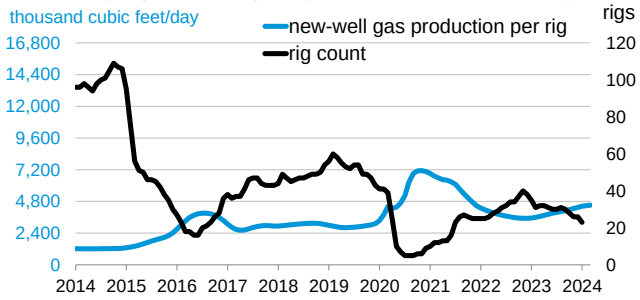
March **4,523**
February **4,479**
thousand cubic feet/day

Gas +44
thousand cubic feet/day
month over month

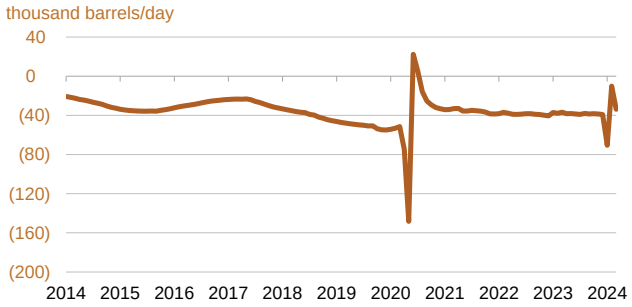
Niobrara Region
New-well oil production per rig



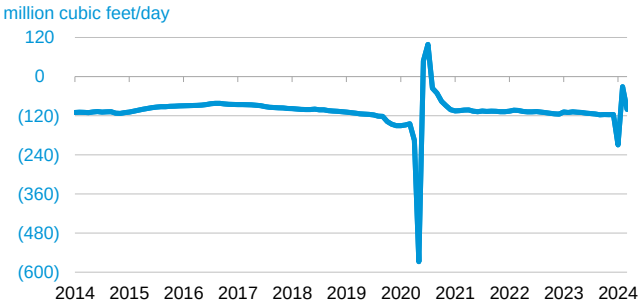
Niobrara Region
New-well gas production per rig



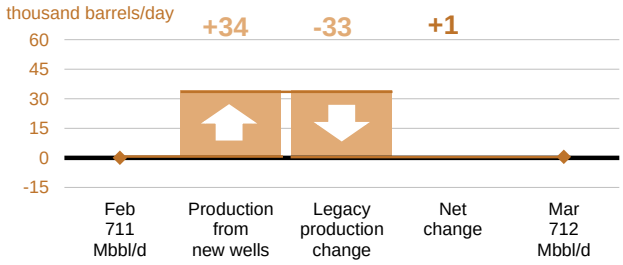
Niobrara Region
Legacy oil production change



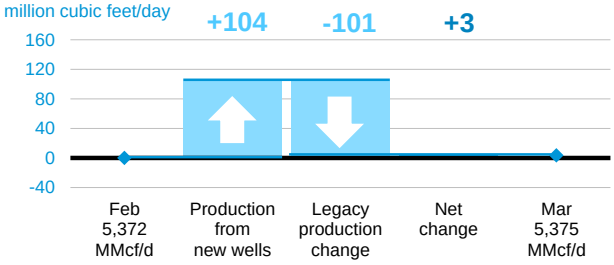
Niobrara Region
Legacy gas production change



Niobrara Region
Indicated change in oil production (Mar vs. Feb)

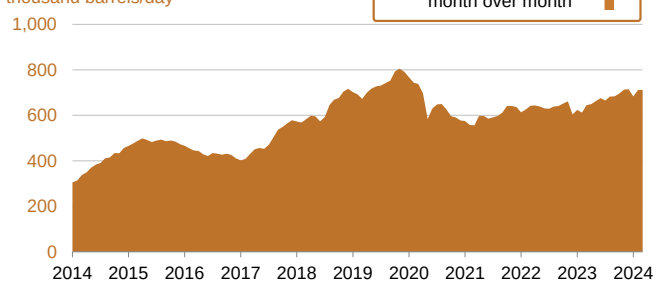


Niobrara Region
Indicated change in natural gas production (Mar vs. Feb)



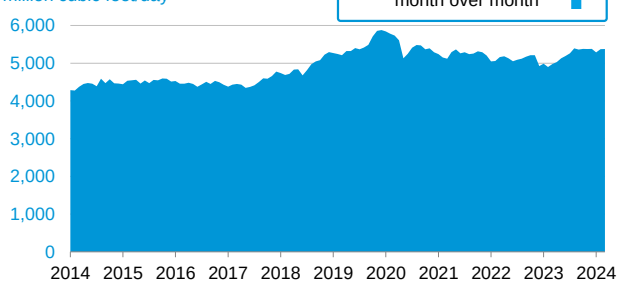
Niobrara Region
Oil production

Oil +1
thousand barrels/day
month over month



Niobrara Region
Natural gas production

Gas +3
million cubic feet/day
month over month



Permian Region
Drilling Productivity Report

February 2024

drilling data through January
projected production through March

Oil +13
barrels/day
month over month

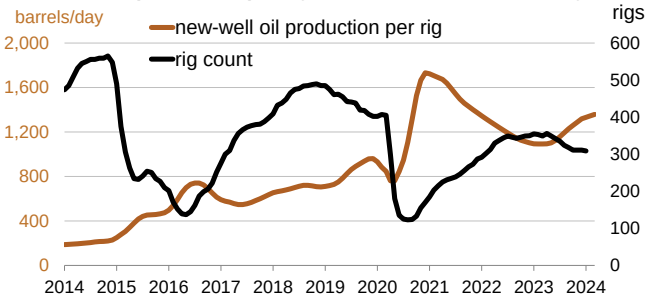
1,358 *March*
1,345 *February*
barrels/day

Monthly additions from one average rig

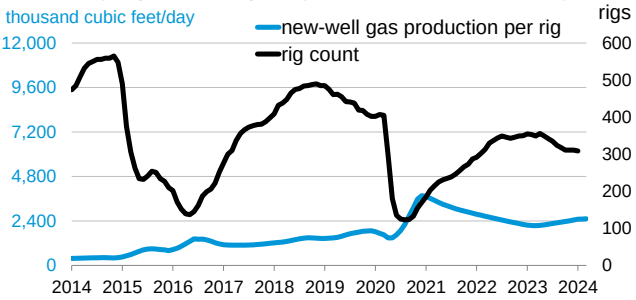
March **2,514**
February **2,503**
thousand cubic feet/day

Gas +11
thousand cubic feet/day
month over month

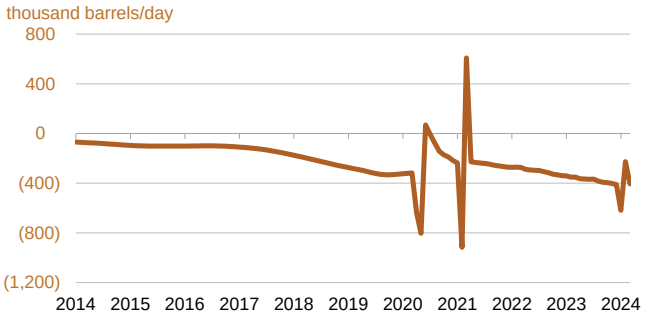
Permian Region
New-well oil production per rig



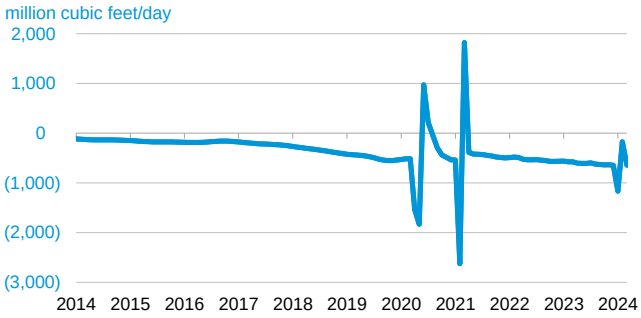
Permian Region
New-well gas production per rig



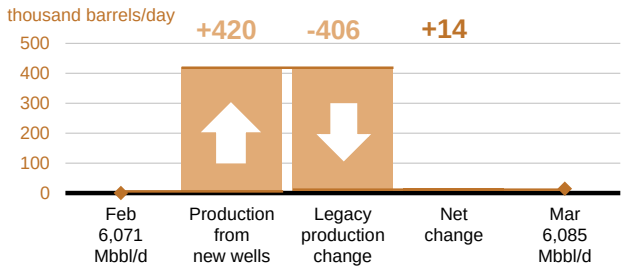
Permian Region
Legacy oil production change



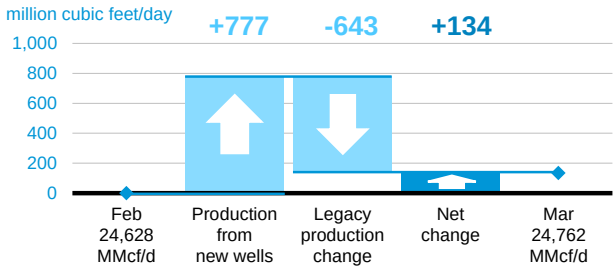
Permian Region
Legacy gas production change



Permian Region
Indicated change in oil production (Mar vs. Feb)

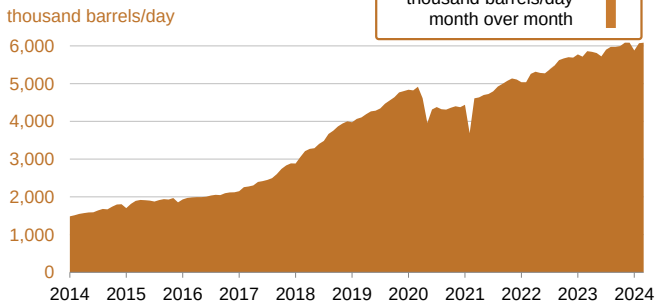


Permian Region
Indicated change in natural gas production (Mar vs. Feb)



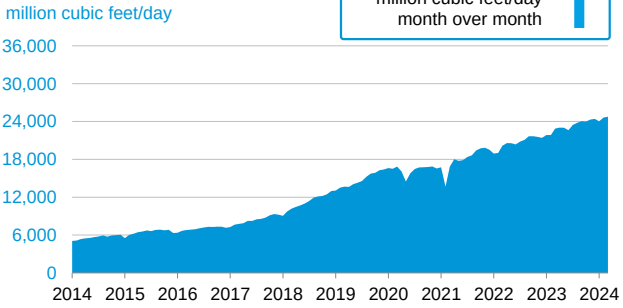
Permian Region
Oil production

Oil +14
thousand barrels/day
month over month



Permian Region
Natural gas production

Gas +134
million cubic feet/day
month over month



The Drilling Productivity Report uses recent data on the total number of drilling rigs in operation along with estimates of drilling productivity and estimated changes in production from existing oil and natural gas wells to provide estimated changes in oil[1] and natural gas[2] production for seven key regions. EIA's approach does not distinguish between oil-directed rigs and gas-directed rigs because once a well is completed it may produce both oil and gas; more than half of the wells do that.

Monthly additions from one average rig

Monthly additions from one average rig represent EIA's estimate of an average rig's[3] contribution to production of oil and natural gas from new wells.[4] The estimation of new-well production per rig uses several months of recent historical data on total production from new wells for each field divided by the region's monthly rig count, lagged by two months.[5] Current- and next-month values are listed on the top header. The month-over-month change is listed alongside, with +/- signs and color-coded arrows to highlight the growth or decline in oil (brown) or natural gas (blue).

New-well oil/gas production per rig

Charts present historical estimated monthly additions from one average rig coupled with the number of total drilling rigs as reported by Baker Hughes.

Legacy oil and natural gas production change

Charts present EIA's estimates of total oil and gas production changes from all the wells other than the new wells. The trend is dominated by the well depletion rates, but other circumstances can influence the direction of the change. For example, well freeze-offs or hurricanes can cause production to significantly decline in any given month, resulting in a production increase the next month when production simply returns to normal levels.

Projected change in monthly oil/gas production

Charts present the combined effects of new-well production and changes to legacy production. Total new-well production is offset by the anticipated change in legacy production to derive the net change in production. The estimated change in production does not reflect external circumstances that can affect the actual rates, such as infrastructure constraints, bad weather, or shut-ins based on environmental or economic issues.

Oil/gas production

Charts present all oil and natural gas production from both new and legacy wells since 2007. This production is based on all wells reported to the state oil and gas agencies. Where state data are not immediately available, EIA estimates the production based on estimated changes in new-well oil/gas production and the corresponding legacy change.

Footnotes:

1. Oil production represents both crude and condensate production from all formations in the region. Production is not limited to tight formations. The regions are defined by all selected counties, which include areas outside of tight oil formations.
2. Gas production represents gross (before processing) gas production from all formations in the region. Production is not limited to shale formations. The regions are defined by all selected counties, which include areas outside of shale formations.
3. The monthly average rig count used in this report is calculated from weekly data on total oil and gas rigs reported by Baker Hughes.
4. A new well is defined as one that began producing for the first time in the previous month. Each well belongs to the new-well category for only one month. Reworked and recompleted wells are excluded from the calculation.
5. Rig count data lag production data because EIA has observed that the best predictor of the number of new wells beginning production in a given month is the count of rigs in operation two months earlier.

The data used in the preparation of this report come from the following sources. EIA is solely responsible for the analysis, calculations, and conclusions.

Drilling Info (http://www.drillinginfo.com) Source of production, permit, and spud data for counties associated with this report. Source of real-time rig location to estimate new wells spudded and completed throughout the United States.

Baker Hughes (http://www.bakerhughes.com) Source of rig and well counts by county, state, and basin.

North Dakota Oil and Gas Division (https://www.dmr.nd.gov/oilgas) Source of well production, permit, and completion data in the counties associated with this report in North Dakota

Railroad Commission of Texas (http://www.rrc.state.tx.us) Source of well production, permit, and completion data in the counties associated with this report in Texas

Pennsylvania Department of Environmental Protection (https://www.paoilandgasreporting.state.pa.us/publicreports/Modules/Welcome/Welcome.aspx) Source of well production, permit, and completion data in the counties associated with this report in Pennsylvania

West Virginia Department of Environmental Protection (http://www.dep.wv.gov/oil-and-gas/Pages/default.aspx) Source of well production, permit, and completion data in the counties associated with this report in West Virginia

Colorado Oil and Gas Conservation Commission (http://cogcc.state.co.us) Source of well production, permit, and completion data in the counties associated with this report in Colorado

Wyoming Oil and Conservation Commission (http://wogcc.state.wy.us) Source of well production, permit, and completion data in the counties associated with this report in Wyoming

Louisiana Department of Natural Resources (http://dnr.louisiana.gov) Source of well production, permit, and completion data in the counties associated with this report in Louisiana

Ohio Department of Natural Resources (http://oilandgas.ohiodnr.gov) Source of well production, permit, and completion data in the counties associated with this report in Ohio

Oklahoma Corporation Commission (http://www.occeweb.com/og/oghome.htm) Source of well production, permit, and completion data in the counties associated with this report in Oklahoma

TC Energy reports record 2023 operating and financial results driven by solid execution

Increases common share dividend for the twenty-fourth consecutive year

CALGARY, Alberta – February 16, 2024 – TC Energy Corporation (TSX, NYSE: TRP) (TC Energy or the Company) released its fourth quarter results today. François Poirier, TC Energy's President and Chief Executive Officer commented, "By remaining focused on a clearly defined set of priorities emphasizing project execution, safety and operational excellence, we delivered record operational performance and financial results. 2023 marks one of the most transformational years for TC Energy – we reached mechanical completion on the Coastal GasLink pipeline project, announced our intention to spin off the Liquids Pipelines business and enhanced our financial strength through our asset divestiture program. Underpinned by our strong performance, TC Energy's Board of Directors approved a dividend increase of 3.2 per cent for the quarter ending March 31, 2024, equivalent to $3.84 per common share on an annualized basis. This represents our twenty-fourth consecutive year of dividend growth." Poirier continued, "As we look to 2024, our strategic priorities remain in pursuit of maximizing the value of our assets, safely executing our major projects on time and budget and further enhancing our balance sheet strength and flexibility."

Highlights

(All financial figures are unaudited and in Canadian dollars unless otherwise noted)

- Fourth quarter 2023 financial results:
  - Delivered approximately 16 per cent growth in comparable EBITDA[1] of $3.1 billion compared to $2.7 billion in fourth quarter 2022 and segmented earnings of $2.3 billion compared to segmented losses of $1.0 billion in fourth quarter 2022
  - Comparable earnings per common share[1] of $1.35 in fourth quarter 2023 increased 22 per cent compared to $1.11 in fourth quarter 2022 and net income per common share of $1.41 in fourth quarter 2023 compared to net loss per common share of $1.42 in fourth quarter 2022
- Year ended December 31, 2023 financial results:
  - Delivered approximately 11 per cent growth in 2023 comparable EBITDA of $11.0 billion compared to $9.9 billion in 2022 and segmented earnings of $6.1 billion compared to $3.6 billion in 2022
  - Five per cent increase in comparable earnings per common share of $4.52 in 2023 compared to $4.30 in 2022 and net income per common share of $2.75 in 2023 compared to $0.64 in 2022
- Strong fourth quarter 2023 results were underpinned by the continued reliability, availability and exceptional operational performance of our assets. While our Natural Gas Pipelines business is not exposed to material volumetric or commodity price risks, strong utilization rates demonstrate the demand for our services and the longer-term criticality of our assets
  - Total NGTL System deliveries averaged 14.5 Bcf/d, largely consistent relative to fourth quarter 2022
  - U.S. Natural Gas Pipelines deliveries to power generators continued to grow, setting a record of 2.8 Bcf/d during fourth quarter 2023, up 16 per cent relative to fourth quarter 2022
  - U.S. Natural Gas Pipelines daily average flows were 27.7 Bcf/d, in line with fourth quarter 2022
  - Gas Transmission Northwest (GTN) system achieved an all-time delivery record of 3.1 Bcf on November 11, 2023
  - The Keystone Pipeline System achieved approximately 92 per cent operational reliability during fourth quarter 2023
  - Continued strong demand across the Keystone Pipeline System

[1] Comparable EBITDA and comparable earnings per common share are non-GAAP measures used throughout this news release. These measures do not have any standardized meaning under GAAP and therefore are unlikely to be comparable to similar measures presented by other companies. The most directly comparable GAAP measures are Segmented earnings (losses) and Net income (loss) per common share. For more information on non-GAAP measures, refer to the Non-GAAP Measures section of this news release.

- Bruce Power achieved approximately 85 per cent availability in fourth quarter 2023 reflecting a planned outage on Unit 8, and approximately 92 per cent overall availability in 2023, with Unit 6 returning to service in September 2023 ahead of schedule and within budget
- Alberta cogeneration power plant fleet achieved 98.7 per cent availability

- Following mechanical completion, required pipeline commissioning activities were completed on the Coastal GasLink project and the pipeline was ready to deliver natural gas to the LNG Canada facility in fourth quarter 2023. These milestones entitle Coastal GasLink LP to receive a $200 million incentive payment from LNG Canada. In accordance with the contractual terms between the Coastal GasLink LP partners, this amount accrues in full to TC Energy as the project developer, was recorded in fourth quarter 2023 and was settled through a cash distribution on February 12, 2024
  - Excluding earnings from Coastal GasLink related to the recognition of the $200 million incentive payment, TC Energy delivered approximately nine per cent growth in comparable EBITDA in 2023 compared to 2022
- **Reaffirming 2024 outlook:**
  - **Comparable EBITDA** outlook for 2024 is expected to be $11.2 to $11.5 billion and remains consistent with our November 2023 Investor Day, with growth related to increased comparable EBITDA from the NGTL System due to the advancement of expansion programs, the full-year impact of projects placed into service in 2023, including Bruce Power Unit 6 which returned to service in September, along with new projects anticipated to be placed in service in 2024
  - **Comparable earnings per common share** is expected to be lower than 2023 due to the net impact of higher net income attributable to non-controlling interests as a result of the sale of a 40 per cent non-controlling equity interest in Columbia Gas Transmission, LLC (Columbia Gas) and Columbia Gulf Transmission, LLC (Columbia Gulf) in 2023, partially offset by increased comparable EBITDA and higher AFUDC related to increased capital expenditures on the Southeast Gateway pipeline project
  - Our 2024 comparable EBITDA and comparable earnings per common share outlooks reflect a full year impact of contributions from the Liquids Pipelines business and does not take into consideration the potential impact of the $3.0 billion capital rotation program or proposed spinoff of the Liquids Pipelines business (the spinoff Transaction) that is subject to TC Energy shareholder and court approvals, favourable tax rulings, other regulatory approvals and satisfaction of other customary closing conditions
  - **2024 capital expenditures** are anticipated to be approximately $8.5 to $9.0 billion on a gross basis including capitalized interest, or approximately $8.0 to $8.5 billion on a net basis after considering non-controlling interests. The majority of our 2024 program is focused on the advancement of the Southeast Gateway pipeline project, U.S. Natural Gas Pipelines projects, post-construction and reclamation activities on the Coastal GasLink pipeline project, the Bruce Power Major Component Replacement (MCR) programs, and normal course maintenance capital expenditures
- TC Energy's Board of Directors approved a 3.2 per cent increase in the quarterly common share dividend to $0.96 per common share for the quarter ending March 31, 2024, equivalent to $3.84 per common share on an annualized basis
- Placed approximately $5.3 billion of projects in service in 2023 on budget, and expect to place approximately $7.0 billion of new projects in service in 2024
- Advanced our capital rotation program in 2023, with $3.0 billion of incremental asset sales expected to be completed by year end 2024
- Closed the sale of a 40 per cent non-controlling equity interest in Columbia Gas and Columbia Gulf to Global Infrastructure Partners (GIP) for total cash proceeds of $5.3 billion (US$3.9 billion). Preceding the close of the equity sale, on August 8, 2023, Columbia Pipelines Operating Company LLC and Columbia Pipelines Holding Company LLC issued US$4.6 billion and US$1.0 billion of long-term, senior unsecured debt, respectively. Net proceeds from the offerings were used to repay existing intercompany indebtedness with TC Energy entities and directed towards reducing leverage
- Named Van Dafoe as incoming Senior Vice-President and Chief Financial Officer (CFO) and Lori Muratta as incoming Senior Vice-President and General Counsel (GC) at South Bow Corporation (South Bow) to continue to progress the spinoff Transaction. The Company has received a favourable tax ruling from the IRS on the spinoff Transaction and is continuing to work collaboratively with the CRA on obtaining a favourable tax ruling in Canada
- FERC approved the VR and WR projects in November and December 2023, respectively

CEO Message

Driven by solid execution throughout 2023, our unparalleled asset base continued to generate strong operational and financial results, delivering record comparable EBITDA and comparable earnings per common share. Our collective efforts in 2023 continued to set the stage for a transformative period for TC Energy. Guided by a clear set of strategic priorities for 2023, including project execution, enhancing balance sheet strength, and maximizing the value of our asset base, TC Energy was successful in delivering on our commitments.

Project execution

In 2023, we placed approximately $5.3 billion of projects in service on budget, including various expansion projects on our NGTL System, the lateral section of our Villa de Reyes pipeline and the Unit 6 MCR at Bruce Power, which was completed ahead of schedule and within budget.

In November 2023, the **Coastal GasLink** pipeline project achieved mechanical completion ahead of our year end 2023 target, completed required pipeline commissioning activities and was ready to deliver natural gas to the LNG Canada facility in fourth quarter 2023. The achievement of these monumental milestones entitle Coastal GasLink LP to receive a $200 million incentive payment from LNG Canada. In accordance with the contractual terms between the Coastal GasLink LP partners, this amount accrues in full to TC Energy as the project developer and was settled through a cash distribution on February 12, 2024. With construction and required commissioning activities now complete, post-construction and reclamation activities will continue throughout 2024. The project remains on track with its cost estimate of approximately $14.5 billion and Coastal GasLink LP will continue to pursue contractor cost recoveries.

We also achieved significant progress on the **Southeast Gateway** pipeline project in 2023. In addition to closing land rights, right of ways negotiation and obtaining critical permits for construction, offshore installation began in December 2023 and is progressing on schedule, along with all onshore facilities. The project continues to progress on time and on budget, with commercial in-service expected by mid-2025.

We will continue to develop quality projects within our secured capital program, with approximately $7.0 billion of assets expected to be placed in service in 2024. Our commitment to limiting annual net capital expenditures to $6.0 to $7.0 billion, with a bias to the lower end beyond 2024, will not waver. We believe that adhering to our net capital expenditure limit beyond 2024 will allow TC Energy to continue delivering an attractive and sustainable dividend growth rate of three to five per cent.

Firmly on a path to enhancing balance sheet strength

We have a clearly defined path to reach our 4.75 times debt-to-EBITDA[2] target by year end 2024, which represents the upper limit we will manage to. Throughout 2023, we made significant progress towards reducing leverage, including successfully completing the sale of a 40 per cent non-controlling equity interest in Columbia Gas and Columbia Gulf for total cash proceeds of $5.3 billion (US$3.9 billion). In addition, we are continuing to evaluate an incremental $3.0 billion of capital rotation opportunities, which we expect to complete by the end of 2024. Project execution and continued growth in comparable EBITDA will support further deleveraging, in addition to liability management opportunities related to the spinoff Transaction, subject to TC Energy shareholder and court approvals, favourable tax rulings, other regulatory approvals and satisfaction of other customary closing conditions.

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[2] Debt-to-EBITDA is a non-GAAP ratio. Adjusted debt and adjusted comparable EBITDA are non-GAAP measures used to calculated debt-to-EBITDA. These measures do not have any standardized meaning under GAAP and therefore are unlikely to be comparable to similar measures presented by other companies. See the Forward-looking information Non-GAAP measures and Reconciliation sections for more information.

Maximizing the value of our assets through safety and operational excellence

Throughout fourth quarter 2023, we continued to see strong, sustained demand for our assets and services that further supported the delivery of record results. Within our integrated natural gas pipelines business, total NGTL System deliveries in Canada averaged 14.5 Bcf/d and various pipelines in the U.S. achieved record throughput volumes. The GTN system achieved a delivery record of 3.1 Bcf on November 11, 2023, Tuscarora Gas Transmission System achieved a delivery record of 0.2 Bcf on November 30, 2023, and the Portland Natural Gas Transmission System achieved a delivery record of 0.5 Bcf on December 12, 2023. Within the Liquids Pipelines business, the Keystone Pipeline System achieved approximately 92 per cent operational reliability during the quarter, consistent with the Keystone Pipeline System's full-year 2023 operational reliability. Bruce Power achieved approximately 85 per cent availability during the quarter reflecting a planned outage on Unit 8, and approximately 92 per cent overall availability in 2023, while our Alberta cogeneration power plant fleet experienced 98.7 per cent availability during the quarter.

Advancing proposed Liquids Pipelines business spinoff

The Separation Management Office continues to make important progress on the spinoff Transaction. Van Dafoe has been named incoming Senior Vice-President and CFO at South Bow. With over 30 years of experience in the energy industry, including serving as CFO of a public company for eight years, Van will be instrumental in managing South Bow's finance, accounting, risk, investor relations activities and information services. On February 1, 2024, Lori Muratta was named as incoming Senior Vice-President and General Counsel at South Bow. With over 20 years of experience in the energy industry and 30 years practicing law, Lori will be instrumental in overseeing South Bow's legal, compliance and regulatory activities. The Company has received a favourable tax ruling from the IRS on the spinoff Transaction and is continuing to work collaboratively with the CRA on obtaining a favourable tax ruling in Canada.

We continue to identify experienced board candidates for South Bow and anticipate the full slate of directors and other information to be described in the Management Information Circular to be filed prior to the shareholder meeting and related vote, which remains on track to take place in mid-2024.

Dividend declaration, 2024 outlook and strategic priorities

Based on the confidence of our business plans, TC Energy's Board of Directors declared a quarterly dividend of $0.96 per common share for the quarter ending March 31, 2024, equivalent to $3.84 per common share on an annualized basis, an increase of 3.2 per cent. This is the twenty-fourth consecutive year the Board has raised the dividend. Looking to our 2024 outlook, 2024 comparable EBITDA is expected to be $11.2 to $11.5 billion and remains consistent with our November 2023 Investor Day, with growth related to increased comparable EBITDA from the NGTL System due to the advancement of expansion programs, the full-year impact of projects placed in service in 2023 and anticipated projects to be placed in service in 2024. We expect 2024 comparable earnings per common share to be lower than 2023 due to the net impact of higher net income attributable to non-controlling interests as a result of the sale of a 40 per cent non-controlling equity interest in Columbia Gas and Columbia Gulf in 2023, partially offset by the increase in comparable EBITDA and higher AFUDC related to the Southeast Gateway pipeline project. We anticipate our net capital expenditures[3] in 2024 to be approximately $8.0 to $8.5 billion after consideration of non-controlling interests in the capital expenditures of the entities we control.

We will remain focused on our clearly defined set of strategic priorities as we look to 2024. TC Energy is steadfast in our commitment to executing projects on time and on budget, enhancing our balance sheet strength and flexibility as we continue to achieve our debt-to-EBITDA leverage target, and maximizing the value of our assets while continuing to safely, reliably and affordably deliver the energy the world needs, every day.

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[3] Net capital expenditures is a non-GAAP measure used throughout this news release. This measure does not have any standardized meaning under GAAP and therefore is unlikely to be comparable to similar measures presented by other companies. The most directly comparable GAAP measure is capital expenditures. For more information on non-GAAP measures, refer to the Non-GAAP Measures section of the news release.

Highlights for the month

- Indigenous crude oil and condensate production during January 2024 was 2.5 MMT. OIL registered a production of 0.3 MMT, ONGC registered a production of 1.6 MMT whereas PSC/RSC registered production of 0.6 MMT during January 2024. There is a growth of 0.7% in crude oil and condensate production during January 2024 as compared to January 2023.
- Total Crude oil processed during January 2024 was 22.6 MMT which is 1.1% lower than January 2023, where PSU/JV refiners processed 15.3 MMT and private refiners processed 7.3 MMT of crude oil. Total indigenous crude oil processed was 2.2 MMT and total Imported crude oil processed was 20.4 by all Indian refineries (PSU+JV+PVT). There was a growth of 2.8 % in total crude oil processed in April January FY 2023 – 24 as compared to same period of FY 2022 – 23.
- Crude oil imports increased by 5.7% and 0.9% during January 2024 and April-January 2023-24 respectively as compared to the corresponding period of the previous year. As compared to net import bill for Oil & Gas for January 2023 of $10.6 billion, the net import bill for Oil & Gas for January 2024 was $11.7 billion. Out of which, crude oil imports constitutes $12.1 billion, LNG imports $1.1 billion and the exports were $3.5 billion during January 2023.
- The price of Brent Crude averaged $80.32/bbl during January 2024 as against $77.91/bbl during December 2023 and $82.78/bbl during January 2023. The Indian basket crude price averaged $79.22/bbl during January 2024 as against $77.42/bbl during December 2023 and $80.92 /bbl during January 2023.
- Production of petroleum products was 23.0 MMT during January 2024 which is 4.3% lower than January 2023. Out of 23.0 MMT, 22.7 MMT was from refinery production & 0.3 MMT was from fractionator. There was a growth of 3.9 % in production of petroleum products in April-January FY 2023 – 24 as compared to same period of FY 2022 – 23. Out of total POL production, in January 2024, share of HSD is 41.4 %, MS 16.3 %, Naphtha 7.3 %, ATF 6.7 %, Pet Coke 5.6 %, LPG 4.8% which are of major products and rest are shared by Bitumen, FO/LSHS, LDO, Lubes & others.
- POL products imports increased by 4.9% and 9.4% during January 2024 and April-January 2023-24 respectively as compared to the corresponding period of the previous year. Increase in POL products imports during April-January 2023-24 were mainly due to increase in imports of petcoke, bitumen and fuel oil (FO).

•	Exports of POL products increased by 7.5% and 3.1% during January 2024 and April-January 2023-24 respectively as compared to the corresponding period of the previous year. Increase in POL products exports during April-January 2023-24 were mainly due to increase in exports of aviation turbine fuel (ATF), vacuum gas oil (VGO) and motor-spirit
•	The consumption of petroleum products during April-January 2024, with a volume of 192.7 MMT, reported a growth of 5.2 % compared to the volume of 183.1 MMT during the same period of the previous year. This growth was led by 6.1% growth in MS, 4.3% in HSD & 11.9% in ATF & 15.4% in Naptha consumption besides LPG, Lubes, Bitumen, Petcoke and LDO during the period. The consumption of petroleum products during January 2024 recorded growth of 8.3% with a volume of 20.0 MMT compared to the same period of the previous year.
•	Ethanol blending with Petrol was 12.2% during January 2024 and cumulative ethanol blending during November2023-January 2024 was 11.2%.
•	Total Natural Gas Consumption (including internal consumption) for the month of January 2024 was 5494 MMSCM which was 14% higher than the corresponding month of the previous year. The cumulative consumption of 55074 MMSCM for the current financial year till January 2024 was higher by 10% compared with the corresponding period of the previous year.
•	Gross production of natural gas for the month of January 2024 (P) was 3139 MMSCM which was higher by 6% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 30353 MMSCM for the current financial year till January 2024 was higher by 5 % compared with the corresponding period of the previous year.
•	LNG import for the month of January 2024 (P) was 2410 MMSCM which was 26% higher than the corresponding month of the previous year. The cumulative import of 25305 (P) MMSCM for the current financial year till January 2024 is higher by 15% compared with the corresponding period of the previous year.

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

	Details	Unit/ Base	2021-22 (P)	2022-23 (P)	January		April-January	
					2022-23 (P)	2023-24 (P)	2022-23 (P)	2023-24 (P)
1	Crude oil production in India[#]	MMT	29.7	29.2	2.5	2.5	24.6	24.5
2	Consumption of petroleum products*	MMT	201.7	223.0	18.5	20.0	183.1	192.7
3	Production of petroleum products	MMT	254.3	266.5	24.0	23.0	220.2	228.7
4	Gross natural gas production	MMSCM	34,024	34,450	2,975	3,139	28,843	30,353
5	Natural gas consumption	MMSCM	64,159	59,969	4,823	5,494	50,100	55,074
6	Imports & exports:							
	Crude oil imports	MMT	212.4	232.7	20.2	21.4	192.5	194.2
		$ Billion	120.7	157.5	11.4	12.1	136.2	110.5
	Petroleum products (POL) imports*	MMT	39.0	44.6	3.8	4.0	36.5	40.0
		$ Billion	23.7	26.9	2.0	2.0	22.5	19.2
	Gross petroleum imports (Crude + POL)	MMT	251.4	277.3	24.0	25.4	229.0	234.1
		$ Billion	144.3	184.4	13.4	14.1	158.8	129.7
	Petroleum products (POL) export	MMT	62.8	61.0	4.5	4.8	49.9	51.5
		$ Billion	44.4	57.3	3.8	3.5	48.8	39.2
	LNG imports*	MMSCM	31,028	26,304	1,909	2,410	21,920	25,305
		$ Billion	13.5	17.1	1.1	1.1	14.8	10.9
	Net oil & gas imports	$ Billion	113.4	144.2	10.6	11.7	124.8	101.3
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	23.6	25.8	21.8	24.2	28.9	25.7
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	10.5	12.7	10.0	9.0	14.5	12.4
9	Import dependency of crude oil (on POL consumption basis)	%	85.5	87.4	87.1	88.2	87.0	87.6

#Includes condensate; *Private direct imports are prorated for the period Nov'23 to Jan'24 for POL. LNG Imports figure from DGCIS are prorated for Dec'23 to Jan'24.Total may not tally due to rounding off.

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2021-22	2022-23 (P)	January			April-January		
			2022-23 (P)	2023-24 Target*	2023-24 (P)	2022-23 (P)	2023-24 Target*	2023-24 (P)
ONGC	18.5	18.4	1.6	1.6	1.5	15.5	16.1	15.1
Oil India Limited (OIL)	3.0	3.2	0.3	0.3	0.3	2.6	2.8	2.8
Private / Joint Ventures (JVs)	7.0	6.2	0.5	0.6	0.5	5.3	6.2	4.8
Total Crude Oil	**28.4**	**27.8**	**2.4**	**2.5**	**2.3**	**23.4**	**25.1**	**22.7**
ONGC condensate	0.9	1.0	0.1	0.0	0.1	0.9	0.0	0.9
PSC condensate	0.3	0.31	0.03	0.0	0.1	0.3	0.0	0.9
Total condensate	**1.2**	**1.4**	**0.13**	**0.0**	**0.2**	**1.1**	**0.0**	**1.8**
Total (Crude + Condensate) (MMT)	**29.7**	**29.2**	**2.5**	**2.5**	**2.5**	**24.6**	**25.1**	**24.5**
Total (Crude + Condensate) (Million Bbl/Day)	0.60	0.59	0.59	0.60	0.59	0.59	0.60	0.59

*Provisional targets inclusive of condensate.

4. Domestic and overseas oil & gas production (by Indian Companies)

Details	2021-22	2022-23 (P)	January		April-January	
			2022-23 (P)	2023-24 (P)	2022-23 (P)	2023-24 (P)
Total domestic production (MMTOE)	63.7	63.6	5.5	5.6	53.4	54.9
Overseas production (MMTOE)	21.8	19.5	1.7	1.7	16.3	16.6

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

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

	Details	2021-22	2022-23 (P)	January		April-January	
				2022-23 (P)	2023-24 (P)	2022-23 (P)	2023-24 (P)
1	High Sulphur crude	185.0	197.9	17.6	18.2	163.3	169.7
2	Low Sulphur crude	56.7	57.4	5.3	4.4	48.1	47.6
Total crude processed (MMT)		**241.7**	**255.2**	**22.8**	**22.6**	**211.4**	**217.3**
Total crude processed (Million Bbl/Day)		4.85	5.13	5.39	5.34	5.06	5.21
Percentage share of HS crude in total crude oil processing		**76.6%**	**77.5%**	**77.0%**	**80.5%**	**77.2%**	**78.1%**

6. Quantity and value of crude oil imports			
Year	**Quantity (MMT)**	**$ Million**	**Rs. Crore**
2021-22	212.4	1,20,675	9,01,262
2022-23	232.7	1,57,531	12,60,372
April-Jan 2023-24(P)	194.2	1,10,458	9,14,457

7. Self-sufficiency in petroleum products (Million Metric Tonnes)							
Particulars		**2021-22**	**2022-23 (P)**	**January**		**April-January**	
				2022-23 (P)	**2023-24 (P)**	**2022-23 (P)**	**2023-24 (P)**
1	Indigenous crude oil processing	27.0	26.4	2.2	2.2	22.4	22.5
2	Products from indigenous crude (93.3% of crude oil processed)	25.2	24.7	2.1	2.1	20.9	21.0
3	Products from fractionators (Including LPG and Gas)	4.1	3.5	0.3	0.3	3.0	2.9
4	Total production from indigenous crude & condensate **(2 + 3)**	29.3	28.2	2.4	2.4	23.8	23.9
5	Total domestic consumption	201.7	223.0	18.5	20.0	183.1	192.7
% Self-sufficiency (4 / 5)		**14.5%**	**12.6%**	**12.9%**	**11.8%**	**13.0%**	**12.4%**

8. Refineries: Installed capacity and crude oil processing (MMTPA / MMT)										
Sl. no.	Refinery	Installed capacity (01.04.2023) MMTPA	Crude oil processing (MMT)							
			2021-22	2022-23 (P)	January			April-January		
					2022-23 (P)	2023-24 (Target)	2023-24 (P)	2022-23 (P)	2023-24 (Target)	2023-24 (P)
1	Barauni (1964)	6.0	5.6	6.8	0.6	0.6	0.5	5.7	5.5	5.5
2	Koyali (1965)	13.7	13.5	15.6	1.3	1.3	1.2	13.0	11.9	12.6
3	Haldia (1975)	8.0	7.3	8.5	0.7	0.7	0.7	7.1	6.2	6.6
4	Mathura (1982)	8.0	9.1	9.6	0.8	0.9	0.6	7.9	7.7	7.5
5	Panipat (1998)	15.0	14.8	13.8	1.3	1.4	1.2	11.3	12.1	12.5
6	Guwahati (1962)	1.0	0.7	1.1	0.09	0.09	0.1	0.9	0.8	0.8
7	Digboi (1901)	0.65	0.7	0.7	0.06	0.05	0.07	0.6	0.6	0.6
8	Bongaigaon(1979)	2.70	2.6	2.8	0.3	0.1	0.3	2.3	2.3	2.5
9	Paradip (2016)	15.0	13.2	13.6	1.4	1.3	1.4	11.0	12.7	12.5
	IOCL-TOTAL	**70.1**	**67.7**	**72.4**	**6.5**	**6.4**	**6.1**	**59.8**	**59.8**	**61.1**
10	Manali (1969)	10.5	9.0	11.3	1.0	0.9	1.0	9.4	8.4	9.6
11	CBR (1993)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	**10.5**	**9.0**	**11.3**	**1.0**	**0.9**	**1.0**	**9.4**	**8.4**	**9.6**
12	Mumbai (1955)	12.0	14.4	14.5	1.4	1.3	1.2	11.9	12.0	12.3
13	Kochi (1966)	15.5	15.4	16.0	1.5	1.4	1.6	13.1	13.2	14.6
14	Bina (2011)	7.8	7.4	7.8	0.7	0.7	0.7	6.4	5.7	5.8
	BPCL-TOTAL	**35.3**	**37.2**	**38.4**	**3.6**	**3.3**	**3.5**	**31.4**	**30.9**	**32.7**
15	Numaligarh (1999)	3.0	2.6	3.1	0.3	0.3	0.3	2.6	2.3	2.0

Sl. no.	Refinery	Installed capacity (01.04.2023) MMTPA	Crude oil processing (MMT)							
			2021-22	2022-23	January			April-January		
					2022-23 (P)	2023-24 (Target)	2023-24 (P)	2022-23 (P)	2023-24 (Target)	2023-24 (P)
16	Tatipaka (2001)	0.07	0.08	0.07	0.01	0.006	0.006	0.06	0.05	0.05
17	MRPL-Mangalore (1996)	15.0	14.9	17.1	1.5	1.5	1.5	14.2	13.1	13.5
	ONGC-TOTAL	**15.1**	**14.9**	**17.2**	**1.5**	**1.5**	**1.5**	**14.3**	**13.1**	**13.6**
18	Mumbai (1954)	9.5	5.6	9.8	0.8	0.8	0.9	8.1	7.4	8.4
19	Visakh (1957)	11.0	8.4	9.3	0.8	1.1	1.2	7.7	9.8	10.1
20	HMEL-Bathinda (2012)	11.3	13.0	12.7	1.1	1.0	0.9	10.6	9.5	10.7
	HPCL- TOTAL	**31.8**	**27.0**	**31.8**	**2.8**	**2.9**	**2.9**	**26.4**	**26.8**	**29.2**
21	RIL-Jamnagar (DTA) (1999)	33.0	34.8	34.4	2.8	2.8	3.0	29.0	29.0	28.7
22	RIL-Jamnagar (SEZ) (2008)	35.2	28.3	27.9	2.5	2.5	2.6	23.1	23.1	23.5
23	NEL-Vadinar (2006)	20.0	20.2	18.7	1.7	1.7	1.7	15.4	15.4	17.0
All India (MMT)		**253.9**	**241.7**	**255.2**	**22.8**	**22.4**	**22.6**	**211.4**	**208.8**	**217.3**
All India (Million Bbl/Day)		**5.02**	**4.85**	**5.13**	**5.39**	**5.29**	**5.34**	**5.06**	**5.00**	**5.21**

Note: Provisional Targets; Some sub-totals/ totals may not add up due to rounding off at individual levels. The Inputs to Refinery includes both Crude Oil and Other Inputs (OI), however Other Inputs (OI) do not form part of the above data.

9. Major crude oil and product pipeline network (as on 01.02.2024)

Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,284	1,193	688	1,017	5,822	937			**10,941**
	Cap (MMTPA)	60.6	9.0	10.7	11.3	53.8	7.8			**153.1**
Products	Length (KM)		654			12,344	2,600	5,123	2,399	**23,120**
	Cap (MMTPA)		1.7			70.6	22.6	35.2	10.2	**140.3**

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

11. Production and consumption of petroleum products (Million Metric Tonnes)												
Products	2021-22		2022-23 (P)		Jan- 2023 (P)		Jan-2024 (P)		Apr-Jan 2023 (P)		Apr-Jan 2024 (P)	
	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons
LPG	12.2	28.3	12.8	28.5	1.1	2.5	1.1	2.7	10.7	23.7	10.6	24.4
MS	40.2	30.8	42.8	35.0	3.8	2.8	3.8	3.1	35.2	29.1	37.3	30.9
NAPHTHA	20.0	13.2	17.0	12.2	1.5	1.1	1.7	1.3	14.2	9.9	15.0	11.5
ATF	10.3	5.0	15.0	7.4	1.4	0.7	1.5	0.7	12.3	6.1	14.1	6.8
SKO	1.9	1.5	0.9	0.5	0.1	0.0	0.1	0.0	0.7	0.4	0.9	0.4
HSD	107.2	76.7	113.8	85.9	10.2	7.2	9.5	7.4	94.1	71.1	96.3	74.2
LDO	0.8	1.0	0.6	0.7	0.07	0.1	0.05	0.1	0.5	0.6	0.6	0.7
LUBES	1.2	4.5	1.3	3.7	0.1	0.3	0.1	0.3	1.1	3.0	1.2	3.3
FO/LSHS	8.9	6.3	10.4	7.0	0.8	0.6	0.8	0.6	8.8	5.8	8.8	5.5
BITUMEN	5.1	7.8	4.9	8.0	0.4	0.7	0.5	0.8	3.8	6.1	4.1	7.0
PET COKE	15.5	14.3	15.4	18.3	1.4	1.4	1.3	1.7	12.7	14.8	12.5	16.2
OTHERS	30.9	12.3	31.5	15.8	3.0	1.1	2.6	1.3	26.0	12.5	27.4	11.9
ALL INDIA	**254.3**	**201.7**	**266.5**	**223.0**	**24.0**	**18.5**	**23.0**	**20.0**	**220.2**	**183.1**	**228.7**	**192.7**
Growth (%)	**-3.1%**	**-5.4%**	**4.8%**	**10.6%**	**4.5%**	**-2.1%**	**-4.3%**	**8.3%**	**5.3%**	**24.6%**	**3.9%**	**5.2%**

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)

LPG categorv	2021-22	2022-23	January			April-January		
			2022-23	2023-24 (P)	Growth (%)	2022-23	2023-24 (P)	Growth (%)
1. PSU Sales :								
LPG-Packed Domestic	25,501.6	25,381.5	2,224.9	2,382.2	7.1%	21,116.3	21,570.4	2.2%
LPG-Packed Non-Domestic	2,238.8	2,606.0	238.2	254.3	6.8%	2,160.4	2,309.4	6.9%
LPG-Bulk	390.9	408.9	35.0	54.2	54.6%	338.0	488.5	44.5%
Auto LPG	122.0	106.7	8.3	6.9	-17.2%	90.7	75.1	-17.2%
Sub-Total (PSU Sales)	28,253.3	28,503.1	**2,506.5**	**2,697.6**	**7.6%**	**23,705.4**	**24,443.4**	**3.1%**
2. Direct Private Imports*	0.1	0.1	0.00	0.01	-	0.05	0.06	31.4%
Total (1+2)	28,253.4	28,503.2	**2,506.5**	**2,697.6**	**7.6%**	**23,705.5**	**24,443.4**	**3.1%**

*Nov-Jan'24 DGCIS data is prorated

16. LPG marketing at a glance

Particulars (As on 1st of April)	Unit	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	1.02.24 (P)
LPG Active Domestic Customers	(Lakh)				1486	1663	1988	2243	2654	2787	2895	3053	3140	3217
	Growth					11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.5%	2.9%	2.5%
LPG Coverage (Estimated)	(Percent)				56.2	61.9	72.8	80.9	94.3	97.5	99.8	-	-	-
	Growth					10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	-	-	-
PMUY Beneficiaries	(Lakh)						200.3	356	719	802	800	899.0	958.6	1015.7
	Growth							77.7%	101.9%	11.5%	-0.2%	12.2%	6.6%	5.9%
LPG Distributors	(No.)	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25269	25386	25454
	Growth	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	0.7%	0.5%	0.4%
Auto LPG Dispensing Stations	(No.)	652	667	678	681	676	675	672	661	657	651	601	526	472
	Growth	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-8.5%	-12.5%	-10.4%
Bottling Plants	(No.)	184	185	187	187	188	189	190	192	196	200	202	208	210
	Growth	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	1.0%	4.5%	1.9%

Source: PSU OMCs (IOCL,BPCL and HPCL)

1.Growth rates as on 01.02.2024 are with respect to figs as on 01.02.2023. Growth rates as on 1 April of any year are with respect to figs as on 1 April of previous year.

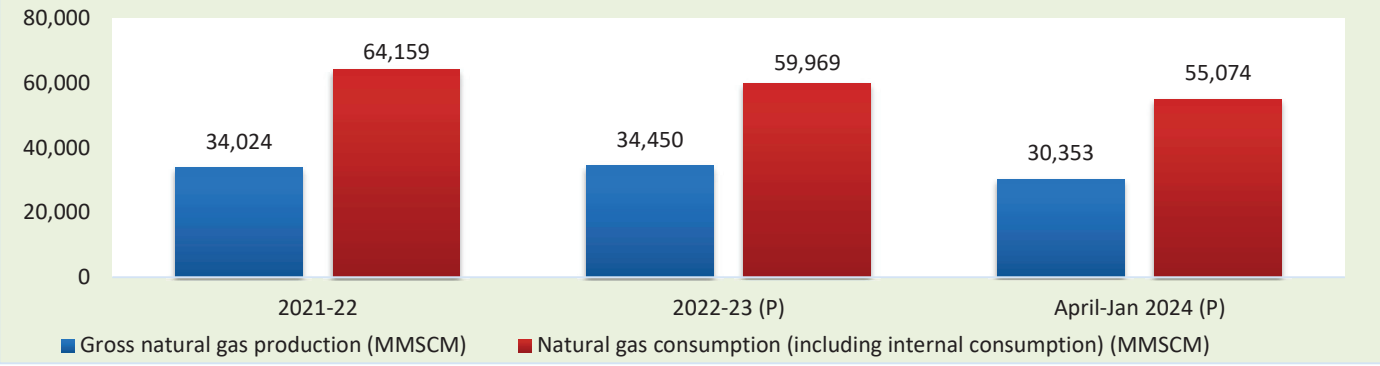
2. The LPG coverage is calculated by PSU OMCs based upon the active LPG domestic connections and the estimated number of households. The number of households has been projected by PSU OMCs based on 2011 census data. Factors like increasing nuclearization of families, migration of individuals/ families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

18. Natural gas at a glance

(MMSCM)

Details	2021-22 (P)	2022-23 (P)	January			April-January		
			2022-23 (P)	2023-24 (Target)	2023-24 (P)	2022-23 (P)	2023-24 (Target)	2023-24 (P)
(a) Gross production	34,024	34,450	2,975	3,321	3,139	28,843	31,708	30,353
- ONGC	20,629	19,969	1,704	1,698	1,639	16,761	17,194	16,189
- Oil India Limited (OIL)	2,893	3,041	253	268	256	2,548	2,636	2,567
- Private / Joint Ventures (JVs)	10,502	11,440	1,018	1,355	1,244	9,534	11,878	11,596
(b) Net production (excluding flare gas and loss)	33,131	33,664	2,913		3,084	28,180		29,769
(c) LNG import#	31,028	26,304	1,909		2,410	21,920		25,305
(d) Total consumption including internal consumption (b+c)	64,159	59,969	4,823		5,494	50,100		55,074
(e) Total consumption **(in BCM)**	64.2	60.0	4.8		5.5	50.1		55.1
(f) Import dependency based on consumption (%), {c/d*100}	48.4	43.9	39.6		43.9	43.8		45.948

January 2024 DGCIS data prorated.



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

Prognosticated CBM resources		91.8	TCF
Established CBM resources		10.4	TCF
CBM Resources (33 Blocks)		62.8	TCF
Total available coal bearing areas (India)		32760	Sq. KM
Total available coal bearing areas with MoPNG/DGH		12254*	Sq. KM
Area awarded		21,177**	Sq. KM
Blocks awarded*		39	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)		10670	Sq. KM
Production of CBM gas	April-Jan 2024 (P)	540.92	MMSCM
Production of CBM gas	Jan 2024 (P)	54.78	MMSCM

*ST CBM Block awarded & relinquished twice- in CBM Round II and Round IV -Area considered if any boreholes were drilled in the awarded block. **MoPNG awarded 04 new CBM Blocks (Area 3862 sq. km) under Special CBM Bid Round 2021 in September 2022. ***Area considered if any boreholes were drilled in the awarded block.

19a. Status of Compressed Bio Gas (CBG) projects under SATAT (as on 01.02.2024) (Provisional)

Particulars	Units	IOCL	HPCL	BPCL	GAIL#	IGL	Total
No. of CBG plants commissioned and initiated sale of CBG	No. of plants	25	7	6	10	5	**53**
Start of CBG sale from retail outlet(s)	Nos.	69	36	45	1	3	**154**
Sale of CBG in 2022-23	Tons	5,822	77	6	5322		**11,227**
Sale of CBG in 2023-24 (up to January, 2023)	Tons	5215	192	27	9156		**14590**
Sale of CBG in CGD network	GA Nos.				25		**25**

#Sale of CBG sourced under CBG-CGD synchronization by GAIL through its own marketing channels and other CGDs/OMCs.

20. Common Carrier Natural Gas pipeline network as on 30.09.2023

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	11,007	2,716	1,479	143	107	304	73	42	24	0	0	0	**15,895**
	Capacity	167.2	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				-
Partially commissioned#	Length	4,714	0	0	1,040	0	0	0	0	0	1,285	0	365	**7,403**
	Capacity	55.0	0.0	0.0	84.7	0.0	0.0	0.0	0.0	0.0	122.5	0.0	0.0	-
Total operational length		**15,720**	**2,716**	**1,479**	**1,183**	**107**	**304**	**73**	**42**	**24**	**1,285**	**0**	**365**	**23,298**
Under construction	Length	3,955	100	0	456	0	0	0	0	0	916	220	4,361	**10,009**
	Capacity	26.3	3.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	0.0	-
Total length		**19,676**	**2,816**	**1,479**	**1,639**	**107**	**304**	**73**	**42**	**24**	**2,201**	**220**	**4,726**	**33,307**

Source: PNGRB; Length in KMs ; Authorized Capacity in MMSCMD (Arithmetic sum taken for each entity -capacity may vary from pipeline to pipeline); *Others-APGDC, , IGGL, IMC,GTIL,HPPL Consortium of H-Energy. Total authorized Natural Gas pipelines including Tie-in connectivity, dedicated & STPL is 33,307 Kms (P),however total operational and Under Construction Pipeline length is 35,483Kms (P)

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.02.2024	% Capacity utilisation (April-Dec 2023)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	95.1
Hazira	Shell Energy India Pvt. Ltd.	5.2 MMTPA	32.8
Dabhol	Konkan LNG Limited	*5 MMTPA	36.4
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	20.3
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	17.0
Mundra	GSPC LNG Limited	5 MMTPA	11.1
Dhamra	Adani Total Private Limited	5 MMTPA	25.1
Total Capacity		**47.7 MMTPA**	

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

22. Status of PNG connections and CNG stations across India (Nos.), as on 31.12.2023(P)				
State/UT (State/UTs are clubbed based on the GAs authorised by PNGRB)	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Andhra Pradesh	172	2,66,179	463	37
Andhra Pradesh, Karnataka & Tamil Nadu	42	7,735	1	6
Assam	12	53,886	1,385	453
Bihar	119	1,20,418	110	7
Bihar & Jharkhand	6	7,723	4	0
Bihar & Uttar Pradesh	14	0	0	0
Chandigarh (UT), Haryana, Punjab & Himachal Pradesh	27	26,502	158	42
Chhattisgarh	13	0	0	0
Dadra & Nagar Haveli (UT)	6	11,942	57	61
Daman & Diu (UT)	5	5,169	62	46
Daman and Diu & Gujarat	15	4,303	20	0
Goa	12	13,067	28	38
Gujarat	1,009	31,96,501	23,212	5,795
Haryana	374	3,45,548	1,003	2,196
Haryana & Himachal Pradesh	10	24	0	0
Haryana & Punjab	27	905	0	0
Himachal Pradesh	11	7,007	20	0
Jharkhand	90	1,21,835	21	3
Karnataka	344	4,16,816	562	348
Kerala	123	59,439	31	18
Kerala & Puducherry	11	782	0	0
Madhya Pradesh	266	2,23,823	439	498
Madhya Pradesh and Chhattisgrah	7	0	0	0
Madhya Pradesh and Rajasthan	34	661	0	0
Madhya Pradesh and Uttar Pradesh	16	0	0	3
Maharashtra	823	32,38,517	4,775	960
Maharashtra & Gujarat	61	1,87,645	8	29
Maharashtra and Madhya Pradesh	15	0	0	0
National Capital Territory of Delhi (UT)	481	15,20,311	3,854	1,882

State/UT (State/UTs are clubbed based on the GAs authorised by PNGRB)	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Odisha	82	99,434	8	0
Puducherry	2	0	0	0
Puducherry & Tamil Nadu	8	277	0	0
Punjab	214	79,583	572	279
Punjab & Rajasthan	12	0	0	0
Rajasthan	275	2,46,458	162	1,654
Tamil Nadu	260	16,039	5	13
Telangana	170	1,97,812	101	110
Telangana and Karnataka	4	0	0	0
Tripura	18	61,168	506	62
UT of Jammu and Kashmir	0	0	0	0
Uttar Pradesh	886	15,07,903	2,526	3,091
Uttar Pradesh & Rajasthan	42	19,866	48	348
Uttar Pradesh and Uttrakhand	26	14,197	0	0
Uttarakhand	34	71,722	86	92
West Bengal	80	4,502	3	1
Total	**6,258**	**1,21,55,699**	**40,230**	**18,072**

Source: PNGRB

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

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

Period	Domestic Natural Gas price in	Gas price ceiling in US$/MMBTU
January 2014 - March 2015	5.05	-
April 2015 - September 2015	4.66	-
October 2015 - March 2016	3.82	-
April 2016 - September 2016	3.06	6.61
October 2016 - March 2017	2.5	5.3
April 2017 - September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.3
April 2018 - September 2018	3.06	6.78
October 2018 - March 2019	3.36	7.67
April 2019 - September 2019	3.69	9.32
October 2019 - March 2020	3.23	8.43
April 2020 - September 2020	2.39	5.61
October 2020 - March 2021	1.79	4.06
April 2021 - September 2021	1.79	3.62
October 2021 - March 2022	2.9	6.13
April 2022 - September 2022	6.1	9.92
October 2022 - March 2023	8.57	12.46
1 April 2023 - 7 April 2023	9.16	12.12

Period	Domestic Gas calculated price in US$/MMBTU	Domestic Gas ceiling price for ONGC/OIL in US$/MMBTU	Period	HP-HT Gas price ceiling in US$/MMBTU
8 April 2023 - 30 April 2023	7.92	6.50	April 2023 - September 2023	12.12
1 May 2023 - 31May 2023	8.27	6.50		
1 June 2023 - 30 June 2023	7.58	6.50		
1 July 2023 - 31 July 2023	7.48	6.50		
1 Aug 2023 - 31 Aug 2023	7.85	6.50		
1 Sept 2023 - 30 Sept 2023	7.85	6.50		
1 Oct 2023 - 31 Oct 2023	9.20	6.50	October'2023 - March 2024	9.96
1 Nov 2023 - 30 Nov2023	9.12	6.50		
1 Dec 2023 - 31 Dec 2023	8.47	6.50		
1 Jan 2024 - 31 Jan 2024	7.82	6.50		
1 Feb 2024- 29 Feb 2024	7.85	6.50		

Natural Gas prices are on GCV basis

24. CNG/PNG prices

City	CNG (Rs/Kg)	PNG (Rs/SCM)	Source
Delhi	76.59	48.59	IGL website (12.02.2024)
Mumbai	76.00	47.00	MGL website (12.02.2024)

Indian Natural Gas Spot Price for Physical Delivery

IGX Price Index Month	Avg. Price		Volume (MMSCM)	Source
	INR/MMBtu	$/MMBtu		
`Jan 2024	1001	12.00	48.30	As per IGX website: www.iexindia.com

*Prices are weighted average prices|$1=INR 83.12| 1 MMBtu=25.2 SCM (Data Excluding Ceiling Price Gas)

For Immediate Release
February 15, 2024
Lynn Helms, Ph.D., Director ND Department of Mineral Resources

NORTH Dakota Be Legendary.™ | Mineral Resources

North Dakota Department of Mineral Resources February 2024 Director's Cut and December 2023 Production Numbers

Oil Production Numbers

November	38,367,281 barrels	= 1,278,909 barrels/day (final) **RF +16%**
New Mexico	56,180,976 **barrels**	= **1,812,290+1.4%**
December	39,365,191 barrels	= 1,273,071 barrels/day **-.5%** **RF +16%**
	1,519,037	all-time high Nov 2019
	1,241,851 barrels/day	= 98% from Bakken and Three Forks
	31,219 barrels/day	= 2% from Legacy Pools

Revenue Forecast **1,100,000 barrels/day**

Crude Price ($barrel)	ND Light Sweet	WTI	ND Market
November	71.61	77.69	72.55 **RF +15%**
December	61.46	71.90	64.99 **RF +4%**
Today	66.50	76.64	71.57 **RF +2%**
All-time high (6/2008)	125.62	134.02	126.75
Revenue Forecast			**70.00**

Gas Production and Capture

November	104,075,685 MCF	=	3,469,190 MCF/Day	
95% Capture	98,405,522 MCF	=	3,280,184 MCF/Day	
December	109,264,074 MCF	=	3,524,648 MCF/Day	**+1.6%**
95% Capture	103,880,140 MCF	=	3,350,972 MCF/Day	

3,524,648 MCF/day all-time high production Dec 2023
3,350,972 MCF/day all-time high capture Dec 2023

Wells Permitted

November	51	
December	57	
January	78	All-time high 370 in 10/2012

Rig Count

November	36	
December	36	
January	38	
Today	37	All-time high 218 on 5/29/2012
Federal Surface	0	
New Mexico	101	

Waiting on Completions

November	345
December	331

Inactive

November	1,847
December	1,469

Completed

November	111
December	80 (Preliminary)
January	102 (Preliminary)

Producing

November	18,743	
December	18,753 (Preliminary)	**NEW** All-time high 18,753 December/2023
	16,560 wells	88% are now unconventional Bakken/Three Forks Wells
	2,193 wells	12% produced from legacy conventional pools

IIJA Initial Grant	Wells PA	Sites Reclaimed
January	1	0
February	4	0
March	1	0
April	8	0
May	17	0
June	12	1
July	15	5
August	15	13
September	0	14
October	0	10
November	0	0
December	0	1
Total	73	44

Weekly updates are available at Initial Grant Information - Plugging and Reclamation | Department of Mineral Resources, North Dakota

Fort Berthold Reservation Activity

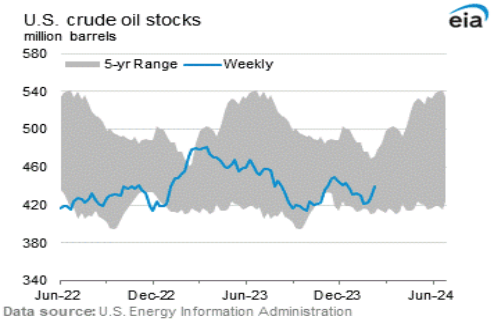
	Total	Fee Land	Trust Land
Oil Production (barrels/day)	143,665	57,858	85,807
Drilling Rigs	7	2	5
Active Wells	2,661	652	2,009
Waiting on Completion	19		
Approved Drilling Permits	138	9	129
Potential Future Wells	3,891	1,112	2,779

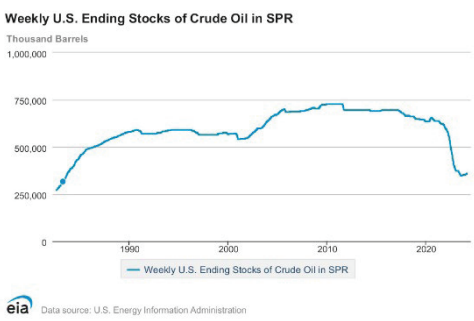
Comments:

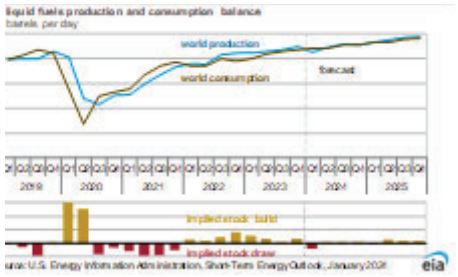
The drilling rig count remains low due to workforce, mergers, and acquisitions but is expected to return to the mid-forties with a gradual increase expected over the next 2 years.

There are 13 frac crews currently active.

Saudi Arabia and Russia announced continued oil production cuts amounting to 4.7 million bpd until the end of the year. Middle East conflict, Russia sanctions, China economic activity, potential recessions, and shifting crude oil supply chains continue to create significant price volatility.







Crude oil transportation capacity including rail deliveries to coastal refineries is adequate, but could be disrupted due to:

US Appeals Court for the ninth circuit upholding of a lower court ruling protecting the Swinomish Indian Tribal Community's right to sue to enforce an agreement that restricts the number of trains that can cross its reservation in northwest Washington state.

DAPL Civil Action No. 16-1534 continues, but the courts have now ruled that DAPL can continue normal operations until the USACOE EIS is completed. **Corrected Draft EIS was released 9/11/23. North Dakota submitted comments 12/13/23** Comments are available by request at Contact | Department of Mineral Resources, North Dakota (nd.gov).

Drilling - activity is expected to slowly increase with operators expected to maintain a permit inventory of approximately 12 months.

Seismic - 2 active, 1 recording, 0 NDIC reclamation projects, 0 remediating, 0 permitted, and 4 suspended surveys, 0 pending.

US natural gas storage is 11% above the five-year average. US and world crude oil inventories are below average and the US strategic petroleum reserve remains at the lowest level since 1983.

The price of natural gas delivered to Northern Border at Watford City has fallen to $1.17/MCF today (lowest since June 1996). There is continued oversupply in the Midwest US and the Biden Administration's decision to suspend LNG export permitting has created a huge nationwide oversupply. Current oil to gas price ratio is 61:1. The state-wide gas flared volume from November to December decreased 15.3 MMCFD to 174 MMCF per day, the statewide gas capture remained 95% while Bakken gas capture was unchanged at 95%. The historical high flared percent was 36% in 09/2011.

Gas capture details are as follows:

Statewide	95%
Statewide Bakken	95%
Non-FBIR Bakken	95%
FBIR Bakken	97%
Trust FBIR Bakken	97%
Fee FBIR	95%
Fertile Valley	73%
Burg	75%
Hanks	39%
Bar Butte	51%
Zahl	74%
Green Lake	68%
Little Muddy	71%
Round Prairie	33%
Painted Woods	85%
Ft. Buford	74%
Lake Trenton	79%
Sixmile	8%
Buford	6%
Briar Creek	88%

MONTHLY UPDATE

FEBRUARY 2024 PRODUCTION & TRANSPORTATION

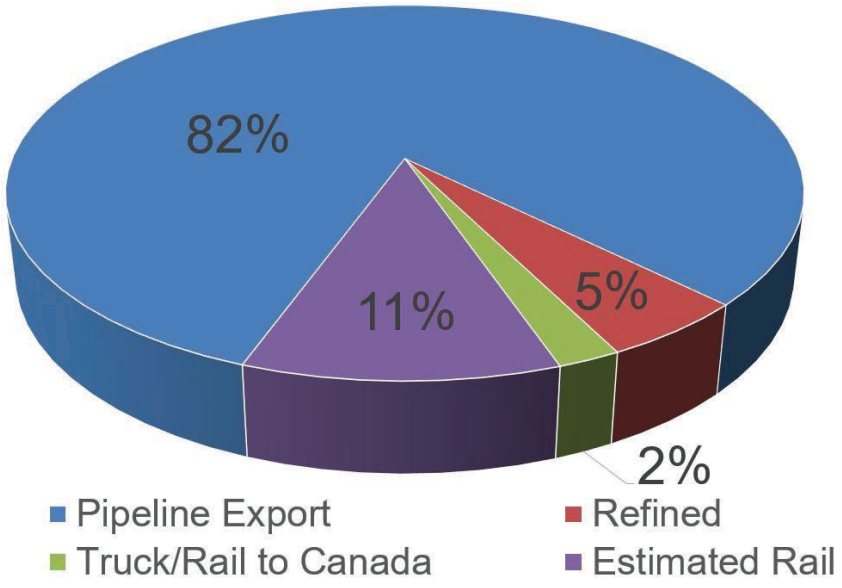
North Dakota Oil Production

Month	Monthly Total, BBL	Average, BOPD
Nov. 2023 - Final	38,367,281	1,278,909
Dec. 2023 - Prelim.	39,465,191	1,273,071

North Dakota Natural Gas Production

Month	Monthly Total, MCF	Average, MCFD
Nov. 2023 - Final	104,075,685	3,469,190
Dec. 2023 - Prelim.	109,264,074	3,524,648

Estimated Williston Basin Oil Transportation, Dec. 2023



CURRENT DRILLING ACTIVITY:

NORTH DAKOTA[1]

37 Rigs

EASTERN MONTANA[2]

2 Rigs

SOUTH DAKOTA[2]

0 Rigs

SOURCE (FEB 15, 2024):

1. ND Oil & Gas Division
2. Baker Hughes

PRICES:

Crude (WTI): $78.06

Crude (Brent): $82.84

NYMEX Gas: $1.59

SOURCE: BLOOMBERG (FEB 15, 2023 2PM EST)

GAS STATS*

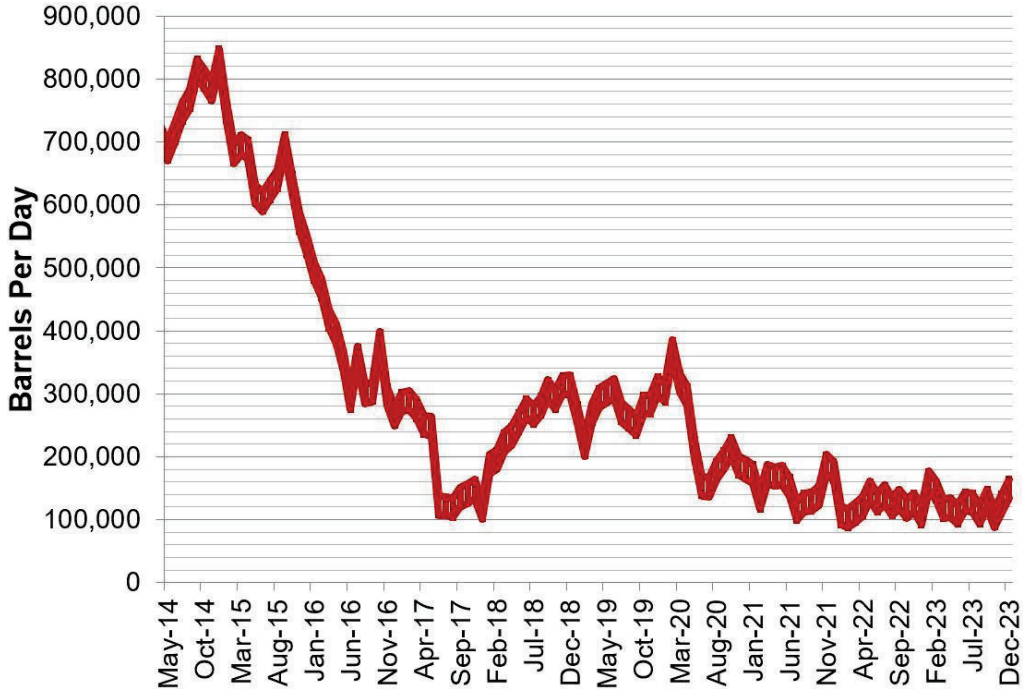
95% CAPTURED & SOLD

4% FLARED DUE TO CHALLENGES OR CONSTRAINTS ON EXISTING GATHERING SYSTEMS

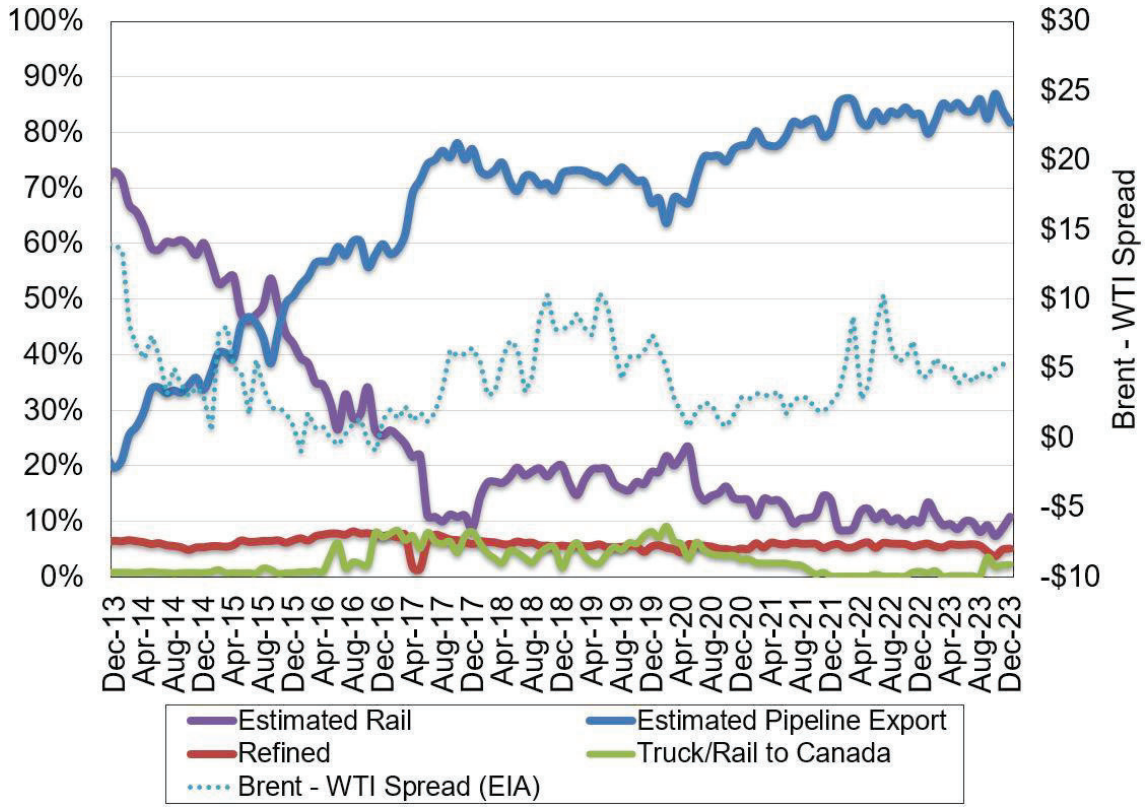
1% FLARED FROM WELL WITH ZERO SALES

DEC 2023 NON-CONF DATA

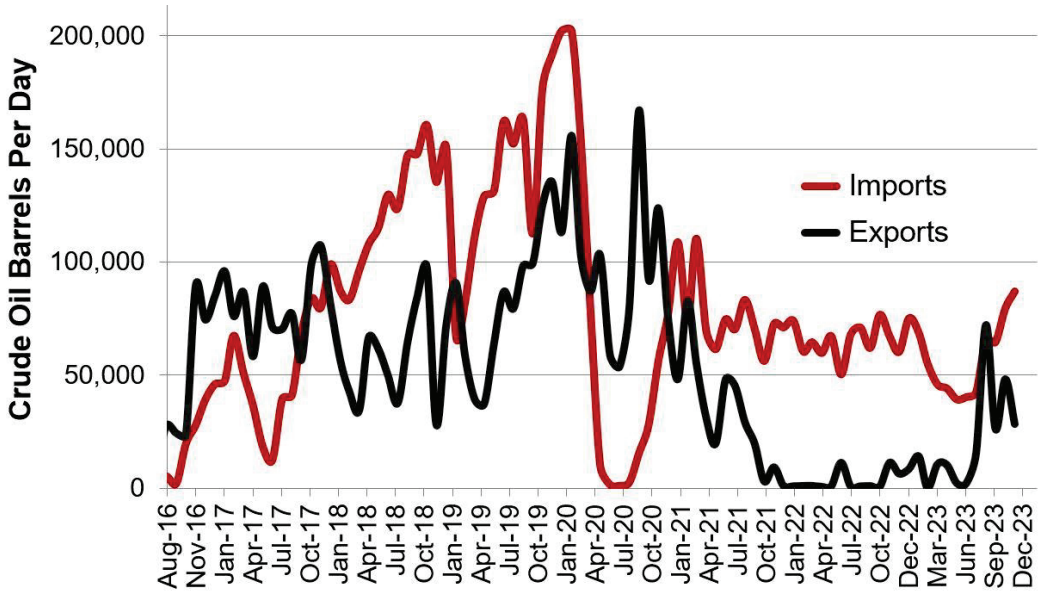
Estimated North Dakota Rail Export Volumes



Estimated Williston Basin Oil Transportation

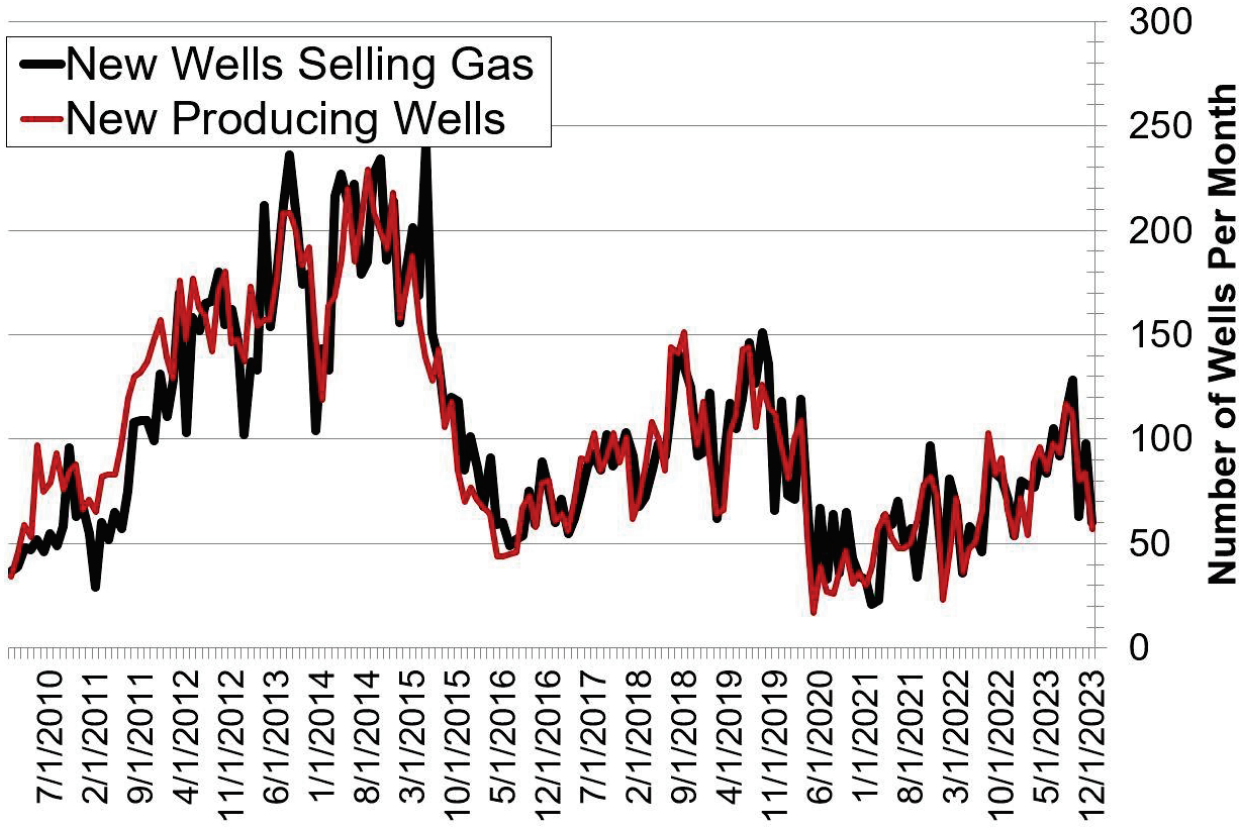


Williston Basin Truck/Rail Imports and Exports with Canada



Data for imports/exports chart is provided by the US International Trade Commission and represents traffic across US/Canada border in the Williston Basin area.

New Gas Sales Wells per Month



US Williston Basin Oil Production, BOPD

2022

MONTH	ND	EASTERN MT*	SD	TOTAL
January	1,091,931	51,895	2,709	1,146,535
February	1,095,503	51,175	2,742	1,149,420
March	1,129,936	54,768	2,709	1,187,413
April	908,697	54,121	2,338	965,156
May	1,062,228	53,276	2,648	1,118,152
June	1,099,366	63,256	2,764	1,165,386
July	1,073,624	60,614	2,774	1,137,012
August	1,075,801	60,587	2,756	1,139,144
September	1,126,138	58,103	2,679	1,186,920
October	1,122,122	54,284	2,621	1,179,027
November	1,098,415	57,734	2,682	1,158,831
December	957,864	56,738	2,199	1,016,801

2023

MONTH	ND	EASTERN MT*	SD	TOTAL
January	1,062,880	62,114	2,610	1,127,604
February	1,159,030	63,553	2,475	1,225,058
March	1,124,899	64,593	2,652	1,192,144
April	1,135,850	61,932	2,557	1,200,339
May	1,140,209	61,279	2,560	1,204,048
June	1,174,388	59,707	2,275	1,236,370
July	1,186,759	56,865	2,311	1,245,935
August	1,220,772	62,197	2,540	1,285,510
September	1,290,103	62,753	2,504	1,355,361
October	1,255,227	62,277	2,452	1,319,956
November	1,278,909	62,291	2,448	1,343,649
December	1,273,071			

** Eastern Montana production composed of the following Counties: Carter, Daniels, Dawson, Fallon, McCone, Powder River, Prairie, Richland, Roosevelt, Sheridan, Valley, Wibaux*

Transaction Overview

The Must-Own Permian Pure Play

Transaction Details

Purchase Price of $26bn

- $8 billion cash (subject to adjustment) and 117.3 million of Diamondback shares to be issued to Endeavor equity holders at closing
- Cash expected to be funded through a combination of cash on hand, borrowings under the Company's credit facility and/or proceeds from term loans and senior notes offerings

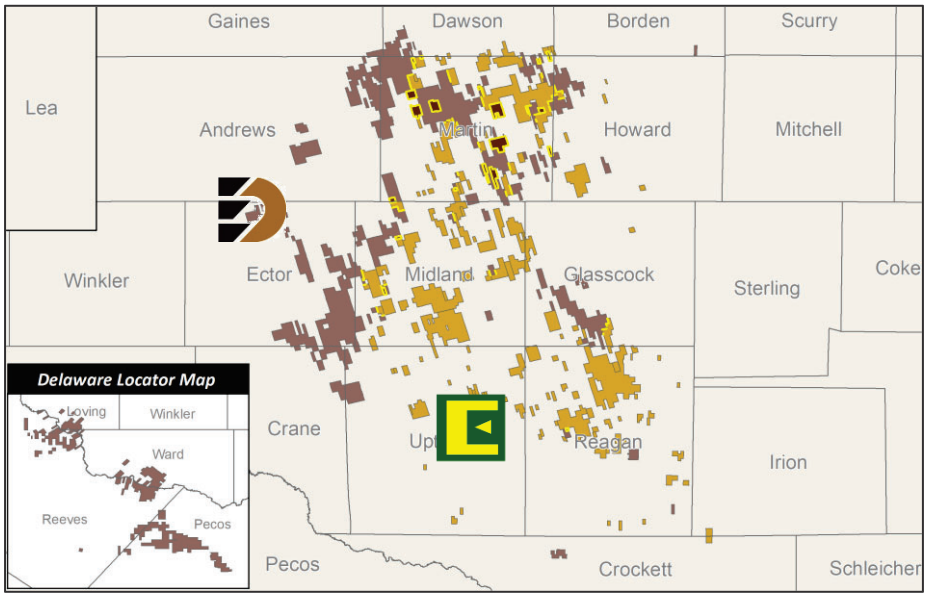
Transaction Highlights

- Combined pro forma scale of approximately 838,000 net acres and 816 MBOE/d of net production
- Best in class inventory depth and quality with approximately 6,100 pro forma core locations with break evens <$40 WTI
- Annual synergies of $550 million representing over $3 billion in NPV10 over the next decade
- Substantial near and long term financial accretion with ~10% free cash flow per share accretion expected in 2025

Conditions and Timing

- Subject to approval by Diamondback stockholders and customary regulatory approvals
- Closing expected in Q4 2024, subject to satisfaction of customary closing conditions

Diamondback Pro Forma Acreage



	DIAMONDBACK ENERGY	Endeavor Energy Resources	DIAMONDBACK ENERGY Pro Forma
Enterprise Value	$36.2bn(1)	~$26.0bn	~$62.2bn
Q4 2023E Production (MBO/d / MBOE/d)	273 / 463	195 / 353	468 / 816
Base Total Decline (%)	~31%	~32%	~31%
Net Midland Acreage	350k	344k	694k
Total Permian Acres	494k	344k	838k
Gross Core Locations (Sub $40 B/E)	~3,800	~2,300	~6,100

Combination creates premier Permian pure play, well positioned to deliver its low cost operating structure on a world class asset

Source: Company data and filings.
(1) Market data as of 2/9/2024.

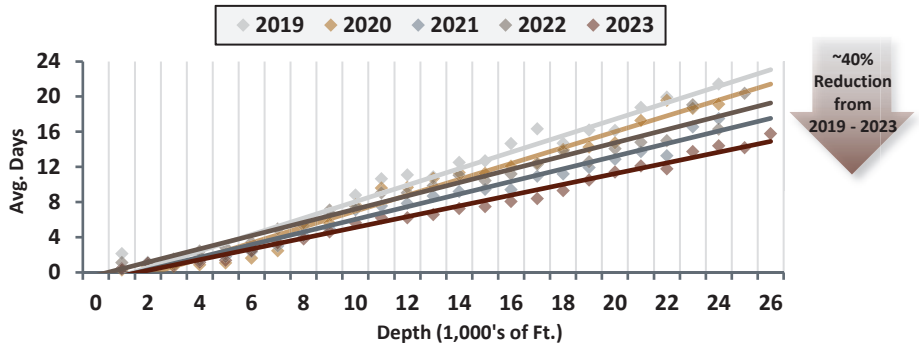
DIAMONDBACK ENERGY

Expected to Deliver Best in Class Execution

The Must-Own Permian Pure Play

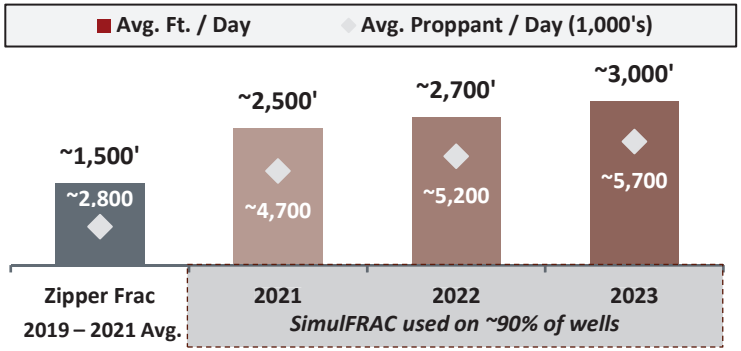
World Class Resource | **Low Cost Operations** | Permian Leader | Financial Strength

Midland Basin Avg. Drilling Days to Total Depth by Year



- Organizational culture focused on operational efficiency continues to deliver consistent, and meaningful, cycle time reductions year over year
- Realized reductions in drilling cycle time of over 40% since 2019
- Intense focus on the details, contributing to incremental improvement on a large scale basis
- Scalable, proven operating model poised to deliver best in class results over larger Midland asset footprint

Midland Basin SimulFRAC Completion Efficiency



- Implementation of SimulFRAC completions has been a step change in completion cycle time, and will provide upside to current Endeavor D&C
- SimulFRAC, along with Diamondback's cultural focus on operational efficiency, has led to a doubling of completion lateral feet per day per crew since 2019
- Diamondback's commitment to operational excellence, and proven ability to integrate and execute, will provide investors with unparalleled opportunity in the Midland Basin

Diamondback has built a scalable, low cost operating model ready to deliver on the pro forma asset

Source: Company data and estimates as of 11/3/2023.

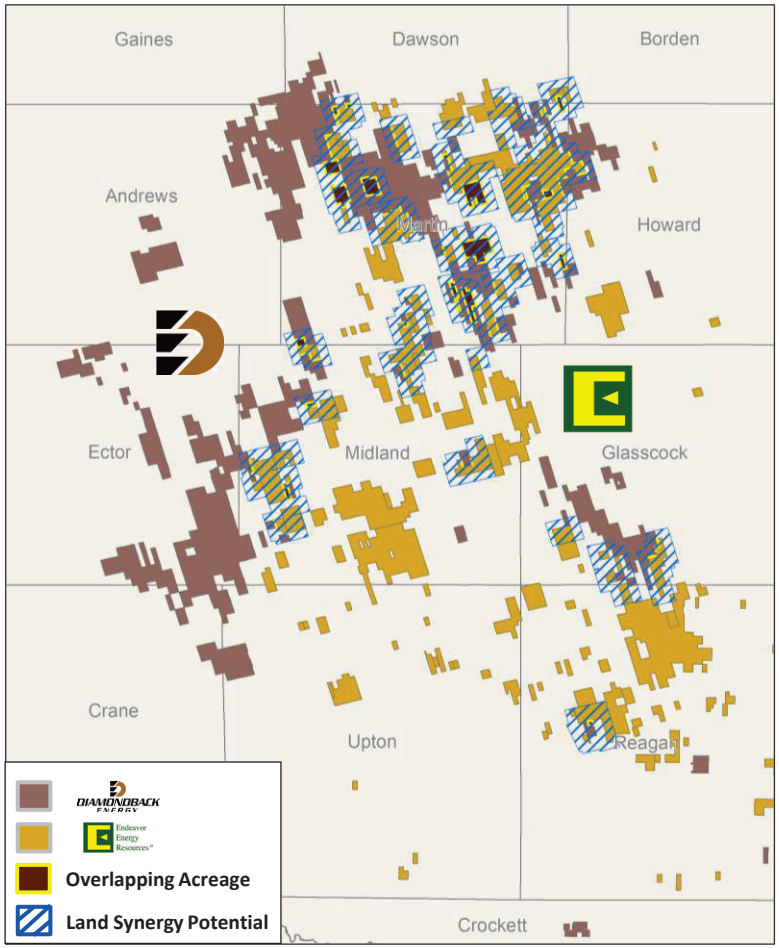
DIAMONDBACK ENERGY

Industrial Logic Drives Significant, Tangible Synergies

The Must-Own Permian Pure Play

World Class Resource | **Low Cost Operations** | Permian Leader | Financial Strength

Capital and Operating Costs	◆ Operational synergies resulting from Diamondback's capital cost structure and lower go forward ◆ Expect combined cash operating cost reductions of 5-10% per BOE	**$325mm**
Capital Allocation and Land	◆ Longest duration of sub $40 oil breakeven locations of any North American oil weighted independent oil and gas company allows for optimized capital allocation across a broader footprint ◆ Overlapping acreage adds incremental working interest ◆ Over 100,000 proximate gross acres enables more capital efficient development, including 15,000'+ laterals and shared infrastructure	**$150mm**
Financial and Corporate Costs	◆ Enhanced FCF profile allows for rapid debt reduction and size and scale of pro forma business expected to enhance credit ratings and lower cost of capital ◆ Reduction of overlapping overhead and corporate cost	**$75mm**
Value Creation	◆ Meaningful mineral and midstream value creation potential	**Additional Upside**



Meaningful annual synergy potential of ~$550mm representing upwards of $3bn[(1)] of total value over the next decade

(1) PV-10 over the next decade.

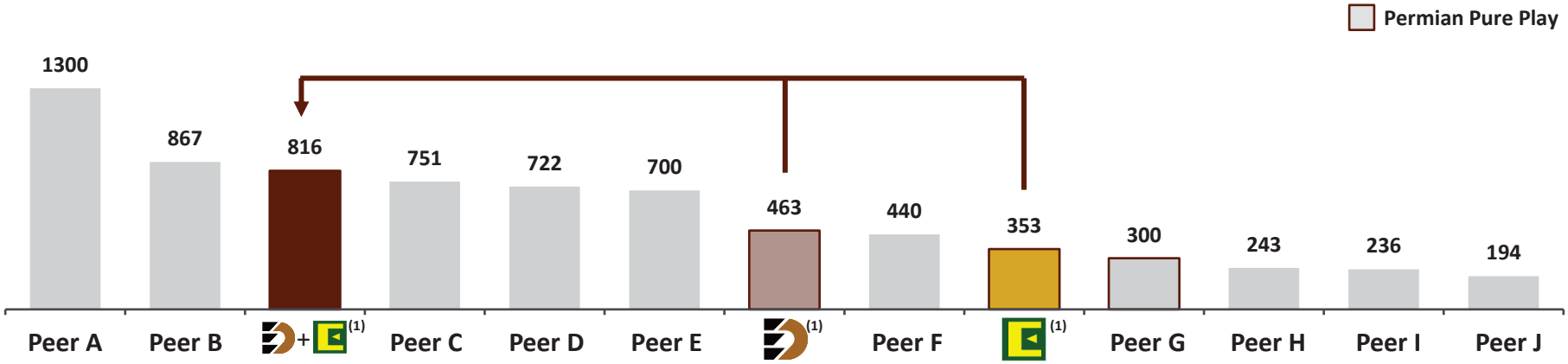
DIAMONDBACK ENERGY

Emergence of a World Class Independent

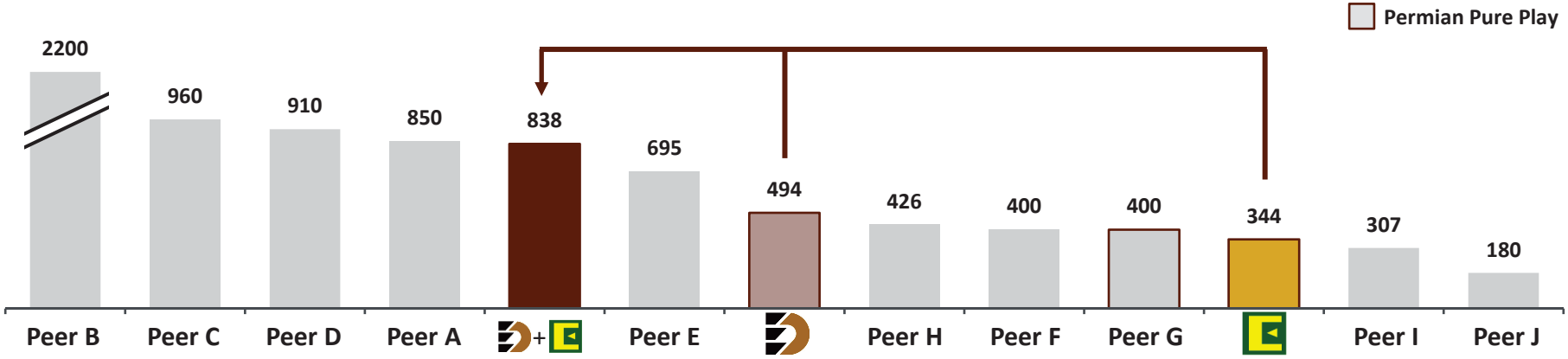
The Must-Own
Permian Pure Play

World Class Resource | Low Cost Operations | **Permian Leader** | Financial Strength

Current Permian Net Production (MBOE/d)



Permian Net Acres (M)



Note: Peer group includes APA, COP, CTRA, CVX, DVN, EOG, OVV, OXY, PR and XOM.
(1) Q4 2023 production.

DIAMONDBACK ENERGY

SAF Group created transcript of comments by Lynn Helms (North Dakota Director of Mineral Resources) on the monthly The Directors Cut webcast. https://www.dmr.nd.gov/dmr/oilgas/directorscut

Items in "italics" are SAF Group created transcript.

On why North Dakota oil production was up in 2023, at 1:30 min mark, Helms "*what can we attribute that to? There are a couple of things. One of the biggest factors is our Drilled but Uncompleted Wells, our DUC wells, that inventory has been exhausted. So there were a couple hundred DUC wells that were completed with modern frack technology during the year. On top of that, we saw a major shift to 3-mile laterals and newer completion technologies in the Tier 2 area. So all of the drilling in the Tier 2 geology has turned out to be every bit as productive as what we saw in the core in the Tier 1 geology*. "

After meeting with big Bakken players at NAPE in Houston, he expects small growth in 2024, at 12:05 min mark, Helms "*So let's talk a little bit about the trip to Houston. I got to sit in the CEO's office or in a boardroom with 12 of our top producing companies and talk about their plans for 24, 25, 26. For the most part, not expecting a lot of growth but, based on the numbers they each gave me, somewhere between 10,000 , 15,000 b/d increase in 2024. So we should, that's on the low side, so we should see one more drilling rig, maybe two more drilling rigs in 2024. Somewhere between 10,000 and 15,000, maybe twice that much in terms of oil production. We should hit that 1.3 million b/d number*."

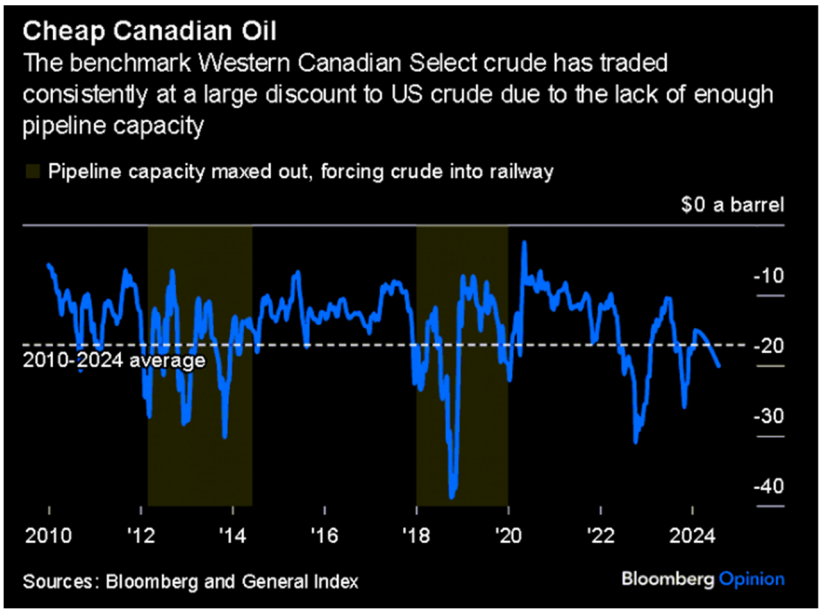
More are moving to 3-miles wells. At 13:25 min mark, Helms "*we're seeing more and more companies, for example, one of our larger operators, actually two of our larger operators said 75% of their wells in 2024 are going to be 3-mile laterals. And they're respacing everything they can to 1920's*." [Note I assume 1920s refers to acres so 3 adjoining sections ie. 3 miles by 1 mile]

On the potential for refracks and twin wells, at 22:50 min mark, Helms "*let me kind of start. I was a little surprised, I was expecting more discussion on Enhanced Oil Recovery. What I heard a lot more about was our operators believe there is a lot of unstimulated reservoir in the Bakken. At the heels and toes of the wells. In the section lines. And even in all those wells that were drilled and fracked from 2006 thru 2016, maybe 2020. Lots and lots of unstimulated reservoir rock that they want to focus on before they jump to enhanced oil recovery. How are they going to do that? Well, things like E-frack and Octiv AI. A lot of discussion about refracking. And a lot of excitement about the tax incentive the State put in place in wanting to improve and grow that. Quite a bit of excitement about doing things like drilling twin wells. So refracks sometimes have a lot of mechanical risk associated with them, working in that old well bore. But for not much more money, you can exit the old well bore [assume he means at the heel] and drill right parallel to it and get to new unstimulated rock using today's stimulation techniques. And so a well that was fracked with swell packers and sliding sleeves in the late teens in North Dakota would have had maybe 50 fracture entry points. A well today would have 250. And so the same amount of frack fluid, same amount of sand, different mixtures, there's some new surfactants, chemicals to go into the frack fluid, one of them is called Boost, invented by Haliburton. And even our local company, Creedence, has invented some surfactants and they're doing extremely well. So that's the unstimulated reservoir technology.*"

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

A $10 Billion Mistake That Will Revive Canadian Oil: Javier Blas
2024-02-12 06:54:09.361 GMT

By Javier Blas
(Bloomberg Opinion) -- For the last decade, the Canadian oil industry has experienced firsthand the meaning of "with friends like these, who needs enemies." To its south is an obvious export route and a huge client: the US. But American courts and politicians blocked new oil pipelines, strangling the industry to the north.
The bottleneck has cost Canadian oil companies billions of dollars in forgone revenue, delaying the industry's growth. With existing pipelines full, any extra barrels have had to move via costly railway, depressing their value. At the worst point in late 2018, Canadian crude sold at a discount of $50 a barrelless than American petroleum.



After years in the wilderness, the Canadian oil sector has now solution. It's an expensive one, however. At a cost of C$35 billion ($26 billion), the government, rather than the private sector, has built a pipeline linking the oilfields in Alberta with a port near Vancouver on the Pacific coast. The pipeline is nearly finished. If all goes as planned, the first barrels could be moving before June. With it, the discount of Canadian oil should narrow.
The novelty of the pipeline is that it will be the first significant outlet for Canada to export its oil beyond its southern neighbor. Reaching the Pacific, Canadian oil would be able to flow via tanker to the growing energy markets of Asia, including China.
When in 2018 Canadian Prime Minister Justin Trudeau nationalized the project, his government labelled it a "sound financial opportunity." The plan was for the state to build the new pipeline, called Trans Mountain Expansion (TMX), and then sell it back to private investors, hopefully making a buck. Seen

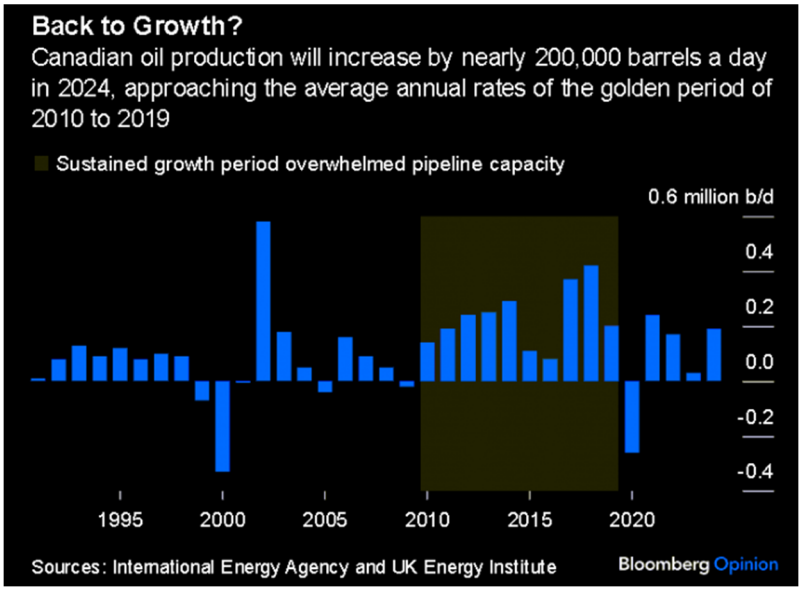
it through that prism, the pipeline has been a colossal taxpayer-funded mistake.

Marred by cost overruns, TMX is worth a fraction of what the government has spent building it. Speak to anyone in the sector, and the estimates of its value vary between C$10 billion and C$25 billion. Take the middle point, put in American dollars, and that's roughly a $10 billion bonfire — equivalent to about $250 per Canadian. From the seemingly tree-hugging prime minister, that's a quite a government handout to the petroleum industry.

Despite its colossal cost, TMX had two advantages that may compensate for the financial folly. One is that it's likely to narrow the differential between Canadian and US crude, leading to higher revenue for everyone involved in the petroleum industry — and that includes provincial governments which take royalties. How much the discount would narrow is hotly debated. On average, it has averaged minus $17 a barrel between 2010 and 2024. The consensus is, that's going to trend now toward minus $10 a barrel. Crucially, TMX probably means that the differential will no longer suffer from its perennial blowouts, when it has widened to as much as minus $40 and even minus $50 a barrel. Second, it should facilitate investment in new production, leading to higher tax revenue.

This matters: Although often overlooked, Canada is the world's fourth-largest oil producer, pumping more than any member of the OPEC+ cartel barring Saudi Arabia and Russia. Despite all the obstacles, Canadian companies have nearly doubled their production over the last two decades. More oil is now under way.

After last year's stagnation, Canadian oil production is set to increase in 2024 by nearly 200,000 barrels a day, matching the average annual growth of its heyday between 2010 and 2015. If the increase is achieved, Canadian petroleum output will reach this year an annual average of six million barrels a day — a record high.



The 2024 growth rate is, in part, a mirage. Heavy maintenance and wildfires depressed output last year, so the increase is a mix of both actual growth and a one-off recovery. Still, it indicates that when new pipeline capacity emerges, Canadian oil producers have quick options to boost output. Rather than invest in new mega-projects, companies are expanding their current operations into nearby areas, a faster and cheaper way of growing.

Put all the extra US and Canadian oil together, and the two North American allies will pump one-in-four barrels worldwide in 2024. Let me emphasize this: A quarter of the world's oil will come from Canada and the US this year. Think about the magnitude of that market share, and now think about the climate-change policies — and politics — of both Trudeau and US President Joe Biden. The gap between what both have campaigned on — green investment and energy transition — and the reality on the ground is large.

The extra 200,000 barrels a day of Canadian oil in 2024 is equal to about 15% of the incremental demand for oil expected this year. As such, it's an important cog of the global supply-and-demand balance. The more Canada grows, the less room there is for Saudi Arabia and its OPEC+ allies.

The growth in Canadian oil production may not last long — rather than decades, think about years. The TMX is adding about 600,000 barrels a day of transportation capacity. Part of it will be filled up with oil that today flows into the US via railway. Growth in 2024 and and in the following two years will fill another bit. By 2025 or 2026, many in the industry believe there will be little pipeline capacity left. The problem? As Rory Johnston, a Toronto-based commodity analyst puts it, "the pipeline of pipelines is empty."

TMX will likely be the last of the big Canadian oil pipelines. Once full, any extra Canadian crude would have to find its way to the market via railway. Over the next two to three years, the oil market will witness the last big increase in Canadian petroleum production. Still, after years of pain, 2024 should be celebrated in the Albertan oilfields as a bumper growth year. A last hurrah, perhaps.

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The Trans Mountain pipeline consist of two conduits. The smaller one, in operation since 1953, has a capacity of 300,000 barrels a day. The new, and largely parallel, pipeline expansion would add an extra 590,000 barrels a day. The 1,150-kilometer pipeline links Strathcona County, near Edmonton, in the province of Alberta, with Burnaby, near Vancouver, in the province of British Columbia.

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02/13/2024 07:28:04 [BN] Bloomberg News

Russia's Seaborne Crude Exports Retreat From Seven-Month High

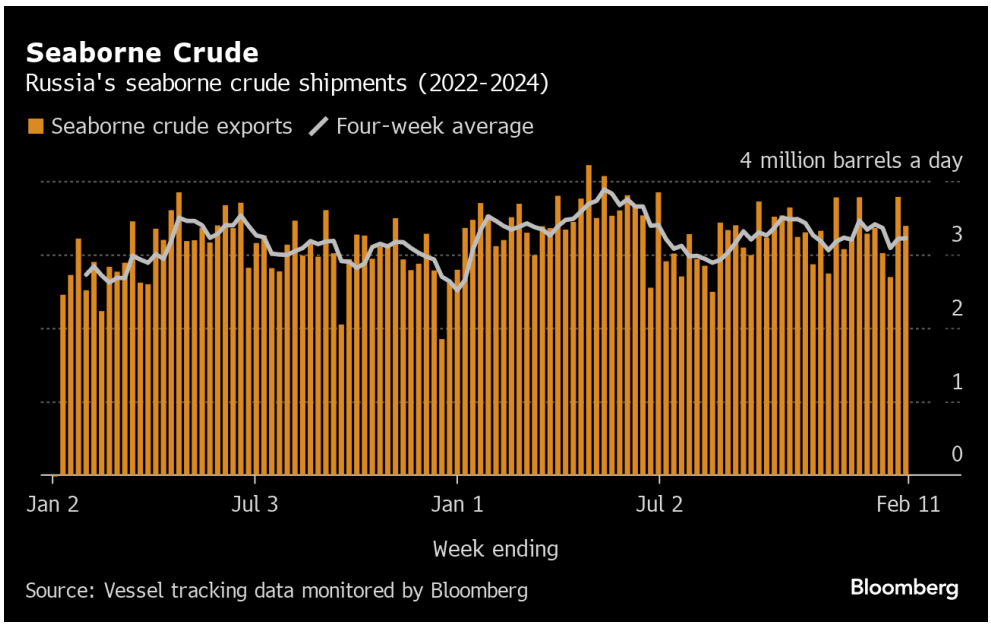
Still, disruptions to fleet moving nation's oil not yet materially affecting flows

By Julian Lee

(Bloomberg) -- Russia's seaborne crude shipments slipped back from a seven-month high — but remained above their 52-week average — as flows settled down after a period in which storms and maintenance caused volatility in the nation's seaborne exports.

The drop in shipments saw the weekly flow fall by about 290,000 barrels a day in the week to Feb. 11. That put exports 200,000 barrels a day above the level Moscow has pledged to its OPEC+ partners for the first quarter on a weekly basis. Despite the fall in the weekly figure, the less volatile four-week average rose by about 30,000 barrels a day, putting it very close to the target.

So far, increased pressure from the US Treasury on ships carrying Russian oil appears to be hitting the nation's own vessels and the shadow fleet of aging tankers Moscow relies on — but it doesn't appear to be curtailing cargo loadings. Since early October, the US has sanctioned 50 Russia-friendly tankers and about half of those appear to have experienced at least some level of disruption.



Russia has said it will cut oil exports by 500,000 barrels a day below the May-June average during the first quarter, after several other members of the OPEC+ group agreed to make further output curbs. The Russian cut will be shared between crude shipments, which will be reduced by 300,000 barrels a day, and refined products.

Most Russian crude cargoes continue to run the gauntlet of the southern Red Sea, despite attacks on merchant vessels from Yemen-based Houthi rebels. The Houthis assured Russia and China that the group is "ready to ensure the safe passage of their ships in the Red Sea." However, the Aframax tanker La Pride, hauling a cargo of Urals from the Baltic to China, made a U-turn close to the Bab el-Mandeb Strait on Feb. 7 and remains idling in the Red Sea.

Russia is still struggling to sell its Sokol crude into India, its main market for the grade. Twenty-two cargoes, totaling about 15.5 million barrels, are sitting on tankers that appear to be going nowhere, including four 700,000 barrel cargoes that are awaiting transfer from the shuttle tankers that haul them from Sakhalin Island. Three ships have headed back to India, although only one had offloaded its cargo by Monday, while four have gone to China.

The gross value of Russia's crude exports slipped to $1.67 billion in the seven days to Feb. 11 from a revised $1.85 billion the previous week. Meanwhile four-week average income rose by $38 million to $1.55 billion a week.

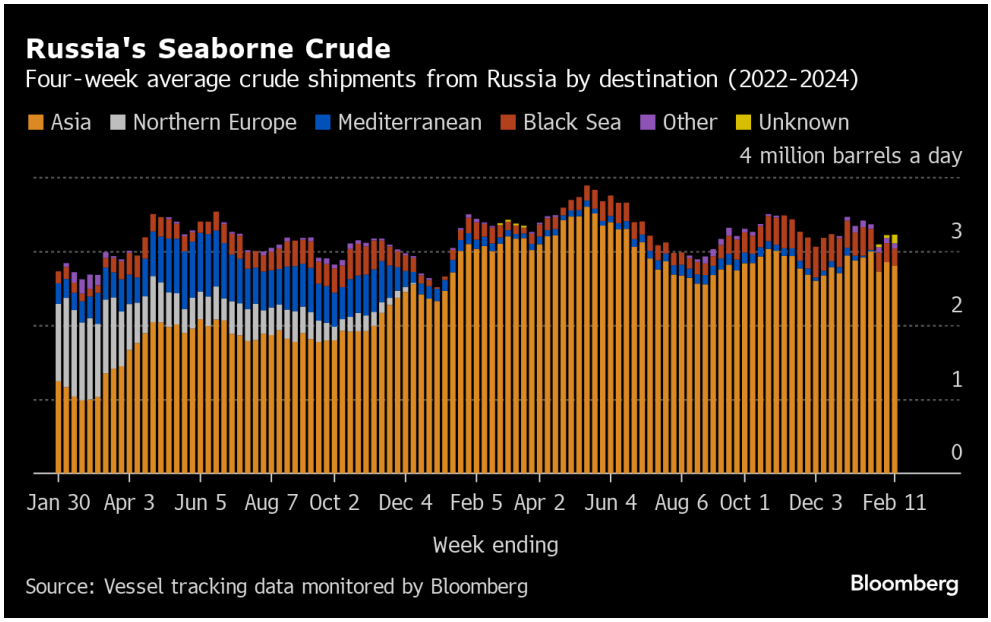
Flows by Destination

Russia's seaborne crude flows in the four weeks to Feb. 11 edged higher to 3.25 million barrels a day. That was up from a revised 3.21 million barrels a day in the period to Feb. 4. Shipments were about 340,000 barrels a day below the average seen in May and June, or about 40,000 barrels a day below Russia's first quarter target. Weekly shipments dropped to 3.49 million barrels a day from a revised 3.78 million barrels a day during the period to Feb. 4, which was the highest since July.

The four-week average continues to be affected by the storm that closed Kozmino for five days in the week to Jan. 28 and disruptions to shipments from Ust-Luga caused by a drone strike on a neighboring condensate refinery, followed by several days of maintenance. AS a result, the figure is likely to rise in each of the next two weeks.

About 1.8 million barrels of Russian crude is heading to the Caribbean on a VLCC and is due to arrive at its unspecified destination in the region on Feb. 18, according to navigation signals from the ship.

A fourth cargo is heading to Tema in Ghana, where a new refinery built by Chinese investors has begun refining crude. The plant will initially process 40,000 barrels a day, rising to 100,000 barrels with completion of a second phase, due by the end of 2025.



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

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

- **Asia**

Observed shipments to Russia's Asian customers, including those showing no final destination, edged lower to 2.8 million barrels a day in the four weeks to Feb. 11, down from 2.85 million in the previous four–week period.

About 1.16 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 about 730,000 barrels a day.

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

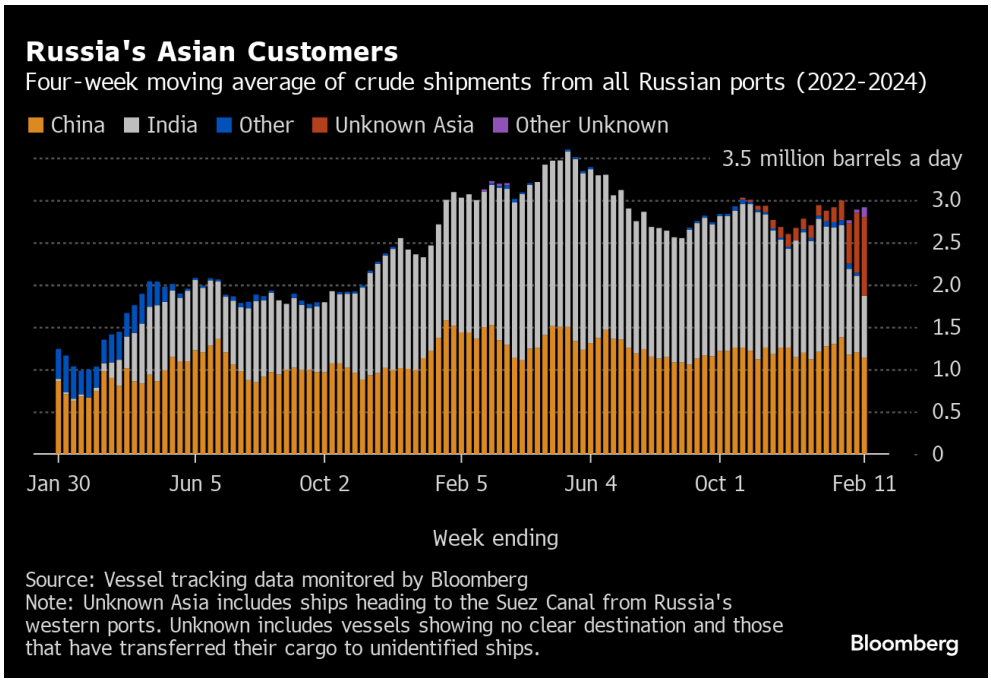
The equivalent of about 930,000 barrels a day was on vessels signaling Port Said or Suez in Egypt, or are expected to be transferred from one ship to another off the South Korean port of Yeosu. Those voyages typically end at ports in India or China and show up in the chart below as "Unknown Asia" until a final destination becomes apparent. This figure includes about 14 million barrels of Sokol crude originally destined for India that has been stuck on ships since late November. Only one of the three tankers that have headed back toward India has offloaded its cargo.

Several subsequent cargoes of Sokol have been delivered to ports in China. The country typically takes one or two

cargoes a month, out of the nine usually loaded. So far, it has taken four of the cargoes loaded in January, while two more await transfer from the shuttle tankers used to haul shipments from the export terminal at De Kastri.

The "Other Unknown" volumes, running at about 115,000 barrels a day in the four weeks to Feb. 11, are those on tankers showing no clear destination. Most of those cargoes originate from Russia's western ports and go on to transit the Suez Canal, but some could end up in Turkey. Others could be moved from one vessel to another, with most such transfers now taking place in the Mediterranean, off the coast of Greece.

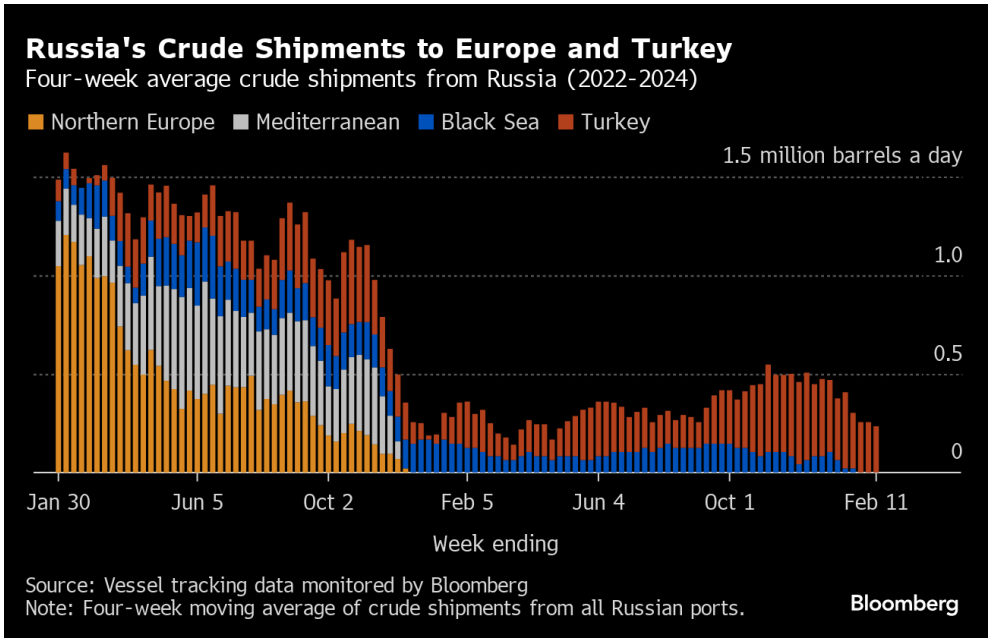
Ship-to-ship transfers of crude in the Laconian Gulf off Greece have picked up after several months of inactivity. The VLCC Ligera, holding about 1.8 million barrels, is heading for the Caribbean after taking on cargoes from two smaller tankers. A second supertanker, Achelous, is heading through the Red Sea to China.



Europe and Turkey

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

Flows to Bulgaria appear to have halted at the end of last year, even sooner than the March deadline to end imports approved by Bulgaria's parliament. That leaves Turkey as the only short-haul market for shipments from Russia's western ports.



Exports to Turkey were edged lower to about 240,000 barrels a day in the four weeks to Feb. 11. That's the lowest since September. The recent surge in flows, which took them to more than 440,000 barrels a day in the four weeks to Dec. 12, appears to have waned.

Flows to Bulgaria remained at zero in the most recent four-week period. No cargoes of Russian crude have been delivered to the port of Burgas since the end of 2023.

No Russian crude was shipped to northern European countries, or those in the Mediterranean in the four weeks to Feb. 11.

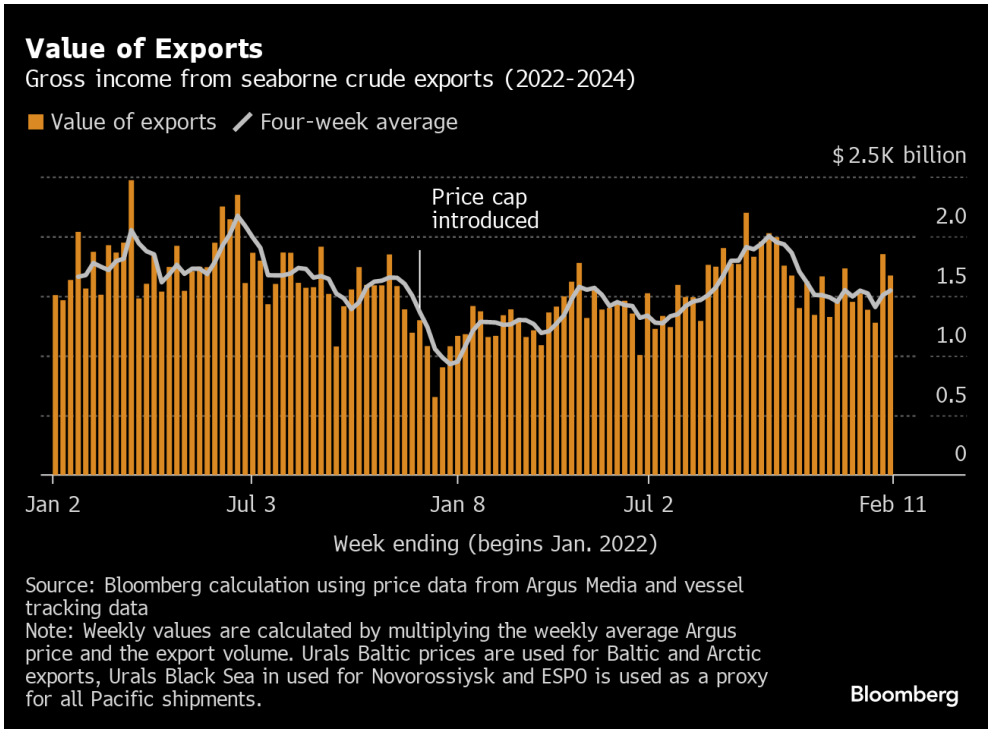
Vessel-tracking data are cross-checked against port agent reports as well as flows and ship movements reported by other information providers including Kpler and Vortexa Ltd.

Export Value

Following the abolition of export duty on Russian crude, we have begun to track the gross value of seaborne crude exports, using Argus Media price data and our own tanker tracking.

The gross value of Russia's crude exports slipped to $1.67 billion in the seven days to Feb. 11 from a revised $1.85 billion the previous week. Meanwhile four-week average income rose by $38 million to $1.55 billion a week. The four-week average peaked at $2.17 billion a week in the period to June 19, 2022. The highest it reached last year was $2 billion a week in the period to Oct. 22.

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



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

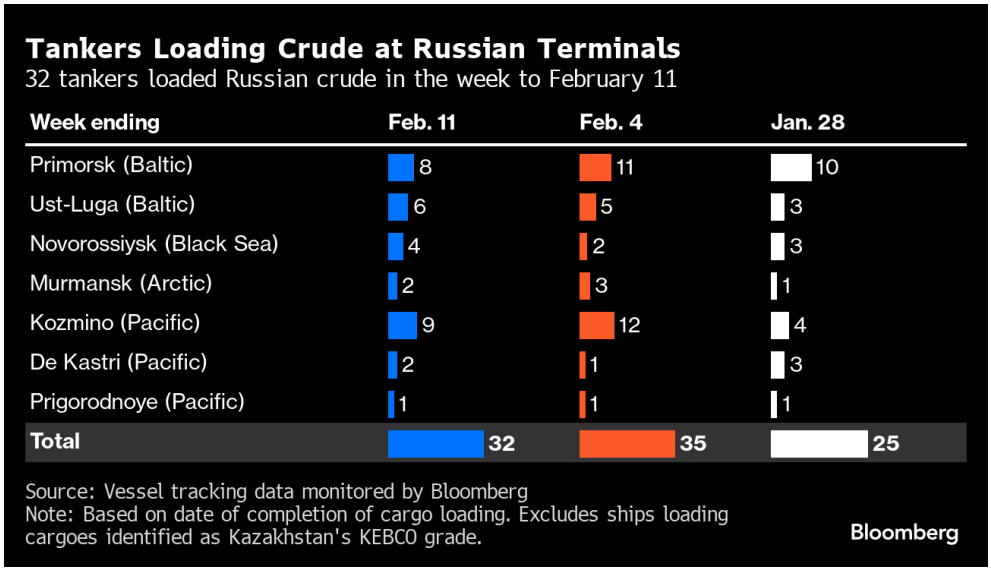
Export duty was abolished at the end of 2023 as part of Russia's long-running tax reform plans.

Ships Leaving Russian Ports

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

A total of 32 tankers loaded 24.4 million barrels of Russian crude in the week to Feb. 11, vessel-tracking data and port agent reports show. That was down by about 2.1 million barrels from the revised figure for the previous week.

Shipments from Russia's two main export terminals, Primorsk on the Baltic and Kozmino on the Pacific, slipped back from the highs seen the previous week.



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

NOTES

Note: This story forms part of a weekly series tracking shipments of crude from Russian export terminals and the gross value of those flows. Weeks run from Monday to Sunday. The next update will be on Tuesday, Feb. 20.

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

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

--With assistance from Sherry Su.

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Oil Market Highlights

Crude Oil Price Movements

The OPEC Reference Basket (ORB) rose by $1.04, or 1.3%, m-o-m in January to average $80.04/b. Oil futures prices increased, with the ICE Brent front-month contract rising by $1.83, or 2.4%, m-o-m to $79.15/b, and the NYMEX WTI front-month contract rising by $1.74, or 2.4%, to average $73.86/b. The DME Oman front-month contract increased by $2.12, or 2.8%, m-o-m, to settle at $78.95/b. The front-month ICE Brent/NYMEX WTI spread further widened in January by 9¢ to average $5.29/b. The market structure of oil futures prices strengthened, with the front of forward curves for all major benchmarks flipping into backwardation. Selling pressure in oil futures markets eased, and money managers rebuilt part of their bullish positions in ICE Brent.

World Economy

The world economic growth forecast now stands at 2.7% for 2024 and 2.9% in 2025, following slight upward revisions for each year compared with the previous month's assessment. US economic growth for 2024 is revised up to 1.6%, as healthy momentum from 2H23 is expected to continue. The forecast for 2025 is also revised up from the previous assessment to 1.7%. The economic growth forecast for the Eurozone remains at 0.5% for 2024 and 1.2% for 2025, while Japan's economic growth forecast is unchanged at 0.9% in 2024 and 1% in 2025. China's economic growth forecast remains at 4.8% in 2024 and 4.6% in 2025. Meanwhile, India's economic growth forecast remains at 5.9% for 2024 and 6.1% in 2025. Brazil's economic growth forecast for 2024 is revised up to 1.5%, while the forecast for 2025 stays unchanged at 1.9%. Russia's economic growth forecast for 2024 is revised up to 1.7%, with growth in 2025 unchanged at 1.2%.

World Oil Demand

The global oil demand growth forecast for 2024 remains unchanged from last month's assessment at 2.2 mb/d. A slight upward adjustment to the US forecast has been made given the improving expectation for the US economy, which will have a positive impact on oil demand. This offsets the downward revision made in OECD Europe. The OECD is projected to expand by around 0.3 mb/d and the non-OECD by about 2.0 mb/d this year. In 2025, global oil demand is expected to see a robust growth of 1.8 mb/d, y-o-y, unchanged from the last month's assessment. The OECD is forecast to grow by 0.1 mb/d, while demand in the non-OECD is forecast to increase by 1.7 mb/d.

World Oil Supply

Non-OPEC liquids production in 2024 is expected to grow by 1.2 mb/d, revised down from the previous month's assessment. The main drivers for liquids supply growth in 2024 are expected to be the US, Canada, Guyana, Brazil and Norway. The forecast for non-OPEC liquids supply growth in 2025 stands at 1.3 mb/d, unchanged from the previous month, mainly driven by the US, Brazil, Canada, Norway, Kazakhstan and Guyana. Separately, OPEC natural gas liquids (NGLs) and non-conventional liquids are forecast to grow by around 64 tb/d this year to average 5.5 mb/d, followed by a growth of 110 tb/d in 2025 to average 5.6 mb/d. OPEC-12 crude oil production in January decreased by 350 tb/d, m-o-m, to average 26.34 mb/d, according to available secondary sources.

Product Markets and Refining Operations

In January, refinery margins showed solid gains on the US Gulf Coast (USGC), as reductions in product supplies caused by weather-related refinery outages constrained product stock builds ahead of the heavy maintenance season. In Singapore, gains were considerably more limited, as refinery maintenance in the region restricted product output, despite considerable growth in naphtha stocks. However, in Rotterdam, margins declined, with seasonal overall product market weakness having offset the bullish market sentiment derived from slower middle distillate imports amid ongoing geopolitical tension. Global refinery intake declined in January following a sharp upward trend witnessed over the previous two consecutive months to show a 1.1 mb/d decline in January, averaging 80.8 mb/d, compared with 81.9 mb/d the previous month. Nevertheless, January intake was still 1.1 mb/d higher relative to the same time a year earlier.

Tanker Market

Dirty freight rates rose in January, amid trade flow disruptions that further increased tonnage-mile demand. VLCC spot freight rates on the Middle East-to-West route increased by 24%, m-o-m, while a more modest gain of 5% was seen on the Middle East-to-East route. Suezmax rates on the USGC-to-Europe route increased by 34%, m-o-m, while Aframax rates around the Mediterranean rose by 26%, m-o-m, with gains reflecting tightening availability lists. Clean rates saw mixed movement. East of Suez rates surged by 45%, as trade disruptions triggered some rebooking, while West of Suez rates fell by 10%.

Crude and Refined Products Trade

Preliminary data shows that US crude imports averaged 6.2 mb/d in January, while US crude exports remained steady at strong levels in January, averaging 4.2 mb/d. China's crude imports averaged 11.4 mb/d in December, representing an increase of 1.1 mb/d, m-o-m. Gains came as the government provided advanced crude import quotas for 2024, allowing refiners to boost inflows in the final weeks of the year. India's crude imports in December reached a six-month high of 4.7 mb/d, supported by seasonal trends. Japan's crude imports averaged 2.7 mb/d in December, representing a decline of more than 10% compared with December 2022. OECD Europe crude imports are estimated to fluctuate around the turn of the year with inflows strengthening in December before falling back in January.

Commercial Stock Movements

Preliminary data for December 2023 shows total OECD commercial oil stocks down by 22.6 mb, m-o-m. At 2,767 mb, they were 159 mb below the 2015-2019 average. Within the components, crude and product stocks fell by 11.3 mb, m-o-m, each. OECD commercial crude stocks stood at 1,342 mb in December. This was 86 mb lower than the 2015–2019 average. OECD total product stocks stood at 1,425 mb. This was 73 mb below the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks dropped by 0.4 days, m-o-m, in December, to stand at 60.6 days. This is 1.7 days less than the 2015-2019 average.

Balance of Supply and Demand

Demand for OPEC crude in 2024 stands at about 28.4 mb/d, which is 1.0 mb/d higher than the estimated level for 2023. Demand for OPEC crude in 2025 is expected to reach about 28.8 mb/d, an increase of about 0.5 mb/d over the forecast 2024 level.

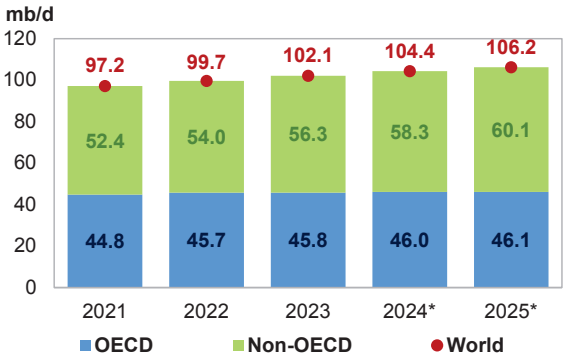
Feature Article

Review of global oil demand trends

Oil demand grew by a considerable 2.5 mb/d in 2023, mostly driven by solid economic activity in non-OECD countries, led by a strong rebound from COVID-19-related lockdowns in China. In 2024, global oil demand growth is forecast to stand at a healthy 2.2 mb/d, to reach a level of 104.4 mb/d (105.47 mb/d in 4Q24). This is reflecting the robust economic growth expected this year.

In the OECD, oil demand in 2024 is projected to rise by around 0.3 mb/d (*see **Graph 1***). Within the region, OECD Americas is projected to lead 2024 oil demand growth, increasing by 0.2 mb/d, y-o-y. OECD Europe and Asia Pacific are expected to grow by around 60 tb/d and 20 tb/d, y-o-y, respectively, showing improvement from the contraction seen in 2023.

Graph 1: Global oil demand by region, 2021–2025



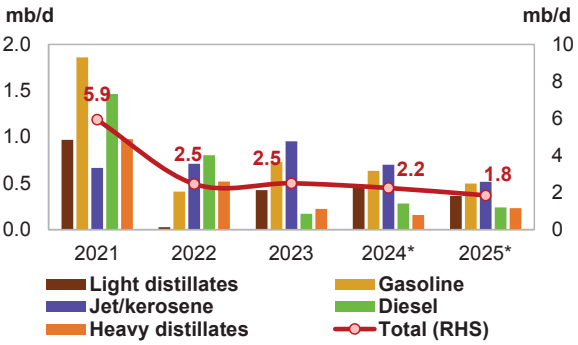
Note: 2024-2025 = Forecast. Source: OPEC.

In the non-OECD, oil demand in 2024 is expected to grow by around 2.0 mb/d, y-o-y, having surpassed pre-pandemic levels already in 2022. Oil demand is projected to be driven by China, with expected healthy growth of 0.6 m/d y-o-y, further supported by the Middle East with an approximate increase of 0.4 mb/d, y-o-y. Other Asia is seen increasing by 0.3 mb/d, y-o-y, and India growing by more than 0.2 mb/d, y-o-y.

In terms of products, transportation fuels are forecast to be the main drivers of global oil demand. Consumption of jet/kerosene and gasoline is forecast to increase by 0.7 mb/d and 0.6 mb/d, y-o-y, respectively. Gasoline is expected to average well above pre-pandemic levels, while jet/kerosene is projected to average just below the level seen in 2019. Diesel is projected to expand by 0.3 mb/d, y-o-y, exceeding pre-pandemic levels for the second year, supported by healthy economic activity. Heavy distillates are projected to grow by 0.2 mb/d (*see **Graph 2***). Light distillates are expected to grow by 0.5 mb/d on the back of healthy petrochemical sector requirements.

In the OECD, ongoing improvements in airline activities, combined with robust road mobility are expected to support jet/kerosene and gasoline as the main drivers of demand growth in 2024, growing by around 0.2 mb/d, y-o-y, each. Nonetheless, total volumes are expected to remain below 2019 pre-pandemic levels almost for all product groups. Only OECD demand for LPG surpassed pre-pandemic levels as early as 2021 and now stands 5% above the total demand seen in 2019, attributed to strong petrochemical sector requirements in OECD Americas. In 2024, however, LPG demand in the region is forecast to remain flat on a yearly basis. Gasoil/diesel is still forecast to show a y-o-y contraction in 2024, albeit to a lesser degree than a year earlier, due to an expected relative improvement in the manufacturing sector.

Graph 2: Global oil demand growth by product, y-o-y



Note: 2024-2025 = Forecast.
Source: OPEC.

In terms of products, non-OECD demand growth is expected to be led by y-o-y increases in jet/kerosene of around 0.5 mb/d, with total regional volumes almost reaching 2019 levels. Gasoline is also expected to increase by almost 0.5 mb/d, y-o-y, with the total volume surpassing pre-pandemic levels by around 10%. Gasoil/diesel in the region is projected to grow by more than 0.3 mb/d, y-o-y, also having surpassed pre-pandemic levels back in 2021.

Continued robust economic activity in China, global air travel recovery and expected healthy petrochemical feedstock requirements will be key for oil demand growth in 2024. However, inflation levels, monetary tightening measures and sovereign debt levels could weigh on global oil demand prospects in the current year.

Looking ahead, world oil demand in 2025 is projected to expand by a healthy 1.8 mb/d, y-o-y, to reach 106.2 mb/d. Within the regions, the OECD is forecast to grow by 0.1 mb/d, y-o-y, and the non-OECD is expected to increase by 1.7 mb/d.

Given current market circumstances, ongoing efforts by the countries participating in the Declaration of Cooperation (DoC) remain critical to achieving a balanced and stable oil market for the benefit of producers, consumers and global economy.

World Oil Demand

The global oil demand growth forecast for 2024 remains broadly unchanged from the previous month's assessment of 2.2 mb/d. A slight upward adjustment to the US forecast has been made due to an improving expectation for the US economy, which will have a positive impact on oil demand. This offsets a downward revision in OECD Europe.

Oil demand in the OECD is projected to grow by around 0.3 mb/d, led by OECD Americas and supported by a minor uptick from OECD Europe and Asia Pacific. In the non-OECD, oil demand is forecast to see a healthy growth of 2 mb/d y-o-y, driven by China and supported by the Middle East, Other Asia, India and Latin America. In 1Q24, oil demand is expected to grow by 2.0 mb/d y-o-y. Total world oil demand is expected to reach 104.4 mb/d in 2024, bolstered by strong air travel demand and increased road mobility, including on-road diesel and trucking, as well as healthy industrial, construction and agricultural activities, particularly in non-OECD countries. Similarly, capacity additions and petrochemical margins in non-OECD countries – mostly in China and the Middle East – are expected to contribute to oil demand growth. However, the forecast remains subject to many uncertainties, including global economic developments.

In 2025, global oil demand is expected to see robust growth of 1.8 mb/d, y-o-y. The OECD is expected to grow by 0.1 mb/d, y-o-y, while demand in the non-OECD is forecast to increase by 1.7 mb/d.

Table 4 - 1: World oil demand in 2024*, mb/d

World oil demand	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23 Growth	Change 2024/23 %
Americas	25.01	24.68	25.38	25.58	25.22	25.22	0.21	0.84
of which US	*20.30*	*20.09*	*20.67*	*20.67*	*20.47*	*20.48*	*0.17*	*0.85*
Europe	13.41	13.12	13.57	13.66	13.40	13.44	0.03	0.19
Asia Pacific	7.35	7.84	6.97	7.09	7.59	7.37	0.02	0.29
Total OECD	**45.77**	**45.64**	**45.93**	**46.33**	**46.21**	**46.03**	**0.26**	**0.56**
China	16.19	16.13	16.77	17.09	17.29	16.82	0.63	3.89
India	5.34	5.63	5.64	5.40	5.59	5.56	0.22	4.11
Other Asia	9.28	9.61	9.74	9.49	9.51	9.59	0.31	3.34
Latin America	6.68	6.79	6.88	6.97	6.84	6.87	0.19	2.84
Middle East	8.63	8.91	8.76	9.38	9.00	9.01	0.38	4.40
Africa	4.46	4.65	4.37	4.39	4.82	4.56	0.10	2.24
Russia	3.84	3.89	3.80	3.99	4.08	3.94	0.10	2.61
Other Eurasia	1.17	1.27	1.24	1.08	1.28	1.22	0.04	3.77
Other Europe	0.79	0.81	0.78	0.77	0.84	0.80	0.01	1.75
Total Non-OECD	**56.39**	**57.68**	**57.99**	**58.55**	**59.26**	**58.37**	**1.99**	**3.53**
Total World	**102.16**	**103.32**	**103.91**	**104.88**	**105.47**	**104.40**	**2.25**	**2.20**
Previous Estimate	102.11	103.32	103.92	104.89	105.29	104.36	2.25	2.20
Revision	0.04	-0.01	0.00	-0.01	0.19	0.04	0.00	0.00

*Note: * 2024 = Forecast.*
Totals may not add up due to independent rounding.
Source: OPEC.

Table 4 - 2: World oil demand in 2025*, mb/d

World oil demand	2024	1Q25	2Q25	3Q25	4Q25	2025	Change 2025/24 Growth	Change 2025/24 %
Americas	25.22	24.74	25.43	25.70	25.30	25.30	0.08	0.31
of which US	*20.48*	*20.12*	*20.70*	*20.73*	*20.52*	*20.52*	*0.04*	*0.21*
Europe	13.44	13.14	13.58	13.68	13.41	13.46	0.02	0.12
Asia Pacific	7.37	7.85	6.98	7.10	7.60	7.38	0.01	0.14
Total OECD	**46.03**	**45.73**	**46.00**	**46.48**	**46.32**	**46.13**	**0.11**	**0.23**
China	16.82	16.56	17.15	17.53	17.68	17.23	0.41	2.44
India	5.56	5.85	5.88	5.61	5.82	5.79	0.23	4.10
Other Asia	9.59	9.90	10.07	9.82	9.81	9.90	0.31	3.25
Latin America	6.87	6.99	7.07	7.19	7.04	7.07	0.20	2.91
Middle East	9.01	9.29	9.10	9.84	9.35	9.40	0.38	4.24
Africa	4.56	4.77	4.47	4.52	4.93	4.67	0.11	2.47
Russia	3.94	3.95	3.85	4.05	4.12	3.99	0.05	1.37
Other Eurasia	1.22	1.30	1.27	1.12	1.31	1.25	0.03	2.59
Other Europe	0.80	0.82	0.79	0.78	0.85	0.81	0.01	1.41
Total Non-OECD	**58.37**	**59.42**	**59.66**	**60.45**	**60.91**	**60.11**	**1.74**	**2.98**
Total World	**104.40**	**105.15**	**105.65**	**106.94**	**107.23**	**106.25**	**1.85**	**1.77**
Previous Estimate	104.36	105.15	105.65	106.95	107.05	106.21	1.85	1.77
Revision	0.04	-0.01	0.00	-0.01	0.19	0.04	0.00	0.00

*Note: * 2025 = Forecast.*
Totals may not add up due to independent rounding.
Source: OPEC.

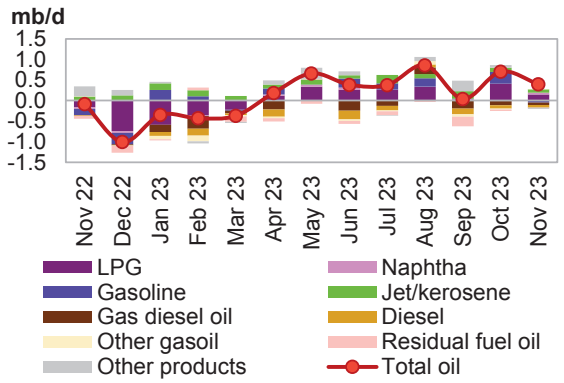
OECD

OECD Americas

Update on the latest developments

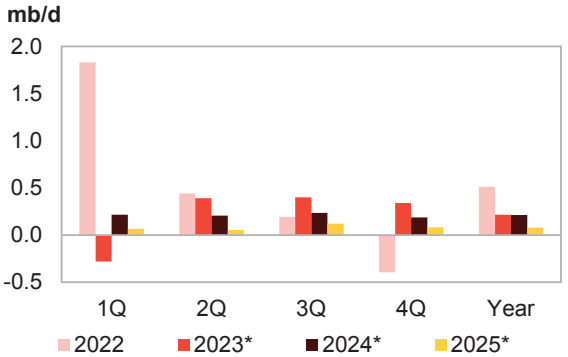
Oil demand in OECD Americas expanded by 394 tb/d, y-o-y, in **November**, down from a growth of 701 tb/d, y-o-y, in October. Incremental oil demand over the month came entirely from the US for the second consecutive month, while Canada and Mexico remained weak. The lesser oil demand growth in November, compared with that of October, is due to y-o-y declines in Canada and Mexico, which offset some of the increase seen in the US. The growth seen in the US was supported by a negative baseline amid strong petrochemical feedstock requirements and healthy transportation fuel demand. Details of various product contributions are discussed below.

Graph 4 - 1: OECD Americas' oil demand by main petroleum product category, y-o-y change



Sources: IEA, JODI, OPEC and national sources.

Graph 4 - 2: OECD Americas' oil demand, y-o-y change



*Note: * 2023 = Estimate and 2024-2025 = Forecast.*
Source: OPEC.

Oil demand in the **US** increased by 496 tb/d, y-o-y in November, down from growth of 673 tb/d, y-o-y, in the previous month. Growth was driven by healthy petrochemical and transportation sector activity amid a weak baseline effect. LPG recorded the largest increase of 394 tb/d, up from the previous month's demand of 318 tb/d, y-o-y, on the back of seasonal strength and a low baseline in the previous year. Gasoline increased

by 18 tb/d, y-o-y, and air travel activity saw jet/kerosene demand increasing by 30 tb/d, y-o-y. According to a report from the International Air Travel Association (IATA), US international traffic levels remained robust in November, with high demand for air travel around the Thanksgiving holiday in the US, pushing domestic travel revenue passenger kilometres (RPKs) to a new high. The month saw a 9.1% increase over pre-COVID levels, with international RPKs 7.4% above those in November 2019. While the 'other products' category increased by 83 tb/d, y-o-y, demand for naphtha saw an uptick of 22 tb/d, y-o-y, up from a 4 tb/d increase seen the previous month.

However, US diesel demand saw a contraction due to weak industrial activity for the second consecutive month, declining by 48 tb/d, y-o-y. Residual fuels were broadly flat, y-o-y.

Table 4 - 3: US oil demand, mb/d

US oil demand By product	Nov 22	Nov 23	Change Growth	Nov 23/Nov 22 %
LPG	3.42	3.82	0.39	11.5
Naphtha	0.14	0.17	0.02	15.3
Gasoline	8.83	8.85	0.02	0.2
Jet/kerosene	1.59	1.62	0.03	1.9
Diesel	4.06	4.01	-0.05	-1.2
Fuel oil	0.36	0.36	0.00	-0.8
Other products	2.10	2.19	0.08	3.9
Total	**20.50**	**21.00**	**0.50**	**2.4**

Note: Totals may not add up due to independent rounding.

Sources: EIA and OPEC.

Near-term expectations

In the near term, US economic growth for **2024** will follow expected growth levels in 1H24, supported by private household consumption. In addition, improvements in air travel and road mobility are expected to continue. Accordingly, these factors are expected to support jet/kerosene and gasoline demand. Furthermore, LPG is also expected to see an uptick, due to healthy petrochemical feedstock requirements for ethylene. Meanwhile, the index level for the services sector, representing around 70% of the US economy, has been on an expansion trajectory. However, the US manufacturing sector continued to contract, though some improvements were seen in January. Accordingly, oil demand is projected to increase by an average of about 170 tb/d y-o-y in 1H24, mostly supported by demand for jet/kerosene, gasoline and LPG. However, diesel demand is projected to be subdued by weak manufacturing activity.

Overall, US oil demand in **2024** is expected to increase by 173 tb/d, mostly supported by transportation fuels and light distillates. In **2025**, oil demand in the US is projected to increase by 42 tb/d, y-o-y.

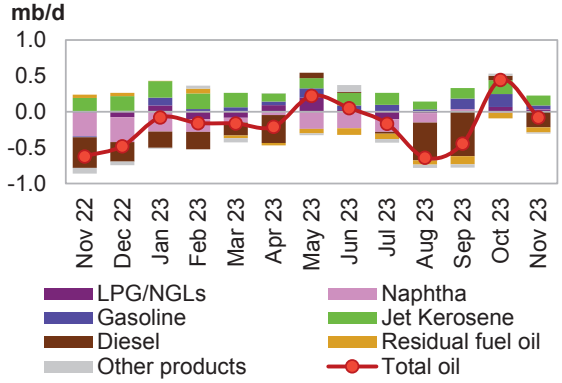
OECD Europe

Update on the latest developments

Oil demand in OECD Europe recorded a slight decrease of 76 tb/d, y-o-y, in **November**, after seeing a strong increase of 444 tb/d, y-o-y, in the previous month. Declines in demand were mostly driven by diesel and residual fuels.

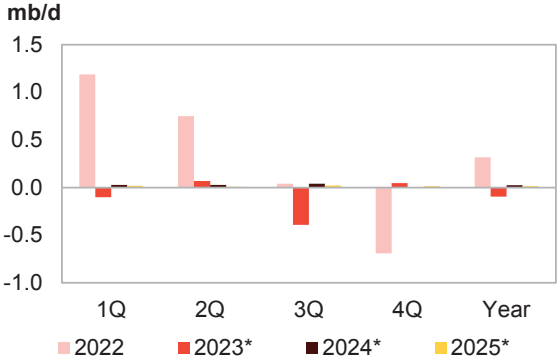
Diesel is still under pressure from ongoing weak regional manufacturing activity, leading to a decline of 217 tb/d, y-o-y, down from the slight growth of 60 tb/d seen the previous month. Diesel demand's ongoing decline was caused by persistent weak manufacturing activity amid macroeconomic headwinds in the region's major countries. Demand in the residual fuels and 'other products' category also contracted by 69 tb/d and 16 tb/d, y-o-y, respectively.

Graph 4 - 3: OECD Europe's oil demand by main petroleum product category, y-o-y change



Sources: IEA, JODI, OPEC and national sources.

Graph 4 - 4: OECD Europe's oil demand, y-o-y change



*Note: * 2023 = Estimate and 2024-2025 = Forecast.*
Source: OPEC.

On the positive side, jet/kerosene posted the largest increase of 136 tb/d, y-o-y, supported by solid demand for air travel in the region. A report from the International Air Transport Association (IATA) Air Passenger Market Analysis states that in November, international RPKs provided by European carriers increased by 14.8% y-o-y to reach 97.1% of pre-pandemic levels. In line with seasonal norms for winter, gasoline increased moderately by 52 tb/d, y-o-y, below the growth of 180 tb/d y-o-y seen the previous month. Meanwhile, LPG saw growth of 33 tb/d, y-o-y, down from growth of 70 tb/d, y-o-y, seen the previous month. LPG was supported by winter heating demand in the region. Finally, naphtha increased marginally by 5 tb/d, albeit an improvement from a 10 tb/d y-o-y decline seen in the previous month. Naphtha is still under pressure from low petrochemical steam cracker unit demand.

Near-term expectations

Looking ahead to **2024**, the Eurozone's economic growth is expected to remain sluggish. At the same time, some recent indicators – including bank lending, PMI and inflation rates – suggest the ongoing slump may be bottoming out. Oil demand growth is expected to average around 30 tb/d, y-o-y, in 1H24, supported by regional jet/kerosene and gasoline consumption on the back of air and road transportation activity. However, ongoing weak manufacturing and petrochemical activity are anticipated to weigh on diesel and naphtha. Overall, the region is expected to see an average growth of 25 tb/d, y-o-y, for the year, mostly supported by transportation fuels. Similarly, LPG and residual fuels are expected to record a slight uptick.

Potential improvements towards the end of 2024 are expected to carry over into **2025**, when the Eurozone's economic growth is forecast to gain traction. Similarly, air travel and driving activity are expected to remain stable and support oil demand growth of 17 tb/d y-o-y. However, an increase in the penetration of electrical vehicles amid ongoing increasing environmental regulations is expected to subdue gasoline and, to a lesser degree, diesel demand. Similarly, the European naphtha market is poised for major changes in fundamentals, mostly due to high production costs and environmental regulations that could weigh on demand going forward.

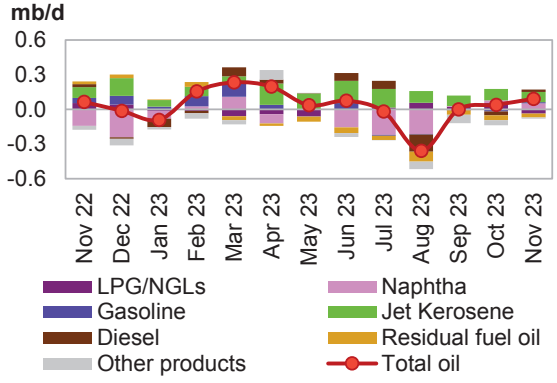
OECD Asia Pacific

Update on the latest developments

Oil demand in OECD Asia Pacific increased further by 92 tb/d, y-o-y, in **November**, up from a growth of 40 tb/d in October. The uptick was supported by requirements from South Korea and Australia for transportation fuels and petrochemical feedstock, amid steady air travel recovery and healthy petrochemical feedstock requirements.

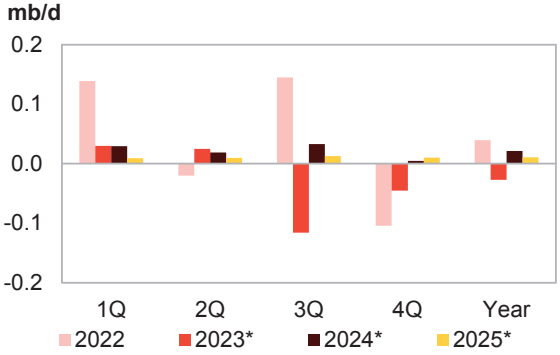
Jet/kerosene led oil demand growth by 87 tb/d, y-o-y, supported by air travel demand across all three major consuming countries in the region. A report from the IATA's Air Passenger Market Analysis shows that Asia Pacific airlines saw a modest improvement in November traffic on the road to recovery to pre-pandemic levels. International RPKs reached 83% of levels recorded in November 2019. After the lacklustre performance, petrochemical feedstock demand in the region has shown signs of recovery in recent months, with naphtha expanding by 51 tb/d, y-o-y, up from growth of 24 tb/d seen in the previous month. Diesel saw an uptick of 23 tb/d, y-o-y, an improvement from the 32 tb/d, y-o-y decline in the previous month.

Graph 4 - 5: OECD Asia Pacific oil demand by main petroleum product category, y-o-y change



Sources: IEA, JODI, METI and OPEC.

Graph 4 - 6: OECD Asia Pacific oil demand, y-o-y change



*Note: * 2023 = Estimate and 2024-2025 = Forecast.*
Source: OPEC.

Similarly, gasoline inched up by 12 tb/d, y-o-y, from an annual decline of 19 tb/d in the previous month. The moderate increase in gasoline demand came from South Korea which showed an increase of 25 tb/d, y-o-y, though this was partly offset by declines in Japan and Australia.

The 'other products' category and residual fuels saw annual declines of 11 tb/d and 34 tb/d, respectively.

Near-term expectations

In **2024**, economic growth rates in the region are expected to continue to normalize and settle below rates seen in 2023, with variations among countries. Forward-looking indicators, including services and manufacturing PMIs, also vary among major oil-consuming countries in the region, although most numbers indicate a gradual improvement in both the services and manufacturing sectors, as January PMIs in Japan and Australia are in expansion territory. Similarly, Korean manufacturing PMIs are also on an expansion trajectory. Steady air traffic recovery, along with driving activity and petrochemical industry operations, are anticipated to support oil demand growth of 24 tb/d, y-o-y, on average in 1H24. Overall, demand is projected to expand by an average of 22 tb/d, y-o-y.

In **2025**, oil demand in OECD Asia Pacific is expected to increase by an average of 11 tb/d, y-o-y, mostly supported by transportation fuels.

Non-OECD

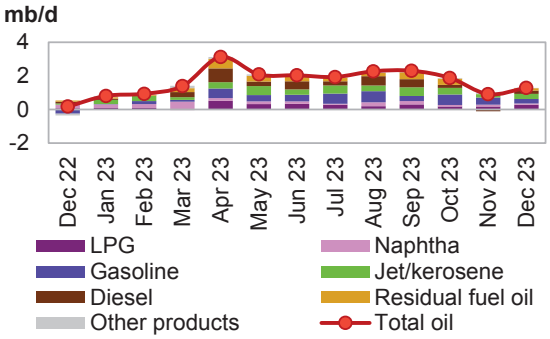
China

Update on the latest developments

Oil demand in China surged further in **December**, with growth of 1.3 mb/d, y-o-y, up from the 0.9 mb/d, y-o-y, increase seen in November. Growth was partly supported by a low baseline effect, amid healthy economic activity and steady petrochemical feedstock requirements.

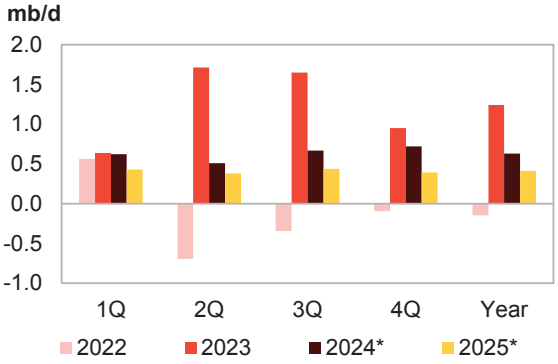
On the back of steady air travel recovery, jet/kerosene posted the highest growth among oil products by 296 tb/d, y-o-y, in December, up from 195 tb/d in November. According to a report by China's Civil Aviation Authority, passenger turnover on domestic routes jumped by 147% y-o-y in December, while international routes recorded an astounding 905% y-o-y increase in terms of passenger kilometres travelled. LPG expanded by 280 tb/d, y-o-y, supported by healthy petrochemical feedstock requirements, up from 189 tb/d seen the previous month, while naphtha increased by 76 tb/d, y-o-y, slightly below the 97 tb/d, y-o-y, seen the month before. Demand was supported by the growing need for plastics produced by the petrochemical industry. Gasoline demand expanded by 277 tb/d, y-o-y, supported by healthy driving mobility. A report from the China National Bureau of Statistics/Haver Analytics indicates that road and passenger traffic growth increased by 26.5% y-o-y in December, compared with an increase of 23.5% in November.

Graph 4 - 7: China's oil demand by main petroleum product category, y-o-y change



Sources: Chinese Petroleum Data Monthly, Chinese National Bureau of Statistics, JODI, Non-OECD Energy Statistics, Argus Global Markets, Argus China, and OPEC.

Graph 4 - 8: China's oil demand, y-o-y change



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

Similarly, diesel demand surged by 206 tb/d, y-o-y, up from a 98 tb/d, y-o-y, decline seen in November. Residual fuel demand grew by 132 tb/d, y-o-y, up from an annual growth of 16 tb/d the previous month. Finally, the ´other products´ category saw an uptick of 23 tb/d, below the annual growth of 78 tb/d recorded in November.

Table 4 - 4: China's oil demand*, mb/d

China's oil demand By product	Dec 22	Dec 23	Change Growth	Dec 23/Dec 22 %
LPG	2.67	2.95	0.28	10.5
Naphtha	2.00	2.07	0.08	3.8
Gasoline	3.27	3.55	0.28	8.5
Jet/kerosene	0.98	1.28	0.30	30.1
Diesel	3.65	3.85	0.21	5.6
Fuel oil	0.50	0.63	0.13	26.7
Other products	2.55	2.57	0.02	0.9
Total	**15.61**	**16.90**	**1.29**	**8.3**

*Note: * Apparent oil demand. Totals may not add up due to independent rounding.*
Sources: Argus Global Markets, China OGP (Xinhua News Agency), Facts Global Energy, JODI, National Bureau of Statistics China and OPEC.

Near-term expectations

Looking ahead, China is expected to be the engine of global oil demand in 2024. Expected healthy economic activity amid anticipated healthy manufacturing and driving activity would seem to indicate robust and resilient demand for oil products in the near term. January PMI readings from SPGCI indicate that activity in the services sector continued in expansion territory, and also the manufacturing sector exhibited a tangible recovery, remaining above the expansionary level of 50 since November. Furthermore, growing petrochemical capacity in 1H24 is expected to strengthen petrochemical feedstock demand, thus boosting demand for naphtha in the near term. Additionally, the upcoming Chinese Lunar New Year holiday is expected to considerably boost transportation oil demand in 1Q24. This will be supported by healthy economic activity amid an increase in worker purchasing power, due to the annual bonus usually paid before the vacation. Consequently, China's jet fuel and gasoline demand are expected to increase further on the prospect of continuously rising driving mobility and air transportation demand. Ongoing Chinese government support measures primarily targeting the real estate market and household consumption are expected to provide additional support for oil demand. Finally, expected warmer temperatures will improve the consumption of diesel in the construction and agricultural sectors. Accordingly, oil demand in the country is anticipated to grow by a healthy 565 tb/d, y-o-y, in 1H24.

Overall in 2024, despite an expected easing in the momentum of China's GDP growth compared with 2023, oil demand is expected to be supported by sustained services sector activity, a recovery in manufacturing activity, and surging petrochemical activity, supporting demand for feedstock. Moreover, a further surge in international air travel is expected, as China has lifted a ban on overseas group tours. This could encourage more people to travel abroad. Furthermore, increased transportation activity is expected to boost demand for gasoline and diesel. China's oil demand is anticipated to expand by a healthy 630 tb/d, y-o-y, for the year.

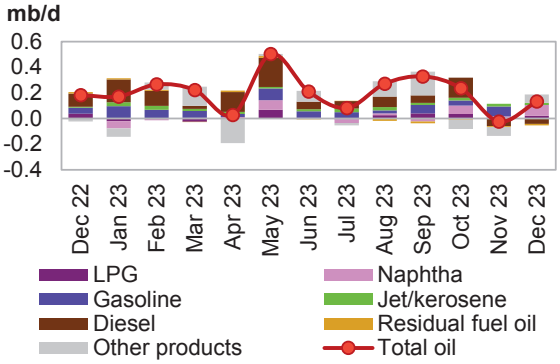
China's product demand is expected to continue to expand in 2025, albeit with less momentum, after increasing by 630 tb/d in 2024. Demand for all products is expected to recover fully to pre-pandemic levels, and China's GDP is projected to remain healthy. The country's stimulus measures are also expected to impact oil demand growth next year, although likely to a lesser degree than in 2024. China is also projected to be a global leader in petrochemical feedstock demand, while its jet fuel demand is expected to rise on the prospect of growing air transportation requirements. Finally, manufacturing and construction activity is also projected to accelerate on the back of healthy economic activity. In 2025, the country is expected to post strong oil demand growth of 410 tb/d, y-o-y.

India

Update on the latest developments

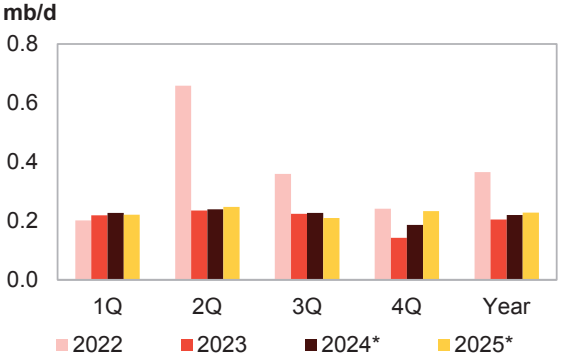
Oil demand in India in December expanded by 133 tb/d, y-o-y, up from a slight contraction of 23 tb/d, y-o-y, seen in the previous month. The increase in demand was largely supported by demand for LPG and naphtha on the back of industrial and petrochemical requirements, as well as the "other products" category, which includes bitumen used for road construction.

Graph 4 – 9: India's oil demand by main petroleum product category, y-o-y change



Sources: PPAC, JODI, Non-OECD Energy Statistics and OPEC.

Graph 4 – 10: India's oil demand, y-o-y change



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

The largest increase was recorded in naphtha, which increased by 82 tb/d, y-o-y. In addition to a low base effect and resulting high growth value, some petrochemical companies increased naphtha consumption, to optimize the use of feedstock based on the natural gas pricing in December. The 'other products' category also increased by 65 tb/d, y-o-y. According to a December 2023 report by the Indian Petroleum Planning and Analysis Cell, demand for bitumen was boosted by road construction activity, which was in full swing to meet end-2023 targets amid favourable weather in some parts of the country. LPG saw an increase of 22 tb/d, y-o-y, from 12 tb/d observed the previous month. LPG was affected by rising demand from foam and ceramics industries based near the Morbi region, which earlier used imported propane and butane, but shifted to indigenous LPG because of more favourable pricing. Jet/kerosene increased by 16 tb/d, y-o-y, as the number of domestic passengers in India increased 8.4% over December 2022 due to holiday traffic moving in a shorter holiday window compared with the longer summer holiday window. Gasoline demand stayed broadly flat, y-o-y.

Table 4 - 5: India's oil demand, mb/d

India's oil demand			Change	Dec 23/Dec 22
By product	Dec 22	Dec 23	Growth	%
LPG	0.97	0.99	0.02	2.3
Naphtha	0.30	0.38	0.08	27.5
Gasoline	0.82	0.82	0.00	0.2
Jet/kerosene	0.18	0.19	0.02	8.8
Diesel	1.89	1.85	-0.04	-2.3
Fuel oil	0.13	0.12	-0.01	-7.8
Other products	1.09	1.16	0.06	5.9
Total	**5.38**	**5.51**	**0.13**	**2.5**

Note: Totals may not add up due to independent rounding.

Sources: JODI, Petroleum Planning and Analysis Cell of India and OPEC.

However, diesel demand weakened by 43 tb/d, y-o-y, subdued by Cyclone Michaung, which struck southeastern India. Moreover, diesel sales in various states were affected by a transportation strike in protest against a new penal law on hit-and-run crimes. Finally, residual fuels declined by 10 tb/d, y-o-y.

Near-term expectations

In the near term, despite facing the challenge of high inflation, India's economy is expected to maintain sound economic growth in **2024**. This will be largely driven by robust investment and services amid an expected surge in the manufacturing and construction sector, due to government spending and an improved investment environment, which is expected to support India's oil demand in 1H24. Forward-looking indicators show healthy manufacturing and services PMIs, and suggest strong prospects for near-term oil demand. Accordingly, India's oil demand is projected to expand by an average of 233 tb/d, y-o-y, in 1H24. Distillates are expected to be the driver of oil demand growth, supported mostly by agriculture, construction and manufacturing activities. Additionally, annual traditional festivities are expected to support transportation activity and boost gasoline demand. Finally, the ongoing air travel recovery is expected to bolster jet/kerosene demand. Overall, India is expected to see healthy oil demand growth of 220 tb/d, y-o-y, in 2024.

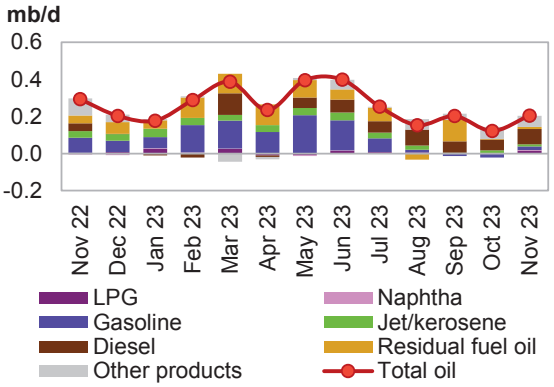
In **2025**, India's GDP growth is expected to remain resilient. Similarly, manufacturing and business activities are expected to remain healthy. These factors are thought to support oil demand in India by an average of 228 tb/d. Distillates are expected to be the main driver of demand, followed by the 'other products' category. Similarly, demand for transportation fuels and petrochemical feedstock is expected to remain healthy and support oil demand over the year.

Latin America

Update on the latest developments

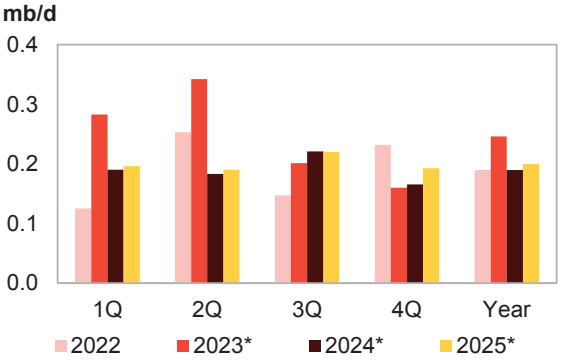
Oil demand in Latin America surged by 204 tb/d y-o-y in November, up from growth of 122 tb/d the previous month. Oil demand growth in the region came mostly from Brazil and Argentina.

Graph 4 - 11: Latin America's oil demand by main petroleum product category, y-o-y change



Sources: JODI, Non-OECD Energy Statistics and OPEC.

Graph 4 - 12: Latin America's oil demand, y-o-y change



*Note: * 2023 = Estimate and 2024-2025 = Forecast.*
Source: OPEC.

In terms of specific product demand, diesel was the main driver in November, with y-o-y growth of 84 tb/d, higher than the 58 tb/d y-o-y increase seen the previous month. In addition, the 'other products' category expanded by 61 tb/d, y-o-y, slightly below growth of 64 tb/d seen in November. In terms of transportation fuels, while gasoline expanded by 20 tb/d, y-o-y, from an annual decline of 22 tb/d the previous month, jet/kerosene saw growth of 10 tb/d, y-o-y, slightly below the growth of 14 tb/d recorded a month earlier.

In terms of petrochemical feedstock, while LPG saw an uptick of 15 tb/d from zero growth the previous month, naphtha has remained broadly flat for four consecutive months. Finally, residual fuels grew by 10 tb/d, y-o-y, up from growth of 4 tb/d, y-o-y, seen the previous month.

Near-term expectations

Looking ahead, Latin America's economic growth momentum is expected to continue in 2024, supported by a spillover of healthy economic growth in 2023, with a continued recovery in air travel and ongoing support from the services and manufacturing sectors. Thus, regional oil demand growth of 187 tb/d, y-o-y, is expected in 1H24. Overall, continued healthy economic activity, combined with improvements in both manufacturing activity and air travel in **2024,** is expected to support oil demand growth of 190 tb/d, y-o-y.

The oil demand growth outlook sees demand for transportation fuels – jet kerosene and gasoline – expanding the most, followed by diesel and petrochemical feedstock.

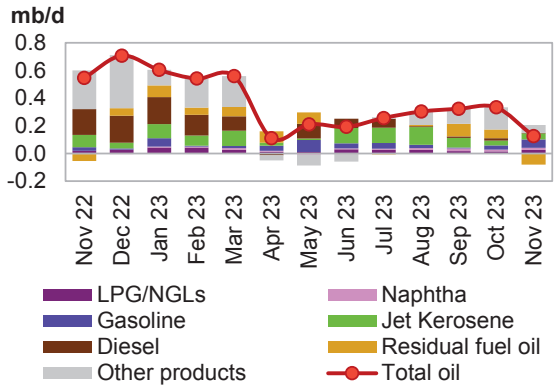
In **2025**, economic activity in the region is expected to remain healthy, as GDP growth is projected to improve further from 2024. Furthermore, both transportation and manufacturing activities are expected to be steady, supporting average oil demand growth of 200 tb/d, y-o-y. Transportation fuels, including gasoline, jet/ kerosene and diesel, are expected to drive demand growth, supported by an uptick in demand for LPG and residual fuels.

Middle East

Update on the latest developments

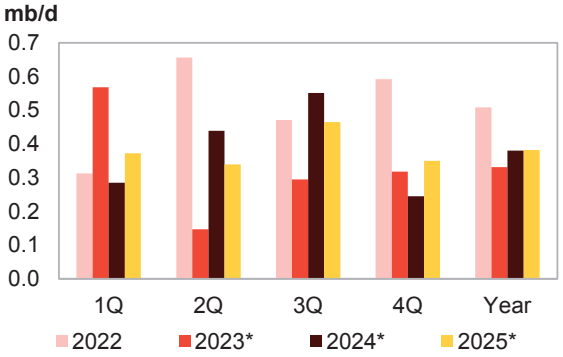
Oil demand growth in the Middle East was impacted by a strong y-o-y baseline effect, and thus expanded by 126 tb/d, y-o-y, in **November**, down from annual growth of 334 tb/d recorded in October. November demand was mostly supported by demand for transportation fuels – gasoline and jet/kerosene – and the 'other products' categories in Iraq and Saudi Arabia.

Graph 4 - 13: Middle East's oil demand by main petroleum product category, y-o-y change



Sources: JODI, Non-OECD Energy Statistics and OPEC.

Graph 4 - 14: Middle East's oil demand, y-o-y change



*Note: * 2023 = Estimate and 2024-2025 = Forecast.*
Source: OPEC.

Ongoing strong oil demand in the region was supported by healthy economic activity. In November, gasoline led with demand growth of 61 tb/d y-o-y, which was higher than the 31 tb/d y-o-y increase seen in the previous month. Demand was supported by healthy driving mobility. Jet/kerosene increased by 45 tb/d, y-o-y, on the back of ongoing air travel recovery, up from the 35 tb/d seen last month.

Table 4 - 6: Iraq's oil demand, mb/d

Iraq's oil demand			Change	Dec 23/Dec 22
By product	Dec 22	Dec 23	Growth	%
LPG	0.07	0.07	0.00	-0.2
Naphtha	0.00	0.01	0.01	272.1
Gasoline	0.18	0.18	0.01	5.1
Jet/kerosene	0.06	0.06	0.00	-1.9
Diesel	0.15	0.15	0.00	-0.3
Fuel oil	0.18	0.22	0.04	24.8
Other products	0.19	0.18	0.00	-2.0
Total	**0.82**	**0.88**	**0.06**	**6.9**

Note: Totals may not add up due to independent rounding.

Sources: JODI and OPEC.

According to a report from IATA, Middle Eastern carriers posted positive results in November. Passenger traffic was 1.2% above pre-pandemic figures and seating capacity was only 4.4% below pre-pandemic levels. The 'other products' category expanded by 57 tb/d, y-o-y. In terms of petrochemical requirements, LPG posted growth of 26 tb/d, y-o-y, and naphtha saw growth of 15 tb/d, y-o-y. Finally, while diesel demand increased marginally by 3 tb/d, y-o-y, residual fuel demand contracted by 81 tb/d y-o-y, down from 62 tb/d, y-o-y, growth seen in the previous month.

Near-term expectations

Looking ahead, economic activity in the region is expected to remain solid in 1H24, supportive of oil demand. In addition, the current focus on petrochemical sector development is expected to bolster petrochemical feedstock requirements in the region. Furthermore, ongoing strong growth in international air traffic is expected to continue.

Accordingly, these factors are expected to support oil demand growth in the region, which is forecast to expand by a healthy 362 tb/d, y-o-y, in 1H24. Overall in **2024**, GDP growth rates in the region are forecast to surpass those of 2023, amid expected healthy transportation activity, supporting gasoline, transportation diesel and jet/kerosene demand. Accordingly, the Middle East is expected to see healthy demand growth of 380 tb/d, y-o-y.

In **2025**, economic activity in the region is projected to continue healthy. In addition, mobility and petrochemical sector requirements are expected to remain steady. These factors should support demand for transportation fuels and other distillates in the region. Accordingly, regional oil demand in 2025 is expected to expand by an average of 382 tb/d, y-o-y.

World Oil Supply

Non-OPEC liquids production in 2024 is forecast to grow by 1.2 mb/d to average 70.5 mb/d, including 50 tb/d in processing gains. This reflects an about 150 tb/d downward revision compared with the previous month's assessment. OECD liquids supply is forecast to increase by 0.9 mb/d to average 33.6 mb/d, while non-OECD liquids supply is seen growing by 0.3 mb/d to average 34.4 mb/d. Non-OPEC liquids supply growth is expected to be primarily supported by US tight oil assets, oil sands expansion in Canada, and offshore projects in Latin America and the North Sea. The main drivers for expected growth are the US, Canada, Guyana, Brazil and Norway, while the largest declines are seen in Russia and Mexico.

In 2025, non-OPEC liquids production is forecast to grow by 1.3 mb/d to average 71.8 mb/d, including 60 tb/d in processing gains. OECD liquids supply is forecast to increase next year by 0.8 mb/d, and the non-OECD region is projected to grow by 0.4 mb/d. The main drivers for liquids supply growth are expected to be the US, Brazil, Canada, Norway, Kazakhstan and Guyana, while production is forecast to see a major decline in Mexico and Angola.

OPEC NGLs and non-conventional liquids production is expected to increase by around 60 tb/d to average 5.5 mb/d in 2024 and additional growth of 110 tb/d is forecast for 2025 to average 5.6 mb/d. OPEC-12 crude oil production in January decreased by 350 tb/d, m-o-m, to average 26.34 mb/d, according to available secondary sources.

Non-OPEC liquids production in January, including OPEC NGLs, is estimated to have decreased by 0.2 mb/d, m-o-m, to average 75.5 mb/d. This represents a y-o-y increase of 1.6 mb/d. As a result, preliminary data indicates that January's global oil supply was down by 0.6 mb/d, m-o-m, to average 101.8 mb/d, while increasing by 0.2 mb/d, y-o-y.

Non-OPEC liquids production in 2023 is estimated to grow by 2.4 mb/d, y-o-y, reaching 69.4 mb/d. Upward revisions to the estimation for the US and Russia offset downward revisions to the UK and Azerbaijan.

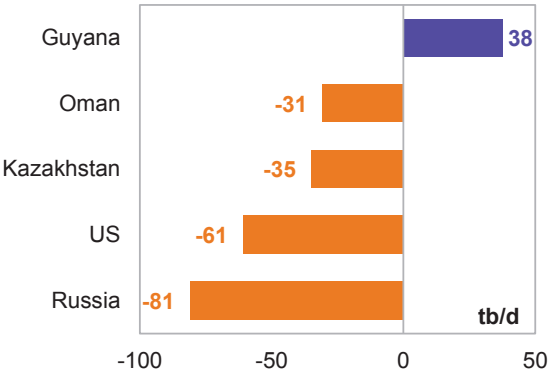
Overall, OECD supply growth for 2023 is revised higher. While OECD Europe remains largely unchanged, OECD Americas is revised up owing to the US and Canada. OECD Asia Pacific's output growth is estimated to marginally decline. The non-OECD supply growth estimation for 2023 is revised up to 0.5 mb/d, y-o-y. Latin America is estimated to be the main growth driver in the non-OECD region, followed by China and Other Eurasia.

The **non-OPEC liquids production** growth forecast in **2024** is revised down from the previous month's assessment to 1.2 mb/d. It is worth noting that this takes into account all the announced additional voluntary production adjustments by some countries in the Declaration of Cooperation (DoC) to the end of 2024.

Upward revisions to the supply forecasts of Guyana and Other Asia are primarily offset by downward changes to Russia, the US and a few other countries.

The **non-OPEC liquids production** growth forecast for **2025** remains unchanged from the previous month's assessment at 1.3 mb/d.

Graph 5 - 1: Major revisions to annual supply change forecast in 2024*, MOMR Feb 24/Jan 24

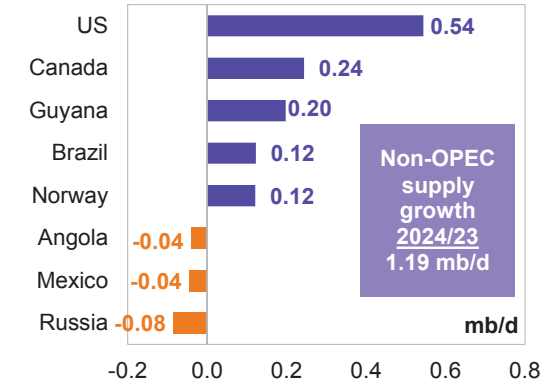


*Note: * 2024 = Forecast. Source: OPEC.*

Key drivers of growth and decline

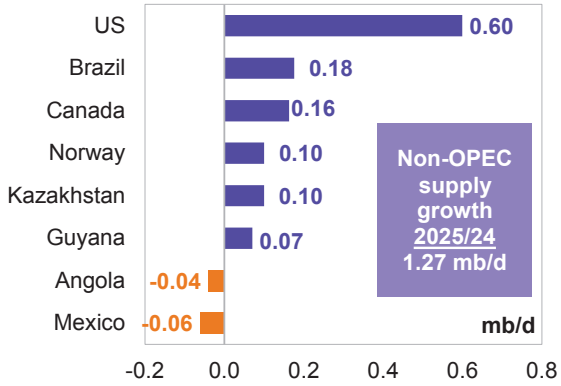
For **2024**, the key drivers of non-OPEC supply growth are forecast to be the US, Canada, Guyana, Brazil and Norway, while oil production is projected to see the largest decline in Russia, Mexico and Angola.

Graph 5 - 2: Annual liquids production changes, y-o-y, for selected countries in 2024*



*Note: * 2024 = Forecast. Source: OPEC.*

Graph 5 - 3: Annual liquids production changes, y-o-y, for selected countries in 2025*



*Note: * 2025 = Forecast. Source: OPEC.*

The key drivers of growth for non-OPEC supply in **2025** are forecast to be the US, Brazil, Canada, Norway, Kazakhstan and Guyana, while oil production is anticipated to drop primarily in Mexico and Angola.

Non-OPEC liquids production in 2024 and 2025

Table 5 - 1: Non-OPEC liquids production in 2024*, mb/d

Non-OPEC liquids production	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23 Growth	Change 2024/23 %
Americas	28.66	28.97	29.14	29.59	29.89	29.40	0.74	2.59
of which US	*20.89*	*21.00*	*21.35*	*21.61*	*21.76*	*21.43*	*0.54*	*2.60*
Europe	3.63	3.83	3.72	3.66	3.81	3.75	0.13	3.50
Asia Pacific	0.44	0.45	0.42	0.43	0.42	0.43	-0.01	-2.91
Total OECD	**32.73**	**33.25**	**33.28**	**33.69**	**34.12**	**33.59**	**0.86**	**2.62**
China	4.57	4.60	4.59	4.56	4.56	4.58	0.01	0.24
India	0.77	0.79	0.79	0.79	0.78	0.79	0.01	1.70
Other Asia	2.27	2.28	2.24	2.21	2.21	2.24	-0.04	-1.57
Latin America	6.94	7.24	7.22	7.33	7.39	7.30	0.35	5.07
Middle East	3.27	3.25	3.28	3.27	3.28	3.27	0.00	-0.06
Africa	2.40	2.36	2.36	2.40	2.43	2.39	-0.01	-0.57
Russia	10.92	10.80	10.84	10.84	10.86	10.84	-0.08	-0.78
Other Eurasia	2.91	2.86	2.97	2.97	2.99	2.95	0.04	1.45
Other Europe	0.10	0.10	0.10	0.10	0.10	0.10	0.00	-1.15
Total Non-OECD	**34.16**	**34.29**	**34.40**	**34.48**	**34.60**	**34.44**	**0.28**	**0.82**
Total Non-OPEC production	66.89	67.54	67.68	68.16	68.72	68.03	1.14	1.70
Processing gains	2.47	2.52	2.52	2.52	2.52	2.52	0.05	2.03
Total Non-OPEC liquids production	**69.36**	**70.06**	**70.20**	**70.68**	**71.24**	**70.55**	**1.19**	**1.71**
Previous estimate	69.06	69.96	70.00	70.52	71.10	70.40	1.34	1.94
Revision	0.30	0.10	0.20	0.17	0.14	0.15	-0.15	-0.22

*Note: * 2024 = Forecast.*

Totals may not add up due to independent rounding.

Source: OPEC.

Table 5 - 2: Non-OPEC liquids production in 2025*, mb/d

Non-OPEC liquids production	2024	1Q25	2Q25	3Q25	4Q25	2025	Change 2025/24 Growth	Change 2025/24 %
Americas	29.40	29.92	29.82	30.19	30.48	30.10	0.70	2.39
of which US	*21.43*	*21.78*	*21.94*	*22.14*	*22.26*	*22.03*	*0.60*	*2.80*
Europe	3.75	3.93	3.81	3.79	3.89	3.86	0.10	2.67
Asia Pacific	0.43	0.43	0.42	0.43	0.43	0.42	-0.01	-1.81
Total OECD	**33.59**	**34.27**	**34.04**	**34.40**	**34.80**	**34.38**	**0.79**	**2.37**
China	4.58	4.62	4.60	4.56	4.56	4.58	0.01	0.12
India	0.79	0.78	0.79	0.80	0.80	0.80	0.01	1.00
Other Asia	2.24	2.22	2.18	2.16	2.15	2.18	-0.06	-2.63
Latin America	7.30	7.49	7.52	7.59	7.65	7.56	0.27	3.66
Middle East	3.27	3.28	3.32	3.31	3.31	3.31	0.03	1.05
Africa	2.39	2.41	2.40	2.40	2.40	2.40	0.02	0.71
Russia	10.84	10.88	10.86	10.85	10.88	10.87	0.03	0.28
Other Eurasia	2.95	3.05	3.09	3.03	3.07	3.06	0.11	3.75
Other Europe	0.10	0.10	0.10	0.10	0.10	0.10	0.00	1.97
Total Non-OECD	**34.44**	**34.84**	**34.87**	**34.80**	**34.93**	**34.86**	**0.42**	**1.21**
Total Non-OPEC production	68.03	69.11	68.91	69.20	69.73	69.24	1.21	1.78
Processing gains	2.52	2.58	2.58	2.58	2.58	2.58	0.06	2.38
Total Non-OPEC liquids production	**70.55**	**71.69**	**71.49**	**71.78**	**72.31**	**71.82**	**1.27**	**1.80**
Previous estimate	70.40	71.54	71.34	71.63	72.16	71.67	1.27	1.80
Revision	0.15	0.15	0.15	0.15	0.15	0.15	0.00	0.00

*Note: * 2025 = Forecast.*

Totals may not add up due to independent rounding.

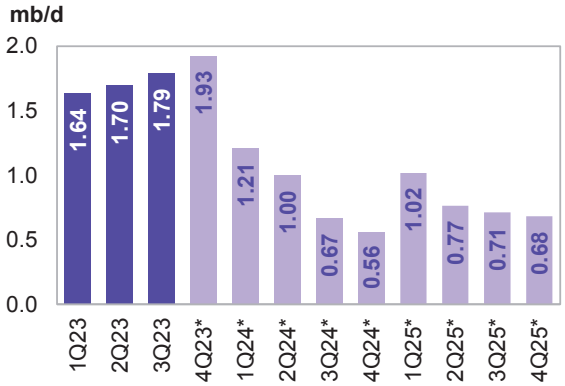
Source: OPEC.

OECD

OECD liquids production in 2023 is estimated to expand by 1.8 mb/d to average 32.7 mb/d. An upward adjustment was made following revisions to OECD Americas.

Growth is set to be led by OECD Americas, which is estimated to expand by 1.7 mb/d to average 28.7 mb/d. This is up by about 160 tb/d compared with the previous month's assessment. Yearly liquids production in OECD Europe is estimated to grow by 0.1 mb/d to average 3.6 mb/d. This remains unchanged compared with the previous assessment. OECD Asia Pacific liquids production is estimated to decline by about 33 tb/d, y-o-y, to average 0.4 mb/d.

Graph 5 - 4: OECD quarterly liquids supply, y-o-y changes



*Note: * 4Q23-4Q25 = Forecast. Source: OPEC.*

For **2024**, OECD liquids production is likely to grow by 0.9 mb/d to average 33.6 mb/d. Growth will once again be led by OECD Americas, with an expected increase of 0.7 mb/d for an average of 29.4 mb/d. Yearly liquids production in OECD Europe is expected to grow by 0.1 mb/d to average 3.8 mb/d, while OECD Asia Pacific is expected to decline by 13 tb/d, y-o-y, to average 0.4 mb/d.

OECD liquids production is forecast to grow by 0.8 mb/d to average 34.4 mb/d in **2025**. OECD Americas is expected to be the main growth driver, with an expected increase of 0.7 mb/d for an average of 30.1 mb/d. Yearly liquids production in OECD Europe is expected to grow by 0.1 mb/d to average 3.9 mb/d, while OECD Asia Pacific is expected to decline by a minor 8 tb/d, y-o-y, to average 0.4 mb/d.

OECD Americas

US

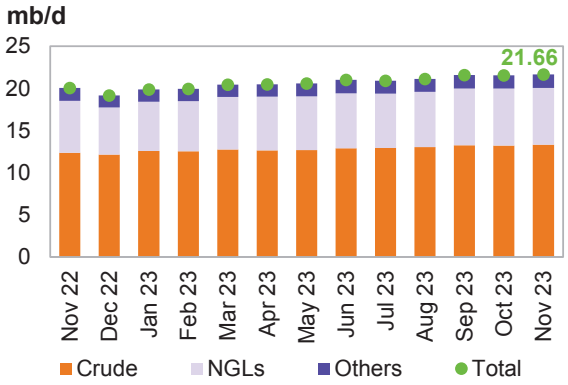
US liquids production in **November** rose by 120 tb/d, m-o-m, to average 21.7 mb/d, setting the highest level on record. This was up by 1.6 mb/d compared with November 2022.

Crude oil and condensate production rose by 84 tb/d, m-o-m, to an average of 13.3 mb/d in **November**. This was up by 0.9 mb/d, y-o-y.

In terms of **crude and condensate production breakdown by region (PADDs)**, production increased on the US Gulf Coast (USGC) by about 39 tb/d to average 9.6 mb/d. Output in the Rocky Mountains and the Midwest showed a rise of 22 tb/d, and 20 tb/d, m-o-m, respectively. Production in the East and West Coast regions remained broadly unchanged.

A drop in production in the main regions was primarily driven by lower output in the offshore Gulf of Mexico (GoM) and Oklahoma-producing wells, while output in main producing basins in Texas, New Mexico and North Dakota increased.

Graph 5 - 5: US monthly liquids output by key component



Sources: EIA and OPEC.

NGL production remained largely unchanged, m-o-m, to average 6.8 mb/d in November. This was higher by 0.6 mb/d, y-o-y. According to the US Department of Energy (DoE), the production of **non-conventional liquids** (mainly ethanol) rose by 42 tb/d, m-o-m, to average 1.6 mb/d. Preliminary estimates show non-conventional liquids averaging about 1.6 mb/d in December, broadly unchanged m-o-m.

GoM production dropped by 78 tb/d, m-o-m, to average 1.9 mb/d in November, due to unexpected outages and an oil spill, but was still supported by new project ramp-ups. In the **onshore Lower 48**, crude and condensate production increased by 160 tb/d, m-o-m, to average 11.0 mb/d in November.

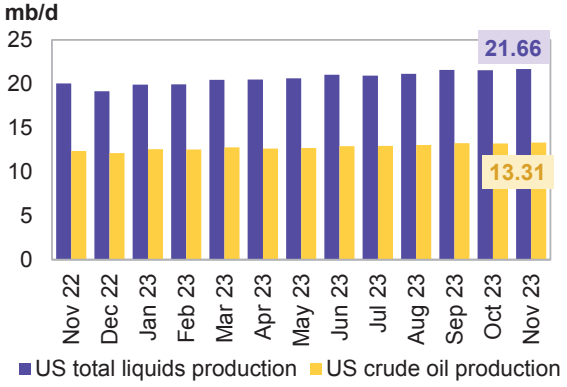
Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Nov 22	Oct 23	Nov 23	Change m-o-m	Change y-o-y
Texas	5,220	5,586	5,662	*76*	*442*
Gulf of Mexico (GOM)	1,797	1,951	1,873	*-78*	*76*
New Mexico	1,725	1,839	1,884	*45*	*159*
North Dakota	1,088	1,273	1,290	*17*	*202*
Colorado	451	469	481	*12*	*30*
Alaska	445	426	428	*2*	*-17*
Oklahoma	441	424	420	*-4*	*-21*
Total	**12,376**	**13,224**	**13,308**	***84***	***932***

Sources: EIA and OPEC.

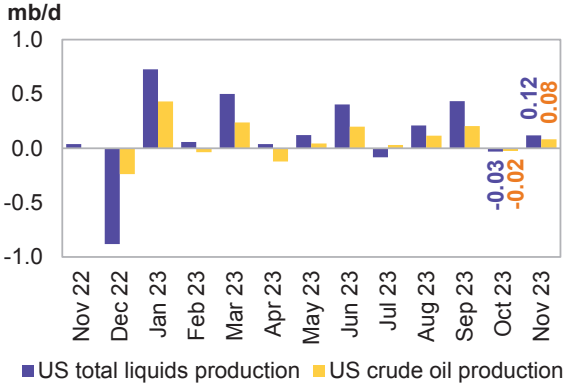
Looking at **individual US states**, New Mexico's oil production rose by 45 tb/d to average 1.9 mb/d, which is 159 tb/d higher than a year ago. Production from Texas was up by 76 tb/d to average 5.7 mb/d, which is 442 tb/d higher than a year ago. In the Midwest, North Dakota's production rose by 17 tb/d, m-o-m, to average 1.3 mb/d, up 202 tb/d, y-o-y, while Oklahoma's production remained largely unchanged, averaging 0.4 mb/d, m-o-m. Production in Colorado rose by 12 tb/d, m-o-m, while output in Alaska remained primarily unchanged.

Graph 5 - 6: US monthly crude oil and total liquids supply



Sources: EIA and OPEC.

Graph 5 - 7: US monthly crude oil and total liquids supply, m-o-m changes



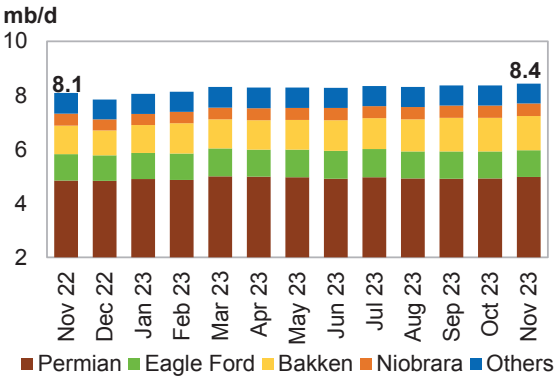
Sources: EIA and OPEC.

US tight crude output in **November** is estimated to have risen by 67 tb/d, m-o-m, to average 8.4 mb/d, according to the latest estimates by the US Energy Information Administration (EIA). This was 0.3 mb/d higher than the same month last year.

The m-o-m increase from shale and tight formations using horizontal wells came mainly from Permian shale production in Texas and New Mexico, where output rose by 53 tb/d for an average of 5.0 mb/d. This was up by 125 tb/d, y-o-y.

In North Dakota, Bakken shale oil output rose by 19 tb/d, m-o-m, averaging 1.3 mb/d, up by 207 tb/d, y-o-y. Tight crude output at Eagle Ford in Texas dropped by a minor 3 tb/d to average 1.0 mb/d, up by 23 tb/d, y-o-y. Production at Niobrara-Codell in Colorado and Wyoming was unchanged at an average of 457 tb/d.

Graph 5 - 8: US tight crude output breakdown

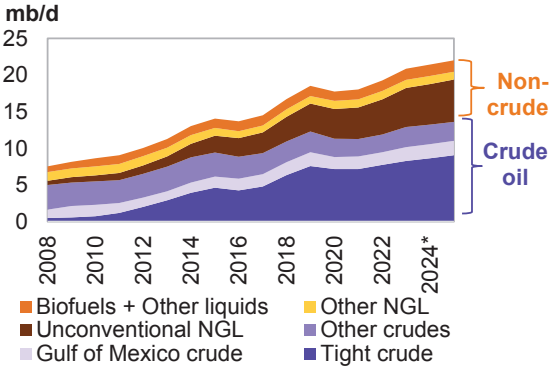


Sources: EIA and OPEC.

US liquids production in **2023**, excluding processing gains, is estimated to expand by 1.6 mb/d, y-o-y, to average 20.9 mb/d, given stronger-than-expected output in recent months and considering the EIA's weekly production data trend. Well productivity and operational efficiency improvements, as well as usage of drilled-but-uncompleted wells helped boost production, despite declining drilling activity.

Given a sound level of oil field drilling and well completions, **crude oil and condensate** output is estimated to increase by 1.0 mb/d, y-o-y, to average 12.9 mb/d. Average tight crude output in 2023 is estimated at 8.3 mb/d, up by 0.5 mb/d, y-o-y.

Graph 5 - 9: US liquids supply developments by component



*Note: * 2023 = Eatimate and 2024-2025 = Forecast.*
Source: OPEC.

At the same time, NGL production and non-conventional liquids, particularly ethanol, are estimated to increase by 0.5 mb/d and 92 tb/d, y-o-y, to average 6.4 mb/d and 1.5 mb/d, respectively.

US liquids production in **2024**, excluding processing gains, is expected to grow by 0.5 mb/d, y-o-y, to average 21.4 mb/d. This is revised down slightly from the previous assessment due to adverse weather conditions at the beginning of January. The forecast assumes a modest level of drilling activity and less supply chain/logistical issues at the prolific Permian, Bakken and Eagle Ford shale sites this year. **Crude oil and condensate** output is expected to jump by 0.3 mb/d, y-o-y, to average 13.2 mb/d. At the same time, NGL

production and that of non-conventional liquids, particularly ethanol, is projected to increase by 0.2 mb/d and 30 tb/d, y-o-y, to average 6.6 mb/d and 1.6 mb/d, respectively.

Average tight crude output in 2024 is expected to reach 8.7 mb/d, up by 0.4 mb/d, y-o-y. The 2024 forecast assumes ongoing capital discipline and less inflationary pressure, as well as moderating supply chain issues and oil field service constraints (labour and equipment).

US liquids production, excluding processing gains, is expected to grow by 0.6 mb/d, y-o-y, to average 22.0 mb/d in **2025**, assuming a mild increase in drilling activity, lower service cost inflation and well productivity improvements in key shale basins. **Crude oil and condensate** output is expected to jump by 0.4 mb/d, y-o-y, to average 13.6 mb/d. At the same time, NGLs production and that of non-conventional liquids, particularly ethanol, is projected to increase by 0.2 mb/d and 20 tb/d, y-o-y, to average 6.8 mb/d and 1.6 mb/d, respectively. Average tight crude output in 2025 is expected to reach 9.1 mb/d, up by 0.4 mb/d, y-o-y. The 2025 forecast assumes ongoing capital discipline and less inflationary pressure in the US upstream sector.

Table 5 - 4: US liquids production breakdown, mb/d

US liquids	2023*	Change 2023/22	2024*	Change 2024/23	2025*	Change 2025/24
Tight crude	8.31	0.54	8.67	0.36	9.07	0.40
Gulf of Mexico crude	1.88	0.15	1.91	0.03	1.98	0.07
Conventional crude oil	2.75	0.34	2.66	-0.09	2.57	-0.09
Total crude	**12.93**	**1.02**	**13.24**	**0.31**	**13.61**	**0.38**
Unconventional NGLs	5.30	0.52	5.54	0.24	5.76	0.22
Conventional NGLs	1.12	-0.03	1.09	-0.03	1.07	-0.02
Total NGLs	**6.42**	**0.49**	**6.63**	**0.21**	**6.83**	**0.20**
Biofuels + Other liquids	1.53	0.09	1.56	0.03	1.58	0.02
US total supply	**20.89**	**1.60**	**21.43**	**0.54**	**22.03**	**0.60**

*Note: * 2023 = Estimate, 2024-2025 = Forecast.*

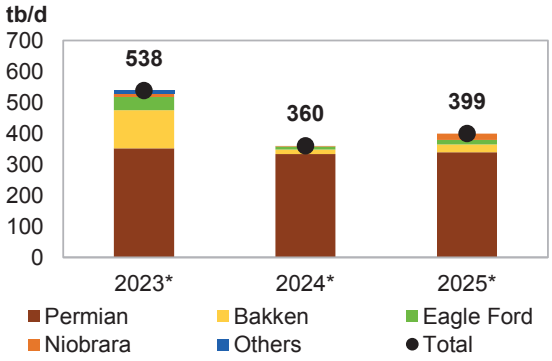
Sources: EIA, OPEC and Rystad Energy.

US tight crude production in the **Permian** during 2023 is estimated to increase by 0.4 mb/d, y-o-y, to average 5.0 mb/d. In 2024, it is forecast to grow by 0.3 mb/d, y-o-y, to average 5.3 mb/d, while growth of 0.3 mb/d is expected for 2025.

In North Dakota, **Bakken** shale production is still expected to remain below the pre-pandemic average of 1.4 mb/d. In 2023, growth is estimated at 0.1 mb/d, to average 1.2 mb/d. Growth of just 15 tb/d and 25 tb/d is expected for 2024 and 2025, respectively, for an average of 1.2 mb/d over both years, demonstrating maturity in the basin.

The **Eagle Ford** in Texas saw an output of 1.2 mb/d in 2019, followed by declines from 2020 to 2021 and no growth in 2022. With an estimated growth of about 42 tb/d for 2023, output rests at an average of 1.0 mb/d. At the same time, minor growth of 10 tb/d and 15 tb/d is expected for 2024 and 2025, respectively.

Graph 5 - 10: US tight crude output by shale play, y-o-y changes



*Note: * 2023 = Estimate and 2024-2025 = Forecast.*
Sources: EIA and OPEC.

Niobrara's production is estimated to rise by around 10 tb/d, y-o-y, in 2023, to an average of 445 tb/d. With no meaningful expected growth for 2024, output is forecast to rise by 20 tb/d in 2025. In the remaining other tight plays, a modest pace in drilling and completion activities, and production is estimated to lead to an increase of 9 tb/d in 2023, before becoming steady in 2024 and 2025.

Table 5 - 5: US tight oil production growth, mb/d

US tight oil	2023*	Change 2023/22	2024*	Change 2024/23	2025*	Change 2025/24
Permian tight	4.95	0.35	5.29	0.33	5.63	0.34
Bakken shale	1.15	0.12	1.17	0.01	1.19	0.03
Eagle Ford shale	1.01	0.04	1.02	0.01	1.03	0.02
Niobrara shale	0.45	0.01	0.45	0.00	0.47	0.02
Other tight plays	0.75	0.01	0.75	0.00	0.75	0.00
Total	**8.31**	**0.54**	**8.67**	**0.36**	**9.06**	**0.40**

*Note: * 2023 = Estimate and 2024-2025 = Forecast.*

Source: OPEC.

US rig count, spudded, completed, DUC wells and fracking activity

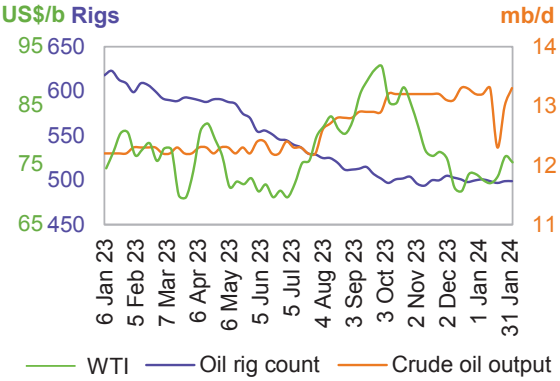
The total number of **active US drilling rigs** in the week ending 2 February 2024 fell by two to 619, according to Baker Hughes, 140 rigs less than a year ago. The number of active offshore rigs remained unchanged, w-o-w, at 19. This is seven more than in the same month a year earlier. Onshore oil and gas rigs were lowered by two, w-o-w, to stand at 600, with no rigs added in inland waters. This is down by 145 rigs, y-o-y.

The **US horizontal rig count** fell by one, w-o-w, to 558, compared with 700 horizontal rigs a year ago. The number of drilling rigs for oil remained unchanged, w-o-w, at 499, while the number of gas-drilling rigs fell by two, w-o-w, to 117.

The Permian's rig count rose by one, w-o-w, to 311. Rig counts remained unchanged in Williston and Niobrara at 34 and 13, respectively. Meanwhile, the number of rigs dropped by two in Eagle Ford, rising by one, w-o-w, in Cana Woodford to 24.

No operating oil rig has been reported in the Barnett Basin since 19 January.

Graph 5 - 11: US weekly rig count vs. US crude oil output and WTI price



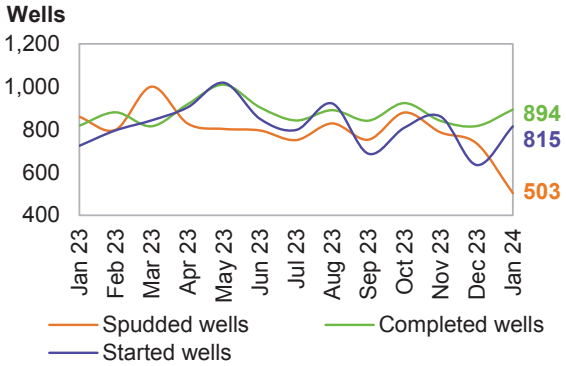
Sources: Baker Hughes, EIA and OPEC.

Drilling and completion (D&C) activities for spudded, completed and started oil-producing wells in all US shale plays included 735 horizontal wells spudded in December (as per preliminary data), based on EIA-DPR regions. This is down by 52, m-o-m, and 12% lower than in December 2022.

Preliminary data for December indicates a lower number of completed wells at 817, up by 6%, y-o-y. The number of started wells is estimated at 634, which is 12% lower than a year earlier.

Preliminary data for January 2024 saw 503 spudded, 894 completed and 815 started wells, according to Rystad Energy.

Graph 5 - 12: Spudded, completed and started wells in US shale plays

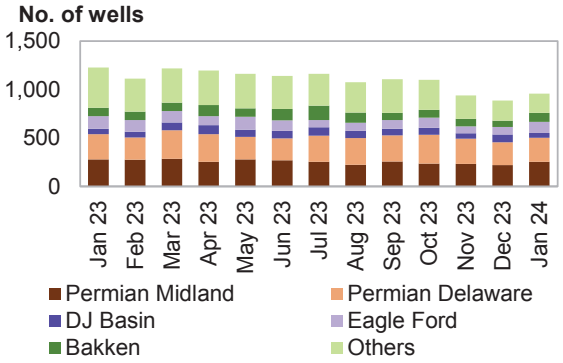


Note: Dec 23-Jan 24 = Preliminary data.
Sources: Rystad Energy and OPEC.

In terms of identified **US oil and gas fracking operations** by region, Rystad Energy reported that 938 wells were fracked in November. In December 2023 and January 2024, it stated that 887 and 957 wells began fracking, respectively, according to preliminary numbers based on the analysis of high-frequency satellite data.

In regional terms, preliminary December 2023 data shows that 221 and 235 wells were fracked in the Permian Midland and Permian Delaware regions, respectively. There was a decrease of 11 wells in the Midland region and a drop of 27 in Delaware compared with November. Data also indicates that 79 wells were fracked in the DJ Basin, 79 in Eagle Ford and 66 in Bakken during December.

Graph 5 - 13: Fracked wells count per month



Note: Dec 23-Jan 24 = Preliminary data.
Sources: Rystad Energy Shale Well Cube and OPEC.

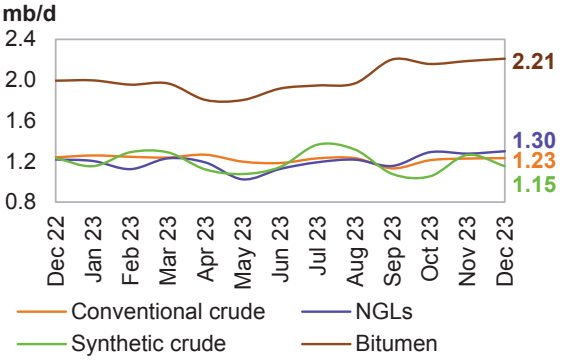
Canada

Canada's liquids production in **December** is estimated to have dropped by 60 tb/d, m-o-m, to average 5.9 mb/d; however, it was higher than previous expectations.

Conventional crude production remained unchanged, m-o-m, in December to average 1.2 mb/d. NGL output was up by 23 tb/d m-o-m, averaging 1.3 mb/d.

Crude bitumen production output rose in December by 23 tb/d, m-o-m, while synthetic crude decreased by 110 tb/d, m-o-m. Taken together, crude bitumen and synthetic crude production fell by 87 tb/d to 3.4 mb/d.

Graph 5 - 14: Canada's monthly liquids production development by type



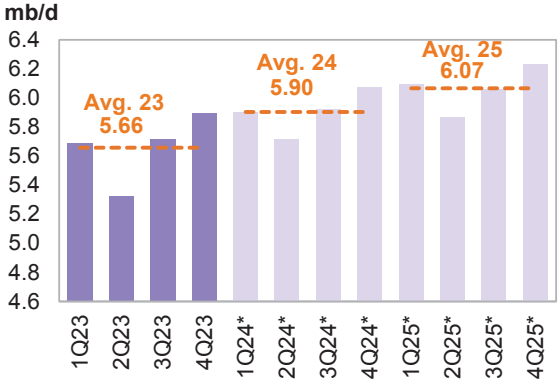
Sources: Statistics Canada, Alberta Energy Regulator and OPEC.

For **2023**, Canada's liquids production is estimated to increase by about 40 tb/d to average 5.7 mb/d. This is revised up by 31 tb/d compared with the previous month's assessment due to historical adjustment.

For **2024**, Canada's liquids production is forecast to increase at a much faster pace compared with 2023, rising by 0.2 mb/d to average 5.9 mb/d. Incremental production is expected to come through oil sands project ramp-ups and expansion at existing facilities in areas like Montney, Kearl and Fort Hills, in addition to some conventional field growth.

Canada's liquids production is forecast to grow by 0.2 mb/d to average 6.1 mb/d in **2025**. Additional production is expected to come through oil sands project expansion and some conventional field growth. Sources of production are primarily expected from Athabasca, Syncrude Mildred Lake, Kearl, Horizon, Christina Lake, Suncor and Foster Creek oil Sands projects. The main start-ups in 2025 are expected to be Syncrude Mildred Lake/Aurora, Narrows Lake, Lloyd Thermal, Cold Lake Oil Sands and Montney Play.

Graph 5 - 15: Canada's quarterly liquids production and forecast



*Note: * 1Q24-4Q25 = Forecast. Source: OPEC.*

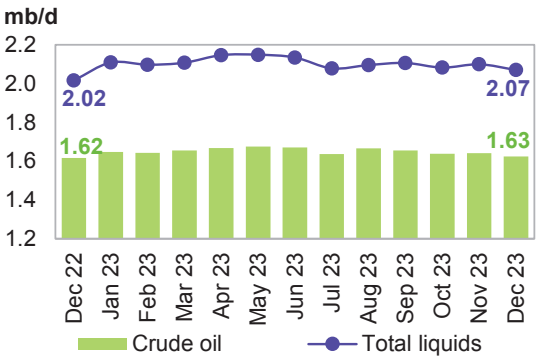
Mexico

Mexico's crude output dropped by 17 tb/d, m-o-m, in **December** to average 1.6 mb/d, while NGLs output fell by 12 tb/d. Mexico's total December liquids output dropped by 29 tb/d, m-o-m, to average 2.1 mb/d, according to the Comisión Nacional de Hidrocarburos (CNH). This was almost in line with previous expectations.

For **2023**, liquids production is estimated to rise by about 0.1 mb/d for an average of 2.1 mb/d. This is largely unchanged from the previous month's assessment.

For **2024**, liquids production is forecast to decline by 45 tb/d to average 2.1 mb/d. In general, declines from mature fields are expected to offset any gains from new projects. Pemex's total crude production decline in mature areas like Ku-Maloob-Zaap and Integral Yaxche-Xanab is forecast to outweigh production ramp-ups in Area-1 and El Golpe-Puerto Ceiba, and from a few start-ups, namely TM-01, Paki and AE-0150-Uchukil.

Graph 5 - 16: Mexico's monthly liquids and crude production development



Sources: Mexico Comision Nacional de Hidrocarburos (CNH) and OPEC

Mexico's liquids production is forecast to drop by 60 tb/d to average 2.0 mb/d in **2025**. Production ramp-ups in projects like Mezcalapa, Amoca-Yaxche, Okom, Tucoo-Xaxamani and Amoca-Mizton-Tecoalli are expected to be more than offset by declines in several fields such as Quesqui and Tupilco Profundo. Meanwhile, output in the Ku-Maloob-Zaap asset is expected to remain stable.

OECD Europe

Norway

Norwegian liquids production in **December** rose by 53 tb/d, m-o-m, to average 2.1 mb/d. On an annual basis, Norwegian overall liquids output rose by 6%.

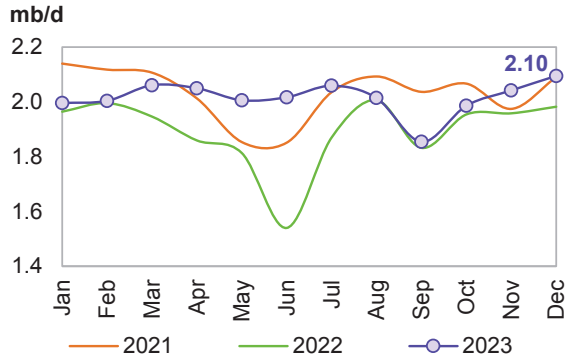
Norway's crude production increased by 42 tb/d, m-o-m, in December to average 1.8 mb/d and hit a multi-year high, up by 76 tb/d, y-o-y. Monthly oil production was 1.9% higher than the Norwegian Offshore Directorate's (NOD's) forecast.

Production of NGLs and condensate, meanwhile, rose by 11 tb/d, m-o-m, to average 0.2 mb/d, according to NOD data.

In **2023**, Norwegian liquids production is estimated to expand by 0.1 mb/d, revised up by 13 tb/d compared with last month's forecast, for an average of 2.0 mb/d, due to better-than-expected output in December. Technical challenges, operational irregularities and periodical shut-downs have been the main cause of output declines on some offshore platforms in Norwegian fields in 2023.

For **2024**, Norwegian liquids production is forecast to grow by 120 tb/d to average 2.1 mb/d. Some small-to-large projects are scheduled to ramp up this year. At the same time, start-ups are expected at the Balder/Ringhorne, Eldfisk, Kristin, Alvheim FPSO, Hanz, Skarv Aasgard FPSO and PL636 offshore projects. Johan Castberg is projected to be the main source of output increases this year, with the first oil planned in 4Q24.

Graph 5 - 17: Norway's monthly liquids production development



Sources: The Norwegian Petroleum Directorate (NPD) and OPEC.

Norwegian liquids production is forecast to grow by 100 tb/d to average 2.2 mb/d in **2025**. Several small-to-large scale projects are scheduled to ramp up in 2025, such as Johan Castberg, Kristin, Eldfisk and Balder/Ringhorne. At the same time, start-ups are expected at the Ormen Lange, Snohvit, Halten East, Tyrving, Eirin, Norne FPSO, Maria and Verdande projects.

UK

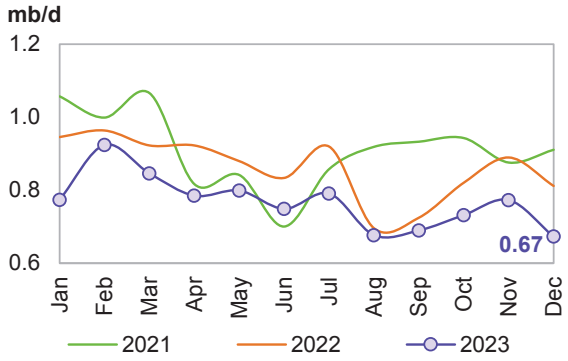
In **December**, **UK liquids production** fell by 0.1 mb/d, m-o-m, to average 0.7 mb/d. Crude oil output decreased by 103 tb/d, m-o-m, to average 0.6 mb/d, lower by 126 tb/d, y-o-y, according to official data. NGL output remained largely unchanged, averaging 68 tb/d. UK liquids output in December was down by 17% compared with December 2022, mainly due to unexpected outages and a lower production base last year.

For **2023**, UK liquids production is estimated to drop by almost 90 tb/d to average 0.8 mb/d, down by about 15 tb/d from the previous month's assessment, mainly due to lower-than-expected December output.

For **2024**, UK liquids production is forecast to stay steady at an average of 0.8 mb/d. Production ramp-ups will be seen at the ETAP and Clair sites, as well as at the Anasuria and Captain enhanced oil recovery (EOR) start-up projects. The Penguins FPSO is expected to be towed out to the UK North Sea field in 1H24.

UK liquids production is forecast to stay steady at an average of 0.8 mb/d in **2025**. Production ramp-ups will be seen at the ETAP and Clair sites.

Graph 5 - 18: UK monthly liquids production development

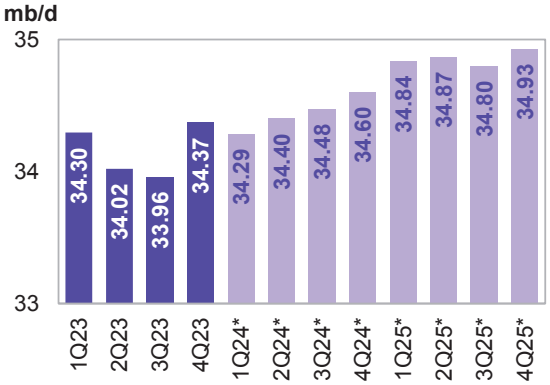


Sources: UK Department for Business, Energy and Industrial Strategy and OPEC.

Meanwhile, project start-ups are expected at the Alwyn, Laggan-Tormore, Murlach (Skua redevelopment) and Janice's assets. However, decline rates from mature fields are expected to offset these additional volumes.

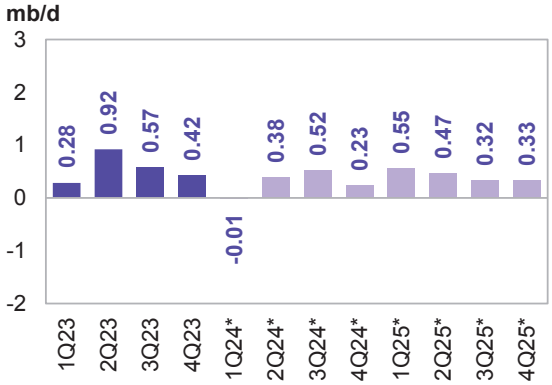
Non-OECD

Graph 5 - 19: Non-OECD quarterly liquids production and forecast



*Note: * 1Q24-4Q25 = Forecast. Source: OPEC.*

Graph 5 - 20: Non-OECD quarterly liquids supply, y-o-y changes

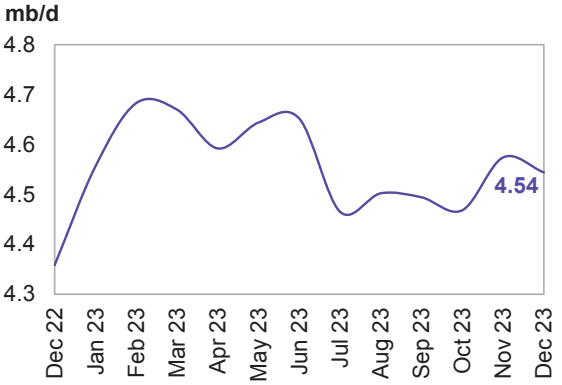


*Note: * 1Q24-4Q25 = Forecast. Source: OPEC.*

China

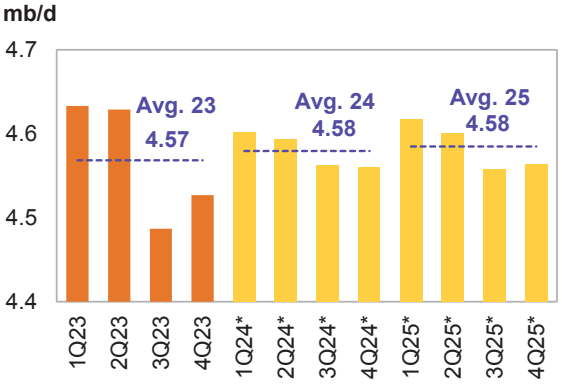
China's liquids production fell by 30 tb/d, m-o-m, to average 4.5 mb/d in **December**. This is up by 186 tb/d, y-o-y, according to official data. Crude oil output in December averaged 4.2 mb/d, down by 30 tb/d compared with the previous month, but higher by 183 tb/d, y-o-y. NGL and condensate production was largely stable, m-o-m, averaging 48 tb/d.

Graph 5 - 21: China's monthly liquids production development



Sources: CNPC and OPEC.

Graph 5 - 22: China's quarterly liquids production and forecast



*Note: * 1Q24-4Q25 = Forecast. Sources: CNPC and OPEC.*

For **2023**, y-o-y growth of about 90 tb/d is estimated, for an average of 4.6 mb/d. This is roughly unchanged from the previous month's assessment. Natural decline rates are expected to be offset by additional growth through more infill wells and EOR projects amid efforts made by state-owned oil companies to further enhance energy security. The Chinese National Offshore Oil Company (CNOOC) commenced production from the Lufeng oilfield phase 2 development project in December, which consists of Lufeng 8-1, Lufeng 9-2 and Lufeng 14-8 oilfields; it is expected to reach peak production of about 25 tb/d of crude oil in 2025.

For **2024**, Chinese liquids production is expected to rise by a minor 10 tb/d, y-o-y, and is forecast to average 4.6 mb/d. For next year, Lingshui 17-2, Lufeng, Liuhua 11-1, Xi'nan, Shayan and Liuhua 4-1 (redevelopment), operated by CNOOC, PetroChina and Sinopec, are planned to come on stream. At the same time, key ramp-ups are expected from Changqing, Kenli 10-2, Wushi 17-2 and Kenli 6-4.

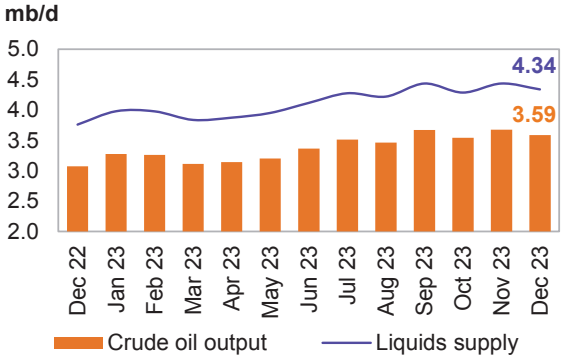
Chinese liquids production is expected to remain steady, y-o-y, and is forecast to average 4.6 mb/d in **2025**. For next year, oil and gas condensate projects like Bozhong 19-6, Huizhou 26-6, Peng Lai 19-9, Shengli, Wushi 17-2, Liaohe and Xijiang 30-2, operated by CNOOC and Sinopec, are planned to come on stream. At the same time, key ramp-ups are expected from Changqing, Tarim, Xibei, Peng Lai 19-9 and Xi'nan.

Latin America

Brazil

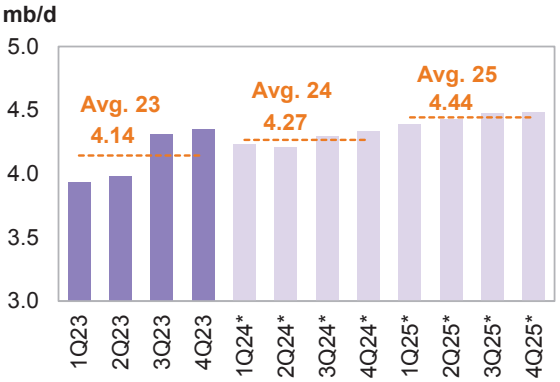
Brazil's crude output in **December** fell by 93 tb/d, m-o-m, to average 3.6 mb/d. NGL production, however, remained largely unchanged at an average of around 80 tb/d and was expected to remain flat in January 2024. Biofuel output (mainly ethanol) remained mostly unchanged at an average of 0.7 mb/d, with preliminary data showing a stable trend in January 2024. The country's total liquids production decreased by 96 tb/d in December to average 4.3 mb/d, but was higher by 0.6 mb/d, y-o-y.

Graph 5 - 23: Brazil's monthly liquids production development by type



Sources: Brazilian National Agency of Petroleum, Natural Gas and Biofuels (ANP) and OPEC.

Graph 5 - 24: Brazil's quarterly liquids production



*Note: * 1Q24-4Q25 = Forecast. Sources: ANP and OPEC.*

For **2023**, Brazil's liquids supply, including biofuels, is estimated to rise by 0.4 mb/d, y-o-y, to average 4.1 mb/d, unchanged from the previous month's assessment. Higher production bases last year were due to the ramp-ups of new units, improving performance of existing assets, and fewer maintenance events.

For **2024**, Brazil's liquids supply, including biofuels, is forecast to increase by about 120 tb/d, y-o-y, to average 4.3 mb/d. Crude oil output is expected to increase through production ramp-ups in the Buzios (Franco), Mero (Libra NW), Tupi (Lula) and Itapu (Florim) fields. Oil project start-ups are expected at the Atlanta, Pampo-Enchova Cluster and Vida sites. However, increasing costs in the offshore market and inflation might continue to delay projects and could temper growth in the short term.

Brazil's liquids supply, including biofuels, is forecast to increase by about 180 tb/d, y-o-y, to average 4.4 mb/d in **2025**. Crude oil output is expected to increase through production ramp-ups in the Buzios (Franco), Mero (Libra NW), Tupi (Lula), Marlim and Atlanta fields. Oil project start-ups are expected at the Buzios, Bacalhau (x-Carcara), Parque das Baleias, and Lapa (Carioca) fields.

Russia

Russia's liquids production in December is estimated to fall by about 90 tb/d, m-o-m, to average 10.8 mb/d. This includes 9.5 mb/d of crude oil and 1.3 mb/d of NGLs and condensate.

For **2023**, Russian liquids production is estimated to drop by 0.1 mb/d, to average 10.9 mb/d.

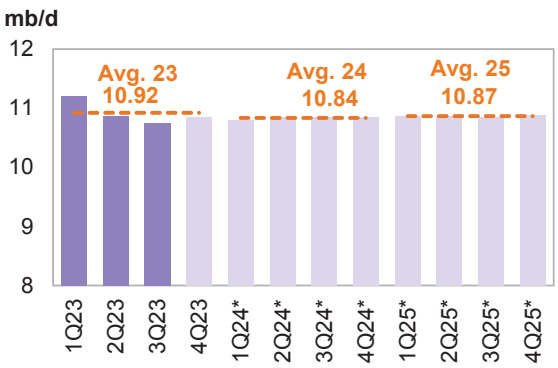
For **2024**, Russian liquids production is forecast to drop by about 80 tb/d compared with the previous year, averaging 10.8 mb/d. It is worth noting that this takes into account the announced production adjustments to the end of 2024. In addition to project ramp-ups at several oil fields, there will be start-ups by Rosneft, Russneft, Lukoil, Gazprom, Neftisa and TenderResurs. However, overall additional liquids production is expected to be offset by declines at mature fields.

Russian liquids production is forecast to increase marginally by 30 tb/d compared with the previous year, averaging 10.9 mb/d in **2025**. In addition to project ramp-ups at several oil fields, there will be start-ups by Lukoil, Russneft, Sheshmaoil, Gazprom, Rosneft and Sintek-Oil.

Graph 5 - 25: Russia's monthly liquids production

Sources: Nefte Compass and OPEC.

Graph 5 - 26: Russia's quarterly liquids production



*Note: * 1Q24-4Q25 = Forecast.*
Sources: Nefte Compass and OPEC.

Caspian

Kazakhstan & Azerbaijan

Liquids output in Kazakhstan rose by 57 tb/d, m-o-m, to average 2.0 mb/d in **December**. Crude production was up by 38 tb/d, m-o-m, to average 1.6 mb/d. NGL and condensate output increased by 19 tb/d, m-o-m, to an average of 0.4 mb/d.

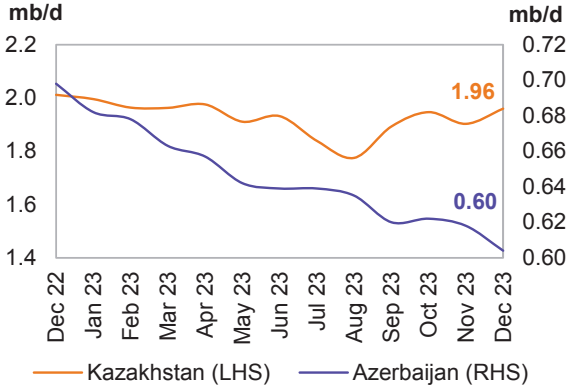
For **2023**, liquids supply is estimated to increase by 0.1 mb/d for an average of 1.9 mb/d, up by a minor 7 tb/d from the previous forecast.

Kazakh oil production disruptions in late November due to storms near the Russian port of Novorossiysk completely recovered in December.

For **2024**, the liquids supply is forecast to increase by about 20 tb/d to average 1.9 mb/d, revised down by 35 tb/d compared with the previous assessment, considering adjustment levels by countries in the DoC. Growth is expected mainly from production ramp-ups in the Tengiz oil field, given the expansion at the Tengizchevroil Future Growth Project (FGP) and the Wellhead Pressure Management Project in 2H24.

Kazakhstan's liquids supply is forecast to rise by about 100 tb/d to average 2.0 mb/d in **2025**. Growth is forecast to come mainly from the FGP oil (second phase) and several gas condensate project ramp-ups. Oil production in the Kashagan field and gas condensate output in the Karachaganak field are also expected to rise marginally.

Graph 5 - 27: Caspian monthly liquids production development by selected country



Sources: Nefte Compass, JODI and OPEC.

Azerbaijan's liquids production in **December** fell by 14 tb/d, m-o-m, averaging 0.6 mb/d, which is a drop of 94 tb/d, y-o-y. Crude production averaged 482 tb/d, with NGL output at 122 tb/d, according to official sources.

Azerbaijan's liquids supply for **2023** is estimated to drop by about 60 tb/d to average 0.6 mb/d. This is a downward revision of about 15 tb/d stemming from lower-than-expected production at major oil fields in December. The majority of declines in legacy reservoirs, like the Azeri-Chirag-Guneshli (ACG) oil fields, were estimated to offset ramp-ups in other fields last year.

Azerbaijan's liquids supply for **2024** is forecast to rise by about 20 tb/d to an average of 0.7 mb/d. Growth is forecast to come partly from the Shah Deniz, Absheron and Umid-Babek gas condensate projects. Production in Azerbaijan's ACG oil fields should also get a boost this year due to a seventh ACG platform.

Liquids supply in Azerbaijan is forecast to increase slightly by about 10 tb/d to average 0.7 mb/d in **2025.** Production increases in several projects like ACG and Umid-Babek are expected to largely offset declines from other mature fields.

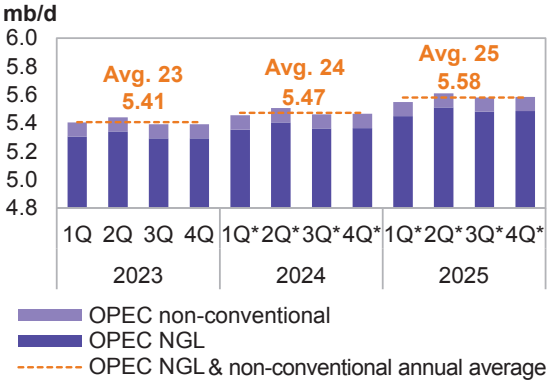
OPEC NGLs and non-conventional oils

OPEC NGLs and non-conventional liquids are estimated to expand by about 50 tb/d in **2023** to average 5.4 mb/d. NGL production is projected to grow by 50 tb/d to average 5.3 mb/d, while non-conventional liquids are forecast to remain unchanged at 0.1 mb/d.

Preliminary data shows NGL output in 4Q23 averaging 5.3 mb/d, while non-conventional output is estimated to remain steady at 0.1 mb/d. Taken together, 5.4 mb/d is estimated for December, according to preliminary data.

The preliminary **2024** forecast indicates a combined growth of 65 tb/d for an average of 5.5 mb/d. NGL production is projected to grow by 65 tb/d to average 5.4 mb/d, while non-conventional liquids are projected to remain unchanged at 0.1 mb/d.

Graph 5 - 28: OPEC NGLs and non-conventional liquids quarterly production and forecast



*Note: * 1Q24-4Q25 = Forecast. Source: OPEC.*

The primary **2025** forecast points toward a combined growth of 110 tb/d for an average of 5.6 mb/d. NGL production is projected to grow by 110 tb/d to average 5.5 mb/d, while non-conventional liquids are projected to remain unchanged at 0.1 mb/d.

Table 5 - 6: OPEC NGLs + non-conventional oils, mb/d

OPEC NGL and non-coventional oils	2023	Change 23/22	2024	Change 24/23	1Q25	2Q25	3Q25	4Q25	2025	Change 25/24
OPEC NGL	**5.31**	*0.05*	**5.37**	*0.06*	5.45	5.51	5.48	5.48	**5.48**	*0.11*
OPEC non-conventional	**0.10**	*0.00*	**0.10**	*0.00*	0.10	0.10	0.10	0.10	**0.10**	*0.00*
Total	**5.41**	***0.05***	**5.47**	***0.06***	**5.55**	**5.61**	**5.58**	**5.58**	**5.58**	***0.11***

Note: 2023 = Estimate, 2024-2025 = Forecast.
Source: OPEC.

OPEC crude oil production

According to secondary sources, total **OPEC-12 crude oil production** averaged 26.34 mb/d in January 2024, lower by 350 tb/d, m-o-m. Crude oil output increased mainly in the UAE, Saudi Arabia and Venezuela, while production in Libya, Kuwait, Iraq and Algeria decreased.

Table 5 - 7: OPEC crude oil production based on *secondary sources*, tb/d

Secondary sources	2022	2023	2Q23	3Q23	4Q23	Nov 23	Dec 23	Jan 24	Change Jan/Dec
Algeria	1,018	977	980	953	962	963	958	911	*-46*
Congo	261	260	264	259	250	252	241	247	*5*
Equatorial Guinea	84	58	62	61	55	53	54	61	*7*
Gabon	194	203	203	202	216	216	220	211	*-9*
IR Iran	2,554	2,858	2,698	3,003	3,151	3,165	3,168	3,163	*-5*
Iraq	4,439	4,275	4,135	4,289	4,305	4,270	4,292	4,194	*-98*
Kuwait	2,704	2,595	2,585	2,560	2,552	2,567	2,543	2,434	*-109*
Libya	981	1,164	1,168	1,160	1,171	1,180	1,177	1,015	*-162*
Nigeria	1,204	1,307	1,233	1,271	1,377	1,319	1,422	1,419	*-3*
Saudi Arabia	10,531	9,609	10,150	8,993	8,956	8,942	8,940	8,965	*25*
UAE	3,066	2,950	2,941	2,912	2,907	2,907	2,896	2,927	*31*
Venezuela	684	751	757	769	775	781	782	796	*14*
Total OPEC	**27,719**	**27,008**	**27,176**	**26,433**	**26,678**	**26,615**	**26,692**	**26,342**	***-350***

Notes: Totals may not add up due to independent rounding, given available secondary sources to date.
Source: OPEC.

Table 5 - 8: OPEC crude oil production based on *direct communication*, tb/d

Direct communication	2022	2023	2Q23	3Q23	4Q23	Nov 23	Dec 23	Jan 24	Change Jan/Dec
Algeria	1,020	973	971	951	958	960	954	907	*-47*
Congo	262	271	280	269	259	253	260	258	*-2*
Equatorial Guinea	81	55	59	58	53	53	52	52	*0*
Gabon	191	..	203	..	..	..	..	..	..
IR Iran	..	..	..	..	..	..	..	..	..
Iraq	4,453	4,117	3,959	4,101	4,123	4,093	4,086	3,979	*-107*
Kuwait	2,707	2,590	2,590	2,548	2,548	2,548	2,548	2,413	*-135*
Libya	..	1,189	1,181	1,187	1,191	1,206	1,179	1,040	*-139*
Nigeria	1,138	1,234	1,144	1,201	1,313	1,250	1,335	1,427	*91*
Saudi Arabia	10,591	9,606	10,124	8,969	8,901	8,818	8,944	8,956	*12*
UAE	3,064	2,944	2,941	2,904	2,892	2,894	2,891	2,925	*34*
Venezuela	716	783	808	797	796	801	802	841	*40*
Total OPEC	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	***..***

Notes: .. Not available. Totals may not add up due to independent rounding.
Source: OPEC.

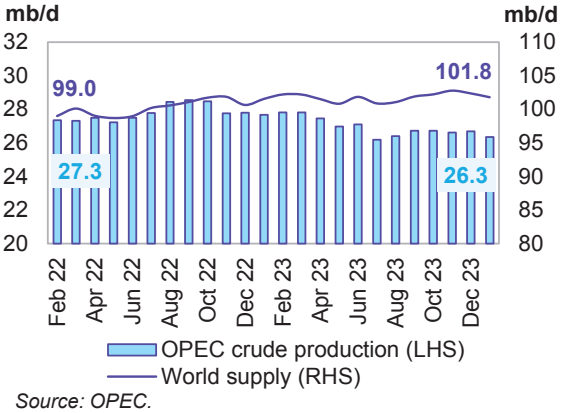
World oil supply

Preliminary data indicates that **global liquids production in January** decreased by 0.6 mb/d to average 101.8 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) is estimated to have decreased by 0.2 mb/d, m-o-m, in January to average 75.5 mb/d. This is higher by 1.6 mb/d, y-o-y. Preliminary estimated production decreases in January were mainly seen in the US and Other Eurasia, and were partially offset by rises in China, Canada and Brazil.

The **share of OPEC crude oil in total global production** in January, decreased by 0.2 pp to stand at 25.9% compared with the previous month. Estimates are based on preliminary data for non-OPEC supply, OPEC NGLs and non-conventional oil, while assessments for OPEC crude production are based on secondary sources.

Graph 5 - 29: OPEC crude production and world oil supply development



Source: OPEC.

Commercial Stock Movements

Preliminary December 2023 data shows total OECD commercial oil stocks down by 22.6 mb, m-o-m. At 2,767 mb, they were 14 mb lower than the same time one year ago, 80 mb lower than the latest five-year average and 159 mb below the 2015–2019 average. Within the components, crude and product stocks fell by 11.3 mb, m-o-m, each.

OECD commercial crude stocks stood at 1,342 mb in December. This was 25 mb lower than the same time a year ago, 35 mb below the latest five-year average and 86 mb lower than the 2015–2019 average.

OECD total product stocks fell by 11.3 mb in December to stand at 1,425 mb. This is 11 mb above the same time a year ago, but 46 mb lower than the latest five-year average and 73 mb below the 2015–2019 average.

In terms of days of forward cover, OECD commercial stocks dropped by 0.4 days, m-o-m, in December, to stand at 60.6 days. This is 0.7 days lower than the level registered in December 2022, 2.3 days lower than the latest five-year average and 1.7 days less than the 2015–2019 average.

Preliminary data for January 2023 shows that total US commercial oil stocks fell by 19.6 mb, m-o-m, to stand at 1,232 mb. This is 23.1 mb, or 1.8%, lower than the same month in 2023, and 37.8 mb, or 3.0%, below the latest five-year average. Crude and product stocks fell by 9.2 mb and 10.5 mb, m-o-m, respectively.

OECD

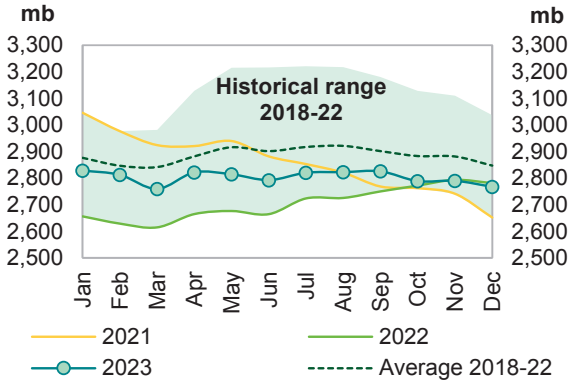
Preliminary December 2023 data shows **total OECD commercial oil stocks** down by 22.6 mb, m-o-m. At 2,767 mb, they were 14 mb lower than the same time one year ago, 80 mb lower than the latest five-year average and 159 mb below the 2015–2019 average.

Within the components, crude and product stocks fell by 11.3 mb, m-o-m, each.

Total commercial oil stocks in December fell in all three OECD regions.

OECD commercial crude stocks stood at 1,342 mb in December. This was 25 mb lower than the same time a year ago, 35 mb below the latest five-year average, and 86 mb lower than the 2015–2019 average. Within the OECD regions, OECD Americas and OECD Asia Pacific saw crude stock draws of 11.1 mb and 0.8 mb, m-o-m, respectively, while crude stocks in OECD Europe rose by 0.6 mb.

Graph 9 - 1: OECD commercial oil stocks



Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

OECD total product stocks fell by 11.3 mb in December to stand at 1,425 mb. This is 11 mb above the same time a year ago, but 46 mb lower than the latest five-year average and 73 mb below the 2015–2019 average.

Within the OECD regions, product stocks in OECD Americas and OECD Asia Pacific witnessed draws of 4.0 mb and 4.6 mb, respectively, m-o-m. OECD Europe product stocks also fell, declining by 2.7 mb.

Table 9 - 1: OECD commercial stocks, mb

OECD stocks	Dec 22	Oct 23	Nov 23	Dec 23	Change Dec 23/Nov 23
Crude oil	1,366	1,336	1,353	1,342	*-11.3*
Products	1,415	1,453	1,437	1,425	*-11.3*
Total	**2,781**	**2,788**	**2,790**	**2,767**	***-22.6***
Days of forward cover	**61.3**	**61.2**	**61.0**	**60.6**	***-0.4***

Note: Totals may not add up due to independent rounding.
Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

In terms of **days of forward cover**, OECD commercial stocks dropped by 0.4 days, m-o-m, in December, to stand at 60.6 days. This is 0.7 days lower than the level registered in December 2022, 2.3 days lower than the latest five-year average and 1.7 days less than the 2015–2019 average.

Within the OECD regions, OECD Americas stood at 1.5 days and OECD Asia Pacific 1.2 days below the latest five-year average, at 61.4 days and 45.8 days, respectively. OECD Europe was 4.5 days below the latest five-year average, standing at 68.0 days.

OECD Americas

OECD Americas' total commercial stocks fell by 15.1 mb, m-o-m, in December to settle at 1,516 mb. This is 24.2 mb higher than the same month in 2022, but 11.9 mb below the latest five-year average.

Commercial **crude oil stocks** in OECD Americas dropped by 11.1 mb, m-o-m, in December to stand at 754 mb, which is 5.4 mb less than in December 2022 and 5.3 mb lower than the latest five-year average.

Total product stocks in OECD Americas fell m-o-m by 4.0 mb in December to stand at 761 mb. This is 29.6 mb higher than the same month in 2022, but 6.6 mb below the latest five-year average. Higher consumption in the region was behind the product stock draw.

OECD Europe

OECD Europe's total commercial stocks fell by 2.1 mb, m-o-m, in December to settle at 892 mb. This is 43.8 mb lower than the same month in 2022, and 56.4 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** increased by 0.6 mb, m-o-m, to end December at 401 mb. This is 17.0 mb less than one year ago and 15.8 mb lower than the latest five-year average.

Europe's **total product stocks** dropped by 2.7 mb, m-o-m, to end December at 492 mb. This is 26.7 mb less than the same time a year ago and 40.6 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks fell by 5.4 mb, m-o-m, in December to stand at 359 mb. This is 5.3 mb higher than the same time a year ago, but 12.0 mb below the latest five-year average.

OECD Asia Pacific's **crude stocks** fell by 0.8 mb, m-o-m, to end December at 186 mb. This is 2.4 mb lower than one year ago and 13.5 mb below the latest five-year average.

OECD Asia Pacific's **total product stocks** dropped by 4.6 mb, m-o-m, to end December at 172 mb. This is 7.7 mb higher than one year ago and 1.4 mb above the latest five-year average.

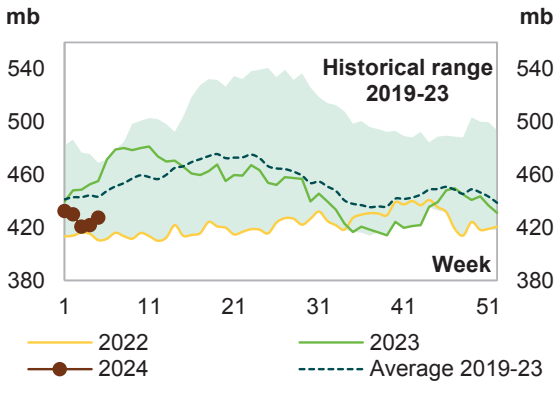
US

Preliminary data for **January 2023** shows that **total US commercial oil stocks** fell by 24.1 mb, m-o-m, to stand at 1,227 mb. This is 27.5 mb, or 2.2%, lower than the same month in 2023 and 42.3 mb, or 3.3%, below the latest five-year average. Crude and product stocks fell by 3.6 mb and 20.4 mb, m-o-m, respectively.

US commercial **crude stocks** in January stood at 427 mb. This is 32.4 mb, or 7.0%, less than the same month in 2023, and 20.4 mb, or 4.5%, below the latest five-year average. The monthly drop in crude oil stocks came despite the decline in crude runs.

Total product stocks fell in January to stand at 800 mb. This is 4.9 mb, or 0.6%, higher than January 2023 levels, but 21.9 mb, or 2.7%, below the latest five-year average. The product stock draw can be attributed to higher product consumption.

Graph 9 - 2: US weekly commercial crude oil inventories



Sources: EIA and OPEC.

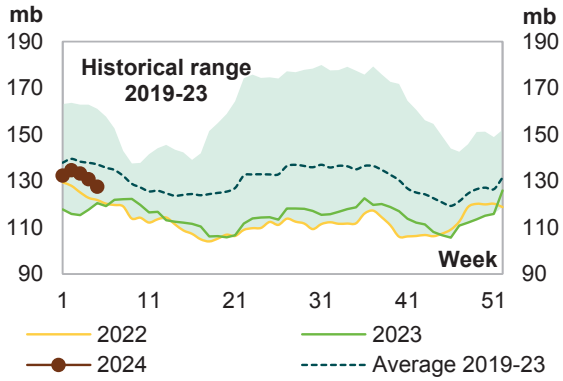
Gasoline stocks rose by 14.0 mb, m-o-m, in January to settle at 251 mb. This is 11.3 mb, or 4.7%, higher than the same month in 2023, but 4.0 mb, or 1.6%, less than the latest five-year average.

Distillate stocks increased by 1.7 mb, m-o-m, in January to stand at 128 mb. This is 4.6 mb, or 3.7%, higher than the same month in 2023, but 11.6 mb, or 8.3%, below the latest five-year average.

Jet fuel stocks rose by 1.2 mb, m-o-m, ending January at 41 mb. This is 5.0 mb, or 14.0%, higher than the same month in 2023 and 0.5 mb, or 1.3%, above the latest five-year average.

Residual fuel oil stocks increased by 2.8 mb, m-o-m, in January. At 27 mb, they were 4.6 mb, or 14.4%, lower than a year earlier and 2.8 mb, or 9.2%, below the latest five-year average.

Graph 9 - 3: US weekly distillate inventories



Sources: EIA and OPEC.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Jan 23	Nov 23	Dec 23	Jan 24	Change Jan 24/Dec 23
Crude oil	**459.8**	**442.1**	**431.1**	**427.4**	***-3.6***
Gasoline	239.7	223.6	237.0	251.0	*14.0*
Distillate fuel	123.0	113.8	125.9	127.6	*1.7*
Residual fuel oil	32.1	25.8	24.7	27.5	*2.8*
Jet fuel	35.9	38.9	39.7	40.9	*1.2*
Total products	**794.8**	**825.0**	**820.1**	**799.6**	***-20.4***
Total	**1,254.6**	**1,267.1**	**1,251.1**	**1,227.1**	***-24.1***
SPR	**371.6**	**351.9**	**354.4**	**358.0**	***3.6***

Sources: EIA and OPEC.

Japan

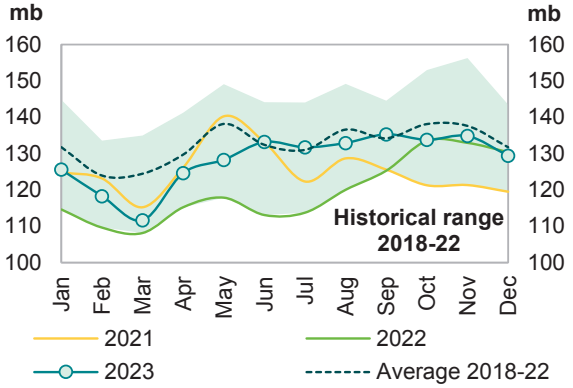
In **Japan**, **total commercial oil stocks** in **December** fell by 5.4 mb, m-o-m, to settle at 129.5 mb. This is 1.0 mb, or 0.7%, lower than the same month in 2022 and 2.3 mb, or 1.8%, below the latest five-year average. Crude and product stocks fell by 0.8 mb and 4.6 mb, respectively.

Japanese **commercial crude oil stocks** fell by 0.8 mb, m-o-m, in December to stand at 71.5 mb. This is 0.3 mb, or 0.4%, higher than the same month in 2022 and 1.3 mb, or 1.9%, above the latest five-year average. The build in crude stocks could be attributed to higher crude imports, which increased in December by 66 tb/d, or 2.5%, m-o-m, to an average of 2.66 mb/d.

Gasoline stocks fell by 0.5 mb, m-o-m, to stand at 9.9 mb in December. This is 0.3 mb, or 2.9%, lower than a year earlier and 0.9 mb, or 8.0%, lower than the latest five-year average.

Distillate stocks fell by 4.2 mb, m-o-m, to end December at 26.8 mb. This is 0.3 mb, or 1.2%, less than the same month in 2022, and 1.9 mb, or 6.5%, lower than the latest five-year average.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Within the distillate components, jet fuel, kerosene and gasoil stocks dropped by 2.7%, 17.5% and 2.6%, respectively.

By contrast, **total residual fuel oil stocks** rose m-o-m by 0.2 mb to end December at 12.5 mb. This is 0.7 mb, or 6.3%, higher than the same month in 2022, but 0.1 mb, or 0.6%, below the latest five-year average. Within the components, fuel oil A and fuel oil BC stocks rose by 0.6% and 1.9%, m-o-m, respectively.

Table 9 - 3: Japan's commercial oil stocks*, mb

Japan's stocks	Dec 22	Oct 23	Nov 23	Dec 23	Change Dec 23/Nov 23
Crude oil	**71.3**	**68.4**	**72.3**	**71.5**	***-0.8***
Gasoline	10.2	10.4	10.4	9.9	*-0.5*
Naphtha	10.0	10.1	8.7	8.7	*0.0*
Middle distillates	27.1	31.8	31.0	26.8	*-4.2*
Residual fuel oil	11.8	13.0	12.4	12.5	*0.2*
Total products	**59.1**	**65.4**	**62.5**	**57.9**	***-4.6***
Total**	**130.4**	**133.8**	**134.8**	**129.5**	***-5.4***

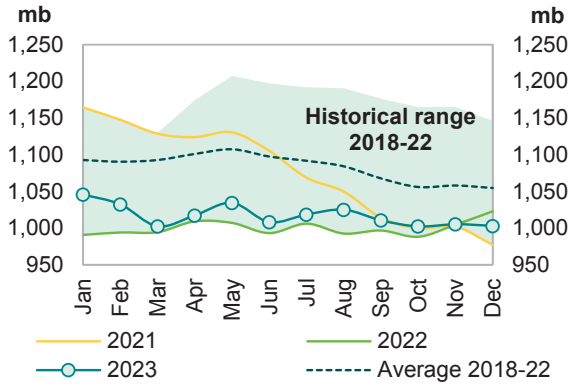
*Note: * At the end of the month. ** Includes crude oil and main products only.*
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for **December** showed that **total European commercial oil stocks** fell by 2.1 mb, m-o-m, to stand at 1,003 mb. At this level, they were 19.7 mb, or 1.9%, below the same month in 2022, and 51.7 mb, or 4.9%, less than the latest five-year average. Crude stocks rose by 0.6 mb, while product stocks fell by 2.7 mb, m-o-m.

European **crude stocks** stood at 426.2 mb in December. This is 7.0 mb, or 1.6%, lower than the same month in 2022 and 26.5 mb, or 5.9%, below the latest five-year average. The build in crude oil stocks came on the back of lower refinery throughput in the EU-14, plus the UK and Norway, which fell by around 210 tb/d, m-o-m, to stand at 9.36 mb/d.

Graph 9 - 5: EU-14 plus UK and Norway total oil stocks



Sources: Argus, Eurolstock and OPEC.

By contrast, **total European product stocks** fell by 2.7 mb, m-o-m, to end December at 576.8 mb. This is 12.7 mb, or 2.2%, less than the same month in 2022, and 25.2 mb, or 4.2%, below the latest five-year average. The build could be attributed to high demand in the region.

Gasoline stocks rose by 0.8 mb, m-o-m, in December to stand at 106.3 mb, which is 2.0 mb, or 1.8%, lower than the same time in 2022, and 6.0 mb, or 5.4%, lower than the latest five-year average.

By contrast, **middle distillate stocks** fell by 1.8 mb, m-o-m, in December to stand at 385.4 mb. This is 0.1 mb, less than the same month in 2022, and 15.6 mb, or 3.9%, lower than the latest five-year average.

Residual fuel stocks fell by 1.4 mb, m-o-m, in December to stand at 56.2 mb. This is 8.9 mb, or 13.7%, lower than the same month in 2022 and 4.8 mb, or 7.9%, below the latest five-year average.

Naphtha stocks were down by 0.3 mb, m-o-m, in December, ending the month at 28.9 mb, which is 1.7 mb, or 5.7%, below the same time in 2022, but 1.2 mb, or 4.3%, higher than the latest five-year average.

Table 9 - 4: EU-14 plus UK and Norway's total oil stocks, mb

EU stocks	Dec 22	Oct 23	Nov 23	Dec 23	Change Dec 23/Nov 23
Crude oil	**433.2**	**429.8**	**425.6**	**426.2**	***0.6***
Gasoline	108.2	105.2	105.4	106.3	*0.8*
Naphtha	30.6	29.7	29.2	28.9	*-0.3*
Middle distillates	385.5	382.1	387.2	385.4	*-1.8*
Fuel oils	65.1	55.4	57.7	56.2	*-1.4*
Total products	**589.5**	**572.3**	**579.5**	**576.8**	***-2.7***
Total	**1,022.7**	**1,002.2**	**1,005.1**	**1,003.0**	***-2.1***

Sources: Argus, Eurolstock and OPEC.

Singapore, Amsterdam-Rotterdam-Antwerp (ARA) and Fujairah

Singapore

In **December**, **total product stocks in Singapore** rose by 2.5 mb, m-o-m, to stand at 42.7 mb. This is 1.4 mb, or 3.1%, lower than the same month in 2022 and 2.3 mb, or 5.2%, below the latest five-year average.

Light distillate stocks rose by 1.4 mb, m-o-m, in December to stand at 13.2 mb. This is 1.8 mb, or 11.8%, lower than the same month in 2022 and 0.5 mb, or 3.3%, below the latest five-year average.

Residual fuel oil stocks also increased by 2.4 mb, m-o-m, ending December at 21.8 mb. This is 0.7 mb, or 3.3%, higher than in December 2022 and 1.1 mb, or 5.1%, above the latest five-year average.

By contrast, middle distillate stocks dropped by 1.3 mb, m-o-m, in December to stand at 7.7 mb. This is 0.3 mb, or 3.4%, lower than in December 2022, and 2.9 mb, or 27.6%, lower than the latest five-year average.

ARA

Total product stocks in ARA in December fell by 2.3 mb, m-o-m. At 37.8 mb, they were 4.8 mb, or 11.3%, below the same month in 2022, and 5.1 mb, or 11.9 %, less than the latest five-year average.

Gasoline stocks fell by 3.4 mb, m-o-m, ending December at 7.7 mb. This is 3.7 mb, or 32.3%, lower than in December 2022, and 2.5 mb, or 24.7%, below the latest five-year average.

Jet oil stocks also dropped by 0.1 mb, m-o-m, to stand at 5.7 mb. This is 1.1 mb, or 16.6%, lower than in December 2022 and 0.6 mb, or 9.4%, below the latest five-year average.

By contrast**, gasoil stocks** in December rose by 0.5 mb, m-o-m, to stand at 13.5 mb. This is 1.1 mb, or 7.6%, less than the same month in 2022, and 2.6 mb, or 16.3%, lower than the latest five-year average.

Fuel oil stocks increased by 0.4 mb, m-o-m, in December to stand at 8.6 mb, which is 1.4 mb, or 20.2%, higher than in December 2022, and 1.1 mb, or 14.6%, above the latest five-year average.

Fujairah

During the week ending 5 February 2024, **total oil product stocks in Fujairah** rose by 1.05 mb, w-o-w, to stand at 18.76 mb, according to data from FEDCom and S&P Global Commodity Insights. At this level, total oil stocks were 1.13 mb higher than at the same time a year ago.

Middle distillate stocks rose by 0.38 mb, w-o-w, to stand at 2.54 mb, which is 0.81 mb higher than the same time last year.

Heavy distillate stocks also rose by 0.71 mb, w-o-w, to stand at 9.59 mb, which is 1.06 mb above the same period a year ago.

By contrast, **light distillate stocks** fell by 0.04 mb, w-o-w, to stand at 6.63 mb, which is 0.74 mb lower than a year ago.

Balance of Supply and Demand

Demand for OPEC crude in 2023 stood at 27.4 mb/d. This is around 0.1 mb/d higher than in 2022.

According to secondary sources, OPEC crude production averaged 27.0 mb/d in 2023, which is 0.4 mb/d lower than demand for OPEC crude.

Demand for OPEC crude in 2024 is forecast to stand at 28.4 mb/d, which is 1.0 mb/d higher than the level estimated for 2023.

Demand for OPEC crude in 2025 is forecast to stand at 28.8 mb/d, which is 0.5 mb/d higher than the level forecast for 2024.

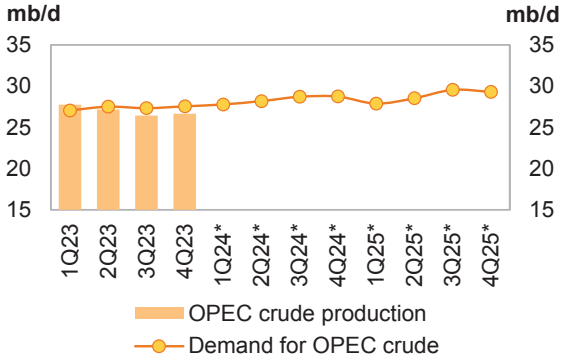
Balance of supply and demand in 2024

Demand for OPEC crude in 2024 was revised down by 0.1 mb/d from the previous assessment to stand at 28.4 mb/d, around 1.0 mb/d higher than the level estimated for 2023.

Compared with the previous assessment, demand for OPEC crude for 1Q24 was revised down by 0.1 mb/d, while demand in 2Q24 and 3Q24 was revised down by 0.2 mb/d for each quarter. Meanwhile, demand for OPEC crude remained unchanged for 4Q24 compared with the previous assessment.

Compared with the same quarters in 2023, demand for OPEC crude in 1Q24 and 2Q24 is forecast to be 0.7 mb/d higher each. Meanwhile, it is expected to increase by 1.4 mb/d and 1.2 mb/d, q-o-q, in 3Q24 and 4Q24, respectively.

Graph 10 - 1: Balance of supply and demand, 2023–2025*



*Note: * 1Q24-4Q25 = Forecast.*
Source: OPEC.

Table 10 - 1: Supply/demand balance for 2024*, mb/d

	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23
(a) World oil demand	**102.16**	**103.32**	**103.91**	**104.88**	**105.47**	**104.40**	***2.25***
Non-OPEC liquids production	69.36	70.06	70.20	70.68	71.24	70.55	*1.19*
OPEC NGL and non-conventionals	5.41	5.45	5.50	5.46	5.46	5.47	*0.06*
(b) Total non-OPEC liquids production and OPEC NGLs	**74.77**	**75.51**	**75.70**	**76.14**	**76.71**	**76.02**	***1.25***
Difference (a-b)	**27.39**	**27.80**	**28.21**	**28.73**	**28.77**	**28.38**	***0.99***
OPEC crude oil production	**27.01**						
Balance	**-0.38**						

*Note: * 2024 = Forecast. Totals may not add up due to independent rounding.*
Source: OPEC.

Balance of supply and demand in 2025

Demand for OPEC crude in 2025 was revised down by 0.1 mb/d from the previous assessment to stand at 28.8 mb/d, an increase of 0.5 mb/d over the level forecast for 2024.

Compared with the last MOMR, demand for OPEC crude for the first three quarters of 2025 was revised down by 0.2 mb/d each quarter, but remaining unchanged for 4Q25.

Compared with the same quarters in 2024, demand for OPEC crude in 1Q25 and 2Q25 is forecast to be 0.1 mb/d and 0.3 mb/d higher, respectively. The demand for OPEC crude in 3Q25 and 4Q25 is expected to be 0.8 mb/d and 0.6 mb/d higher, respectively.

Table 10 - 2: Supply/demand balance for 2025*, mb/d

							Change
	2024	1Q25	2Q25	3Q25	4Q25	2025	2025/24
(a) World oil demand	**104.40**	**105.15**	**105.65**	**106.94**	**107.23**	**106.25**	***1.85***
Non-OPEC liquids production	70.55	71.69	71.49	71.78	72.31	71.82	*1.27*
OPEC NGL and non-conventionals	5.47	5.55	5.61	5.58	5.58	5.58	*0.11*
(b) Total non-OPEC liquids production and OPEC NGLs	**76.02**	**77.24**	**77.10**	**77.36**	**77.89**	**77.40**	***1.38***
Difference (a-b)	**28.38**	**27.91**	**28.55**	**29.58**	**29.34**	**28.85**	***0.47***

*Note: * 2025 = Forecast. Totals may not add up due to independent rounding.*

Source: OPEC.

Table 11 - 1: World oil demand and supply balance, mb/d

World oil demand and supply balance	2021	2022	2023	1Q24	2Q24	3Q24	4Q24	2024	1Q25	2Q25	3Q25	4Q25	2025
World demand													
Americas	24.28	24.79	25.01	24.68	25.38	25.58	25.22	25.22	24.74	25.43	25.70	25.30	25.30
of which US	*20.03*	*20.16*	*20.30*	*20.09*	*20.67*	*20.67*	*20.47*	*20.48*	*20.12*	*20.70*	*20.73*	*20.52*	*20.52*
Europe	13.19	13.51	13.41	13.12	13.57	13.66	13.40	13.44	13.14	13.58	13.68	13.41	13.46
Asia Pacific	7.34	7.38	7.35	7.84	6.97	7.09	7.59	7.37	7.85	6.98	7.10	7.60	7.38
Total OECD	**44.81**	**45.68**	**45.77**	**45.64**	**45.93**	**46.33**	**46.21**	**46.03**	**45.73**	**46.00**	**46.48**	**46.32**	**46.13**
China	15.10	14.95	16.19	16.13	16.77	17.09	17.29	16.82	16.56	17.15	17.53	17.68	17.23
India	4.77	5.14	5.34	5.63	5.64	5.40	5.59	5.56	5.85	5.88	5.61	5.82	5.79
Other Asia	8.67	9.07	9.28	9.61	9.74	9.49	9.51	9.59	9.90	10.07	9.82	9.81	9.90
Latin America	6.25	6.44	6.68	6.79	6.88	6.97	6.84	6.87	6.99	7.07	7.19	7.04	7.07
Middle East	7.79	8.30	8.63	8.91	8.76	9.38	9.00	9.01	9.29	9.10	9.84	9.35	9.40
Africa	4.22	4.40	4.46	4.65	4.37	4.39	4.82	4.56	4.77	4.47	4.52	4.93	4.67
Russia	3.62	3.75	3.84	3.89	3.80	3.99	4.08	3.94	3.95	3.85	4.05	4.12	3.99
Other Eurasia	1.21	1.15	1.17	1.27	1.24	1.08	1.28	1.22	1.30	1.27	1.12	1.31	1.25
Other Europe	0.75	0.77	0.79	0.81	0.78	0.77	0.84	0.80	0.82	0.79	0.78	0.85	0.81
Total Non-OECD	**52.38**	**53.98**	**56.39**	**57.68**	**57.99**	**58.55**	**59.26**	**58.37**	**59.42**	**59.66**	**60.45**	**60.91**	**60.11**
(a) Total world demand	**97.19**	**99.65**	**102.16**	**103.32**	**103.91**	**104.88**	**105.47**	**104.40**	**105.15**	**105.65**	**106.94**	**107.23**	**106.25**
Y-o-y change	***5.94***	***2.46***	***2.50***	***2.03***	***2.17***	***2.68***	***2.10***	***2.25***	***1.83***	***1.74***	***2.06***	***1.76***	***1.85***
Non-OPEC liquids production													
Americas	25.46	26.91	28.66	28.97	29.14	29.59	29.89	29.40	29.92	29.82	30.19	30.48	30.10
of which US	*18.06*	*19.28*	*20.89*	*21.00*	*21.35*	*21.61*	*21.76*	*21.43*	*21.78*	*21.94*	*22.14*	*22.26*	*22.03*
Europe	3.79	3.58	3.63	3.83	3.72	3.66	3.81	3.75	3.93	3.81	3.79	3.89	3.86
Asia Pacific	0.51	0.48	0.44	0.45	0.42	0.43	0.42	0.43	0.43	0.42	0.43	0.43	0.42
Total OECD	**29.77**	**30.97**	**32.73**	**33.25**	**33.28**	**33.69**	**34.12**	**33.59**	**34.27**	**34.04**	**34.40**	**34.80**	**34.38**
China	4.32	4.48	4.57	4.60	4.59	4.56	4.56	4.58	4.62	4.60	4.56	4.56	4.58
India	0.78	0.77	0.77	0.79	0.79	0.79	0.78	0.79	0.78	0.79	0.80	0.80	0.80
Other Asia	2.42	2.30	2.27	2.28	2.24	2.21	2.21	2.24	2.22	2.18	2.16	2.15	2.18
Latin America	5.96	6.34	6.94	7.24	7.22	7.33	7.39	7.30	7.49	7.52	7.59	7.65	7.56
Middle East	3.19	3.29	3.27	3.25	3.28	3.27	3.28	3.27	3.28	3.32	3.31	3.31	3.31
Africa	2.50	2.46	2.40	2.36	2.36	2.40	2.43	2.39	2.41	2.40	2.40	2.40	2.40
Russia	10.80	11.03	10.92	10.80	10.84	10.84	10.86	10.84	10.88	10.86	10.85	10.88	10.87
Other Eurasia	2.93	2.83	2.91	2.86	2.97	2.97	2.99	2.95	3.05	3.09	3.03	3.07	3.06
Other Europe	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Total Non-OECD	**33.01**	**33.61**	**34.16**	**34.29**	**34.40**	**34.48**	**34.60**	**34.44**	**34.84**	**34.87**	**34.80**	**34.93**	**34.86**
Total Non-OPEC production	62.77	64.58	66.89	67.54	67.68	68.16	68.72	68.03	69.11	68.91	69.20	69.73	69.24
Processing gains	2.29	2.40	2.47	2.52	2.52	2.52	2.52	2.52	2.58	2.58	2.58	2.58	2.58
Total Non-OPEC liquids production	**65.06**	**66.98**	**69.36**	**70.06**	**70.20**	**70.68**	**71.24**	**70.55**	**71.69**	**71.49**	**71.78**	**72.31**	**71.82**
OPEC NGL + non-conventional oils	5.25	5.36	5.41	5.45	5.50	5.46	5.46	5.47	5.55	5.61	5.58	5.58	5.58
(b) Total non-OPEC liquids production and OPEC NGLs	**70.31**	**72.34**	**74.77**	**75.51**	**75.70**	**76.14**	**76.71**	**76.02**	**77.24**	**77.10**	**77.36**	**77.89**	**77.40**
Y-o-y change	***0.76***	***2.03***	***2.43***	***1.30***	***1.49***	***1.30***	***0.91***	***1.25***	***1.72***	***1.40***	***1.22***	***1.19***	***1.38***
OPEC crude oil production (secondary sources)	25.22	27.72	27.01										
Total liquids production	95.53	100.06	101.78										
Balance (stock change and miscellaneous)	-1.66	0.40	-0.38										
OECD closing stock levels, *mb*													
Commercial	2,652	2,781	2,767										
SPR	1,484	1,214	1,212										
Total	**4,136**	**3,995**	**3,979**										
Oil-on-water	1,202	1,399	1,261										
Days of forward consumption in OECD, *days*													
Commercial onland stocks	58	61	60										
SPR	32	27	26										
Total	**91**	**87**	**86**										
Memo items													
(a) - (b)	**26.89**	**27.32**	**27.39**	**27.80**	**28.21**	**28.73**	**28.77**	**28.38**	**27.91**	**28.55**	**29.58**	**29.34**	**28.85**

Note: Totals may not add up due to independent rounding.

Source: OPEC.

https://www.iea.org/reports/oil-market-report-february-2024

Oil Market Report - February 2024

PublishedFebruary 2024

Highlights

- Global oil demand growth is losing momentum, with annual gains easing from 2.8 mb/d in 3Q23 to 1.8 mb/d in 4Q23. A sharp drop in China underpinned an 830 kb/d decline in global oil demand to 102.1 mb/d in the last quarter of 2023. The pace of expansion is set to decelerate further to 1.2 mb/d in 2024, compared with 2.3 mb/d last year. China, India and Brazil will continue to dominate gains.
- World oil supply in January posted a sharp decline of 1.4 mb/d m-o-m after an Arctic blast shut in production in North America and as OPEC+ deepened output cuts. Record output from the US, Brazil, Guyana and Canada will nevertheless help boost non-OPEC+ supply by 1.6 mb/d this year compared to 2.4 mb/d in 2023, when total global oil supply rose by 2 mb/d to an average 102.1 mb/d.
- Refinery throughputs are set to accelerate from a seasonal low of 81.5 mb/d in February. Atlantic Basin activity will recover from US weather-related disruptions that cut runs by up to 1.7 mb/d, despite a pickup in planned maintenance and as new capacity comes online in the non-OECD. For 2024 as a whole, refinery crude runs are forecast to rise by 1 mb/d to 83.3 mb/d, as a 330 kb/d decline in the OECD mitigates non-OECD gains.
- Refining margins recovered from early-January weakness in the Atlantic Basin, led by the US Gulf Coast following the mid-month winter freeze. Although Singapore margins posted a narrow m-o-m gain, the $4.50/bbl increase on average in USGC margins was driven by the late-month rally in cracks that pushed Atlantic Basin margins to their highest level since late September.
- Global observed oil stocks plummeted by about 60 mb in January, preliminary data indicate, with on-land inventories falling to their lowest level since at least 2016. In December, global stocks rose by 21.6 mb as a surge in oil on water (+60.7 mb) more than offset draws in on-land inventories (-39 mb). OECD industry stocks fell by 24.1 mb in December, reflecting declines in all three regions.
- Amid intensifying hostilities in the Middle East and North American supply outages, ICE Brent futures rose by $5/bbl during January - their first monthly gain since September. The forward structure flipped from contango to backwardation, as diverted Red Sea tanker traffic congested Asia-Europe supply chains and delayed flows into the Atlantic Basin. At the time of writing, Brent was trading at $83/bbl.

Winter freeze

Global oil market balances tightened in January despite apparent demand weakness. An extreme Arctic freeze that swept through key oil producing regions in the United States and Canada prompted significant supply outages that coincided with fresh voluntary output curbs by some OPEC+ countries. Escalating geopolitical tensions in the Middle East added further upward momentum, as oil tankers circumventing the Red Sea disrupted supply flows to global markets. Brent crude oil futures rose by $5/bbl during the month and were trading around $83/bbl at the time of writing.

The expansive post-pandemic growth phase in global oil demand has largely run its course. The pace of growth already eased sharply, from 2.8 mb/d in 3Q23 to 1.8 mb/d in 4Q23, with an

apparent slowdown in China underpinning an 830 kb/d decline in consumption in the final quarter of the year. The deceleration will gather pace in 2024, with world oil demand growth forecast to average 1.2 mb/d, only half last year's solid expansion. As in 2023, gains will be dominated by a few key countries, most notably China, and to a lesser extent India and Brazil. The three major economies are set to account for 78% of growth in global oil demand in 2024, that is forecast to reach a new peak of 103 mb/d.

While higher global oil supply this year, led by the United States, Brazil, Guyana and Canada, should more than eclipse the expected rise in world oil demand, a sharp decline in output in January set the year off to a difficult start. Extreme weather conditions shut in more than 900 kb/d of production across North America. The steep loss coincided with fresh OPEC+ voluntary output cuts of around 300 kb/d, resulting in a massive 1.4 mb/d m-o-m decline in global oil supply. However, the rising wave of non-OPEC+ oil growth resumes in 2Q24, driving output on an upward trajectory for the rest of the year. World oil supply is set to increase by 1.7 mb/d to a record 103.8 mb/d in 2024, with non-OPEC+ providing 95% of the incremental barrels.

With the robust outlook for non-OPEC+ supply, our balances suggest a slight build in inventories in 1Q24 despite the extension and deepening of OPEC+ supply curbs. From 2Q24 onwards, continuation of this strength could leave OPEC+ pumping above requirements for its crude oil if extra voluntary cuts are unwound in the second quarter.

Given heightened geopolitical risks and low global oil inventories, a modest surplus may help contain market volatility. While oil on water surged by 60 mb in December due to end-year tax considerations and as a number of tanker owners diverted ships away from the Red Sea to around the Cape of Good Hope, observed onshore stocks declined by nearly 40 mb. Preliminary data suggest further draws in January, of more than 60 mb, with observable on-land stocks falling to their lowest level since at least 2016, the start of our data series. Low oil inventories exacerbate the price impact of supply and demand shocks and may limit the industry's ability to respond to unexpected strength in demand or disruptions to supply. As the IEA celebrates its 50th anniversary this week, oil supply security remains as critical as ever.

OPEC+ crude oil production[1]

million barrels per day

	Dec 2023 Supply	Jan 2024 Supply	Jan Prod vs Target	Jan-2024 Implied Target[1]	Sustainable Capacity[2]	Eff Spare Cap vs Jan[3]
Algeria	0.95	0.91	0.0	0.91	0.99	0.08
Congo	0.26	0.25	-0.03	0.28	0.27	0.02
Equatorial Guinea	0.05	0.05	-0.02	0.07	0.06	0.02
Gabon	0.22	0.23	0.06	0.17	0.23	0
Iraq	4.33	4.23	0.23	4.0	4.82	0.59
Kuwait	2.55	2.47	0.06	2.41	2.86	0.39
Nigeria	1.36	1.4	-0.1	1.5	1.41	0.01
Saudi Arabia	8.95	8.97	-0.01	8.98	12.11	3.14
UAE	3.21	3.21	0.3	2.91	4.28	1.07
Total OPEC-9[4]	**21.88**	**21.72**	**0.5**	**21.22**	**27.02**	**5.3**
Iran[5]	3.15	3.15			3.8	
Libya[5]	1.18	1.03			1.23	0.2
Venezuela[5]	0.8	0.83			0.82	-0.01
Total OPEC	**27.01**	**26.73**			**32.87**	**5.5**
Azerbaijan	0.48	0.47	-0.08	0.55	0.54	0.07
Kazakhstan	1.62	1.62	0.15	1.47	1.67	0.05
Mexico[6]	1.62	1.64			1.65	0.01
Oman	0.8	0.76	0.0	0.76	0.85	0.09
Russia	9.48	9.44	-0.01	9.45	9.86	
Others [7]	0.82	0.85	-0.02	0.87	0.88	0.04
Total Non-OPEC	**14.83**	**14.79**	**0.05**	**13.1**	**15.44**	**0.25**
OPEC+ 18 in Nov 2022 deal[5]	**35.09**	**34.87**	**0.55**	**34.32**	**40.82**	**5.54**
Total OPEC+	**41.84**	**41.52**			**48.32**	**5.75**

1. Includes extra voluntary curbs where announced. 2. Capacity levels can be reached within 90 days and sustained for an extended period. 3. Excludes shut in Iranian, Russian crude. 4. Angola left OPEC effective 1 Jan 2024. 5. Iran, Libya, Venezuela exempt from cuts. 6. Mexico excluded from OPEC+ compliance. 7. Bahrain, Brunei, Malaysia, Sudan and South Sudan.

IEA World Oil Supply and Demand Forecasts: Summary (Table)

2024-02-15 09:00:00.5 GMT

By Kristian Siedenburg

(Bloomberg) -- Following is a summary of world oil supply and demand forecasts from the International Energy Agency in Paris:

	4Q 2024	3Q 2024	2Q 2024	1Q 2024	4Q 2023	3Q 2023	2Q 2023	1Q 2023	2024	2023
	Demand									
Total Demand	103.7	103.8	102.8	101.7	102.1	102.9	101.8	100.2	103.0	101.8
Total OECD	45.9	45.7	45.6	45.4	46.0	46.0	45.7	45.4	45.7	45.8
Americas	25.1	25.3	25.1	24.6	25.2	25.3	25.2	24.5	25.0	25.0
Europe	13.2	13.4	13.4	13.1	13.3	13.6	13.5	13.1	13.3	13.4
Asia Oceania	7.6	7.1	7.0	7.7	7.5	7.1	7.0	7.8	7.4	7.3
Non-OECD countries	57.8	58.0	57.2	56.3	56.1	56.9	56.2	54.9	57.3	56.0
FSU	5.0	5.0	4.8	4.8	4.9	5.0	4.9	4.9	4.9	4.9
Europe	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
China	17.2	17.5	17.0	16.6	16.4	16.9	16.6	15.6	17.1	16.4
Other Asia	14.9	14.3	14.8	14.8	14.6	14.1	14.5	14.4	14.7	14.4
Americas	6.5	6.5	6.4	6.3	6.4	6.5	6.3	6.2	6.4	6.3
Middle East	8.9	9.5	9.0	8.7	8.6	9.4	8.8	8.7	9.0	8.9
Africa	4.4	4.3	4.3	4.3	4.3	4.2	4.3	4.3	4.4	4.3
	Supply									
Total Supply	n/a	n/a	n/a	n/a	102.8	101.9	101.8	101.8	n/a	102.1
Non-OPEC	71.1	70.9	70.6	69.7	70.3	69.5	68.5	68.0	70.6	69.1
Total OECD	32.5	32.0	31.8	31.6	32.0	31.2	30.5	30.4	32.0	31.1
Americas	28.8	28.4	28.1	27.9	28.3	27.7	26.9	26.7	28.3	27.4
Europe	3.3	3.1	3.2	3.3	3.2	3.1	3.2	3.3	3.2	3.2
Asia Oceania	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5
Non-OECD	32.9	32.9	33.0	32.9	32.8	32.4	32.4	32.7	32.9	32.6
FSU	13.7	13.7	13.8	13.7	13.8	13.6	13.8	14.2	13.7	13.8
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.3	4.3	4.4	4.3	4.3	4.2	4.3	4.3	4.3	4.3
Other Asia	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.6	2.7
Americas	6.8	6.7	6.7	6.7	6.5	6.3	6.0	6.0	6.7	6.2
Middle East	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Africa	2.4	2.4	2.4	2.5	2.4	2.5	2.4	2.3	2.4	2.4
Processing Gains	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.4
Total OPEC	n/a	n/a	n/a	n/a	32.5	32.4	33.2	33.8	n/a	33.0
Crude	n/a	n/a	n/a	n/a	27.0	26.9	27.8	28.3	n/a	27.5
Natural gas liquids NGLs	5.6	5.6	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.5
Call on OPEC crude and stock change *	27.0	27.2	26.7	26.5	26.2	27.9	27.9	26.7	26.8	27.2

NOTE: Figures are in million of barrels per day. (*) equals total demand minus non-OPEC supply and OPEC natural gas liquids.

IEA changed the way it measures OPEC supply, adopting the industry-standard approach of counting most of Venezuela's Orinoco heavy oil as "crude oil."

SOURCE: International Energy Agency

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Mark Evans

IEA: January Crude Oil Production in OPEC Countries (Table)
2024-02-15 09:00:00.3 GMT
By Kristian Siedenburg
(Bloomberg) -- Following is a summary of oil production in OPEC countries from the International Energy Agency in Paris:

	Jan. 2024	Dec. 2023	Jan. MoM
Total OPEC	26.73	27.01	-0.28
Total OPEC9	21.72	21.88	-0.16
Algeria	0.91	0.95	-0.04
Congo	0.25	0.26	-0.01
Equatorial Guinea	0.05	0.05	0.00
Gabon	0.23	0.22	0.01
Iraq	4.23	4.33	-0.10
Kuwait	2.47	2.55	-0.08
Nigeria	1.40	1.36	0.04
Saudi Arabia	8.97	8.95	0.02
UAE	3.21	3.21	0.00
Iran	3.15	3.15	0.00
Libya	1.03	1.18	-0.15
Venezuela	0.83	0.80	0.03

NOTE: Figures are in million of barrels per day. Monthly level change calculated by Bloomberg. Production data excludes condensates.
OPEC9 excludes Iran, Libya and Venezuela.
SOURCE: International Energy Agency

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IEA REPORT WRAP: Global Supply Is Growing Faster Than Demand
2024-02-15 10:29:32.348 GMT
By Rachel Graham
(Bloomberg) -- The following stories were published Thursday from the IEA's monthly Oil Market Report:
* Oil Demand Growth Slows While Non-OPEC Supply Climbs
** Global oil demand growth slowed by 35% in fourth quarter
** 2024 global oil demand growth forecast at 1.2m b/d vs 2.3m last year
* Global supply to eclipse demand gains in 2024

** Global 2024 supply to increase by 1.7m b/d to record 108.8m b/d
** Oil supply fell 1.4m b/d m/m in January on OPEC+ cuts, weather
** IEA sees slight build in oil inventories in 1Q
* OPEC+ Output Fell 330K B/D in January as Only Some Members Cut
** Crude production table for OPEC countries in January
* IEA World Oil Supply and Demand Forecasts: Table showing quarterly demand mainly by region
* IEA World Oil Supply/Demand Key Forecasts; Shows Main Revisions

OTHER STORIES:
* Oil Stored at Sea Plunged as China Bought Sanctioned Crude
* China's Oil Product Exports to Drop This Year, IEA Says
** Chinese Gasoline Demand is Showing More Seasonal Variation
** China's oil consumption in 4Q slid by 500k b/d from previous quarter
* Physical Oil Tighter After Red Sea Created East-West Divide
* Russia Oil Revenue at 3-Month High on Price Rebound
** Ukraine drone attacks have yet to affect Russian fuel exports
* India's LPG Demand Surged to All-Time High
* Global Refining Growth to Be Led by East of Suez This Year

Growth in Oil Refining to Be Led by Middle East, IEA Says

m b/d	2019	2020	2021	2022	2023	2024
OECD Americas	19.1	16.6	17.7	18.7	18.7	18.6
OECD Europe	12.2	10.7	11.0	11.5	11.4	11.3
OECD Asia	6.8	5.9	5.8	6.1	5.9	5.7
China	13.4	13.7	14.4	13.7	15.0	15.3
Other Asia	10.4	9.3	9.7	10.2	10.5	10.6
FSU	6.9	6.5	6.8	6.5	6.6	6.6
Middle East	7.9	7.1	7.8	8.3	8.5	9.2
Africa	2.0	1.9	1.8	1.8	1.6	1.9

Source: IEA Bloomberg

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IEA Sees Oil Market in Surplus as Demand Growth Loses Steam (1)
2024-02-15 10:15:00.990 GMT
By Grant Smith
(Bloomberg) -- Global oil demand growth is losing steam while supplies outside OPEC+ continue to swell, potentially leaving markets in surplus all year, the International Energy Agency said.
Growth in world consumption slowed by about 35% in the fourth quarter of last year compared with the preceding three months amid a deceleration in China, the IEA said in its monthly report. In 2024 as a whole, the agency continues to see global demand increasing by 1.2 million barrels a day — just half the rate of last year.
"Global oil demand growth is losing momentum," the Paris-based adviser to major consuming nations said. "The expansive post-pandemic growth phase in global oil demand has largely run its course."

At the same time, supplies outside the OPEC+ alliance are on track to increase by 1.6 million barrels a day, led by the US, Brazil, Canada and Guyana. World inventories are set for a small build this quarter instead of the decline forecast previously.
Oil prices are holding near $81 a barrel in London, after posting only modest gains this year as the sense of plentiful supplies allays fears over conflict in the Middle East and attacks on shipping in the Red Sea.
Last month, global oil balances tightened as winter storms shuttered output in North America and OPEC+ began new production cuts, resulting in a "massive" supply drop of 1.4 million barrels a day, the IEA said. However, the supply contraction may prove short-lived, as "the rising wave of non-OPEC+ oil growth resumes" in the second quarter.
Furthermore, the curbs by the Organization of Petroleum

Exporting Countries and its partners have been much smaller than announced. The group, led by Saudi Arabia, pledged cutbacks amounting to roughly 900,000 barrels a day this quarter, but last month its output fell by just 330,000 a day, according to the IEA's estimates.

If the coalition relaxes the curbs at the end March, markets would shift into an even larger surplus for the rest of the year, according to the report. Still, Riyadh has said the cuts can be prolonged, and OPEC+ delegates aim to make a decision on extension early next month.

"We would expect a rather comfortable oil market and moderate oil price evolution throughout 2024," IEA Executive Director Fatih Birol said at the agency's ministerial meeting in Paris on Tuesday.

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OPEC+ Output Fell 330K B/D in Jan. as Only Some Members Cut: IEA

2024-02-15 09:00:00.0 GMT

By James Herron

(Bloomberg) -- OPEC+ crude production fell by 330k b/d in January, a smaller reduction than pledged by members, the IEA said in its monthly report.

* The IEA had expected about 500k b/d of voluntary curbs in January, but only half of that volume was removed
* The rest of the reduction in supply came from Libya, which is exempt from making cuts, where protests shut down some fields and curbed output by 150k b/d
* Output from the 18 OPEC+ producers subject to quotas was 550k b/d above their targets

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IEA World Oil Supply/Demand Key Forecasts
2024-02-15 09:00:00.6 GMT
By Kristian Siedenburg
(Bloomberg) -- World oil demand 2024 forecast was unrevised at 103.0m b/d in Paris-based Intl Energy Agency's latest monthly report.
* 2023 world demand was revised to 101.8 from 101.7m b/d
* Demand change in 2024 est. 1.2% y/y or 1.22m b/d
* Non-OPEC supply 2024 was revised to 70.6m b/d from 70.4m b/d
* Call on OPEC crude 2024 was revised to 26.8m b/d from 27.0m b/d
* Call on OPEC crude 2023 was unrevised at 27.2m b/d
** OPEC crude production in Jan. fell by 280k b/d on the month to 26.7m b/d
* Detailed table: FIFW NSN S8W1WYGFA9Z4 <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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Oil Stored at Sea Plunged as China Bought Sanctioned Crude: IEA
2024-02-15 09:00:00.1 GMT
By Alex Longley
(Bloomberg) -- Floating storage for crude and condensate at the end of 2023 was the lowest since at least 2016 "as China snapped up big volumes of sanctioned oil," the IEA said in its monthly report.
* Reductions from a June 2020 peak have provided an average of 140k b/d of oil to the market
* Buying also reduced on-land stocks in both Iran and Venezuela
* Demand for Venezuelan and Iranian oil last year likely driven by lower availability of heavier sour crudes due to OPEC cuts and attractive discounts for sanctioned barrels

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China's Oil Product Exports to Drop This Year, IEA Says
2024-02-15 09:00:00.2 GMT
By Rachel Graham
(Bloomberg) -- China will probably cut exports of oil products this year as growth in crude runs slows, the IEA said in its monthly Oil Market Report.
* The current weakness in domestic margins has weighed on the independent refining industry
** Capacity closures in Shandong are likely
** The IEA cut its forecasts for China throughput for 1Q
* Still, runs look set to increase this year, the IEA said, noting Yulong is due to start later this year
* IEA also notes that the relative weakness in China's runs reflects the increased share of LPG/naphtha in the demand mix, much of which is met by imports
* Last year, China exported about 750k b/d of oil products

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Chinese Gasoline Demand is Showing More Seasonal Variation: IEA
2024-02-15 09:00:00.27 GMT
By Julian Lee
(Bloomberg) -- China's gasoline demand has become more seasonal, with peaks around national holidays, according to the International Energy Agency.
* Release of pent-up demand after travel restrictions were eased may account for some of the seasonal pattern seen last year, but structural changes to the Chinese economy probably also played a part
* "With rising spending power since the pandemic, greater discretionary travel has increased fuel use around national holidays and during the summer"
* Before the pandemic, Chinese gasoline demand "showed comparatively limited seasonal changes"
* But last year, mobility indicators and fuel demand "were more variable"
* The "2024 gasoline outlook shows two periods of elevated demand, one around the New Year holidays in February and the

other stretching from July to October”

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Physical Oil Tighter After Red Sea Created East-West Divide: IEA
2024-02-15 09:00:00.21 GMT
By Bill Lehane
(Bloomberg) -- Physical crude markets tightened last month after attacks on Red Sea shipping created a divide between the Atlantic Basin and East of Suez that was accentuated by North American production losses and OPEC production cuts, IEA says in monthly report.
* Spot crude oil prices posted an average m-o-m increase of $2/bbl
* “Attacks on ships transiting the Bab-el-Mandeb Strait continue to force a significant rerouting of supplies, resulting in a rise in freight rates and wider crude price differentials”
* Delayed arrivals also forced refiners to pick up short-haul barrels, boosting physical premiums and steepening backwardation
* Supply losses in US, Libya also put upward pressure on prompt North Sea prices. North Sea Dated rose to $2.84/bbl over ICE Brent in early February, strengthening from an average premium of $1.11/bbl in January
* Differentials for West African light sweet grades to North Sea Dated strengthened for a second consecutive month, supported by robust European demand and favorable refining margins
* Bonny Light added $1.16 a barrel to a premium of $1.95/bbl over Dated, while Qua Iboe added 87c to Dated +$2.05/bbl
* Angolan prices also firmed, buoyed by strong Asian interest, particularly from India as its refiners shifted away from Russian Sokol. Girassol rose by 44c to $+1.34/bbl, while heavy-sweet Dalia narrowed by $1.06/bbl to -$2.15/bbl
* Key Mediterranean grades like BTC Azeri and Es Sider strengthened in early January driven by supply disruptions in the US, Libya but then saw sharp declines by month-end after Libya production resumed

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Russia Oil Revenue at 3-Month High on Price Rebound, IEA Says
2024-02-15 09:00:00.12 GMT
By Bloomberg News
(Bloomberg) -- Russia's oil-export revenue showed modest growth to a three-month high in January amid a recovery in the price of the nation's crude, according to the International Energy Agency.
The top-three global producer earned $15.6 billion from exports of crude oil and petroleum products last month, up nearly 2% on December, the Paris-based agency said in its monthly oil report on Thursday.
"Average prices for all crudes exceeded the G-7 price cap," the IEA said, referring to the $60 limit imposed by the industrialized Group of Seven on the price of a Russian barrel. While most countries are free to buy the crude at a higher price, they cannot access such western services as shipping and insurance if they do so.
The weighted-average price of Urals, the main Russian oil-export blend, in January grew to around $62 a barrel, depending on the port of origin, according to IEA calculations. The premium ESPO blend last month traded at an average $73.62 a barrel, the report said.

Oil exports are a key source of funds for the Russian government's budget, which is burdened by massive spending on

the war in Ukraine and the need to maintain social expenditure ahead of presidential elections in March. In a move to reduce the flow of petrodollars to Russian coffers without disrupting immediate oil supplies to the global market, Western nations and their allies have imposed several rounds of energy sanctions against the Kremlin, including the price cap.

For months, Russia successfully ignored the restrictions by amassing a large shadow fleet of tankers to carry its oil to buyers in China, India, Turkey and Latin America. However, in the recent months the US has tightened monitoring of the cap, targeting Russia-linked traders, vessels and shipowners for violation of the threshold.

READ: US Sanctions Cause Russia-Friendly Oil Tankers to Halt Trading

Russia's total oil exports last month remained basically unchanged from December, at 7.69 million barrels a day, according to the IEA. The nation's crude exports fell by just 1% to 4.84 million barrels a day, as Russia has been diverting to other clients the Sokol crude unwanted by Indian buyers, who are concerned about price-cap violations.

"Recently diverted Sokol tankers went to Malaysia and Northeast Asia, while some Chinese independent refiners have reportedly boosted purchases," the IEA said.

Russia's January product exports even showed a little growth to 2.85 million barrels a day despite downstream disruptions driven by Ukrainian drone attacks, according to the IEA.

Amid the Kremlin's invasion, Ukrainian drones have been actively attacking some of major Russian refineries on a vast territory stretching between the Baltic and the Black Seas, aiming to reduce fuel production, exports and deliveries to the Russian military.

Three major refineries — Rosneft PJSC's Tuapse, Lukoil PJSC's Volgograd, and the independent Ilsky facility — plus Novatek PJSC's Ust-Luga gas-processing plant saw operational disruptions due to the drones. Rosneft's Ryazan refinery near Moscow was also damaged in a fire in the second half of January.

The attacks "have yet to affect product loadings, but the impact on trade flows could be significant if repair works are prolonged," the report said. "A decline in throughputs could drive a spike in crude exports," from Russia, it said.

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India's LPG Demand Surged to All-Time High, IEA Says
2024-02-15 09:00:00.20 GMT
By Jack Wittels
(Bloomberg) -- The use of LPG/ethane in India hit a record high of just over 1m b/d in January, the IEA said in its monthly Oil Market Report.
* The country's LPG demand has been supported by the government Ujjwala Yojana program that promotes clean cooking by facilitating domestic LPG use
** January's LPG/ethane consumption was 57% higher than in January 2016, the year the program started
** "In conjunction with some increases in petrochemical feedstock use, we expect this to drive a further rise of 50k b/d in LPG/ethane demand this year"

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Global Refining Growth to Be Led by East of Suez This Year: IEA
2024-02-15 09:00:00.7 GMT
By Rachel Graham
(Bloomberg) -- Growth in global oil refining capacity in 2024 will be dominated by the Middle East, China and Africa, the IEA said in its monthly Oil Market Report.
* The Middle East will add 630k b/d
** Kuwait Al Zour reached full capacity in early February, nearly 18 months after starting commercial runs
** Oman Duqm formally inaugurated this month
** Bahrain Sitra expansion to add to crude later in the year
* China capacity is set to increase by 340k b/d
** Still, closures in Shandong are likely
* Africa's capacity will increase by 260k b/d
** Nigeria's Dangote commissioning to extend into 2Q, with the nation's runs to add 200k b/d this year
** Region's runs also buoyed by the January start of Sentuo in Ghana
* In Latin America, the IEA notes that Venezuela's El Palito may return to full service in the coming months
* Global crude-processing capacity is set to increase by 1m b/d

to 83.3m this year, according to IEA estimates

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Revolution leader calls for two million people to come out tomorrow in solidarity with Palestinians

Revolution leader calls for two million people to come out tomorrow in solidarity with Palestinians

[15/February/2024]

SANA'A February 15. 2024 (Saba) -The revolution leader,Sayyed Abdul-Malik Badr al-Din al-Houthi, called on the Yemeni people to come out in millions tomorrow, Friday, in marches in Sabeen Square in the capital, Sana'a, and in the designated squares in the provinces, in solidarity with the oppression of the Palestinians , to support their resistance and their just cause.

Sayyed Abdul-Malik Badr al-Din al-Houthi said in his speech today regarding the latest developments , "I turn to our dear people and I call upon you with the call of God, I call upon you with the call of Al-Aqsa Al-Sharif, the call of the oppression of the Palestinians, the cries of their children, the tears of the bereaved and orphans, to the two-million exit tomorrow in Al-Sabeen Square in the capital, Sana'a, and the various provinces, to support Palestine and Al-Aqsa." .

He urged the continuation of demonstrations and marches, adding, "Continue and continue, do not get tired, do not lose heart, and do not become weak as long as the aggression against the Palestinians continues. Your exit and your position are a response to God, part of your jihad for the sake of God, and an expression of your loyalty, brotherhood, honor, and tribe."

The continuation of the Yemeni position:

Revolution Leader affirmed that the Yemeni people will continue their steadfast and principled stance with the Palestinians, their just cause, and their valiant resistance.

He said, "The advantage of the Yemeni position is the stability of the position, and neither American-British aggression nor the other means and methods of pressure that they tried to exercise against the Yemeni people affected it, including the issue of humanitarian aid, which they made a means of aggression against Yemen."

He added, "The American is preventing humanitarian aid from millions of Yemenis in supporting the Zionist enemy, and to further protect the Israeli crime against the Palestinians in Gaza," stressing that the Yemeni people will continue to remain steadfast in their position as long as the Zionist enemy continues to shed Palestinian blood and commit more Zionist crimes against the Palestinians.

Revolution Leader stressed the necessity of continuing mobilization, military training, other events, activities, and demonstrations as long as the aggression against Gaza continues.

He also stressed that the weekly exit of two million Yemeni people recorded a blank page in Yemen's history and its humanitarian record.

He continued, "The steadfastness and continuation of the two-million-man protest is an important feature in the position of our people that expresses the extent of faith, awareness, and sense of responsibility. It testifies to the steadfastness of our people and translates it into an integrated practical stance, from launching missiles to going out in demonstrations. It expresses manhood, honor, and non-destruction because the enemy wants to break the will of the Yemeni people."

He stated that the enemy considers the retreat from attendance, even at the level of demonstrations, as a defeat, retreat, and weakness.

He also pointed out that attendance at demonstrations expresses a sense of responsibility and demonstrates well-being, moral integrity, and humanity.

Revolution Leader urged the continuation of the weekly attendance of two million people, because it is of utmost importance in thwarting many of the enemies' plots , plans, and at the same time represents an obstacle for the enemies towards their plots.

He said, "If the enemies had noticed that there was a weakness in popular interaction, they would have pinned some hopes on that."

He addressed the Yemeni people by saying, "Your attendance on one day of the week in the demonstrations has this value, as it is part of your jihad for the sake of God and your human, faith, and moral responsibility."

Sayyed Abdul-Malik Badr al-Din al-Houthi stressed that the Yemeni people's exit in the capital, Sana'a, and the provinces expresses their faith, loyalty, manhood, and courage, in confronting America, Britain, Israel, and in defiance of the forces of hegemony , arrogance, and to express their condemnation of the brutal crimes of the Zionist enemy in Gaza, and not to ignore the painful scenes of the tears of the bereaved and the cries of children and women in Gaza.

He added, "You attend the squares because your conscience, your faith, and your feelings are alive, and because you are still a human being carrying human feelings, and overflowing with these feelings in your conscience. You go out for this reason and consideration. It is not an ordinary exit. Coming out at this historical stage, and within the framework of this important position of the Yemeni people, has meaning and importance." A great departure that expresses loyalty, faith, values, courage, freedom, dignity, and support for the Palestinians, who are part of the nation."

He continued, "We go out to demonstrations, even in the rain, to translate our faith identity and to express the truths and evidence of the Prophet's hadith, 'Faith is Yemeni, and wisdom is Yemeni.' Also, going out in demonstrations is a response to God and the Messenger of God, and to the requirements of faith affiliation and human conscience."

Sayyed Abdul-Malik Badr al-Din al-Houthi explained that going out in demonstrations is extremely important, and it is accessible, available, possible, and one should not get bored in front of it.

He said, "The mujahideen in Gaza are patient under a barrage of bombardment, missiles, and destructive and deadly shells, in a state of hunger, thirst, and other forms of suffering. Shall we not be patient to go out to the squares one day a week?" To express our support for a comprehensive position against launching missiles and drones against the Zionist enemy."

The leader promised the million-man exit as a message to the world that the Yemenis stand by the Palestinians and make them aware that there are free voices that emerged on the day many countries and peoples remained silent, an heard voice with a position, a voice carrying weapons , a rifle, a voice present for giving and taking a position at all levels."

The Zionist aggression on Gaza:

The Revolution Leader pointed out that the American-Zionist aggression against Gaza continues for the 19th consecutive week, committing the ugliest and most heinous crimes against the people, killing thousands of children , women, destroying civilian houses, and adventuring in committing heinous crimes.

He explained that the destructive bombs and missiles provided to the Zionist enemy are the latest technologies of America, Britain and some Western countries, so that this enemy excels in committing heinous crimes in Gaza by supporting the forces of evil with the most deadly and modern means of destruction and killing.

He said, "These high-explosive bombs are intended to confront armies that have military bases and huge military equipment, but they are dropped on the heads of children, women, and infrastructure in Gaza. This massive level of destruction and the continuation of crimes at a high rate in Gaza is due to the Americans for their superiority over Zionist capabilities."

He added, "The Israelis would not have inflicted all this comprehensive destruction and horrific crimes on Gaza Strip without the American support provided to them," considering that the Americans are primarily responsible for the level of destruction , crime in Gaza and its continuation for all this time.

Sayyed Abdul Malik pointed out that the Americans provide huge funding for heinous crimes and activated emergency provisions twice, as if the Israelis were part of the American army. He pointed out that the Israeli enemy transferred more than 25 thousand tons of American shells and missiles to kill children , women in Gaza , destroy houses, as well

as The American is directly involved in aviation, espionage , reconnaissance to provide the information necessary to build plans and operations.

He stated that the American participates with experts and in the meetings of the Israeli War Council due to his partnership in the operation and aggression against Gaza, provides protection at the regional level to the enemy entity , pressures , encourages some countries to take negative positions towards the people of Gaza.

He also stressed that American pressure forced countries to fail, weaken the Islamic position, and provide secret support to the Zionist enemy, and confront the free forces that support the Palestinian people, including the aggression against the Yemeni people.

The leader reviewed American political support for the enemy entity in the Security Council, using his veto to veto any humanitarian decision in favor of the residents of Gaza.

Zionist entity airstrikes in Gaza:

The revolution leader stated that the total air raids launched by the American-Zionist enemy on Gaza amounted to more than 46 thousand raids on a limited, densely populated geographical area, with the amount of explosives used by the enemy targeting Gaza equivalent to four atomic bombs of those dropped by America on the Japanese city of Hiroshima.

He said, "During the first two months alone, American officials admitted that the Israeli enemy dropped 29,000 American-made bombs on Gaza, and some reports indicate that America provided 3,000 bombs weighing up to 2,000 pounds, in addition to other types." He indicated that American bombs have the ability to Entire neighborhoods were destroyed, with deadly shrapnel extending up to 365 meters in Gaza

Sayyed Abdul-Malik Al-Houthi pointed out that the Israeli enemy used toxic white phosphorus bombs, with a burning temperature of up to 800 degrees Celsius, according to the Israeli enemy's admission that it fired more than 90 thousand shells and artillery missiles into Gaza within 50 days. The Zionist enemy also used various weapons to make Gaza Strip unsafe fit for life according to Zionist statements.

The humanitarian situation of the people of Gaza:

The revolution leader considered the health situation in Gaza Strip catastrophic in light of difficult circumstances in which epidemics are preparing to spread, medicines and clean water are lacking, , the remaining hospitals in Gaza are besieged and the enemy is creating a new tragedy there, as is the case with the Nasser Medical Complex.

He touched on the practices committed by the Zionist enemy, by stealing citizens' houses, which were not targeted by the Zionist bombing, the soldiers did not reach them even at the checkpoints to take, plunder and steal the money they owned.

He pointed to the horrific violations that Palestinian women prisoners are exposed to that affect human dignity in the enemy prisons, as a type of crime committed by the Zionist enemy against the Palestinian prisoners.

He denounced the despicableness of the Zionist enemy in exhuming two thousand graves, stealing more than 300 bodies, stealing vital organs from them, and destroying 13 cemeteries in the provinces of Gaza Strip. He explained that the situation had reached the point where the enemy's male and female soldiers were showing off and bragging about killing and executing children, as if they were heroics that they were recording for history.

The Zionists' danger :

Sayyed Abdul-Malik Al-Houthi said, "We are facing a dangerous enemy that poses a danger to all human society and an enemy that denies all values, morals, rights, and laws. The view of the Zionists must remain that they are not just opponents, but hateful enemies to a degree that man cannot imagine."

He praised the cohesion of the Palestinian resistance and its heroism in Gaza Strip, which is constantly being harassed by the Israeli enemy. There are bold and courageous operations carried out by the resistance against the entity's gangs. The dead and wounded among the Israeli enemy's soldiers are increasing, and the morale of its soldiers is shattered.

He stated that the statements of leaders and officers of the Israeli enemy reveal the ambitions of the Israeli enemy in Sina' and its focus on them. He asked, "In exchange for the American support for the enemy entity, most recently the $14 billion package, announced by the American President, where is the Arab support for Palestine?"

Sayyed Abdul-Malik mentioned that Arab countries have huge budgets that spend enormous amounts of money on

absurd and trivial matters, reviewing the positions of the Arab and Islamic countries, where many stand in the position of laziness and some stand in the position of colluding with the enemy and aiding the enemy in secret.

The fronts continue:

The Revolution Leader reiterated that the fronts supporting Gaza in Lebanon, Iraq and Yemen continue, including the Hezbollah front in Lebanon, which is constantly rising and harassing the Israeli enemy, as well as the mujahideen in Iraq, who have not yielded or retreated despite the American targeting of them.

The Yemeni front continues and is influential:

The revolution leader said, "Our front in Yemen is continuing, effective, and influential despite the American and British aggression in support of the Israeli enemy." He stressed that the American-British aggression is an aggression that has failed in achieving its goals, as the enemies themselves admit.

He stated that the American and British enemies recognized the influence of the Yemen front in supporting Gaza on the Israeli enemy and its economy, and with their aggression against Yemen, they got themselves into trouble and admitted their failure to impose a deterrence strategy.

He added, "Our operations at sea have had the effect of preventing the movement of ships linked to the Israeli enemy, almost reaching point zero." He considered the operations of the Yemeni armed forces at sea to be a strategic shift in the reality of the region and to have a major impact on American and British influence.

The American threat equations are over:

The revolution leader confirmed that the equation of threatening the American while everyone is watching has ended. Today there are those who do not submit to America , do not submit to its threats , stand seriously , sincerely to support the people of their nation and the Palestinian people.

He said, "What is taking place is a strategic shift and new equations have emerged on the scene for the benefit of our entire Islamic nation," expressing the hope that other countries will be encouraged by the free direction that the nation and its people need after the Americans achieved in the past beyond what they dreamed of.

He also confirmed that Yemen's position overturned the American goals and created a shift, new equations, and very important variables. The operations of the Yemeni armed forces at sea against the Israeli enemy stopped its movement in Bab al-Mandab and the Red Sea while it was among the largest beneficiaries. Indeed, it was among the largest beneficiaries of the commercial movement in the Red Sea.

Sayyed Abdul-Malik stated that Israeli imports and exports, according to the enemy's statistics for the year 2020, amount to about 133 billion dollars through Bab al-Mandab, and since Sana'a announced the decision to prevent the passage of ships linked to the Israeli enemy, the losses to the economy of the usurping enemy entity have doubled.

He added, "With the recognition of the Israeli enemy, the operations of our armed forces led to the almost complete closure of Umm al-Rashrash port, which was receiving about 7 million tons of goods and products and from which large quantities of exports were also issued."

He pointed out that all food supply chains to the enemy that were passing through Red Sea and Bab al-Mandab were halted by 70 percent, and the prices of goods in the enemy's markets rose by 30-50 percent after he was forced to divert his supplies through Good Hope.

The Leader cited the Israeli Ministry of Economy and Industry's admission that the Red Sea operations harmed its trade relations with 14 countries, as well as the loss of the competitiveness of its exports and led to a decline in the entity's total imports of products by 25 percent during the past months.

He pointed out the reluctance of international shipping companies to deal with the Israeli enemy and they no longer respond to it in transporting its goods, that international ship insurance companies refused to insure ships heading towards the occupied Palestine ports, required Israeli and American ships to pay additional amounts of up to 50 percent, which amounts to to a percentage of the value of the ship itself.

He explained that the rating of the strength of the Israeli enemy's economy decreased after it was one of the 15 largest strong economies in the world. He considered the decline in the rating of the enemy's economy following its aggression against Gaza and the Red Sea operations an important success and a real victory.

He said, "The American Retailers Association complained about the worsening problem in the Red Sea and its delay in shipments and increased costs. The impact of the operations on the British has reached such a degree that it even

affects the level of shortages in some types of tea."

Sayyed Abdulmalik reiterated the complete failure of the Americans and the British on the military level to protect ships linked to the Israeli enemy, and the enemies' insistence on continuing to fail inflicts on them huge costs without success or impact in limiting Yemeni military operations.

He added, "This week, our operations targeted ships linked to the American and a ship linked to the Israeli enemy. The enemies are in real loss , trouble, and their attacks are useless, but have negative consequences and effects on them."

American-British aggression:

The revolution leader stated that the enemy raids on Yemen during this week amounted to 40 raids, most of which were on Hodeida province and some on Sa'ada province... pointing to the giant achievement of the enemy raids in Sa'ada by targeting a farmer's car carrying plastic pipes, and this is a major failure.

He stressed that the enemies will not reach a result in their aggression against Yemen, and the only solution is to stop the aggression , deliver food and medicine to the residents of Gaza. He pointed out that the American-British support for the Israeli enemy aims for the Israelis to continue committing genocide crimes in Gaza.

He stated that America is trying to involve the rest of the countries with it in order to serve the Israeli enemy and European countries must be careful... stressing that the Yemeni military operations at sea aim to pressure the entry of food and medical supplies , the delivery of medicine and humanitarian needs to Gaza.

He said, "Our demand is a legitimate humanitarian one that can only be ignored or ignored by those who do not have an iota of human feelings left in their hearts. European countries should not listen to the Americans or the British, and should not involve themselves in matters that do not concern them or affect them."

Sayyed Abdul-Malik Badr al-Din al-Houthi urged all countries to leave the British and the Americans... He added, "We say to all countries, leave the British, the servile subordinate of the American, alone. Leave the American alone. America is adopting a strategy of implicating others and blackmailing them to reduce the cost and consequences of its bad, aggressive positions."

He stressed that the American failure in the strategy of implicating others will be an important part of his failure in multiple directions.

He praised the countries bordering the Red Sea that did not submit to the Americans and their diabolical steps and did not get involved with the Americans in their aggression against Yemen to support Israel. He praised all the countries in the world that have a clear voice attesting that the Red Sea operations are linked to the situation in Gaza.

The Revolution Leader praised the countries that rejected the American use of their lands to attack the Yemeni people. He saluted the President of Djibouti, who refused to use his country to launch raids on Yemen and declared his frank position in supporting oppression the Palestinians.

J.A

https://www.reuters.com/world/middle-east/ship-targeted-by-missile-red-sea-off-yemens-mokha-ukmto-2024-02-16/

India-bound oil tanker hit by missile in Red Sea attack

By Jana Choukeir, Ahmed Tolba and Daphne Psaledakis

February 16, 20241:37 PM MSTUpdated 4 hours ago

CAIRO, Feb 16 (Reuters) - A Panamanian-flagged tanker carrying crude oil bound for India was struck with a missile in the Red Sea, the U.S. State Department said on Friday.

The missile launched from Yemen hit the M/T Pollux on its port side, according to the State Department.

Earlier on Friday, the United Kingdom Maritime Trade Operations (UKMTO) agency and British maritime security firm Ambrey said a Panama-flagged tanker had reportedly been hit 72 nautical miles (133 km) northwest of the port of Mokha, off Yemen.

"The vessel ... reportedly sustained minor damage. The crew was reported safe and unharmed," Ambrey said.

"This is yet another example of the lawless attacks on international shipping, which continue after numerous joint and international statements calling the Houthis to cease," a State Department spokesperson said.

M/T Pollux embarked from Russia's Black Sea port city of Novorossiysk on Jan. 24 and was due to discharge in Paradip, India, on Feb 28, according to LSEG data. Indian Oil Company has a 300,000 barrels per day (bpd) oil refinery at Paradip, in eastern Odisha state.

The ship is owned by Oceanfront Maritime Co SA and managed by Sea Trade Marine SA, according to LSEG data. Representatives from those firms did not immediately respond to requests for comment.

Another vessel three nautical miles to the northeast of the M/T Pollux was observed altering course to port, away from the tanker, Ambrey said.

Yemen's Iran-backed Houthis have said they will press on with attacks on Red Sea shipping in solidarity with the Palestinians, as long as Israel continues to commit "crimes" against them.

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"Our operations have a big impact on the enemy which constitute a great success and a real triumph," Houthi leader Abdulmalik al-Houthi said in a televised speech on Thursday.

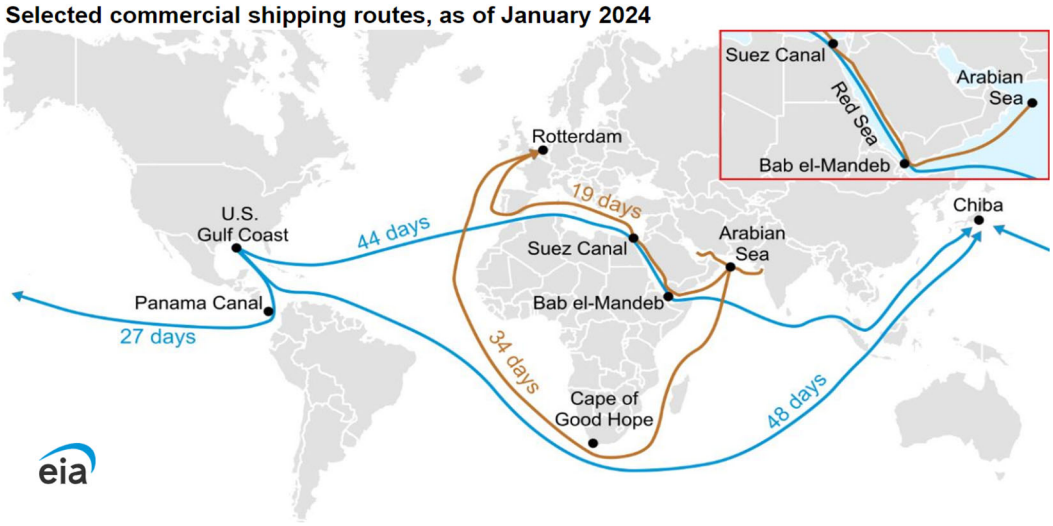
The attacks on ships have disrupted global commerce, stoked fears of inflation and deepened concern the Israel-Hamas war could spread.

Reporting by Jana Choukeir in Dubai, Ahmed Tolba in Cairo and Daphne Psaledakis in Washington, and Lisa Baertlein in Los Angeles; writing by Adam Makary and Hatem Maher; editing by Jason Neely, Alex Richardson, Jonathan Oatis and Barbara Lewis

https://www.eia.gov/todayinenergy/detail.php?id=61363

FEBRUARY 1, 2024

Red Sea attacks increase shipping times and freight rates



Data source: U.S. Energy Information Administration using calculations from Vortexa
Note: Voyage time is calculated for laden Suezmax tankers traveling at 14 knots without extended chokepoint delays.

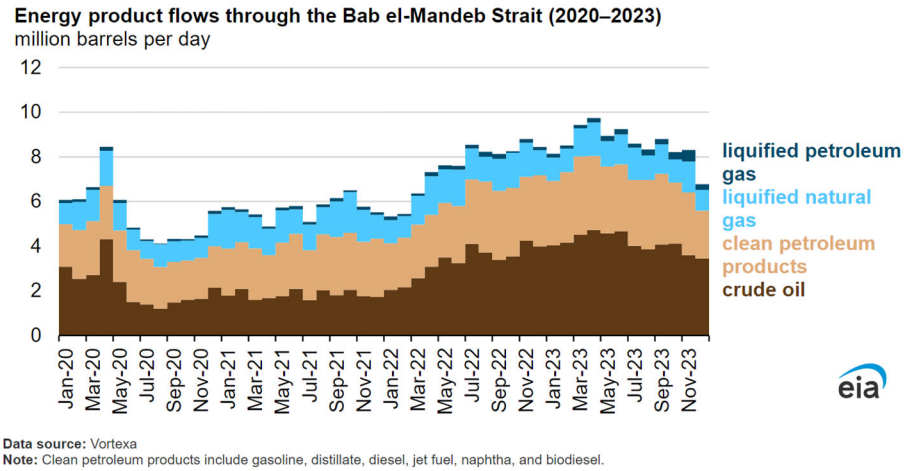
After Yemen-based Houthi militia attacks on commercial ships transiting the Red Sea started in November 2023, some vessels began opting to avoid the Bab el-Mandeb chokepoint—a narrow strait that borders the Yemeni coast and is the southern entrance to the Red Sea. Instead, they're choosing to take longer, more costly routes around the tip of Africa.

Ships transiting between Europe and Asia via the Suez Canal must pass through the Bab el-Mandeb Strait, which connects the Red Sea to the Gulf of Aden. The Bab el-Mandeb Strait is an important oil and natural gas chokepoint, accounting for 12% of seaborne oil trade and 8% of liquefied natural gas (LNG) trade in the first half of 2023. Major oil and natural gas companies that are avoiding the Red Sea include Equinor, which operates mostly natural gas carriers, and bp, which operates both oil and natural gas carriers. As of January 23, 2024, other major energy companies pausing Red Sea transits include Euronav, QatarEnergy, Torm, Shell, and Reliance.

Vessels that do not pass through the Suez Canal via the Bab el-Mandeb Strait and Red Sea can go around southern Africa via the Cape of Good Hope, but that route can add significant time to the voyage, depending on the ship's origin and its destination. A typical voyage from the Persian Gulf to the Amsterdam-Rotterdam-Antwerp petroleum trading hub (ARA) via the Suez Canal takes 19 days. If the ship takes the Cape of Good Hope route, it takes nearly 35 days to reach the ARA. For products leaving the U.S. Gulf Coast and heading toward Asia, vessels typically pass through the Panama Canal, which is nearly a month-long trip. Due to the ongoing drought and restrictions at the Panama Canal, more Very Large Gas Carriers (VLGCs), which primarily carry propane and butane, started going through the Suez Canal. Now some of these VLGCs are going around the Cape of Good Hope. A journey from the U.S. Gulf Coast to Chiba in Japan through the Suez Canal adds about 17 days and one through the Cape of Good Hope adds about 21 days, compared with going through the Panama Canal.

Longer routes put upward pressure on freight rates because of fuel costs and fewer available ships. A VLGC, for example, consumes about $30,000 to $35,000 worth of fuel per day if using high-sulfur bunker fuel at average 2023 prices. In addition to adding to fuel costs, a longer voyage requires more

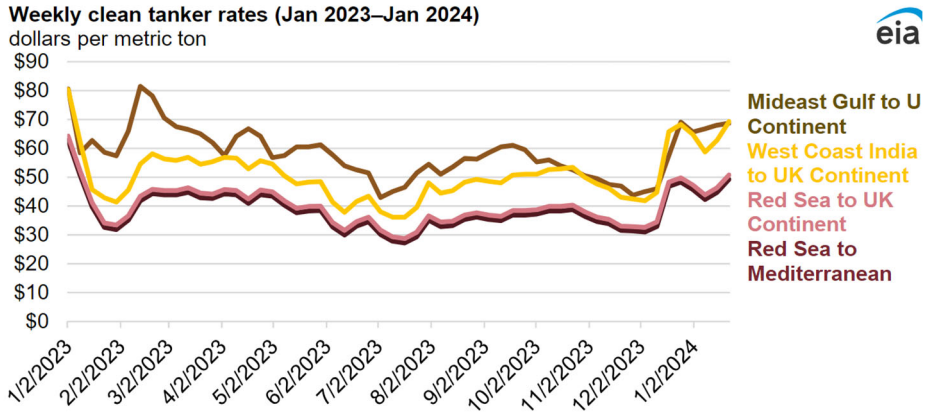
ships to maintain the same delivery schedule, and fewer available ships contribute to higher tanker rates and costs.



Data source: Vortexa
Note: Clean petroleum products include gasoline, distillate, diesel, jet fuel, naphtha, and biodiesel.

After the attacks began in November, flows of oil, refined products, and natural gas passing through the Bab el-Mandeb Strait slowed. About 18% less crude oil flowed through the Bab el-Mandeb in December than on average from January to November 2023. Most crude oil trade that goes through the Bab el-Mandeb Strait leaves Russia and Iraq en route to Asia and the Mediterranean, respectively. Clean petroleum product flows through the Bab el-Mandeb Strait were 30% lower in December than the rest of 2023. The majority of petroleum product trade leaves Saudi Arabia and India bound for Europe and leaves Russia bound for Asia.

In December, 24% less LNG and 1% more liquefied petroleum gas (LPG) were traded globally compared with the rest of 2023. Vessel restrictions at the Panama Canal due to a drought are causing more VLGCs leaving from the United States to head east toward either the Suez Canal or the Cape of Good Hope. LPG flows through the Bab el-Mandeb increased by 59% in 2023 compared with 2022 because water conservation efforts at the Panama Canal began in January 2023, causing delays and higher costs for VLGCs. The Combined Maritime Forces, a partnership representing 39 nations, warned ships to avoid the Bab el-Mandeb Strait on January 12, which will likely reduce passages through January 2024.



Data source: Argus Freight
Note: Rates are for long-range 1 tankers, except the Mideast Gulf to UK Continent rates, which are for medium-range tankers.

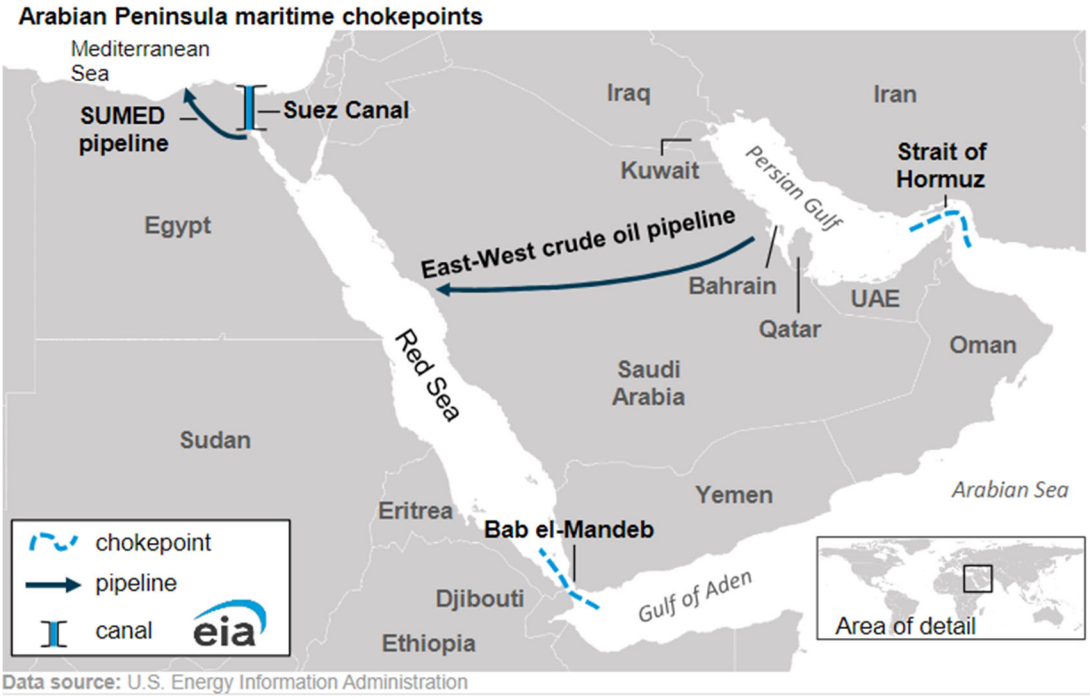
Clean petroleum product tanker rates for routes that cross the Bab el-Mandeb Strait and Suez Canal increased in December 2023 because of the ongoing conflict in the Red Sea. Because routes going through the Red Sea have elevated risk insurance premiums, these costs are passed on to tanker rates. For the four tanker rates that pass through the Red Sea, the average increase was 20% in December compared with November, according to Argus Freight. Long-range 1 tankers traveling from the western coast of India to the UK Continent increased the most (23%), and tankers traveling from the Mideast Gulf to the UK Continent increased the least (16%). Rates for dirty tankers, which mostly transport crude oil, have been relatively unchanged from the elevated prices in November.
Brent crude oil spot prices for the week ending November 17, 2023, the week before attacks on ships in the Red Sea began, were $82 per barrel (b). Since then, prices have traded in range, and they closed at $79/b as of January 18, 2024.

Principal contributor: Josh Eiermann

https://www.eia.gov/todayinenergy/detail.php?id=61025

DECEMBER 4, 2023

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



Data source: U.S. Energy Information Administration

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

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

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

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

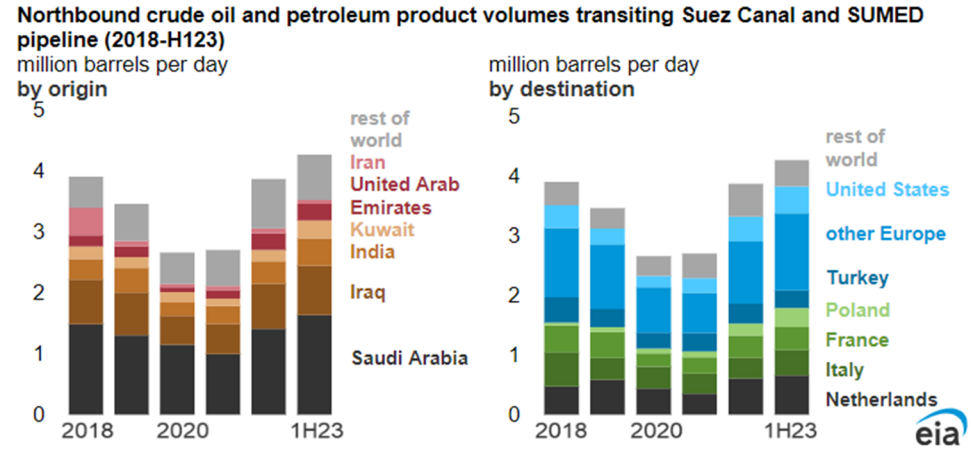
Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking
Note: LNG=liquefied natural gas, 1H23=first half of 2023

Oil shipments

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

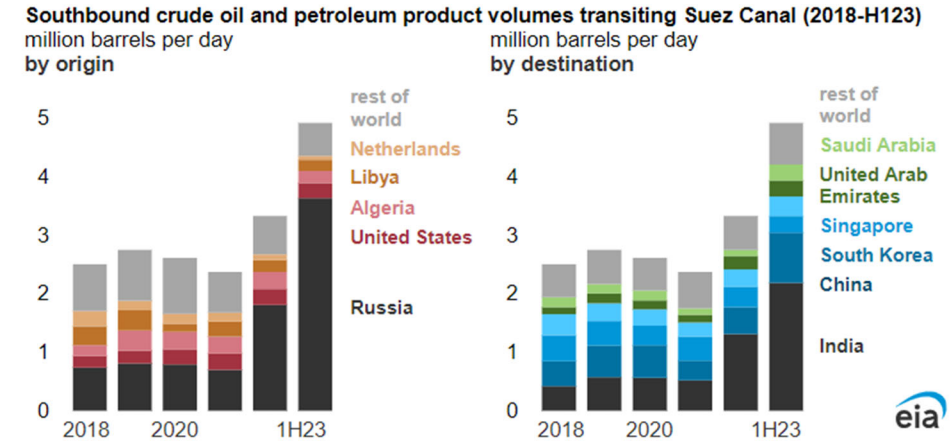
Iran reduced all exports from Iran, including those through the Suez Canal. In addition, less crude oil and oil products from Middle East producers moved through the Suez Canal because Europe imported less oil from the Middle East and more from the United States. The COVID-19 pandemic further reduced flows through the Suez Canal because of slowing global oil demand.

In the first half of 2023, northbound crude oil flowing through the Suez Canal and SUMED pipeline had increased by more than 60% from 2020, as demand in Europe and the United States rose from pandemic-induced lows. Also, Western sanctions on Russia's oil beginning in early 2022 shifted global trade patterns, leading Europe to import more oil from the Middle East via the Suez Canal and SUMED pipeline and less from Russia.



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

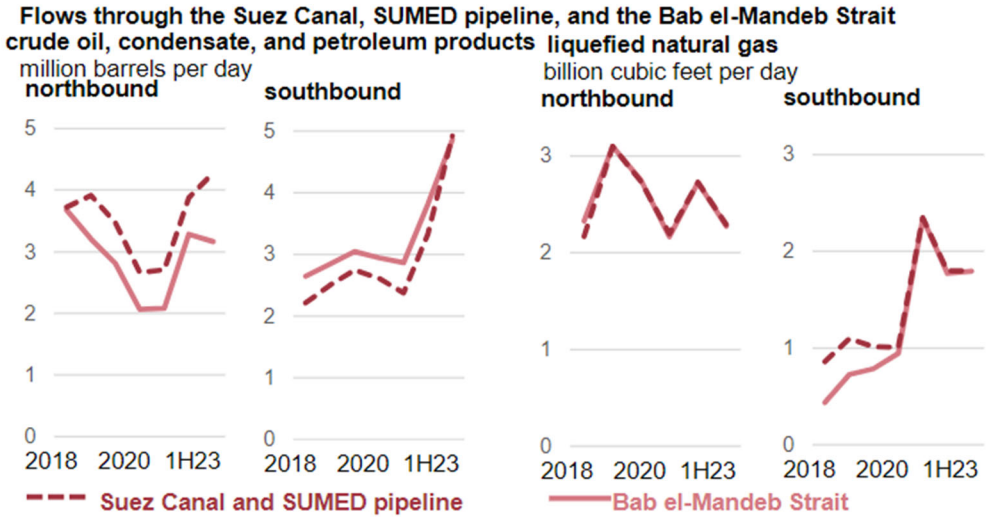
Southbound shipments through the Suez Canal rose significantly between 2021 and 2023, largely because of Western sanctions on Russia's oil exports. Oil exports from Russia accounted for 74% of Suez southbound oil traffic in the first half of 2023, up from 30% in 2021. Most of those export volumes were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



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

LNG shipments

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



Data source: U.S. Energy Information

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

Principal contributors: Candace Dunn, Justine Barden

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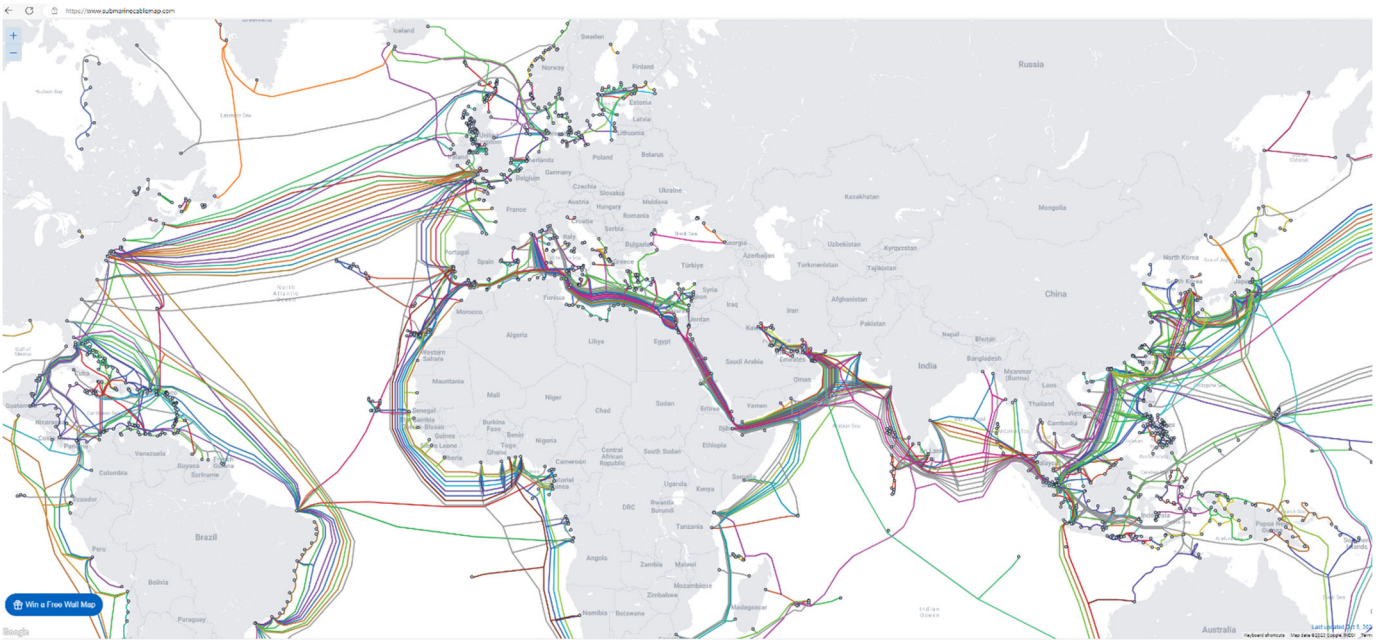

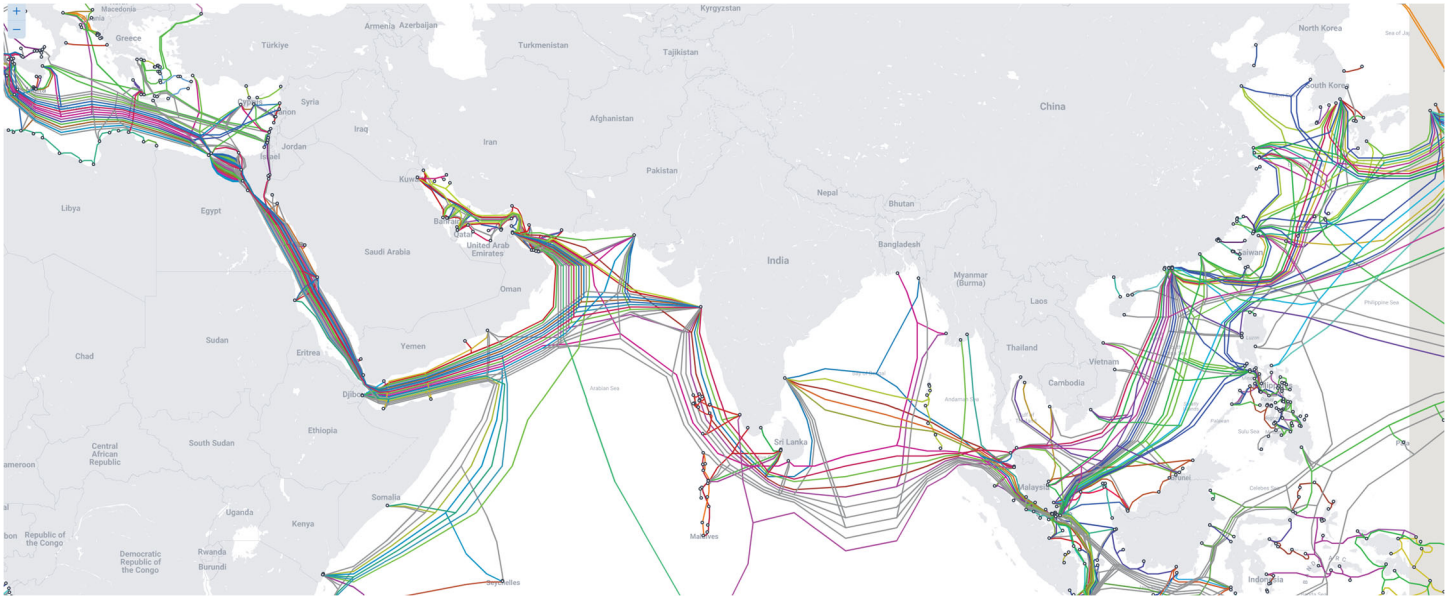

Map included with attributions in SAF Group Energy Tidbits memo https://safgroup.ca/news-insights/

https://www.nytimes.com/2024/02/16/world/middleeast/iran-israel-attacks-gas-pipelines.html

Israel Was Behind Attacks on Major Gas Pipelines in Iran, Officials Say

The sabotage, which analysts said marked an escalation in the shadow war between Israel and Iran, caused sweeping disruption in several provinces.

The sabotage targeted several points along two of Iran's main natural gas pipelines. At the site of one attack, in Chahar Mahal Bakhtiari, two people stared at flames from the explosion. Credit...Reza Kamali Dehkordi/Fars News Agency, via Associated Press

By Farnaz Fassihi, Eric Schmitt, Ronen Bergman and Julian E. Barnes
Feb. 16, 2024

Israel carried out covert attacks on two major natural gas pipelines inside Iran this week, disrupting the flow of heat and cooking gas to provinces with millions of people, according to two Western officials and a military strategist affiliated with Iran's Revolutionary Guards Corps.

The strikes represent a notable shift in the shadow war that Israel and Iran have been waging by air, land, sea and cyberattack for years.

Israel has long targeted military and nuclear sites inside Iran — and assassinated Iranian nuclear scientists and commanders, both inside and outside of the country. Israel has also waged cyberattacks to disable servers belonging to the oil ministry, causing turmoil at gas stations nationwide.

But blowing up part of the country's energy infrastructure, relied on by industries, factories and millions of civilians, marked an escalation in the covert war and appeared to open a new frontier, officials and analysts said.

"The enemy's plan was to completely disrupt the flow of gas in winter to several main cities and provinces in our country," Iran's oil minister, Javad Owji, told Iranian media on Friday.

Mr. Owji, who had previously referred to the blasts as "sabotage and terrorist attacks," stopped short of publicly blaming Israel or any other culprit. But he said that the goal of the attack was to damage Iran's energy infrastructure and stir domestic discontent.
Image

The office of Israel's Prime Minister Benjamin Netanyahu declined to comment.

The Western officials and the Iranian military strategist said the gas pipeline attacks by Israel required deep knowledge of Iran's infrastructure and careful coordination, especially since two pipelines were hit in multiple locations at the same time.

One Western official called it a major symbolic strike that was fairly easy for Iran to repair and caused relatively little harm to civilians. But, the official said, it sent a stark warning of the damage that Israel could inflict, as conflict spreads across the Middle East and tensions rise between Iran and its adversaries, notably Israel and the United States.

The Western officials said Israel also caused a separate blast on Thursday inside a chemical factory on the outskirts of Tehran that rattled a neighborhood and sent plumes of smoke and fire into the air. But local officials said the factory explosion, which took place on Thursday, stemmed from an accident in the factory's fuel tank.

Iran has said that it does not want a direct war with the United States, and it has denied being involved in either the Oct. 7 terrorist attacks against Israel or the various attacks against American and Israeli targets in the region since then.

But Iran supports and arms a network of proxy militia that have been actively fighting with Israel and United States, including the Houthis in Yemen, Hezbollah in Lebanon and militants in Iraq and Syria. Iran has also armed and trained Hamas and other Palestinian fighters.

The strikes and counter-strikes across the region have escalated in recent months. Israel has killed two senior Iranian commanders in Syria, while the United States has struck military bases connected to the Revolutionary Guards and its proxies in Iraq and Syria after three American soldiers were killed in a drone attack.
Iran also suffered one of the largest terrorist attacks in its history in January, when suicide bombers killed about 100 people in Kerman during a ceremony for a top general, Qassim Suleimani, killed by the United States four years ago. ISIS claimed responsibility for the suicide attack.
Image

Now, the Western officials say, Israel has attacked inside Iran's borders with back-to-back explosions that have unnerved Iranians.

"This shows that the covert networks operating in Iran have expanded their target list and advanced beyond just military and nuclear sites," said Shahin Modarres, a Rome-based security analyst focused on the Middle East. "It's a major challenge and reputation blow for Iran's intelligence and security agencies."

The sabotage targeted several points along two main gas pipelines in the provinces of Fars and Chahar Mahal Bakhtiari on Wednesday. But the disruption in service stretched to residential homes, government buildings and major factories in at least five provinces across Iran, according to Iranian officials and local media reports.

The pipelines carry gas from the south to major cities like Tehran and Isfahan. One of the pipelines runs all the way to Astara, a city near Iran's northern border with Azerbaijan.

Energy experts estimated that the attacks on the pipelines, which each run for about 1,200 kilometers or 800 miles and carry 2 billion cubic feet of natural gas per day, knocked out about 15 percent of

Iran's daily natural gas production, making them particularly sweeping assaults on the country's critical infrastructure.

"The level of impact was very high because these are two significant pipelines going south to north," said Homayoun Falakshahi, a senior energy analyst at Kpler. "We have never seen anything like this in scale and scope."

On Friday, Mr. Owji, the oil minister, said that technical teams from the ministry had worked around the clock to repair the damage, and that the disruption had been minimal and service restored.

But his assessment was at odds with the comments of local governors and officials from Iran's national gas company, who had described widespread outages of service in five provinces, forcing the closure of government buildings. On social media, Iranian energy experts advised people in the affected areas, where in some places temperatures dropped below freezing, to dress warmly.

The blasts happened at around 1 a.m. local time, terrifying residents, who fled their homes and poured into the streets, according to Iranian media reports. On social media, people described blasts so loud that they woke up thinking a bomb had been dropped. No casualties were reported.

Missiles and a giant flag in Tehran marking the 45th anniversary of the Islamic revolution on Sunday. Attacks on two of Iran's major gas pipelines Wednesday were a notable shift in the shadow war long waged by Iran and Israel, analysts said. Credit...Arash Khamooshi for The New York Times

Saeid Aghli, an official with the national gas company, told Iranian media that officials immediately called an emergency meeting attended by the oil minister, officials from the foreign ministry and representatives from all of Iran's intelligence and security services. Mr. Aghli said the sabotage was intended to take out about 40 percent of the country's gas transmission capacity.

How the pipelines were struck — with drones, explosives attached to pipes or some other means — remains unclear. Iran's energy infrastructure has been targeted in the past, but those incidents were much smaller in scope and scale, analysts said.

The military strategist affiliated with the Revolutionary Guards Corps — who, like the other officials, was not authorized to speak publicly — said the Iranian government believed Israel was behind the attack because of the complexity and scope of the operation. The attack, he said, almost certainly required the help of collaborators inside Iran to figure out where and how to strike.

He noted that major pipelines in Iran, which carry gas across vast distances that include mountains, deserts and rural fields, are patrolled by guards in outposts along the length of the pipes. The guards check their areas every few hours, he said, so the attackers may have had knowledge of their breaks, when the area would remain unmanned.

Mr. Falakshahi, the energy analyst, said the blasts exposed the vulnerability of the country's critical infrastructure to attacks and sabotage. He said that Iran, the third largest producer of natural gas in

the world, has about 40,000 kilometers of natural gas pipelines, mostly underground. He added that the pipelines are primarily for domestic consumption and that, because of sanctions, Iran's export of gas was minimal and limited to Turkey and Iraq.

"It's very difficult to protect this very extensive network of pipelines unless you invest billions in new technology," Mr. Falakshahi said. He added that repairing the damaged pipelines would require shutting off the gas and then replacing the pipes, which could take days.

Farnaz Fassihi is a reporter for The New York Times based in New York. Previously she was a senior writer and war correspondent for the Wall Street Journal for 17 years based in the Middle East. More about Farnaz Fassihi

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Ronen Bergman is a staff writer for The New York Times Magazine, based in Tel Aviv. His latest book is "Rise and Kill First: The Secret History of Israel's Targeted Assassinations," published by Random House. More about Ronen Bergman

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A version of this article appears in print on Feb. 17, 2024, Section A, Page 9 of the New York edition with the headline: Israel Was Behind Iran Attacks, Officials Say. Order Reprints | Today's Paper | Subscribe

https://www.globaltimes.cn/page/202401/1306103.shtml

China braces for Spring Festival travel rush with record 9 billion passenger trips expected

By Xiong Xinyi and Tu Lei
Published: Jan 25, 2024 10:34 PM Updated: Jan 25, 2024 11:38 PM

The chunyun or Spring Festival travel rush for 2024 - the world's largest annual human migration - officially starts on Friday, and is expected to set a new record of 9 billion passenger trips during the 40-day travel peak. From jam-packed transportation hubs to the hustle and bustle seen in markets nationwide, the anticipated booming Chinese New Year holidays are poised to continue the country's steady recovery while ushering in a lively 2024.

At the Beijing Capital International Airport on Thursday, crowds of tourists were seen in the departure hall, children and parents were holding hands waiting for checked luggage at the counter, and Year of the Dragon stickers were also pasted on glass doors, adding to the coming Chinese Lunar New Year atmosphere.

The airport will see 7.2 million passenger trips during chunyun, a growth of more than 60 percent from the same period of 2023, the airport said on Thursday, adding that overseas passenger flow will reach 1.41 million passenger trips following the implementation of visa reciprocity policies between China and many countries.

The scene witnessed by the Global Times at the airport is just a snapshot illustrating the brisk personnel flow nationwide at one of the busiest times of the year in China. Observers expected the travel rush to boost consumption for the upcoming holidays, which will inject fresh vitality and bolster the country's economic progress in 2024.

Flourishing consumption

A retired white-collar worker surnamed Yin from Southwest China's Chongqing Municipality recently completed a self-driving road trip in South China's Hainan Province with her family. Yin told the Global Times on Thursday that she had already experienced a tourism boom with crowds of visitors and packed restaurants even before the holidays officially kicked off, adding that the well-constructed roads and convenient infrastructure facilities have elevated the traveling experience.

Propelled by the record-high personnel flow and China's steady economic recovery, both domestic and international tourism is set to become major driving forces spurring consumption.

China and Singapore on Thursday agreed on mutual visa exemption which will officially come into effect on February 9, 2024 - the eve of the Chinese New Year, as ordinary passport holders from both sides will be able to enter each other's countries without visa requirements for activities including tourism for 30 days.

Searches for hotels in Singapore on Chinese online travel platform Qunar.com surged four times after the two countries announced the decision, the company told the Global Times on Thursday. Meanwhile, Tongcheng Travel told the Global Times that Singapore-related searches rose by more than 340 percent on the platform within an hour after the visa-free policy announcement.

Domestic tourism is also thriving, represented by the sparkling ice-snow trips in popular cities such as Harbin in Northeast China's Heilongjiang Province. Bookings for products related to winter tourism on Trip.com for the holidays increased by more than 10 times year-on-year, the company told the Global Times in a recent statement.

The record-high chunyun reflected China's rapid development in transportation construction amid its advancing economic recovery, Jiang Yiyi, deputy head of the School of Leisure Sports and Tourism at Beijing Sport University, told the Global Times on Thursday.

Jiang emphasized that activities related to the cultural sector such as visiting museums will also play a significant role in promoting consumption.

In addition, consumption themed around the Chinese New Year's holidays has also been jacked up. Restaurants have been busy taking bookings for traditional Spring Festival reunion dinners, while e-commerce

platforms saw sales surging as consumers stocked up on holiday necessities, according to media reports.

Among the 9 billion passenger trips, around 1.8 billion will be made through rail, road, aviation and water transportation, while the remaining 7.2 billion trips are expected to be self-driving trips, according to recent data released by the Ministry of Transport.

China's railway system already saw a pre-Spring Festival ticket sales peak with 61.08 million tickets for chunyun sold since January 12, a year-on-year increase of 159 percent, China State Railway Group Co said in a statement sent to the Global Times on Wednesday.

Amid the expected record-breaking chunyun, domestic carriers have ramped up efforts to ensure transportation capacity.

Air China said on Tuesday that it plans to arrange 67,691 flights during the 40-day travel peak with an average of 1,693 flights per day, an increase of 32 percent compared with 2019 and 40.6 percent compared with 2023. Meanwhile, four homegrown C919 aircraft from China Eastern Airlines will also be serving the travel rush. The four planes will fly routes between Beijing and Shanghai, and Shanghai and Chengdu in Southwest China's Sichuan Province, the first time the aircraft is being used for the Spring Festival travel.

Vital momentum to last in 2024

Consumption played an indispensable role in bolstering China's economic growth in 2023, with the final consumption contributing to 82.5 percent of GDP growth, official data showed. Experts noted that the momentum will extend into 2024 with optimistic outlooks, while the consumption boom for the Chinese New Year holidays will become an essential engine driving economic growth in the first quarter.

The recently released GDP data from multiple Chinese provinces and cities have showcased the uplifting achievements realized nationwide, while last year's considerable economic growth rate will lay a solid foundation for this year's economic expectations, Cong Yi, a professor at the Tianjin School of Administration, told the Global Times on Thursday.

Shanghai's GDP expanded by 5 percent year-on-year in 2023, while Guangdong's GDP passed 13 trillion yuan ($1.83 trillion) for the first time, according to the "report cards" released by the local governments.

Meanwhile, Cong highlighted the culture-infused tourism boom as an example of the country's continuous upgrading in consumption structure, further adding to optimistic expectations for the coming year.

In 2023, the consumption sector, especially the services industry, contributed primarily to the GDP growth rather than the primary and secondary industries, Cao Heping, a professor of economics at Peking University, told the Global Times on Thursday.

Data from the National Bureau of Statistics showed that the growth of retail sales of services increased by 20 percent year-on-year last year, while the catering sector achieved a revenue exceeding 5 trillion yuan for the first time.

Cao noted that developing consumption-related investment along with relevant industries will be a major focal point for China's economic transformation.

Cao said that holiday consumption is set to hugely boost GDP growth for the first quarter of 2024. He added that if the GDP growth rate for the first quarter exceeds 5.2 percent and can get close to 5.5 percent, then the growth rate for 2024 is very like to approach 5.5 percent, higher than the estimate of 4.6 percent projected by some foreign institutions.

The world's second-largest economy posted a GDP growth of 5.2 percent for 2023, successfully meeting the previously set annual target and aligning with market forecasts.

“The macro environment is softening around the world… travel doesn’t just grow till infinity, it grows at a modest rate in a normal situation”

SAF Group created transcript of comments by Peter Kern (Expedia CEO) with Andrew Sorkin on CNBC Squawk Box on Feb 13, 2024 https://twitter.com/Energy_Tidbits/status/1757387906904105251

Items in “*italics”* are SAF Group created transcript

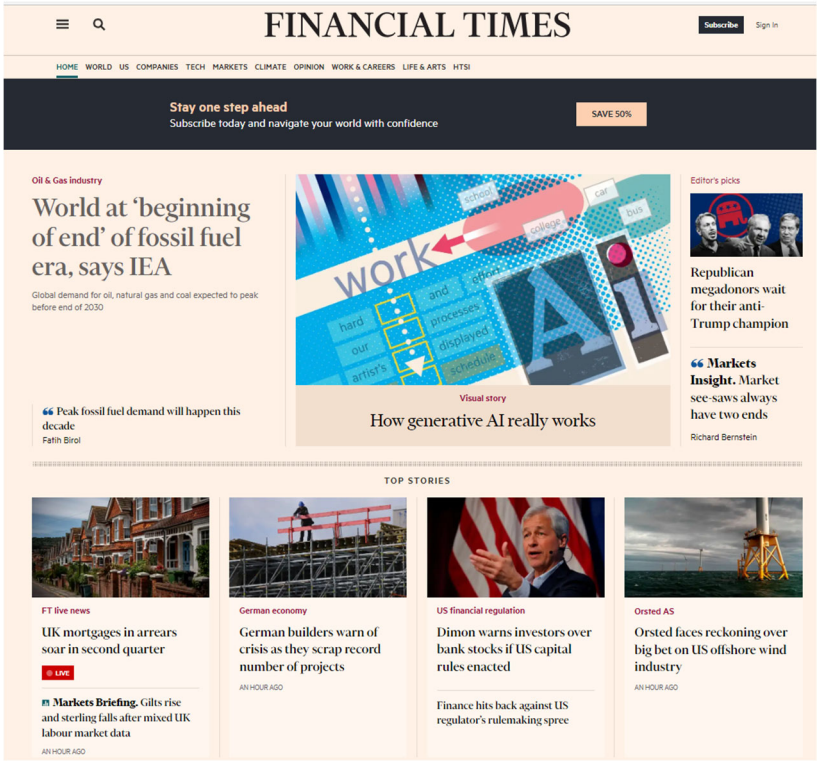
Kern *“…The macro environment is softening around the world, it has been in North America, Western Europe has slowed down, you know they were the first ones out of COVID, they were the first to slow down. Asia, Latin America are also now slowing down. So the macro is tougher, you know, travel doesn’t just grow till infinity, it grows at a modest rate in a normal situation.”*

Sorkin *“You think YOLO’s over?”*

Kern *“So the post-COVID thing is slowing down, and now we are actually accelerating because of all the work we did during COVID to revamp our company, to totally improve our technology stacks, rebrand, launch OneKey, I was here when we launched OneKey, our new loyalty program which is doing great. So, we’re actually going to outperform the market, we believe, but the market is slowing somewhat, so that’s just a reality. And I think the market understood that, most of the market”.*

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

Financial Times home page as of 5:30am MT Sept 12, 2023



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Opinion Oil & Gas industry

Peak fossil fuel demand will happen this decade

But the decline in oil, gas and coal will not be steep enough to limit global warming to 1.5C

Fatih Birol YESTERDAY

The writer is executive director of the International Energy Agency

There's a taboo in the traditional energy sector against suggesting that demand for the three fossil fuels — oil, gas and coal — could go into permanent decline. Despite recurring talk of peak oil and peak coal over the years, both fuels are hitting all-time highs, making it easier to push back against any assertions that they could soon be on the wane.

But according to new projections from the International Energy Agency, this age of seemingly relentless growth is set to come to an end this decade, bringing with it significant implications for the global energy sector and the fight against climate change.

Every year, the IEA's World Energy Outlook maps out potential pathways the global energy system could take in the coming decades to help inform decision-making. This year's report, to be released next month, shows the world is on the cusp of a historic turning point. Based only on today's policy settings by governments worldwide — even without any new climate policies — demand for each of the three fossil fuels is set to hit a peak in the coming years. This is the first time that a peak in demand is visible for each fuel this decade — earlier than many people anticipated.

These remarkable shifts will bring forward the peak in global greenhouse gas emissions. They are primarily driven by the spectacular growth of clean energy technologies such as solar panels and electric vehicles, the structural shifts in China's economy and the ramifications of the global energy crisis.

Global demand for coal has remained stubbornly high for the past decade. But it is now set to peak in the next few years, with big investments drying up outside China as solar and wind dominate the expansion of electricity systems. Even in China, the world's largest coal consumer, the impressive growth of renewables and nuclear power, alongside a slower economy, point to a decrease in coal use soon.

Some pundits suggested global oil demand might have peaked after it plunged during the pandemic. The IEA was wary of such premature calls, but our latest projections show that the growth of electric vehicles around the world, especially in China, means oil demand is on course to peak before 2030. Electric buses and two- and three-wheelers are also growing strongly, especially in emerging economies, further eating into demand.

The "Golden Age of Gas", which we called in 2011, is nearing an end, with demand in advanced economies set to fall away later this decade. This is the result of renewables increasingly outmatching gas for producing electricity, the rise of heat pumps and Europe's accelerated shift away from gas following Russia's invasion of Ukraine.

Peaks for the three fossil fuels are a welcome sight, showing that the shift to cleaner and more secure energy systems is speeding up and that efforts to avoid the worst effects of climate change are making headway. But there are some important issues to bear in mind.

For starters, the projected declines in demand we see based on today's policy settings are nowhere near steep enough to put the world on a path to limiting global warming to 1.5C. That will require significantly stronger and faster policy action by governments.

Demand for the different fuels is set to vary considerably among regions. The drop in advanced economies will be partially offset by continued growth in some emerging and developing economies, particularly for gas. But the global trends are clear: low-emissions electricity and fuels, as well as energy efficiency improvements, are increasingly taking care of the world's rising energy needs.

The declines in demand also won't be linear. Although fossil fuels are set to hit their peaks this decade in structural terms, there can still be spikes, dips and plateaus on the way down. For example, heatwaves and droughts can cause temporary jumps in coal demand by pushing up electricity use while choking hydropower output.

And even as demand for fossil fuels falls, energy security challenges will remain as suppliers adjust to the changes. The peaks in demand we see based on today's policy settings don't remove the need for investment in oil and gas supply, as the natural declines from existing fields can be very steep. At the same time, they undercut the calls from some quarters to increase spending and underline the economic and financial risks of major new oil and gas projects — on top of their glaring risks for the climate.

With today's policies already bringing the fossil fuel peaks into sight, decision makers need to be nimble. The clean energy transition may well accelerate even further through stronger climate policies. But the energy world is changing fast and for the better.

The energy world remains fragile but has effective ways to improve energy security and tackle emissions

Some of the immediate pressures from the global energy crisis have eased, but energy markets, geopolitics, and the global economy are unsettled and the risk of further disruption is ever present. Fossil fuel prices are down from their 2022 peaks, but markets are tense and volatile. Continued fighting in Ukraine, more than a year after Russia's invasion, is now accompanied by the risk of protracted conflict in the Middle East. The macro-economic mood is downbeat, with stubborn inflation, higher borrowing costs and elevated debt levels. Today, the global average surface temperature is already around 1.2 °C above pre-industrial levels, prompting heatwaves and other extreme weather events, and greenhouse gas emissions have not yet peaked. The energy sector is also the primary cause of the polluted air that more than 90% of the world's population is forced to breathe, linked to more than 6 million premature deaths a year. Positive trends on improving access to electricity and clean cooking have slowed or even reversed in some countries.

Against this complex backdrop, the emergence of a new clean energy economy, led by solar PV and electric vehicles (EVs), provides hope for the way forward. Investment in clean energy has risen by 40% since 2020. The push to bring down emissions is a key reason, but not the only one. The economic case for mature clean energy technologies is strong. Energy security is also an important factor, particularly in fuel-importing countries, as are industrial strategies and the desire to create clean energy jobs. Not all clean technologies are thriving and some supply chains, notably for wind, are under pressure, but there are striking examples of an accelerating pace of change. In 2020, one in 25 cars sold was electric; in 2023, this is now one in 5. More than 500 gigawatts (GW) of renewables generation capacity are set to be added in 2023 – a new record. More than USD 1 billion a day is being spent on solar deployment. Manufacturing capacity for key components of a clean energy system, including solar PV modules and EV batteries, is expanding fast. This momentum is why the IEA recently concluded, in its updated *Net Zero Roadmap*, that a pathway to limiting global warming to 1.5 °C is very difficult – but remains open.

This new *Outlook* provides a strong evidence base to guide the choices that face energy decision makers in pursuit of transitions that are rapid, secure, affordable and inclusive. The analysis does not present a single view of the future but instead explores different scenarios that reflect current real-world conditions and starting points. The Stated Policies Scenario (STEPS) provides an outlook based on the latest policy settings, including energy, climate and related industrial policies. The Announced Pledges Scenario (APS) assumes all national energy and climate targets made by governments are met in full and on time. Yet, much additional progress is still required to meet the objectives of the Net Zero Emissions by 2050 (NZE) Scenario which limits global warming to 1.5 °C. Alongside our main scenarios, we explore some key uncertainties that could affect future trends, including structural changes in China's economy and the pace of global deployment of solar PV.

We are on track to see all fossil fuels peak before 2030

A legacy of the global energy crisis may be to usher in the beginning of the end of the fossil fuel era: the momentum behind clean energy transitions is now sufficient for global demand for coal, oil and natural gas to all reach a high point before 2030 in the STEPS. The share of coal, oil and natural gas in global energy supply – stuck for decades around 80% – starts to edge downwards and reaches 73% in the STEPS by 2030. This is an important shift. However, if demand for these fossil fuels remains at a high level, as has been the case for coal in recent years, and as is the case in the STEPS projections for oil and gas, it is far from enough to reach global climate goals.

Policies supporting clean energy are delivering as the projected pace of change picks up in key markets around the world. Thanks largely to the Inflation Reduction Act in the United States, we now project that 50% of new US car registrations will be electric in 2030 in the STEPS. Two years ago, the corresponding figure in the *WEO-2021* was 12%. In the European Union in 2030, heat pump installations in the STEPS reach two-thirds of the level needed in the NZE Scenario, compared with the one-third projected two years ago. In China, projected additions of solar PV and offshore wind to 2030 are now three-times higher than they were in the *WEO-2021*. Prospects for nuclear power have also improved in leading markets, with support for lifetime extensions of existing nuclear reactors in countries including Japan, Korea and the United States, as well as for new builds in several more.

Although demand for fossil fuels has been strong in recent years, there are signs of a change in direction. Alongside the deployment of low-emissions alternatives, the rate at which new assets that use fossil fuels are being added to the energy system has slowed. Sales of cars and two/three-wheel vehicles with internal combustion engines are well below where they were before the Covid-19 pandemic. In the electricity sector, worldwide additions of coal- and natural gas-fired power plants have halved, at least, from earlier peaks. Sales of residential gas boilers have been trending downwards and are now outnumbered by sales of heat pumps in many countries in Europe and in the United States.

China has changed the energy world, but now China is changing

China has an outsized role in shaping global energy trends; this influence is evolving as its economy slows and its structure adjusts, and as clean energy use grows. Over the past ten years, China accounted for almost two-thirds of the rise in global oil use, nearly one-third of the increase in natural gas, and has been the dominant player in coal markets. But it is widely recognised, including by the country's leadership, that China's economy is reaching an inflection point. After a very rapid building out of the country's physical infrastructure, the scope for further additions is narrowing. The country already has a world-class high-speed rail network; and residential floorspace per capita is now equal to that of Japan, even though GDP per capita is much lower. This saturation points to lower future demand in many energy-intensive sectors like cement and steel. China is also a clean energy powerhouse, accounting for around half of wind and solar additions and well over half of global EV sales in 2022.

https://www.canada.ca/en/environment-climate-change/news/2024/02/minister-guilbeault-provides-update-with-new-design-options-for-the-clean-electricity-regulations.html

Minister Guilbeault provides update with new design options for the Clean Electricity Regulations

From: Environment and Climate Change Canada

News release

February 16, 2024 – Ottawa, Ontario

Building a clean electricity grid is central to our efforts to fight climate change and build a more prosperous future. All G7 countries, including Canada and the United States, have committed to transitioning to a net-zero electricity grid as a foundational measure to help achieve low-carbon economies by 2050. As the demand for electricity increases over the coming decades, it will be important to ensure that the expanded supply is clean, affordable, and reliable.

Last year, the Government of Canada released *Powering Canada Forward: Building a Clean, Affordable, and Reliable Electricity System for Every Region of Canada*, backed by over $40 billion to support each province and territory's path to a cleaner grid. Finalizing the Clean Electricity Regulations later this year will support this commitment.

Today, the Honourable Steven Guilbeault, Minister of Environment and Climate Change, released an update on the consultations and on the design options being considered for the final Clean Electricity Regulations. These options address the feedback received during the last six months of extensive consultations with provincial and territorial governments, the Canada Electricity Advisory Council, Indigenous representatives, electricity providers, industry, environmental organizations, and interested Canadians.

The improvements under consideration would enhance the flexibility for provincial operators to continue to ensure reliable and affordable power while maintaining Canada's ability to achieve its emissions reduction goal.

The updated regulatory design options involve a new approach to the core performance standard that would set an annual emissions limit that is tailored to each generation unit, based on its size. This would enable more efficient and cleaner units to run for longer periods of time. It would also increase flexibility to address peak power needs and the use of standby (or on-demand) power to support the build-out of cleaner technologies. This approach could be supplemented by offsets, emissions pooling, and a more flexible approach to industrial cogeneration.

Before finalizing the Clean Electricity Regulations later this year, the Government of Canada will continue to engage on these options under consideration with interested stakeholders, including provinces and utilities. Continued collaboration is essential to ensure that the Clean Electricity Regulations deliver significant emissions reductions while supporting reliability and affordability. Comments on the potential changes are welcome until March 15, 2024, and can be submitted by email to ecd-dec@ec.gc.ca.

Quotes

"Building a clean, affordable, and reliable electricity system is at the foundation of Canada's efforts to tackle climate change, and a generational opportunity to drive clean economic growth across the country for decades to come. We've been doing extensive consultations to make sure we get it right.

We've heard the challenges faced by some provinces for whom this is a bigger lift, whose power generation relies heavily on fossil fuels. We're coming to the table with substantial investment to support their path to a cleaner grid. And we're coming back with new options for the regulation for consideration that respond to their concerns, while still reaching our shared goals. We're here to collaborate on real solutions that will leave our communities better off for the long term."
– The Honourable Steven Guilbeault, Minister of Environment and Climate Change
"Bringing clean, reliable, and affordable power to every region of Canada is a nation-building project that requires significant investments, thoughtful regulations, and deep collaboration. Today's update illustrates how the Government of Canada is listening to and working with all partners in our efforts to build and grow a clean electricity system that benefits all Canadians. As we take steps forward, we will continue to dialogue with provinces and territories, Indigenous partners, and all Canadians to make sure we get this crucial project right."
– The Honourable Jonathan Wilkinson, Minister of Energy and Natural Resources

Quick facts

- By 2050, as Canadians use more clean electricity, they are expected to spend about 12 percent less on energy overall.
- Achieving a net-zero electricity system is a shared responsibility between federal, provincial, and territorial governments. Provinces and territories are responsible for the management of electricity systems, including the pace and extent of electricity generation, transmission, and distribution.
- The Government of Canada estimates that regardless of the implementation of the Clean Electricity Regulations, it will cost more than $400 billion nationally through 2050 to undertake routine replacements of aging facilities and expand generation capacity to meet the expected increase in demand.
- The federal government is investing over $40 billion to support the clean electricity transition. This includes funding for the Smart Grid Program; the Energy Innovation Program – Smart Grids; the Smart Renewables and Electrification Pathways Program; concessional financing provided by the Canada Infrastructure Bank and Investment Tax Credits for Clean Electricity; clean technology; clean hydrogen; and carbon capture, utilization, and storage.
- The Canada Electricity Advisory Council is an independent body of 19 experts who provide the Government of Canada with advice on actions needed to achieve our 2035 and 2050 net-zero emissions goals as they pertain to electricity. It was established in May 2023 and recently issued its interim report.

Associated links

- Winter 2024 Update to the Regulatory Framework for the Clean Electricity Regulations
- Powering Canada Forward: Building a Clean, Affordable, and Reliable Electricity System for Every Region of Canada

Executive Summary

Following the publication of the draft *Clean Electricity Regulations* (CER) on August 19, 2023, Environment and Climate Change Canada (ECCC) and Natural Resources Canada (NRCan) undertook extensive engagement. This included national public webinars attended by more than 550 participants, bilateral sessions with more than 75 organizations, and meetings in Alberta, Saskatchewan, Ontario, Nova Scotia and New Brunswick with electricity generators, utilities, government officials, non-governmental organizations, academics and Indigenous organizations. ECCC also received around 600 unique written submissions out of a total of over 18,000 letters and emails, including repeated submissions from six letter writing campaigns.

Most parties voiced support for the overarching goal of establishing a net-zero grid as a foundational element of achieving a net zero economy by 2050. There was also widespread support for the three pillars of affordability, grid reliability, and decarbonization.

There was also support for the basic regulatory architecture proposed for the CER, including a technology-neutral compliance obligation with flexibilities for operators to continue to use some natural gas in order to support grid reliability and affordability while the system transitions to net zero.

Many electricity system operators and some provincial governments argued for more flexibility. This position is well summarized by a recent report from the Canada Electricity Advisory Council:

"[O]ur ability to decarbonize the remainder of the economy by 2050 depends in part on our ability to get the CER balance right. … if the electricity system bears too great a cost burden or is unable to meet growing demand reliably, it will be hindered in its ability to support economy-wide net-zero emissions by 2050. The Council … is concerned that [the draft CER] does not provide sufficient flexibility to utilities, system operators and market participants to achieve that desired balance. … [and] calls on the federal government to consider providing substantively greater flexibility to covered entities, recognizing that such flexibility could render the CER more practicable, more affordable and more likely to enable electricity to decarbonize other sectors of the economy in the long run."

Changes recommended during the consultations by a number of stakeholders include:

- Reduce the stringency of the performance standard to enable facilities that implement CCS to be confident they will achieve the standard.
- Allow the limited use of offsets for units that are unable to meet the standard for various reasons.
- Enable greater use of natural gas-fired units during peak demand periods. Several operators and provinces argued for a percentage of capacity threshold rather than an envelope of hours.
- Adjust the small unit exemption to avoid unintended proliferation of small fossil-fuel fired units.
- Allocate more time for the end-of-prescribed life of existing gas and liquid fuel units to further reduce the cost of stranded assets.
- Avoid a framework that incentivizes operating less efficient units as much as more efficient units.
- Enable more flexibility for co-generation to avoid the unintended result of cogeneration units deciding not to export electricity to the grid, resulting in the loss of a significant source of power in jurisdictions that rely more heavily on electricity from cogeneration.
- Modify emergency circumstance provisions to reduce the risk of a Minister denying an application and to ensure that critical generation during emergency periods will be available.

In addition to the need for more flexibility, some argued that the stringency of some of the provisions in the draft regulations would make it difficult to decide to invest in decarbonization options given the uncertainty about the actual performance levels of some technologies, emphasizing that issues outside of their control could make compliance with the strict performance standard very difficult. By contrast, some members of civil society urged the Government to retain or strengthen the overall stringency of the draft regulations.

This report describes these concerns in more detail. It also describes some changes being considered to address them. We welcome input on the merits of these changes compared to an approach based on changing some of the key parameters in the draft regulations.

What We Heard

The Performance standard and CCS flexibility

Almost all provinces and utilities asserted that a 30t/GWh performance standard would be difficult to achieve by natural gas units equipped with CCS that are "load following". When load-following, the unit ramps up and down to fill in when renewables are not producing or when demand is very high. This almost inevitably results in a facility operating at a higher emissions intensity than if the same unit were operated on a continuous steady-state basis. Many commentators observed that a natural gas facility with CCS would only be able to achieve an emissions intensity of 30 t/GWh if it operated as baseload. This would limit the ability of utilities to retrofit existing gas plants with CCS for the purpose of playing a back-up or load-following function and would be an undesirable result because an approach that allows natural gas with CCS to load-follow could be an effective way to support the integration of variable renewables onto the grid.

More generally, a lot of feedback warned that high uncertainty about the ability of CCS to achieve the draft regulation's performance standard could have the unintended effect of disincentivizing investments in this important, emerging technology.

Peaker provisions

Many operators argued that the 450-hour limit in the proposed peaker provisions would undermine reliability because it would limit the ability of some jurisdictions to provide peaking services.

Many stakeholders also noted a potential unintended outcome of limiting the operation of unabated emitting units by defining a maximum number of hours: once a relatively efficient unit meets its hourly limit, a less efficient unit would then be operated if there remained a need for further peaking services. This would result in more emissions than if the more efficient unit had been allowed to operate for longer.

Offsets

Many stakeholders emphasized the inherently uncertain and unpredictable environment in which electricity systems must operate and argued that the regulation should provide a mechanism for operators who exceed a given limit despite having acted in good faith to remain in compliance. Many proposed allowing the use of GHG offsets for this purpose.

End-of-Prescribed Life

Provinces whose electricity systems include large portions of emitting units asserted that the proposed 20-year end-of-prescribed life (EoPL) is too short, and could strand assets, increase costs and reduce reliability because it would force emitting baseload units into retirement before sufficient replacement low- and non-emitting units can be built. Other provinces did not comment on this aspect of the regulation.

Date for new versus existing units

Due to labour and material shortages and other supply chain disruptions, some generators expressed concern that emitting generation projects that were planned to be commissioned before 2025, and already have substantial investments committed and work underway, may not be commissioned before the proposed deadline of December 31st, 2024 to be considered an "existing" unit. This could result in stranding these assets as they would be considered "new units" and have to abate by 2035 instead of benefiting from the full EoPL timeline.

Cogeneration

Stakeholders from multiple industries, as well as officials from Alberta and Saskatchewan, observed that the performance requirements in the proposed regulations could be difficult for most existing cogen facilities to meet. They expressed concern that these facilities might decide to stop exporting electricity to the grid in order to avoid being subject to those requirements. This would affect Alberta and Saskatchewan in particular, which depend on cogeneration for a significant portion of their generation.

Emergency circumstances

Many stakeholders observed that the provision in the draft regulations requiring the federal Minister to review emergency exemptions after the fact could inhibit decisions to operate during emergencies.

The 25 MW threshold

Many provincial officials noted that the proposed minimum capacity threshold of 25 MW could create a perverse incentive to commission new facilities with multiple units smaller than 25 MW to avoid being subject to the CER. Many Indigenous groups argued that any fix to this issue should be accompanied by another approach to continue to exempt generation in remote communities.

A Possible Emissions Limit Approach

ECCC is considering changes to the performance standard to give provinces, utilities and other electricity regulators and providers more flexibility while still delivering significant emissions reductions. We are interested in hearing if this approach is preferable to the approach proposed in the draft regulations.

The emissions limit approach being considered has four elements:

1. Change the regulated performance standard from a fixed emissions intensity standard that applies uniformly to all units to an **annual emission limit** (in tonnes) that is tailored to each unit's capacity.
2. Adjust the underlying performance standard used to calculate each unit's emission limit.
3. Allow regulated parties that own or operate multiple units to **pool** the emission limits of their individual existing units operating in the same jurisdiction.
4. Allow a unit to emit over its emissions limit by a prescribed additional amount provided it remits GHG offsets to account for all excess emissions.

1. Unit-specific annual emissions limit

The core change being considered is to move from an emissions intensity standard uniformly applied to all units to an annual emissions limit tailored to each unit's capacity. In this approach, a unit's limit would be set at the level of emissions in a year from a natural gas unit of the same size that operates full time and at an emissions intensity prescribed by the regulations (see #2 below). The CER would set the emissions limit for each unit according to the following formula:

$$\underset{(t/year)}{\textit{Unit Emission limit}} = \underset{(t/GWh)}{\textit{Performance standard}} \times \underset{(capacity\ of\ unit)}{MW} \times \underset{(total\ hours\ in\ a\ year)}{8760\ hours} \times \underset{(unit\ conversion)}{\left(\frac{1\ GW}{1000\ MW}\right)}$$

A unit with a higher emissions intensity than the performance standard used to set the emissions limit would have to operate less than full time to remain under its limit. This would create an incentive to modify all units to be as efficient as possible, but would also give electricity providers considerable flexibility. Along with the potential to pool emissions limits (#3) and include offsets as a compliance option (#4), this would enable operators to decide to install CCS without the concern that the technology might not achieve the performance standard. Units could also increase the amount of time they can operate by improving equipment to increase efficiency or by blending with low-carbon fuel to reduce emissions intensity. All units would be able to manage within their annual emission limit by adjusting the amount of time they operate.

2. Adjusted underlying performance standard

Recognizing that the emissions intensity of 30 t/GWh proposed in the draft regulations would likely not be feasible on a load-following basis for most units equipped with CCS, an adjustment to the performance standard is under consideration.

3. Pooling

Consideration is being given to allowing responsible parties (e.g. utility, crown corporation) owning multiple existing units in the same jurisdiction to combine the emissions limits of individual existing unit into a pooled emissions limit. This would enable them to operate their more efficient units above each individual unit's limit, compensated by less operation of less efficient units. In addition to enhancing flexibility, this may avoid the need to prescribe a time limit for peaker units, given that all emitting units would have an emission limit.

Consideration is also being given to whether and how to enable individual units to pool with other units owned or operated by different entities in the same jurisdiction.

4. Offsets

Consideration is also being given to enabling a unit to operate over its annual emissions limit by a limited amount provided it remits eligible GHG offsets for the excess emissions.

Other Changes Under Consideration

End of Prescribed Life

The EoPL provisions are intended to allow natural gas-fired units that were financed, approved and brought into operation before the CER comes into force in 2025 to continue operating past 2035 for a limited period of time relative to their age. Consideration is being given to slightly extending the EoPL, compared with maintaining the EoPL as proposed.

New units under development

Consideration is being given to allowing units that have substantial investment and work underway but are unable to commission by January 1, 2025 to make use of the EoPL provisions provided they start selling electricity to the grid by a future date to be determined. The duration of these units' prescribed lives would be shortened commensurate with their delay in commissioning past 2025 so that such units would become subject to a regulated annual emissions limit no later than a unit commissioned by January 1, 2025. This would avoid adverse impacts on investment decisions that have already been made.

Cogeneration units

In keeping with the draft regulations, all cogeneration units would only be subject to the emissions requirements in the years they have net exports to the grid.

Under the emissions limit approach described above, it is possible to distinguish the emissions from "behind the fence" electricity from the emissions associated with electricity provided to the grid. For existing units, consideration is being given to differentiating the treatment of emissions from electricity exported to the grid from "behind the fence" generation for a time-limited period.

Consideration is also being given to treating new cogeneration units the same as all other new units.

Minimum size threshold

Consideration is being given to applying the CER to all new units at the same facility whose capacities collectively amount to 25 MW or more, as well as to single units 25 MW and greater. This would avoid the unintended incentive identified during consultations for a facility to aggregate multiple small units, each of which would not meet the threshold to be subject to an emission limit on its own. Consideration is being given to how to continue to exempt remote communities in this context.

Emergencies

Consideration is being given to enabling a system operator's declaration of an emergency to trigger an exemption from the emissions limit for a reasonable period of time (duration TBD) to enable operators to respond to emergencies. Emissions during this period would not count against the unit's annual emissions limit. The Minister would need to be notified in all cases, and consideration is being given to requiring the Minister's approval to continue operating under emergency circumstances beyond the exemption period.

Next Steps

Continued collaboration with provinces, the electricity sector, Indigenous partners, industry, and other key interested parties is essential to ensure that the *Clean Electricity Regulations* are flexible and enable diverse regional electricity systems to deliver significant emissions reductions while safeguarding reliability and ensuring affordability.

ECCC will continue to engage with interested parties to understand the merits of the tailored annual emissions limit approach described above relative to providing increased flexibility based on the emissions intensity approach in the draft regulations. Further, we welcome input on the other changes outlined in this report.

We invite you to send feedback to ecd-dec@ec.gc.ca by 11:30 PM EST March 15, 2024.

ECCC intends to seek approval to publish the final *Clean Electricity Regulations* later this year.

Annex: Comparison of the Draft CER and the Provisions Under Consideration

	Draft Regulations	Changes Being Considered
Performance Standard	30 t/GWh Equivalent to 95% capture rate	Not directly regulated but considering slightly changing the underlying performance standard used to calculate the emissions limit (see below).
Emissions limit	N/A	**Unit-specific annual emissions limit.** Based on annual emissions from unit of same size operating 100% of the year at [X] t/GWh (TBD—considering increasing above 30 t/GWh). $\underset{(t/year)}{\textit{Unit Emission limit}} = \underset{(t/GWh)}{\textit{Performance standard}} \times \underset{(capacity\ of\ unit)}{\textit{MW}} \times \underset{(total\ hours\ in\ a\ year)}{\textit{8760 hours}} \times \underset{(unit\ conversion)}{\left(\frac{1\ GW}{1000\ MW}\right)}$
Pooling	Not allowed	Allow responsible parties owning multiple existing units in the same jurisdiction to combine the emissions limits of individual existing unit into a pooled emissions limit.
Offsets	Not allowed	Considering allowing up to a specified maximum percentage above each unit's annual emissions limit.
Peaker provisions	450-hour limit (= capacity factor of roughly 5%)	**No peaker provisions.** Each unit's capacity factor would depend on its efficiency and its annual emissions limit.
EoPL for existing units	20 years	[TBD]
New units under development	Units commissioned by Dec 31, 2024 are existing units and exempt until EoPL	Units with substantial investment and work underway before January 1, 2025 and that start selling electricity to the grid by [TBD] would also receive an EOPL. However, the EOPL would be shortened so that the unit would become subject to an annual emissions limit no later than a unit commissioned by January 1, 2025.
Cogeneration units	Any unit with net exports to the grid must meet the emissions intensity performance standard at the end of its EoPL	**Existing cogeneration with net exports:** • Considering distinguishing treatment of emissions associated with "behind the fence" generation from generation exported to the grid. **New cogeneration units with net exports:** • Considering treating new cogeneration units the same as new utility units.

Emergencies	System operator declares emergency. Federal Minister must approve retroactively for emissions to be exempted.	**System operator declares emergency.** Emissions not counted against the unit's annual emissions limit for a reasonable period of time (duration TBD) to enable operators to respond to emergencies. **Minister must be notified.** Considering requiring Minister's approval to continue operating under emergency provisions beyond the exemption period.
Minimum size threshold	25 MW	All new units at the same facility whose capacities collectively amount to 25 MW or greater, as well as single units 25 MW or greater.

https://www.nationalobserver.com/2024/02/16/news/ottawa-changes-clean-electricity-rules

Ottawa floats changes to clean electricity rules

By Bob Weber | News | February 16th 2024

Transmission towers are seen in Montreal, Wednesday, Aug. 30, 2023. Photo by: The Canadian Press

Ottawa is considering alterations to its proposed clean electricity regulations after consultations with industry, opening the door to more flexibility for individual power generators.

"We can still get to the same aim," said Oliver Anderson, a spokesman with Environment and Climate Change Canada.

The proposed changes, released Friday, would change several provisions that industry and provincial governments objected to in the original version.

The changes suggest dropping intensity-based standards from greenhouse gas emissions limits. That means generators would no longer be forced to meet a single standard of how much carbon is emitted per unit of energy.

Instead, each generator would be assigned an annual emissions limit.

As well, companies that own a number of generators would be allowed to pool emissions from facilities operating in the same jurisdiction. Companies would also be allowed to buy carbon offsets to compensate for overshooting their assigned limits.

The government is also considering changes to how new plants are brought in under the regulations.

Under the previous scheme, operators were concerned about the requirement that all generation would have to either be renewable or be equipped with carbon abatement by 2035. They argued that projects already under construction would be disadvantaged and could be left stranded once the new rules took effect.

The government now proposes a time-limited exemption to that rule for fossil fuel generators that come into operation before 2025.

Ottawa floats changes to clean electricity rules after consulting with provinces and industry. #CleanEnergy #emissions #cdnpoli

"Any fossil fuel-burning electric generation built before 2025 can operate for 20 years without having the regulations apply to it," Anderson said. "There could be a bit of wiggle room on the start date."

Industries that generate their own power and feed extra back into the grid are also affected by the proposals.

Previously, all generated power would have been affected by the regulations.

Under the suggested changes, only the power that gets fed back into the grid is affected. Power generated and used on-site would not be.

Finally, small generators producing under 25 megawatts would still be exempted. But any new units at the same facility collectively generating more than that would have to follow the regulations.

Anderson said the government hasn't calculated how the changes would affect greenhouse gas emission reductions.

"That's part of what we're going to be consulting on, to see what the impact would be," he said. "The department has a strong sense this puts us in the same ballpark."

The government is asking industry to respond to the suggested changes by March 15.

They come after sharp criticism of the initial proposals.

Both Alberta and Saskatchewan said it isn't possible for their grids to achieve net-zero by 2035. They said they can’t eliminate fossil fuel-burning plants or build enough carbon capture without hurting reliability or costing their residents a fortune.

Energy economists also called for more flexibility in the regulations.

Climate advocates welcomed the new proposals.

“The revised design for the draft Clean Electricity Regulations is a welcome change that will deliver more flexibility for grid operators in order to protect reliability and support affordability for people and businesses," said Jason Dion, research director for the Canadian Climate Institute. "Finalizing the regulations as early as possible would give policy certainty to grid operators, which would help with planning and investment."

Evan Pivnick of Clean Energy Canada also called for the regulations to be finalized as soon as possible.

But he warned any changes shouldn't compromise their original goal.

"Flexibility should be balanced with the necessary stringency, and more details on the new proposal are needed to determine if the former compromises the latter."

This report by The Canadian Press was first published Feb. 16, 2024.

February 16th 2024

Electric vehicles not a panacea for climate change: Steven Guilbeault

Electrification is an important component of the battle; public and active transit are also key, environment minister says.

Author of the article: **Michelle Lalonde** • Montreal Gazette

Published Feb 12, 2024 • Last updated 23 hours ago • 4 minute read

"We must stop thinking that electric cars will solve all our problems," Environment Minister Steven Guilbeault said Monday. PHOTO BY FRANK GUNN /THE CANADIAN PRESS

Electric cars are among the many necessary solutions to Canada's environment problems, but they are far from a panacea, Environment and Climate Change Minister Steven Guilbeault told a conference on public transit in Montreal on Monday.

"We must stop thinking that electric cars will solve all our problems," said Guilbeault, who was the keynote speaker at a fundraising luncheon at the Westin Montreal via live video feed from Ottawa. The event was organized by the public transit advocacy group Trajectoire Québec, and brought together about 250 key players in the fields of public transportation, municipal politics, energy and environment.

Guilbeault said over-estimating the ability of electricity-powered transportation to solve climate change and other environmental crises would be "an error, a false utopia that will let us down over the long term."

Guilbeault noted that about one-quarter of Canada's greenhouse gas emissions come from transportation. While his government supports electrification of vehicles, it has also been investing heavily in other programs and plans to move Canadians out of private cars and onto public transit or active forms of transportation.

He said the Liberal government has committed $30 billion to develop public transit since 2016, and has announced the country's first recurrent financing program for public transit projects, which will provide $3 billion per year for projects starting in 2026. The Liberal government also introduced an Active Transportation Fund in 2021, investing $400 million into projects that encourage walking, cycling, and the use of wheelchairs, scooters, e-bikes, roller blades, snowshoes and cross-country skis. Projects funded include multi-use pathways, bike lanes, footbridges across roadways, new lighting, signage and communication that encourages active transportation.

Besides funding these types of projects, all levels of government must make the hard decision to stop expanding the road network, he said. Adding more roads and new lanes on existing roads has proven to encourage more car use, which means more congestion, and more calls for road expansion, he said.

“Our government has made the decision to stop investing in new road infrastructure. Of course we will continue to be there for cities, provinces and territories to maintain the existing network, but there will be no more envelopes from the federal government to enlarge the road network. The analysis we have done is that the network is perfectly adequate to respond to the needs we have. And thanks to a mix of investment in active and public transit, and in territorial planning and densification, we can very well achieve our goals of economic, social and human development without more enlargement of the road network.”

He said the money that in the past was regularly invested in asphalt and concrete for the ever-expanding road network is better invested into projects that will help fight climate change and adapt to its impacts.

Dr. Eve Riopel agrees with Guilbeault on the need to move beyond the idea that electric cars will solve all environmental issues. Riopel is a doctoral student at Johns Hopkins University and the lead author of a paper released last week by the Quebec Association of Physicians for the Environment, which calls on Quebec to update its air pollution norms to reflect current scientific knowledge.

For example, the paper notes that small particulate pollution, or PM 2.5, is one pollutant that harms human health much more than was previously thought. The small particles, which are emitted by industry, wood-burning and gas-fired vehicles among other sources, are cancer-causing, and increase the risk of premature death due to cardiovascular and respiratory events and strokes. A Health Canada study published last year estimated this type of pollution was associated with about 2,300 premature deaths in Quebec in 2015.

Riopel’s report was published last week with the support of the Collège des médecins du Québec and 13 other associations representing health professionals in Quebec. It noted that the tightening of anti-pollution standards for vehicles and new requirements for cleaner gas has reduced the amount of small particulate pollution emitted by newer vehicles. However, about 60 per cent of the small particulate pollution coming from gas-powered vehicles doesn’t actually come from their tailpipes, but rather from brake friction, tire friction, and road surface dust being churned up as the vehicles travel. And that source of emissions will be even worse with electric vehicles, she notes, because their batteries make them heavier than gas-powered vehicles.

“We think that if we switch to electric cars, everything will be good but it won’t be,” said Riopel, who is also a pediatrician. “That is something we have to be aware of as it could be a very important tool to justify decisions to promote active and public transportation.”

Guilbeault, meanwhile, said he is impressed with the passion of Quebec’s municipal sector for public transit projects. “Sometimes it is at the provincial government level where things go wrong a bit, but things are advancing pretty well in Quebec,” he said, mentioning his support for the REM, as well as the planned extension of the métro’s Blue Line and the tramway project in Quebec City.

He said it is crucial that city and regional planners keep the necessary shift to public and active transit in mind, rather than simply planning for electric car charging stations.

“The solution to mobility will not consist only of electrification. Electrification is a component but it’s not the only thing. There is the question of urban planning that is hyper important. … If you are a

decision maker and you decide to build a government institution far from public transit systems, then by default you are inciting people to use their cars to access that public service. All of our planning practices have to be coherent with these mobility objectives, for the reduction of the ecological footprint of transportation and of greenhouse emissions.”

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2030 ERP: TRANSPORTATION

Actions to reduce emissions will enable cleaner public transit, more active transportation, make ZEVs more affordable and accessible, and provide cleaner modes of air, marine, and rail travel. Efforts will also create new jobs in areas like ZEV manufacturing and public transit.

2005 emissions: **160 Mt** | 2019 emissions: **186 Mt** | Estimated change from 2005 to 2030: **-11%**

What We've Already Done

- ✓ Set a mandatory target for 100% of new light-duty cars and passenger truck sales are zero-emission by 2035.
- ✓ Established the $660 million Zero-Emission Vehicles (iZEV) Program which provides incentives and encourages the adoption of ZEVs.
- ✓ Provided $14.9 billion in funding to support public and active transportation infrastructure including zero-emissions busses, new subway lines, light-rail transit and streetcars and improved rural transit.
- ✓ Provided over $450 million since 2016 for infrastructure programs supporting deployment, demonstrations and codes and standards for EV charging and refueling stations across Canada.

Key New Actions

To meet Canada's 2030 emissions reduction target and reach net zero by 2050, the Government of Canada will focus on the following key areas to reduce emissions in the transportation sector:

Develop a light duty vehicle (LDV) ZEV sales mandate, which will set annually increasing requirements towards achieving 100% LDV ZEV sales by 2035, including mandatory interim targets of at least 20% of all new LDVs offered for sale by 2026 and at least 60% by 2030.

Launch an integrated strategy to reduce emissions from medium-and heavy-duty vehicles (MHDVs) with the aim of reaching 35% of total MHDV sales being ZEVs by 2030. In addition, the Government will develop a MHDV ZEV regulation to require 100% MHDV sales to be ZEVs by 2040 for a subset of vehicle types based on feasibility, with interim 2030 regulated sales requirements that would vary for different vehicle categories based on feasibility, and explore interim targets for the mid-2020s.

In support of these objectives, the following investments will be made:

- $1.7 billion to extend the Incentives for Zero-Emission Vehicles Program (iZEV) for light-duty vehicles for three years. Budget 2022 will provide additional detail on the program's design.
- $400 million in additional funding for ZEV charging stations, in support of the Government's objective of adding 50,000 ZEV chargers to Canada's network.
- In addition, the Canada Infrastructure Bank will invest $500 million in large-scale ZEV charging and refueling infrastructure that is revenue-generating and in the public interest.
- 547.5 million for a purchase incentive program for MHDVs. Purchase eligibility date will be announced in Budget 2022.
- $199.6 million to retrofit large trucks currently on the road.
- $33.8 million for hydrogen trucking demonstration projects that address barriers to long-haul zero-emission trucking commercialization – including technical, regulatory and standards challenges.
- $2.2 million to support Greening Government fleet electrification commitments.

Going Further

The Government of Canada also commits to explore additional opportunities, including:

Rail

- Building on successive voluntary agreements with industry, develop an action plan to decarbonize rail in line with Canada's net-zero by 2050 goal, which could include efforts to advance zero-emission locomotives and locomotive electrification.

Aviation

- Developing a whole-of-government approach on the long-term decarbonization of aviation, informed through ongoing engagement with industry and other stakeholders on a renewed action plan to reduce emissions from aviation, which could include initiatives to expand the production and use of low-carbon sustainable aviation fuel, and efforts to decarbonize and electrify airport operations in Canada.
- Working with international partners to increase ambition in International Civil Aviation Organization (ICAO) emission reduction goals and measures.

Marine

- Developing a national action plan to enable the marine sector to reduce its emissions, which could include engagement with stakeholders on energy efficiency/carbon intensity requirements for domestic vessels in-line with requirements for international vessels.
- Working with international partners to develop measures to reduce black carbon in the Arctic from international shipping.

Off-road

- Pursuing zero-emission standards for new off-road small spark-ignition engines (such as lawn and garden equipment). The Government of Canada could also investigate the potential to advance zero-emission technologies and clean fuels for other types and applications of off-road equipment (e.g., small marine engines and recreational vehicles, and larger equipment found in the agriculture, construction, mining and port sectors.

Other

- Working with other levels of government, and in collaboration with key federal partners on additional emission reductions from transportation (e.g., urban mobility and local goods movement).
- Explore opportunities to link investments in infrastructure, particularly public transit, to urban form (e.g. urban mobility of people and goods, optimizing modal shift) and housing outcomes.

https://www.hankyung.com/article/2024021309661

[Exclusive] Genesis changed strategy 'super precipitation'... I put out a hybrid

Jaehoo Kim Subscribe to a reporter
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Hyundai is expected to launch a 2.5L engine next year with an electric vehicle and two-track. GV70

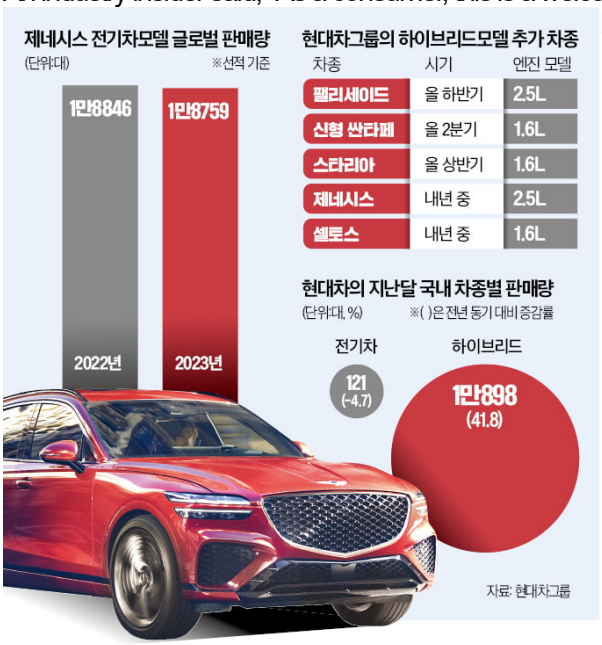
Hyundai Motor Company is adding a hybrid model to its premium brand 'Genesis'. This is a revision of the previous strategy to release all new Genesis cars that will be introduced from next year as electric vehicles. Considering the fact that the era of pure electric vehicles is likely to be slower than initially expected, and considering the annual sales of more than 200,000 Genesis units, the industry interprets that the company has the capacity to operate two-track vehicles such as electric vehicles and hybrid cars.

According to the automobile industry on the 13th, Hyundai Motor Group has recently started developing a hybrid engine and related systems to be applied to Genesis. Considering that it is a premium brand, it is known that it will be developed based on a 2.5L engine, which is larger than the internal combustion engine engine (1.6L) used in the Carnival Hybrid. The industry expects it to be applied first to popular models such as the G80 and GV70. If all goes according to plan, Genesis' first hybrid model will be released next year. It is reported that it has not yet decided whether to develop a 'plug-in hybrid' (PHEV) model that charges the battery like a pure electric vehicle.

The industry believes that Hyundai Motor Group's decision to develop the Genesis hybrid model is the result of judging that the 'slowdown in the growth of electric vehicles' will be prolonged. Instead of going straight from the internal combustion engine to an electric vehicle, it will put in an intermediate step called a hybrid to overcome the "electric vehicle growing pains."

The unstoppable popularity of electric vehicles began to decline in the second half of last year. Genesis alone saw a slight increase in overall sales last year (225,189 units) compared to a year ago (215,128 units), but the number of electric vehicle models (18,846 units →18,759 units) decreased. Hyundai expects its hybrid model to fill this gap. Toyota, which has put a lot of emphasis on hybrid vehicles, is expected to make a net profit of around 40 trillion won in this fiscal year (April 2023~March 2024), which is also known to have had an impact on Hyundai.

An industry insider said, "As a consumer, this is a welcome development in that it opens up new options."



Enlarge image

Hyundai Motor and Kia install hybrids in their flagship models "The era of pure electric vehicles is delayed... For the time being, hybrids will be a success or failure."

"There are a lot of customers who aren't ready to buy an electric car yet. Genesis needs to make a hybrid car option for these customers."

On March 31, Peter Lanzabecchia, chairman of the Genesis U.S. Dealer Advisory Board, publicly called on Hyundai Motor Group to add a hybrid model as Genesis' sales stalled.

At the same time, Hyundai Motor Group was working internally on a project to include a hybrid model in the Genesis. Rather than sticking to the existing strategy of releasing all new Genesis models as pure electric vehicles from next year, the company has decided to respond flexibly according to the global market situation. Hyundai Motor Group has decided to introduce hybrid models not only to Genesis but also to Hyundai Motor and Kia's flagship models one after another to overcome the "electric vehicle growing pains" that began in the second half of last year.

"The era of electric vehicles is delayed"

It's not just Hyundai that EV sales have faltered. Since the second half of last year, all automakers have been suffering from the same problem. This is why companies such as GM, Ford, Stellantis, and Volkswagen, which were "all-in" on electric vehicles, have put their investment and development on hold in a hurry.

The dwindling demand for electric vehicles is shifting to hybrid cars. Toyota, which was criticized for being late in the transition to electric vehicles, sold 3.4 million hybrid cars last year. That's 31% more than a year ago (2.6 million). In other words, in this fiscal year (April 2023~March 2024), hybrid cars played the role of the biggest contributor to the record-breaking net profit, which is estimated to be around 40 trillion won. This is the background of Toyota Chairman Akio Toyoda's statement at the Japan Mobility Show in October last year, when he said, "People are finally seeing reality," and "Toyota's hybrid strategy was the right one."

Honda also sold 1.3 million cars in the U.S. market last year, up 33 percent year-on-year, of which about 300,000 were CR-V and Accord hybrids. Eiji Fujimura, Honda's chief financial officer, said on the 8th, "Hybrid cars are beneficial to the bottom line because they have relatively higher margins and require fewer incentives." Honda will also launch the Civic Hybrid in the U.S. this year.

Adding a hybrid to the flagship model

Hybrid cars sell well, and the same goes for Hyundai Motor Group. In the fourth quarter of last year, the share of electric vehicles in Hyundai's sales was 5.3 percent, lower than a year ago (5.7 percent), while the share of hybrid cars was 10.6 percent, higher than a year ago (7.1 percent).

As a result, Hyundai Motor Group has decided to release hybrid models not only for Genesis but also for Hyundai and Kia's flagship models. This year, the Palisade and Staria will be added with a hybrid model. The new Santa Fe hybrid model will be manufactured at the Alabama plant in the U.S. in the second quarter. Kia's compact sport utility vehicle (SUV), the Seltos Hybrid, is planned to be applied from the third-generation model next year. Currently, Hyundai Motor Group has hybrid models in Hyundai Motor Company's Avante, Sonata, Grandeur, Kona, Tucson, and Santa Fe, as well as Kia's K5, K8, Niro, Sportage, Sorento, and Carnival.

An automobile industry official said, "As the era of pure electric vehicles is likely to be slower than initially expected, hybrid cars will be the difference between success and failure for global automakers."

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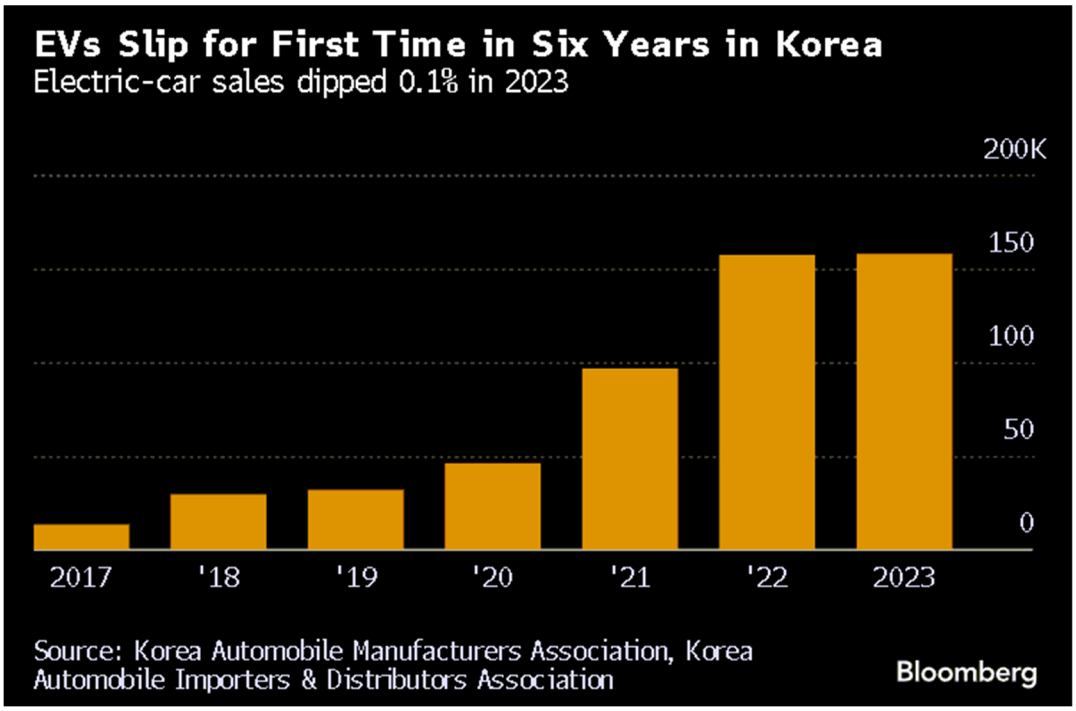
Battery Fire Fears Are Slowing Korea's Switch to Electric Cars
2024-02-05 12:00:16.928 GMT

By Heejin Kim
(Bloomberg) -- South Korea has all the ingredients to be at the front of the electric car revolution: national champions leading the shift in Hyundai Motor Co. and Kia Corp., cheap electricity and abundant charging stations.
Yet EV sales slipped last year for the first time since 2017 — dipping 0.1% to 157,823 units — according to data from the Korea Automobile Manufacturers Association. While high prices and rising interest rates helped cool demand, two of the biggest factors standing in the way of drivers ditching their gasoline cars for an EV are safety concerns and a lack of fast chargers.



According to a survey conducted by the Korea Transportation Safety Authority published in November, around half of EV owners said their biggest safety concern is a fire caused by a car crash, or during charging.
Several high-profile incidents have stoked that worry. In 2022, an electric van that had finished charging but remained plugged in caught fire in the parking lot of an apartment building in Busan, quickly spreading to four other vehicles, according to a report from the National Fire Agency. In 2020, a passenger in a chauffeur-driven EV died when the car caught fire after crashing into the wall of an underground parking lot.
That case resonates with Koreans, many of whom live in high-rise residential apartments. Fires at chargers in underground parking areas — a closed space where flames can spread quickly and fire trucks can have difficulty accessing — make drivers even more nervous. In December, the government

banned the installation of chargers below the second basement level.

Blogs about how to open a car door in case of an EV fire are still popular on Korean website Naver. Tesla Inc.'s website shows passengers sitting in the rear of a Model S should pull a release cable hidden under the edge of the carpet to manually open the electronic doors when there's no power.

For Ashley Eom, a 46-year-old Seoul house maker, safety concerns are enough to dissuade her from an EV.

"I heard some drivers died in EVs because they couldn't manually open the door in fires," she said. "What if my 10-year-old son sitting in the back seat can't open the door when an EV catches fire?"

To be sure, the concerns may be overblown, given there was a cumulative total of just 132 EV fires recorded as of June 2023. That compares to about 4,000 fires every year in gasoline-fueled cars in the country.

Tesla has also long maintained that EV fires attract undue attention, such as a fatal 2021 crash involving a Model S in Texas that took firefighters four hours and more than 30,000 gallons (113,560 liters) of water to douse. According to its 2020 Impact Report, in the eight years prior, there was about one Tesla fire for every 205 million miles (330 million kilometers) traveled, compared to a fire every 19 million miles for conventional vehicles.

Another bugbear for Korean drivers is a lack of charging facilities, despite the country having the world's highest ratio of public charging points as well as cheap electricity (about 20 cents per 7 kilometers). However, about 90% of public chargers are slow chargers, according to the International Energy Agency.

Recently, car owners have complained about electric trucks causing logjams at charging stations. Following hefty government subsidies, electric trucks account for 20% of EVs in Korea.

"Electric trucks always occupy charging stations, especially those near expressways out of Seoul," said Brian Kwon, a manager at a hotel chain who drives the company's Kia Niro EV, Genesis GV60 and Kia EV6 for business trips. "High-speed charging itself takes an hour, and I also should line up for it."

"I don't use EVs anymore," he added. "I've put them up for sale."

Truckers also complain about the need to charge their vehicles five or six times a day due to their short driving ranges. Hyundai's 1-tonne Porter II Electric, popular with delivery drivers, has a range of just 211 kilometers (131 miles) and takes 47 minutes to recharge at a high-speed charging point. Kia's Bongo III EV small truck has the same specs.

"The government pushed electric trucks hard and just increased the adoption of EVs without considering charging infrastructure," said Kim Pil-Soo, an automotive engineering professor at Daelim University College in Anyang City. "Hyundai is still using an old platform to produce electric trucks, so they can't carry more batteries to extend their driving range."

Despite all the challenges, Kim Young-chul, a 59-year-old who works at a Seoul law firm, is happy with his Kia EV6, which he leased two years ago. Kim has the perfect conditions for running an EV — his own slow charger at home (a house, not an apartment) and another at work. He spends just $1 a day charging for his 40-kilometer round-trip commute.
“I’m very satisfied with my EV,” Kim said. “But I don’t let my wife drive it, as she’s not a good driver and may cause an accident.”

--With assistance from Myungshin Cho.

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JPMorgan, State Street quit climate group, BlackRock steps back

By Simon Jessop and Ross Kerber

February 15, 20244:07 PM MSTUpdated 2 days ago

A sign outside the headquarters of JP Morgan Chase & Co in New York, September 19, 2013. REUTERS/Mike Segar *Purchase Licensing Rights, opens new tab*

- Summary
- Companies
- Biggest firms to leave CA100+ group since its launch
- CA100+ looking to toughen stance on corporate laggards
- State Street cites move as a threat to its independence

Feb 15 (Reuters) - JPMorgan Chase's (JPM.N), opens new tab and State Street's (STT.N), opens new tab investment arms on Thursday both quit a global investor coalition pushing companies to rein in climate-damaging emissions, while BlackRock (BLK.N), opens new tab said it has transferred its membership to its international arm, limiting its involvement.

The decisions together remove nearly $14 trillion of total assets from efforts to coordinate Wall Street action on tackling climate change and came after the coalition, known as Climate Action 100+, or CA100+, asked signatories to take stronger action over laggards.

Financial firms have faced growing pressure from Republican politicians over their membership of such groups, amid accusations that committing to shared action could be a breach of antitrust law or fiduciary duty.

None of the firms cited politics among their motivations. A spokesperson for State Street Global Advisors (SSGA), which manages $4.1 trillion, said the new priorities set by CA100+ threatened its ability to act independently.

The priorities, adopted last June, call for CA100+ signatories to engage with policymakers and for some to publish details on their talks with companies towards the goal of getting them to lower emissions to zero on a net basis by 2050.

The changes, however, were "not consistent with our independent approach to proxy voting and portfolio company engagement," said State Street spokesperson Randall Jensen.

JPMorgan's fund arm said it had decided not to renew its membership of CA100+ after building up its own investment stewardship capabilities. The Financial Times first reported the news. The unit manages $3.1 trillion.

BlackRock said it is no longer a member of the CA100+ but rather has shifted its membership in CA100+ to BlackRock International.

"As BlackRock made clear when signing up as a member of CA100+ in 2020, at all times the firm maintains independence acting on behalf of clients, including in choosing which issuers to engage with, and how to vote proxies," the company said in a press release. It also said it would add a new engagement and proxy voting option to give clients a way to prioritize climate goals.

BlackRock's move effectively removes $6.6 trillion, or two-thirds of its total assets, from the pool represented by CA100+.

Kirsten Spalding, vice president of the Ceres Investor Network, which oversees the CA100+'s North American efforts, said the group had expected some signatories to leave as it adopted its new priorities, and that it would continue its efforts despite the loss of the big asset managers.

"We knew that the focus on making sure there was movement from certain companies was going to be uncomfortable for some investors," Spalding said in an interview.

NOTABLE ABSENCE

Before Thursday, 13 firms had left CA100+ over the years, including Walter Scott & Partners and Loomis Sayles. But its overall membership has grown to more than 700 firms including 60 new ones that joined in the fall, a spokesperson said.

A notable absence is the world's second biggest manager, Vanguard, which never joined and, in late 2022, dropped out of another well-known climate grouping, the Net Zero Asset Managers (NZAM) initiative. Vanguard also cited independence concerns, as did a number of insurers who left a sibling organization.

Richard Fields, consultant for leadership advisory firm Russell Reynolds Associates, said the departures are in line with how many companies have grown less vocal about environmental, social and governance (ESG) issues even as they continue to see benefits in an energy transition and diverse workforces.

The development puts groups like CA100+ “at a crossroads," he said. "Do they want to keep being more vocal and aggressive? Or do they follow the markets and be a little less aggressive?”

While it is hard to say whether the firms caved to political pressure, Fields said, "There’s definitely some overlap in concepts between what the Republican establishment has brought up, and these decisions.”

SHOULD OTHERS FOLLOW?

Fields cited how last March a group of Republican attorneys general co-led by Montana's Austin Knudsen questioned most of the largest U.S. asset managers about their membership in the industry groups and described what it called "potential unlawful coordination" within CA100+.

In a statement on Thursday sent by a representative, Knudsen called the moves by the three companies "great news" and said, "We need every asset management firm to follow suit."

Several environmental groups criticized the moves including the Sierra Club, which in a statement described the actions as "Major Asset Managers Cave" to the attacks.

New York City Comptroller Brad Lander, who oversees public retirement assets, said his office will take account of the firms' moves in allocating its investments.

“Climate risk is financial risk. Today BlackRock, JPMorgan, and State Street are choosing to ignore both," Lander said in a statement. The firms, he said, "are failing in their fiduciary duty and putting trillions of dollars of their clients’ assets at risk."

Reporting by Simon Jessop in London and Ross Kerber in Boston; Editing by Chizu Nomiyama, David Evans, Matthew Lewis and Daniel Wallis

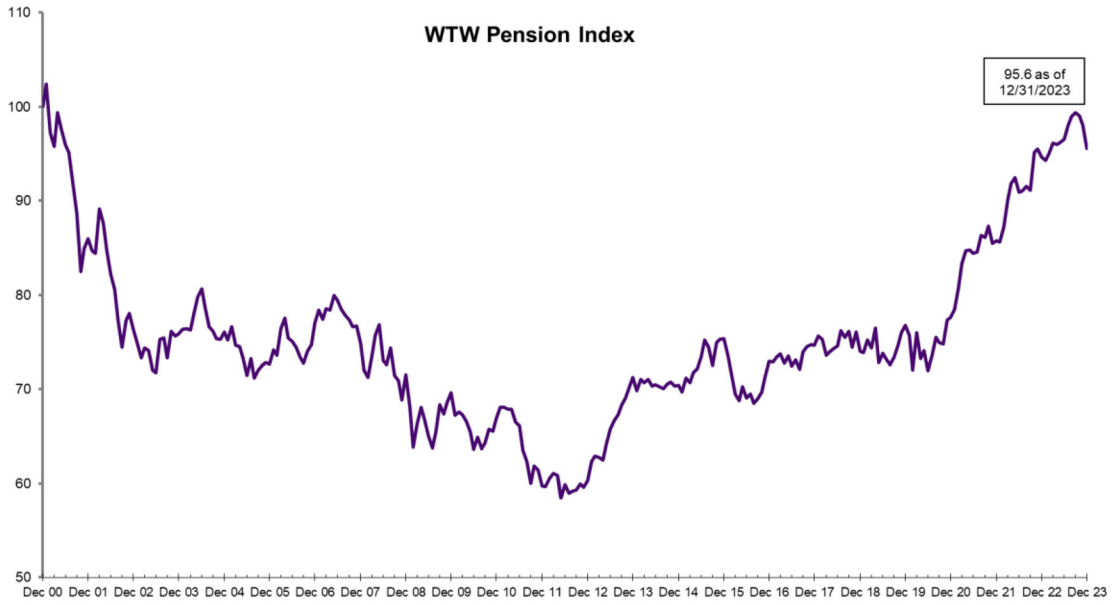
Our Standards: The Thomson Reuters Trust Principles.

Pension Finance Watch

Fourth Quarter 2023

Results for Canadian defined benefit pension plans

The WTW Pension Index has decreased in the fourth quarter, as an increase in accounting liability measures was only partially offset by positive asset returns. The net effect on our benchmark plan was a decrease of 3.8% in the WTW Pension Index (from 99.4 to 95.6) for the quarter.



About this report

This report reviews how capital market performance affected Canadian defined benefit pension plans, with a focus on linked asset/liability results. Specific plan results depend on liability characteristics, portfolio composition and actual investment results, among other factors.

This information has been prepared for clients of WTW. For information on how this issue affects your organization, please contact your consultant, or one of the following consultants:

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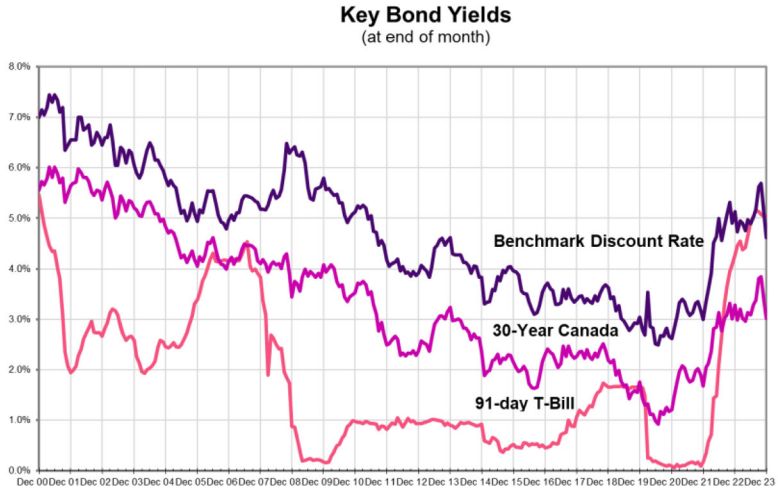
Canadian interest rates

The Bank of Canada held its overnight lending rate at 5.0% through the end of 2023. It maintained the rate at this level through the fourth quarter while continuing its policy of quantitative tightening. On inflation itself, the central bank cited the drop in the CPI to 3.1%, and the “broadening” of the cooling trend in inflation, both positives, but it remains concerned about shelter inflation’s escalation and the fact that its preferred core measures have been in the 3 ½% to 4% range (most recently at the lower end of that). While interest rates hit a peak in October they began to drop precipitously through November and December. The yield on 30-year Canada treasuries finished the quarter 79 bps lower than it started. Credit spreads also dropped during the quarter, contracting by 12 bps. The benchmark discount rate determined under the RATE:Link methodology used to determine defined benefit obligations decreased by 101 bps, which combined with the effect of interest accumulation led to an increase in accounting liability measures over the quarter.

Canadian Bond Yields (End of Period)			
	Dec. 2023	*Sep. 2023*	*Dec. 2022*
Canada Treasuries(1)			
30-year	3.02	3.81	3.28
10-year	3.10	4.03	3.30
91-day T-bill	5.05	5.13	4.27
Corporate Bonds(1)			
FTSE	4.77	5.90	5.27
Benchmark Discount Rate	4.62	5.63	5.13



(1) Source: Information prior to June 2015 and FTSE Corporate bond yield provided by FTSE Global Debt Capital Markets Inc. Copyright © FTSE Global Debt Capital Markets Inc. All rights reserved. The information contained herein may not be redistributed, sold or modified or used to create any derivative work without the prior written consent of FTSE Global Debt Capital Markets Inc. Effective June 2015, Canada 10 and 30 year yield were obtained from the Bank of Canada; the 91-day T-bill yield was obtained from Scotiabank.

Investment returns

Global equity markets had a great last quarter of 2023 overall seeing high single digit positive returns. The quarter saw its ups and downs with equity markets worldwide experienced a sluggish beginning in October, however in November, led by the U.S. Federal Reserve's perceived dovish remarks with softening inflation, declining bond yields and economic resilience, saw a surge that carried through December. Canadian equities saw high single digit positive returns (8.1%). However, with material outperformance of technology stocks and due to Canada’s smaller weighting in the Information Technology sector (one of the best performing sectors of the quarter, +24%), it was shy of US equities (11.7%) but still outperformed international equities (5.0%), both in local currency terms. It’s noteworthy that while the S&P 500 closed the 2023 year with a 26% return in USD, a substantial part of this success was attributed to the Magnificent 7. The persistent outsized impact on the overall index return of the mega-cap tech stocks showing the concentration risk of market-capitalization weighted index.

The CAD weakened relative to major global currencies in Q4, other than to the USD, leading unhedged Canadian investors to see CAD returns dampened on US equity investments but improved on international equity investments during Q4.

All parts of the yield curve saw sharp decreases during the quarter, leading to positive returns in major Canadian bond indices. With their higher duration and decreasing yields, long term bonds were most positively impacted over the quarter. Due to their shorter duration corporate bonds underperformed relative to government bonds even with their higher yields, in a contracting credit spread and falling yield environment.

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Asset Class Returns

	Q4 2023	*YTD*	*Last 12 months*
Stock Returns			
Canadian Equities – S&P/TSX Composite [(2)]	8.1%	11.8%	11.8%
U.S. Equities – S&P 500 (Canadian dollars) [(3)]	8.9%	23.3%	23.3%
Non-North American Equities – MSCI EAFE (Canadian dollars) [(4)]	7.7%	15.4%	15.4%
Canadian Fixed Income Returns			
91-day T-Bills	1.3%	4.7%	4.7%
FTSE Universe Bonds	8.3%	6.7%	6.7%
FTSE Long Bonds	14.8%	9.5%	9.5%

(2) Source: Bloomberg LP. All S&P/TSX Composite indices are registered trademarks of The Toronto Stock Exchange Inc. and Standard & Poor's Corporation.
(3) Source: Bloomberg LP. All S&P indices are registered trademarks of Standard & Poor's Corporation
(4) Source: Bloomberg LP. All MSCI indices are registered trademarks of Morgan Stanley Capital International Inc.

The benchmark plan's 50% equity / 50% fixed income portfolio increased 11.5% for the quarter. The more conservative 30% equity portfolio increased 12.8% for the quarter, and the more aggressive 70% equity portfolio increased 10.2% for the quarter.

Pension plan liabilities under Canadian, International and U.S. accounting standards are measured using a discount rate based on yields available on high-quality corporate bonds as of the measurement date. Using the same RATE:Link methodology as we use for the WTW Pension Index in other countries, the discount rate for our benchmark plan decreased over the quarter by 101 basis points to 4.62% at December 31, 2023. Among other factors, the selected discount rate depends on projected plan cash flows, the bond data and the methodology utilized for constructing the yield curve. The RATE:Link approach represents one possible methodology; other acceptable methodologies may result in higher or lower discount rates, and consequently lower or higher plan liabilities.

WTW tracks the monthly change in its Pension Index in a series that dates to December 31, 2000. Like bond prices, pension liability values move in the opposite direction to interest rates. The WTW Pension Liability Index increased by 15.9% for the quarter, reflecting the combined effect of interest accumulation and the benchmark discount rate change.

The increase in accounting liability measures were partially offset by positive investment returns resulting in a net decrease in the WTW Pension Index over the quarter, from 99.4 to 95.6 as at December 31, 2023. The change in the WTW Pension Index does not reflect any contributions made to reduce the size of any deficit or any contribution holiday taken on account of any surplus.

wtw

Canadian Pension Index Results			
	Q4 2023	*YTD*	*Last 12 Months*
Portfolio Returns			
30% Stocks/70% Fixed Income	12.8%	12.1%	12.1%
50% Stocks/50% Fixed Income	11.5%	13.7%	13.7%
70% Stocks/30% Fixed Income	10.2%	15.4%	15.4%
Benchmark Plan Liability Results			
Change in Pension Liability Index	15.9%	12.7%	12.7%
Percentage Change in Pension Index	-3.8%	0.9%	0.9%

A note to our readers

This publication tracks the asset/liability performance of a hypothetical Canadian benchmark pension plan, based on a 50/50 asset mix and a typical liability profile. The index is not intended to represent an average funded ratio. Rather, the intent is to provide plan sponsors with a consistent and relevant measure to serve as a general indicator of the effects of capital market events on pension plan financing.

Definition of terms

Bond yields

- The 30-year Canada semi-annual bond yield reflects the yield on the actively-traded Government of Canada bond maturing in 30 years.
- The 10-year Canada semi-annual bond yield reflects the yield on the actively-traded Government of Canada bond maturing in 10 years.
- The 91-day T-Bill semi-annual yield refers to the yield on Government of Canada treasury bills which mature in 91 days.
- The FTSE Corporate semi-annual bond yield reflects the yield on the FTSE Corporate Bond Index composed of corporate bonds with varying maturity.

Asset class returns

- Total return incorporates the combined effect of price changes and interest or dividend income. This will typically differ from the daily results published in financial journals, which are based only on price changes.
- S&P/TSX Composite refers to the “S&P/TSX Composite Index”, which tracks larger companies in the Canadian market.
- S&P 500 refers to the “S&P 500 Index”, which tracks the largest 500 companies in the U.S. based on the market value of their equity. Total return is reported in terms of the Canadian dollar and therefore includes the effect of currency changes.
- MSCI EAFE refers to the “Morgan Stanley Capital International Europe, Australasia, Far East Index” of equity securities. Total return is reported in terms of the Canadian dollar and therefore includes the effect of currency changes.
- 91-Day T-bill returns are based on the “FTSE 91-day Treasury Bill Index”.
- FTSE Universe Bonds refers to the “FTSE Universe Bond Total Return Index” for government and corporate bonds of all maturities in excess of one year.
- FTSE Long Bonds refers to the “FTSE Long Term Bond Total Return Index” for government and corporate bonds with maturities in excess of 10 years.

Portfolio returns

- The WTW Pension Index 50% / 50% portfolio return is based on a diversified portfolio of 50% equity (10% Canadian, 20% U.S. and 20% MSCI EAFE) and 50% fixed income (FTSE Long Bonds).
- The 30% and 70% equity portfolios are constructed with similar composition within their equity and fixed income components.

Benchmark discount rate

- The discount rate is determined each month for this benchmark pension plan based on observed yields for high-quality corporate bonds and the benchmark plan's projected cash flows. Higher or lower discount rates may be more appropriate for other plans with different expected cash flows.* Furthermore, a variety of methodologies may be used to interpret the data available on long-term Canadian corporate bonds. This calculation uses the same RATE:Link methodology as we use for the WTW Pension Index in other countries. Other acceptable methodologies may result in higher or lower discount rates, depending on market conditions.

WTW Pension Liability Index

- The Pension Liability Index tracks the change in the benchmark plan's obligations due to the accumulation of interest and changes in financial assumptions. For this purpose, the obligations are measured based on the requirements of U.S. and International accounting standards.*
- Contributions are set equal to the level of benefit payments for the benchmark plan.

WTW Pension Index

- The WTW Pension Index is the ratio of market value of assets to accounting obligations for the benchmark plan. Assets change from month to month based on the investment performance of the 50% / 50% portfolio, assumed contributions and benefit payments. Liabilities change from month to month due to accumulated service cost and interest, benefit payments and the effects of any other changes in the WTW Pension Liability Index. The WTW Pension Index is an accounting measure, not a funding measure. As such, it is not appropriate to consider this as a measure of a pension plan's funding, which is based on statutory requirements.

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* The discount rate assumption is adjusted to reflect changes in market interest rates. Our benchmark plan is a traditional final-pay pension plan with approximately half of the liabilities in respect of active employees and half of the liabilities in respect of terminated vested and retired employees. Plans with different designs or demographic characteristics will see different results in terms of both the level of appropriate discount rate and the plan's response to changes in financial assumptions.

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https://www.gofundme.com/c/newsroom/gofundme-and-classy-enable-30-billion-of-help

GoFundMe and Classy Enable $30 Billion of Help

by GoFundMe February 6, 2024

A note from GoFundMe CEO, Tim Cadogan

Today, GoFundMe and Classy are announcing a record-setting milestone achieved by our community – $30 billion of help delivered. This is a testament to the tremendous impact that comes from people asking and offering help. The $30 billion represents more than 150 million people from all over the world coming together to help each other.

Most often, these are friends, relatives, neighbors and community members helping each other in response to specific needs. Supporting teachers, creating a community garden, rebuilding after a wildfire, enabling a friend to cover the costs of a medical procedure, getting more kids in sports, opening a new small business, enabling a global nonprofit to respond to an earthquake, honoring a friend who has passed away, supporting a nearby animal shelter, funding a leading research hospital, paying off kids' lunch debt at the local middle school or supporting a study abroad trip – these are some of the many ways our global community has helped each other. In the US alone, over one third of all adults have donated using GoFundMe and Classy.

We join GoFundMe Hero and 2023 CNN Hero of the Year Dr. Kwane Stewart in his aspiration shared on his GoFundMe, *"As we enter 2024, we carry on our hope for a brighter future with more kindness and shared humanity for all."*

Over a decade ago, GoFundMe and Classy were each founded with the idea that the right tools and technology could both help people help each other as individuals and help nonprofit organizations solve some of the world's most urgent and complex problems. And together we have. People from nearly every country around the world have helped each other and supporters on GoFundMe and Classy have donated an average of $68 every second since 2010.

Giving Back

These donations inform our unique perspective on the causes our community cares about and fuels our inspiration to help even more. Since our founding we have invested more than $25 million into our community through programs including GivesBack and Pledge 1%. We also created and support the ongoing operation of GoFundMe's independent nonprofit partner, GoFundMe.org. GoFundme.org has raised and distributed more than $160 million, making thousands of grants to charities and individual families facing critical needs. For

example, GoFundMe.org started delivering cash grants to families in and around Lahaina following the devastating fire last August within 30 hours, and has sent over 4,200 grants to-date.

Looking Ahead

How do we enable the next $30 billion much faster? Our mission is simple. We exist to help people help each other – whether as individuals through GoFundMe or through the nonprofit organizations we support through our Classy software business. We're focused on a hard problem: most people find it difficult to ask for help. But once you ask, it unlocks incredible things because people *want* to help. It's one of the most positive things we do in our lives. Help, after all, is the love and care we have for one another in action.

So It's our job to make it easier to ask for – and receive – help with technology, tools and most importantly, by earning our customers' trust every day. That's what we'll be spending all our time working on this year and beyond.

Thank you to everyone who has stepped up, whether to ask or to support, and who have all demonstrated just what amazing things help can really do in the world.

Check out [GoFundMe's 2023 Year in Help](). Look what help can do.

Dan Tsubouchi @Energy_Tidbits · 7m

THE market & #Oil question for H1/24.

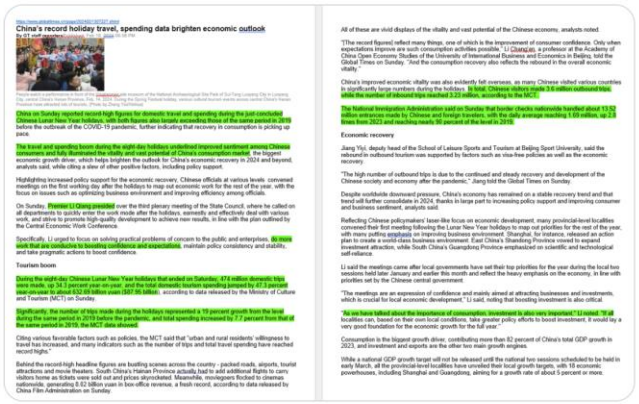
Global Times today: Very strong China travel & personal consumption over peak Lunar New Year.

BUT, is this start of return to personal consumption or will Chinese keep saving.

China declared 2024 'year of promoting consumption"

...

Show more



China's record holiday travel, spending data brighten economic outlook

China on Sunday reported record-high figures for domestic travel and spending during the just-concluded Chinese Lunar New Year holidays, with both figures also largely exceeding those of the same period in 2019 before the outbreak of the COVID-19 pandemic, further indicating that recovery in consumption is picking up pace.

The travel and spending boom during the eight-day holidays underlined improved sentiment among Chinese consumers and fully illuminated the vitality and vast potential of China's consumption market, the biggest economic growth driver, which helps brighten the outlook for China's economic recovery in 2024 and beyond, analysts said, while citing a slew of other positive factors, including policy support.

Highlighting increased policy support for the economic recovery, Chinese officials at various levels convened meetings on the first working day after the holidays to map out economic work for the rest of the year, with the focus on issues such as optimizing business environment and improving efficiency among officials.

On Sunday, Premier Li Qiang presided over the third plenary meeting of the State Council, where he called on all departments to quickly enter the work mode after the holidays, earnestly and effectively deal with various work, and strive to promote high-quality development to achieve new results, in line with the plan outlined by the Central Economic Work Conference.

Specifically, Li urged to focus on solving practical problems of concern to the public and enterprises, do more work that are conducive to boosting confidence and expectations, maintain policy consistency and stability, and take pragmatic actions to boost confidence.

Tourism boom

During the eight-day Chinese Lunar New Year holidays that ended on Saturday, 474 million domestic trips were made, up 34.3 percent year-on-year, and the total domestic tourism spending jumped by 47.3 percent year-on-year to about 632.68 billion yuan ($87.95 billion), according to data released by the Ministry of Culture and Tourism (MCT) on Sunday.

Significantly, the number of trips made during the holidays represented a 19 percent growth from the level during the same period in 2019 before the pandemic, and total spending increased by 7.7 percent from that of the same period in 2019, the MCT data showed.

Citing various favorable factors such as policies, the MCT said that "urban and rural residents' willingness to travel has increased, and many indicators such as the number of trips and total travel spending have reached record highs."

Behind the record-high headline figures are bustling scenes across the country - packed roads, airports, tourist attractions and movie theaters. South China's Hainan Province actually had to add additional flights to carry visitors home as tickets were sold out and prices skyrocketed. Meanwhile, moviegoers flocked to cinemas nationwide, generating 8.62 billion yuan in box-office revenue, a fresh record, according to data released by China Film Administration on Sunday.

All of these are vivid displays of the vitality and vast potential of the Chinese economy, analysts noted.

"[The record figures] reflect many things, one of which is the improvement of consumer confidence. Only when expectations improve are such consumption activities possible," Li Chang'an, a professor at the Academy of China Open Economy Studies of the University of International Business and Economics in Beijing, told the Global Times on Sunday. "And the consumption recovery also reflects the rebound in the overall economic vitality."

China's improved economic vitality was also evidently felt overseas, as many Chinese visited various countries in significantly large numbers during the holidays. In total, Chinese visitors made 3.6 million outbound trips, while the number of inbound trips reached 3.23 million, according to the MCT.

The National Immigration Administration said on Sunday that border checks nationwide handled about 13.52 million entrances made by Chinese and foreign travelers, with the daily average reaching 1.69 million, up 2.8 times from 2023 and reaching nearly 90 percent of the level in 2019.

Economic recovery

Jiang Yiyi, deputy head of the School of Leisure Sports and Tourism at Beijing Sport University, said the rebound in outbound tourism was supported by factors such as visa-free policies as well as the economic recovery.

"The high number of outbound trips is due to the continued and steady recovery and development of the Chinese society and economy after the pandemic," Jiang told the Global Times on Sunday.

Despite worldwide downward pressure, China's economy has remained on a stable recovery trend and that trend will further consolidate in 2024, thanks in large part to increasing policy support and improving consumer and business sentiment, analysts said.

Reflecting Chinese policymakers' laser-like focus on economic development, many provincial-level localities convened their first meeting following the Lunar New Year holidays to map out priorities for the rest of the year, with many putting emphasis on improving business environment. Shanghai, for instance, released an action plan to create a world-class business environment. East China's Shandong Province vowed to expand investment attraction, while South China's Guangdong Province emphasized on scientific and technological self-reliance.

Li said the meetings came after local governments have set their top priorities for the year during the local two sessions held later January and earlier this month and reflect the heavy emphasis on the economy, in line with priorities set by the Chinese central government.

"The meetings are an expression of confidence and mainly aimed at attracting businesses and investments, which is crucial for local economic development," Li said, noting that boosting investment is also critical.

"As we have talked about the importance of consumption, investment is also very important," Li noted. "If all localities can, based on their own local conditions, take greater policy efforts to boost investment, it would lay a very good foundation for the economic growth for the full year."

Consumption is the biggest growth driver, contributing more than 82 percent of China's total GDP growth in 2023, and investment and exports are the other two main growth engines.

While a national GDP growth target will not be released until the national two sessions scheduled to be held in early March, all the provincial-level localities have unveiled their local growth targets, with 18 economic powerhouses, including Shanghai and Guangdong, aiming for a growth rate of about 5 percent or more.

> **Dan Tsubouchi** @Energy_Tidbits · Jan 28
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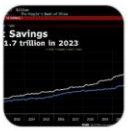
> 
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> Will Chinese get back to spending instead of just saving?
>
> 01/26/24, China commerce ministry "*declared 2024 the "year of promoting consumption" as it stressed t...*

2 3 204

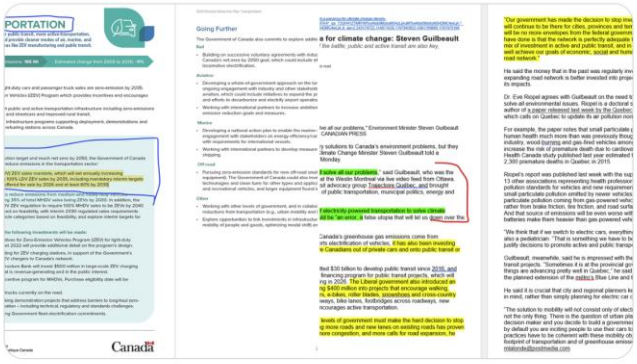
Dan Tsubouchi @Energy_Tidbits · 3h

Is phasing out of ICE vehicles in 🇨🇦 about to be delayed?

Did Min Guilbeault highlight EVs not a panacea to set stage to relax his 👇 #EVs sales targets >20% by 2030 & >60% by 2030?

#Oil #Gasoline will be needed for longer

#OOTT



PORTATION

Going Further

a for climate change: Steven Guilbeault

I solve all our problems," said Guilbeault, who was the

electricity powered transportation to solve climate

all be "an error, a false utopia that will let us down over the

Canada's greenhouse gas emissions come from

Canadians out of private cars and onto public transit or

$30 billion to develop public transit since 2016, and

$400 million into projects that encourage walking,

Canada

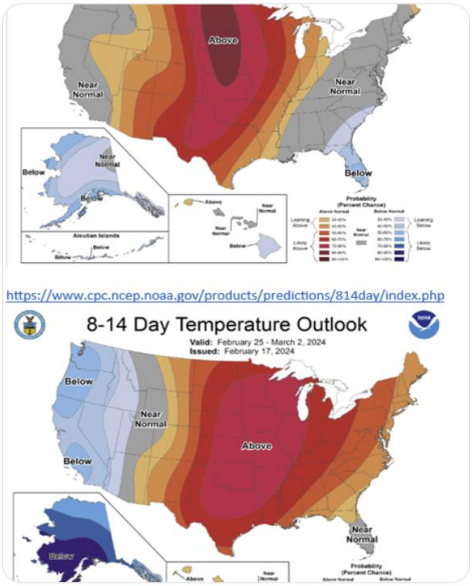
1 3 9 1.2K

Dan Tsubouchi @Energy_Tidbits · 14h

Today's @NOAA updated 6-10 & 8-14 day temperature outlook covers Feb 23-Mar 2.

Won't be any near term help to HH #NatGas prices with way warmer than normal temps in east 1/2 of US to end Feb.

#OOTT



1 1 5 2.3K

Dan Tsubouchi @Energy_Tidbits · 15h

Iran watch

"*Israel carried out covert attacks on two major natural gas pipelines inside Iran this week ..... according to two Western officials and a military strategist affiliated with IRGC.*

"*strikes represent a notable shift in the shadow war that Israel and Iran have been...*

Show more

7 1.9K

Dan Tsubouchi @Energy_Tidbits · 20h

Overlooked upside to #Bakken and why not other shale/tight US oil plays!

See 👇 SAF transcript NDIC webcast

Lots of unstimulated reservoir in Bakken.

Especially in pre-2021 wells that had 50 frac entry pts vs 250 today.

Great set up for refracks, twin wells.

...

Show more

"What I heard a lot more about was our operators believe there is a lot of unstimulated reservoir in the Bakken. At the heels and toes of the wells. In the section lines. And even in all those wells that were drilled and fracked from 2006 thru 2016, maybe 2020." **North Dakota's Lynn Helms**

SAF Group created transcript of comments by Lynn Helms (North Dakota Director of Mineral Resources) on the monthly The Directors Cut webcast. https://www.dmr.nd.gov/dmr/oilgas/directorscut

Items in "italics" are SAF Group created transcript.

On why North Dakota oil production was up in 2023, at 1:30 min mark, Helms *"what can we attribute that to? There are a couple of things. One of the biggest factors is our Drilled but Uncompleted Wells, our DUC wells, that inventory has been exhausted. So there were a couple hundred DUC wells that were completed with modern frack technology during the year. On top of that, we saw a major shift to 3-mile laterals and newer completion technologies in the Tier 2 area. So all of the drilling in the Tier 2 geology has turned out to be every bit as productive as what we saw in the core in the Tier 1 geology. "*

More are moving to 3-miles wells. At 13:25 min mark, Helms *"we're seeing more and more companies, for example, one of our larger operators, actually two of our larger operators said 75% of their wells in 2024 are going to be 3-mile laterals. And they're respacing everything they can to 1920's."* [Note I assume 1920s refers to acres so 3 adjoining sections ie, 3 miles by 1 mile]

On the potential for refracks and twin wells, at 22:50 min mark, Helms *"let me kind of start. I was a little surprised, I was expecting more discussion on Enhanced Oil Recovery. What I heard a lot more about was our operators believe there is a lot of unstimulated reservoir in the Bakken. At the heels and toes of the wells. In the section lines. And even in all those wells that were drilled and fracked from 2006 thru 2016, maybe 2020. Lots and lots of unstimulated reservoir rock that they want to focus on before they jump to enhanced oil recovery. How are they going to do that? Well, things like E-frack and Octiv AI. A lot of discussion about refracking. And a lot of excitement about the tax incentive the State put in place in wanting to improve and grow that. Quite a bit of excitement about doing things like drilling twin wells. So refracks sometimes have a lot of mechanical risk associated with them, working in that old well bore. But for not much more money, you can exit the old well bore [assume he means at the heel] and drill right parallel to it and get to new unstimulated rock using today's stimulation techniques. And so a well that was fracked with swell packers and sliding sleeves in the late teens in North Dakota would have had maybe 50 fracture entry points. A well today would have 250. And so the same amount of frack fluid, same amount of sand, different mixtures, there's some new surfactants, chemicals to go into the frack fluid, one of them is called Boost, invented by Halliburton. And even our local company, Creedence, has invented some surfactants and they're doing extremely well. So that's the unstimulated reservoir technology."*

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

2 3 5 2.2K

Dan Tsubouchi @Energy_Tidbits · 22h

2nd week of revisions point to oil back to storage after filling in for initial impact of longer tanker trips to avoid Red Sea.

#Oil floating storage at Feb 16 -19.92 mmb WoW to 70.85.

BUT 2nd week of big revisions. Feb 9 +15.81, Feb 2 +6.35. Jan 26 +4.56. Thx @vortexa...

Show more

Source: Bloomberg, Vortexa

Source: Bloomberg, Vortexa

Vortexa Crude Oil Floating Storage by Region (mmb)

Region	Feb 16/24	Feb 9/24	WoW	Original Posted Feb 9/24	Recent Peak Jun 23/23	Feb 16 vs Jun 23
Asia	39.78	49.30	-9.52	37.27	73.83	-34.05
Europe	2.62	2.23	0.39	2.23	6.21	-3.59
Middle East	3.51	15.62	-12.11	15.44	6.76	-3.25
West Africa	7.37	7.18	0.19	7.37	7.62	-0.25
US Gulf Coast	0.76	0.13	0.63	0.40	0.97	-0.21
Other	16.81	16.31	0.50	12.25	37.76	-20.95
Global Total	70.85	90.77	-19.92	74.96	133.15	-62.30

Vortexa crude oil floating storage posted on Bloomberg 9am MT on Feb 17

Source: Vortexa, Bloomberg

1 4 12 2.6K

Dan Tsubouchi @Energy_Tidbits · 37m ·

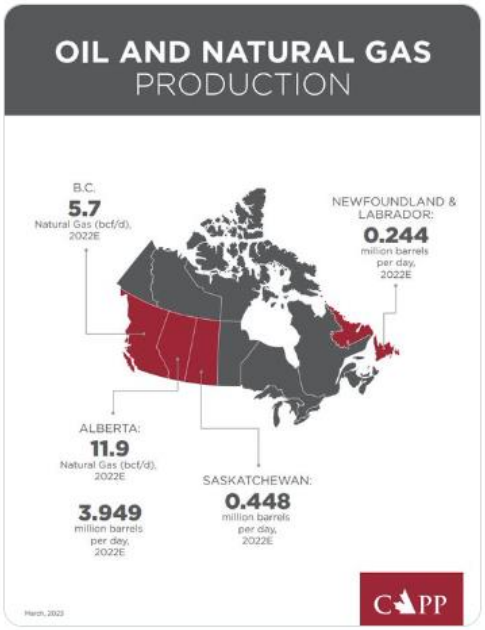
Reminder #LNGCanada is a game changer for 🇨🇦 #NatGas

Phase 1 is 1.8 bcfd, TC is ready to start delivering gas as soon as LNG Canada wants it.

Phase 2 FID would add another 1.8 bcf/d

Phase 1 + 2 is approx 20% of BC/AB natural gas production.

#OOTT



> **Dan Tsubouchi** @Energy_Tidbits · 53m
>
> 
>
> Seems TC expects 1.8 bcfd #LNGCanada Phase 2 FID is soon
>
> "*exporting ~14 bcf of #LNG from the US today. We see that growing to somewhere north of 30 bcf b**y the en**...

1 1 6 1.3K

Dan Tsubouchi @Energy_Tidbits · 53m

Seems TC expects 1.8 bcfd #LNGCanada Phase 2 FID is soon

"*exporting ~14 bcf of #LNG from the US today. We see that growing to somewhere north of 30 bcf by* ***the end of the decade*** *across all of NA,* ***with maybe 3 to 4 bcf coming from CAN*** *and 2 to 3 bcf coming from MEX*" TC EVP

#OOTT...

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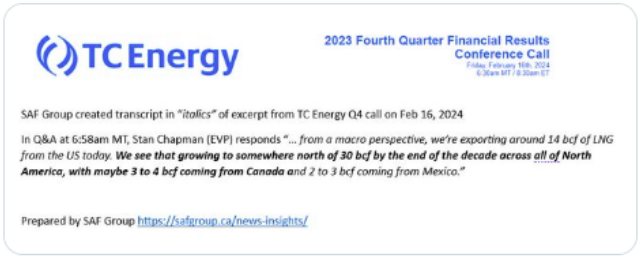


> **Dan Tsubouchi** @Energy_Tidbits · 1h
>
> TC Energy Q4 call just started.
>
> CEO "*we are now ready to deliver natural gas to* #LNGCanada *facility as soon as they are ready to receive it*"
>
> ...

2 · 5 · 2.5K

Dan Tsubouchi @Energy_Tidbits · 1h

TC Energy Q4 call just started.

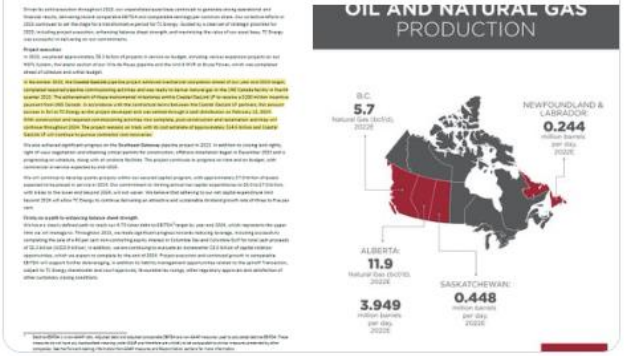
CEO "*we are now ready to deliver natural gas to* #LNGCanada *facility as soon as they are ready to receive it*"

Hopefully analysts can get a sense of when in the Q&A.

LNG Canada 1.8 bcf/d is ~10% of BC/Alberta total natural gas production.

#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · 2h
>
> Waiting on #LNGCanada & Shell for startup timing of game changer for 🇨🇦 #NatGas - the 1.8 bcfd #LNGCanada Phase 1.
>
> 👇 TC Energy Q4. Coastal GasLi*nk "was ready to d*eliver #NatGas *to the LNG Canada facility in* 4Q23"...
>
> Show more



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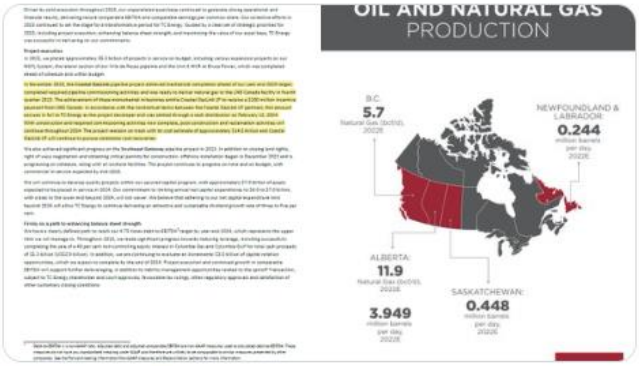
Dan Tsubouchi @Energy_Tidbits · 2h

Waiting on #LNGCanada & Shell for startup timing of game changer for 🇨🇦 #NatGas - the 1.8 bcfd #LNGCanada Phase 1.

👇TC Energy Q4. Coastal GasLink *"was ready to deliver #NatGas to the LNG Canada facility in* 4Q23"

1.8 bcfd is ~10% of BC/AB #NatGas production.

#OOTT #LNG



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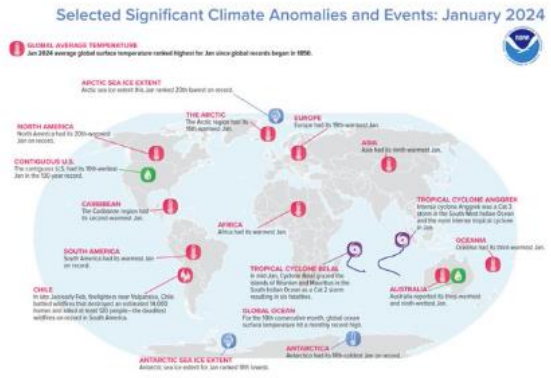
Dan Tsubouchi @Energy_Tidbits · 13h

Forgot to add the punch line - Jan 2024 was the hottest Jan for the world on record.

#NatGas #OOTT #LNG

> **Dan Tsubouchi** @Energy_Tidbits · 14h
>
> Here's key reason why global #LNG & #NatGas prices went down in Jan.
>
> 9th warmest Jan in Asia
>
> ...
> Show more
>
> January 2024 Selected Climate Anomalies and Events Map
>
> 
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Dan Tsubouchi @Energy_Tidbits · 14h

Here's key reason why global #LNG & #NatGas prices went down in Jan.

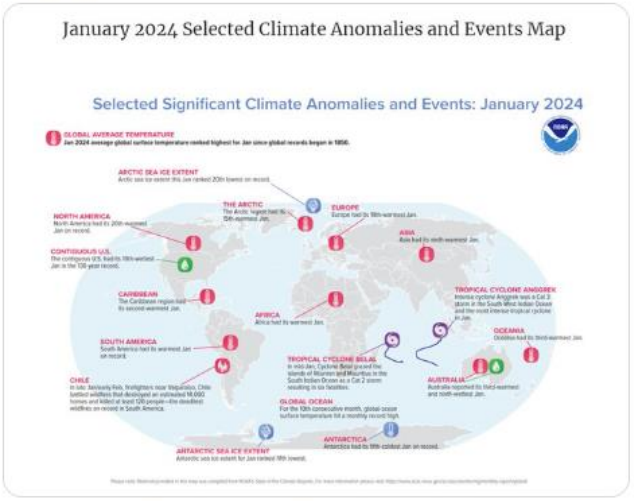
9th warmest Jan in Asia

19th warmest Jan in EU

20th warmest Jan in North America.

Unfortunately, weak prices in late winter lead to stalled prices thru spring shoulder season....

Show more



5 · 4 · 4.7K

Dan Tsubouchi @Energy_Tidbits · 18h

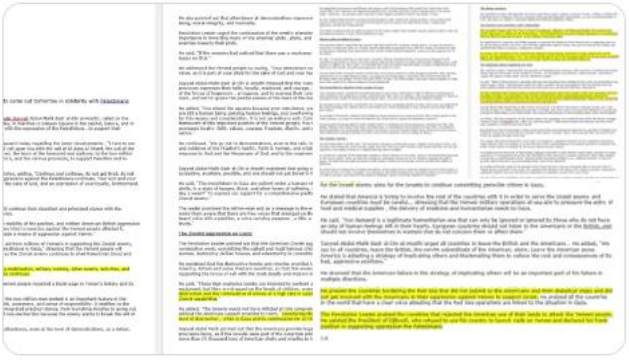
Houthis leader

Continuing Red Sea ops.

It's working "*Our operations at sea have had the effect of preventing the movement of ships linked to the Israeli enemy*"

US/UK can't stop them. "*... is continuing, effective, and influential despite the US & UK aggression*"

#OOTT



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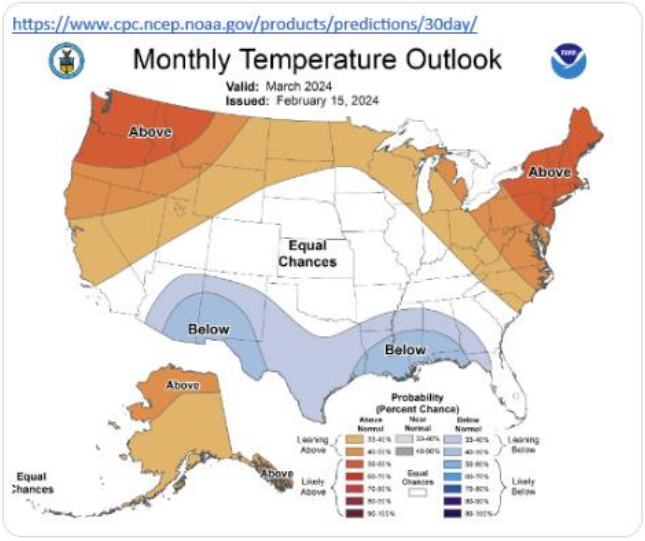
Dan Tsubouchi @Energy_Tidbits · 23h

Today's @NOAA temperature outlook for March won't bring any boost to HH #NatGas.

Calls for warmer than normal temps in March, in particular in NE US and Great Lakes.

#OOTT



2 4 1.6K

Dan Tsubouchi @Energy_Tidbits · 23h

ICYMI

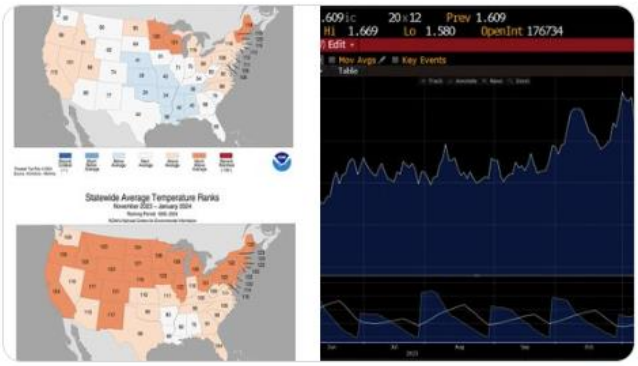
Here's key reason why HH #NatGas went below $2 in Jan.

Even with Arctic freeze in mid-Jan, Jan was 48th warmest in last 129 yrs and, most importantly, NE US and Great Lakes was near record warmth.

Nov 1-Jan 31, was 5th warmest in last 129 yrs.

Thx @NOAA...

Show more



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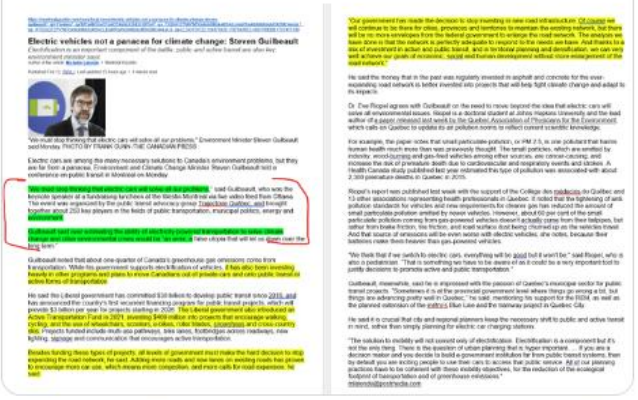
Dan Tsubouchi @Energy_Tidbits · Feb 15

Thx @mrlalonde for the reporting!

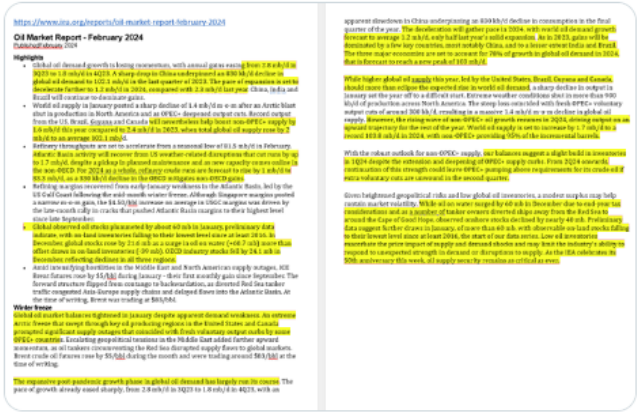
#OOTT #EVs #EnergyTransition

> **Dan Tsubouchi** @Energy_Tidbits · Feb 14
>
> Hmmm!
>
> 🇨🇦 Guilbeault 👇 is warning that Cdns (including himself??) have been overestimating the impact of EVs on climate fight despite being considered 1 of the critical success factors to do so....
> Show more
>
> 
> Electric vehicles not a panacea for climate change: Steven Guilbeault
>
> "We must stop thinking that electric cars will solve all our problems," Environment Minister Steven Guilbeault said Monday. PHOTO BY ETHAN CAIRNS /THE CANADIAN PRESS
>
> Electric cars are among the many necessary solutions to Canada's environment problems, but they are far from a panacea, Environment and Climate Change Minister Steven Guilbeault told a conference on public transit in Montreal on Monday.
>
> "We must stop thinking that electric cars will solve all our problems," said Guilbeault, who was the keynote speaker at a fundraising luncheon at the Mercin Montreal via live video feed from Ottawa. The event was organized by the public transit advocacy group Transition Québec, and brought together about 250 key players in the fields of public transportation, municipal politics, energy and environment.
>
> Guilbeault then reminded the crowd of electricity-powered transportation is noise, climate change and other environmental crises would be "an error." These utopias that will let us zoom over the long term."
>
> Guilbeault noted that about one-quarter of Canada's greenhouse gas emissions come from transportation. While his government supports electrification of vehicles, it has also been investing heavily in other programs and plans to move Canadians out of private cars and onto public transit or active forms of transportation.
>
> He said this Liberal government has committed $30 billion to develop public transit since 2015, and has announced the country's first-ever joint financing program for public transit projects, which will provide $3 billion per year for projects starting in 2026. The Liberal government also introduced an Active Transportation Fund in 2021, investing $400 million into projects that encourage walking, cycling, and the use of wheelchairs, scooters, e-bikes, roller blades, snowshoes and cross-country skis. Projects funded include multi-use pathways, bike lanes, footbridges across roadways, new lighting, signage and communication that encourages active transportation.
>
> Besides funding these types of projects, all levels of government must make the hard decision to stop expanding the road network, he said. Adding more roads and new lanes on existing roads has proved to encourage more car use, which means more congestion, and more calls for road expansion, he said.
>
> "Our government has made the decision to stop investing in new road infrastructure. Of course we will continue to be there for cities, provinces and territories to maintain the existing network, but there will be no more envelopes from the federal government to enlarge the road network. The analysis we have done is that the network is perfectly adequate to respond to the needs we have. And thanks to a mix of investment in active and public transit, and a territorial planning and densification, we can very well achieve our goals of economic, social and human development without more enlargement of the road network."
>
> He said the money that in the past was regularly invested in asphalt and concrete for the ever-expanding road network is better invested into projects that will help fight climate change and adapt to its impacts.
>
> Dr. Eve Rogel agrees with Guilbeault on the need to move beyond the idea that electric cars will solve all environmental issues. Rogel is a doctoral student at Johns Hopkins University and the lead author of a paper released last week by the Quebec Association of Physicians for the Environment, which calls on Quebec to update its air pollution norms to reflect current scientific knowledge.
>
> For example, the paper notes that small particulate pollution, or PM 2.5, is one pollutant that harms human health much more than was previously thought. The small particles, which are emitted by industry, wood-burning and gas-fired vehicles among other sources, are cancer-causing, and increase the risk of premature death due to cardiovascular and respiratory events and strokes. A Health Canada study published last year estimated this type of pollution was associated with about 2,300 premature deaths in Quebec in 2015.
>
> Rogel's report was published last week with the support of the College des médecins du Québec and 13 other associations representing health professionals in Quebec. It noted that the tightening of anti-pollution standards for vehicles and new requirements for cleaner gas has reduced the amount of small particulate pollution emitted by newer vehicles. However, about 60 per cent of the small particulate pollution coming from gas-powered vehicles doesn't actually come from their tailpipes, but rather from brake friction, tire friction, and road surface dust being churned up as the vehicles travel. And that source of emissions will be even worse with electric vehicles, she notes, because their batteries make them heavier than gas-powered vehicles.
>
> "We think that if we switch to electric cars, everything will be good but it won't be," said Rogel, who is also a pediatrician. "That is something we have to be aware of as it could be a very important tool to justify decisions to promote active and public transportation."
>
> Guilbeault, meanwhile, said he is impressed with the passion of Quebec's municipal sector for public transit projects. "Sometimes it is at the provincial government level where things go wrong a bit, but things are advancing pretty well in Quebec," he said, mentioning his support for the REM, as well as the planned extension of the métro's Blue Line and the tramway project in Quebec City.
>
> He said it is crucial that city and regional planners keep the necessary shift to public and active transit in mind, rather than simply planning for electric car charging stations.
>
> "The solution to mobility will not consist only of electrification. Electrification is a component but it's not the only thing. There is the question of urban planning that is hyper important. ... If you are a decision maker and you decide to build a government institution far from public transit systems, then by default you are inciting people to use their cars to access that public service. All of our planning practices have to be coherent with these mobility objectives, for the reduction of the ecological footprint of transportation and of greenhouse emissions."
>
> mlalonde@postmedia.com
>
> 2 · 1 · 1.4K

Dan Tsubouchi @Energy_Tidbits · Feb 15

IEA *"extreme Arctic freeze that swept through key oil producing regions in the US & CAN prompted significant supply outages"*. Agreed!

BUT freeze also hit transportation. Chili's kept diners home, school closures, retail sales, Delta was 5-week low, home building pause...
#OOTT


https://www.iea.org/reports/oil-market-report-february-2024

Oil Market Report - February 2024

Highlights

- Global oil demand growth is losing momentum, with annual gains easing from 2.4 mb/d in 3Q23 to 1.0 mb/d in 4Q23. A sharp drop in China underpinned an 830 kb/d decline in global oil demand to 102.1 mb/d in the last quarter of 2023. The pace of expansion is set to decelerate further to 1.2 mb/d in 2024, compared with 2.3 mb/d last year. China, India and Brazil will continue to dominate gains.
- World oil supply in January posted a sharp decline of 1.4 mb/d m-o-m after an Arctic blast shut in production in North America and as OPEC+ deepened output cuts. Record output from the US, Brazil, Guyana and Canada will nevertheless help boost non-OPEC+ supply by 1.6 mb/d this year compared to 2.4 mb/d in 2023, when total global oil supply rose by 2 mb/d to an average 102.1 mb/d.
- Refinery throughputs are set to accelerate from a seasonal low of 81.5 mb/d in February. Atlantic Basin activity will recover from US weather-related disruptions that cut runs by up to 1.7 mb/d, despite a pickup in planned maintenance and an new capacity comes online in the non-OECD. For 2024 as a whole, refinery crude runs are forecast to rise by 1 mb/d to 83.5 mb/d, as a 930 kb/d decline in the OECD mitigates non-OECD gains.
- Refining margins recovered from early-January weakness in the Atlantic Basin, led by the US Gulf Coast following the mid-month winter freeze. Although Singapore margins posted a narrow m-o-m gain, the $4.50/bbl increase on average in USGC margins was driven by the late-month rally in cracks that pushed Atlantic Basin margins to their highest level since late September.
- Global observed oil stocks plummeted by about 60 mb in January, preliminary data indicate, with on-land inventories falling to their lowest level since at least 2018. In December, global stocks rose by 21.6 mb as a surge in oil ex-waters (+68.7 mb) more than offset draws in on-land inventories (-39 mb). OECD industry stocks fell by 24.1 mb in December, reflecting declines in all three regions.
- Amid increasing hostilities in the Middle East and North American supply outages, ICE Brent futures rose by $5/bbl during January – their first monthly gain since September. The forward structure flipped from contango to backwardation, as diverted Red Sea tanker traffic congested Asia-Europe supply routes and delayed flows into the Atlantic basin. At the time of writing, Brent was trading at $83/bbl.

Wider freeze

Global oil market balances tightened in January despite apparent demand weakness. An extreme Arctic freeze that swept through key oil producing regions in the United States and Canada prompted significant supply outages that coincided with fresh voluntary output curbs by some OPEC+ countries. Escalating geopolitical tensions in the Middle East added further upward momentum, as oil tankers circumventing the Red Sea disrupted supply flows to global markets. Brent crude oil futures rose by $5/bbl during the month and were trading around $83/bbl at the time of writing.

The expansive post-pandemic growth phase in global oil demand has largely run its course. The pace of growth already eased sharply, from 2.8 mb/d in 3Q23 to 1.0 mb/d in 4Q23, with an

apparent slowdown in China underpinning an 830 kb/d decline in consumption in the final quarter of the year. The deceleration will gather pace in 2024, with world oil demand growth forecast to average 1.2 mb/d, only half last year's solid expansion. As in 2023, gains will be dominated by a few key countries, most notably China, and to a lesser extent India and Brazil. The three major economies are set to account for 78% of growth in global oil demand in 2024, that is forecast to reach a new peak of 103 mb/d.

While higher global oil supply this year, led by the United States, Brazil, Guyana and Canada, should more than eclipse the expected rise in world oil demand, a sharp decline in output in January set the year off to a difficult start. Extreme weather conditions shut in more than 900 kb/d of production across North America. The steep loss coincided with fresh OPEC+ voluntary output cuts of around 300 kb/d, resulting in a massive 1.4 mb/d m-o-m decline in global oil supply. However, the rising wave of non-OPEC+ oil growth resumes in 2024, driving output on an upward trajectory for the rest of the year. World oil supply is set to increase by 1.7 mb/d to a record 103.8 mb/d in 2024, with non-OPEC+ providing 95% of the incremental barrels.

With the robust outlook for non-OPEC+ supply, our balances suggest a slight build in inventories in 1Q24 despite the extension and deepening of OPEC+ supply curbs. From 2Q24 onwards, restoration of this strength could leave OPEC+ grasping about requirements for its crude-oil if extra voluntary cuts are unwound in the second quarter.

Given heightened geopolitical risks and low global oil inventories, a modest surplus may help sustain market volatility. While oil on water surged by 60 mb in December due to mid-year tax reimbursements and as a number of tanker owners diverted ships away from the Red Sea to around the Cape of Good Hope, observed onshore stocks declined by nearly 40 mb. Preliminary data suggest further draws in January, of more than 60 mb, with observable on-land stocks falling to their lowest level since at least 2018, the start of our data series. Low oil inventories exacerbate the price impact of supply and demand shocks and may limit the industry's ability to respond to unexpected strength in demand or disruptions to supply. As the IEA celebrates its 50th anniversary this week, oil supply security remains as critical as ever.

1 · 1 · 1.7K

Dan Tsubouchi @Energy_Tidbits · Feb 15

Actuals vs Forecast!

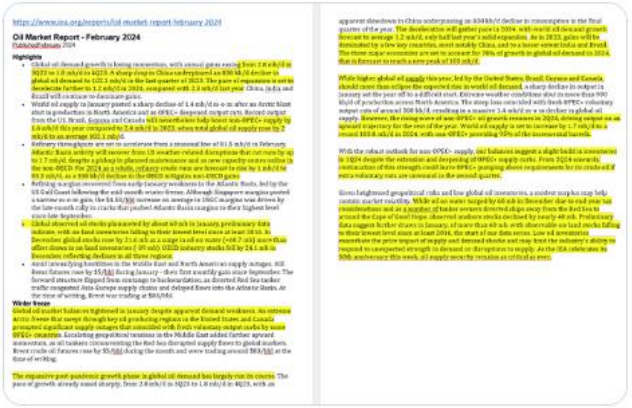
IEA OMR writes

"*Global observed oil stocks plummeted by about 60 mb in January, preliminary data indicate, with on-land inventories falling to their lowest level since at least 2016*"

"*our balances suggest a slight build in inventories in 1Q24*"

...

Show more



Oil Market Report - February 2024

1 · 7 · 20 · 4.1K

Dan Tsubouchi @Energy_Tidbits · Feb 14

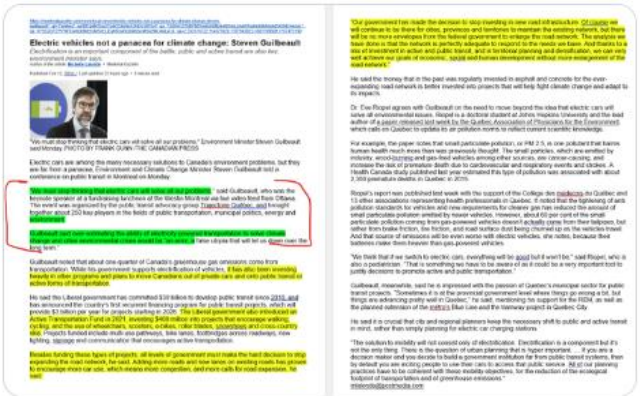
Hmmm!

🇨🇦 Guilbeault 👇 is warning that Cdns (including himself??) have been overestimating the impact of EVs on climate fight despite being considered 1 of the critical success factors to do so.

Where do they go to make up for EVs overestimating?

Thx @mtlgazette Michelle...

Show more



Electric vehicles not a panacea for climate change: Steven Guilbeault

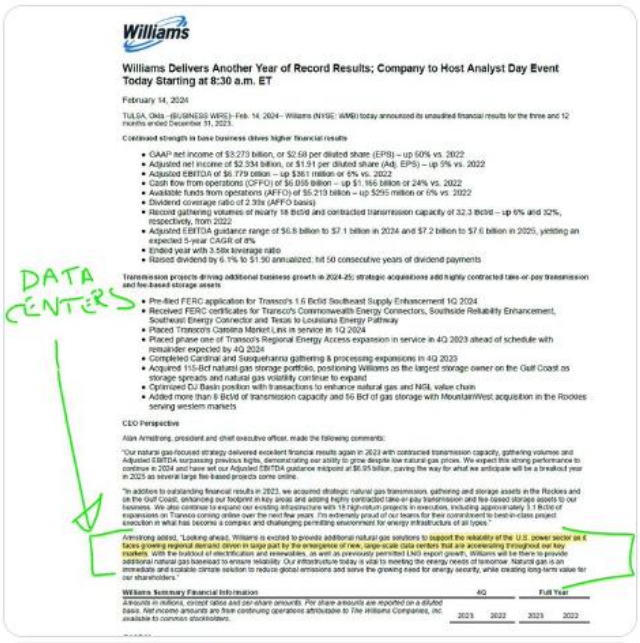
2 · 6 · 11 · 6.5K

Dan Tsubouchi @Energy_Tidbits · Feb 14

Time to pay attention!

$WMB. #NatGas needed "to support the reliability of the US power sector as it faces growing regional demand driven in large part by the emergence of new, large-scale data centers that are accelerating throughout our key markets"
#OOTT

1/2.



Williams

Williams Delivers Another Year of Record Results; Company to Host Analyst Day Event Today Starting at 8:30 a.m. ET

February 14, 2024

TULSA, Okla.--(BUSINESS WIRE)--Feb. 14, 2024-- Williams (NYSE: WMB) today announced its unaudited financial results for the three and 12 months ended December 31, 2023.

Continued strength in base business drives higher financial results

- GAAP net income of $3.273 billion, or $2.68 per diluted share (EPS) – up 50% vs. 2022
- Adjusted net income of $2.334 billion, or $1.91 per diluted share (Adj. EPS) – up 5% vs. 2022
- Adjusted EBITDA of $6.779 billion – up $361 million or 6% vs. 2022
- Cash flow from operations (CFFO) of $6.055 billion – up $1.166 billion or 24% vs. 2022
- Available funds from operations (AFFO) of $5.219 billion – up $295 million or 6% vs. 2022
- Dividend coverage ratio of 2.39x (AFFO basis)
- Record gathering volumes of nearly 18 Bcf/d and contracted transmission capacity of 32.3 Bcf/d – up 6% and 32%, respectively, from 2022
- Adjusted EBITDA guidance range of $6.8 billion to $7.1 billion in 2024 and $7.2 billion to $7.6 billion in 2025, yielding an expected 5-year CAGR of 8%
- Ended year with 3.58x leverage ratio
- Raised dividend by 6.1% to $1.90 annualized; hit 50 consecutive years of dividend payments

Transmission projects driving additional business growth in 2024-25; strategic acquisitions add highly contracted take-or-pay transmission and fee-based storage assets

- Pre-filed FERC application for Transco's 1.6 Bcf/d Southeast Supply Enhancement 1Q 2024
- Received FERC certificates for Transco's Commonwealth Energy Connectors, Southside Reliability Enhancement, Southeast Energy Connector and Texas to Louisiana Energy Pathway
- Placed Transco's Carolina Market Link in service in 1Q 2024
- Placed phase one of Transco's Regional Energy Access expansion in service in 4Q 2023 ahead of schedule with remainder expected by 4Q 2024
- Completed Cardinal and Susquehanna gathering & processing expansions in 4Q 2023
- Acquired 115-Bcf natural gas storage portfolio, positioning Williams as the largest storage owner on the Gulf Coast as storage spreads and natural gas volatility continue to expand
- Optimized DJ Basin position with transactions to enhance natural gas and NGL value chain
- Added more than 6 Bcf/d of transmission capacity and 56 Bcf of gas storage with MountainWest acquisition in the Rockies serving western markets

CEO Perspective

Alan Armstrong, president and chief executive officer, made the following comments:

"Our natural gas-focused strategy delivered excellent financial results again in 2023 with contracted transmission capacity, gathering volumes and Adjusted EBITDA surpassing previous highs, demonstrating our ability to grow despite low natural gas prices. We expect this strong performance to continue in 2024 and have set our Adjusted EBITDA guidance midpoint at $6.95 billion, paving the way for what we anticipate will be a breakout year in 2025 as several large fee-based projects come online.

"In addition to outstanding financial results in 2023, we acquired strategic natural gas transmission, gathering and storage assets in the Rockies and on the Gulf Coast, enhancing our footprint in key areas and adding highly contracted take-or-pay transmission and fee-based storage assets to our business. We also continue to expand our existing infrastructure with 18 high-return projects in execution, including approximately 3.1 Bcf/d of expansions on Transco coming online over the next few years. I'm extremely proud of our teams for their commitment to best-in-class project execution in what has become a complex and challenging permitting environment for energy infrastructure of all types."

Armstrong added, "Looking ahead, Williams is excited to provide additional natural gas solutions to support the reliability of the U.S. power sector as it faces growing regional demand driven in large part by the emergence of new, large-scale data centers that are accelerating throughout our key markets. With the buildout of electrification and renewables, as well as previously permitted LNG export growth, Williams will be there to provide additional natural gas baseload to ensure reliability. Our infrastructure today is vital to meeting the energy needs of tomorrow. Natural gas is an immediate and scalable climate solution to reduce global emissions and serve the growing need for energy security, while creating long-term value for our shareholders."

Williams Summary Financial Information	4Q		Full Year	
Amounts in millions, except ratios and per-share amounts. Per share amounts are reported on a diluted basis. Net income amounts are from continuing operations attributable to The Williams Companies, Inc.	2023	2022	2023	2022
available to common stockholders.				

DATA CENTERS

> **Dan Tsubouchi** @Energy_Tidbits · Feb 6
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>
> Data centers/AI growth = massive need for power.
>
> Data centers don't run less when the sun goes down or the wind isn't blowing.
> ...

5 5 17 6.8K

Dan Tsubouchi @Energy_Tidbits · Feb 14

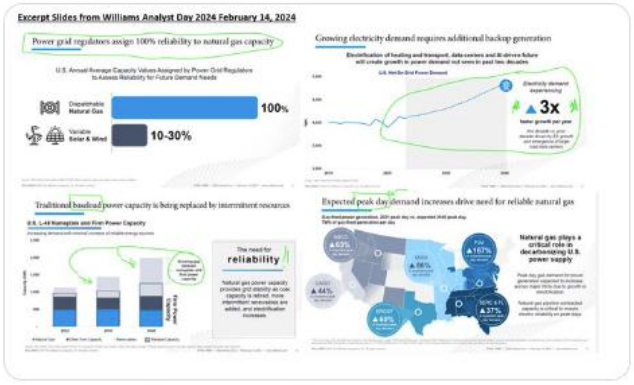
2/2.

$WMB analyst day today.

US needs big growth in BOTH baseload and peaking capacity to 2040.

US needs more #NatGas power generation need to 2040, not less as many long term forecasts.

Data centers don't run less when sun doesn't shine & wind doesn't blow....
Show more



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Dan Tsubouchi @Energy_Tidbits · Feb 14

No wonder HH #NatGas is $1.61

it's warmer than normal in most of the US.

Chiefs Super Bowl parade right now, a lot of T-shirts.

Just checked, it's actually 66F, normally closer to 40F.

Feb is normally last big month for winter cold temp demand for #NatGas
...
Show more

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Dan Tsubouchi @Energy_Tidbits · Feb 14

For those not near their laptops, @EIAgov just released at 8:30am MT its #Oil #Gasoline #Distillates inventory as of Feb 9. Table below compares EIA data vs @business expectations and vs @APIenergy yesterday. Prior to release, WTI was $78.20. #OOTT

Oil/Products Inventory Feb 9: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	12.02	3.35	8.52
Gasoline	-3.66	-1.55	-7.20
Distillates	-1.92	-1.65	-4.00
	6.44	0.15	-2.68
Note: Oil is commercial so builds in +0.8 mmb in SPR for the Feb 9 week			
Note: Included in the oil data, Cushing had a 0.71 mmb build for Feb 9 week			
Source EIA, Bloomberg			
Prepared by SAF Group https://safgroup.ca/news-insights/			

1 4 9 1.6K

Dan Tsubouchi @Energy_Tidbits · 14m

Buckle up!

Energy will be $$$ & volatile this decade.

See 👇

🇨🇦 govt plans/policies are based on what it calls **a "based on the** data" fcast by IEA for #Oil #NatGas demand peaks <2030.

When 🇨🇦is actually using what IEA c**alls a** scenario based on stated glob...
Show more

> **Dan Tsubouchi** @Energy_Tidbits · 3h
>
> Unfortunately, a big difference between data driven forecast vs a scenario based on stated policies!
>
> 🇨🇦 Energy Minister, "*when the IEA **SAYS** that* #Oil #NatGas #Coal *utilization is gong to peak this decade, that is **based on the data** that...*
> Show more
>
> 
>

1 1 3 984

Dan Tsubouchi @Energy_Tidbits · 3h

Unfortunately, a big difference between data driven forecast vs a scenario based on stated policies!

🇨🇦 Energy Minister, "*when the IEA **SAYS** that #Oil #NatGas #Coal utilization is gong to peak this decade, that is **based on the data** that show actually much of this is becoming...*
Show more

2 2 3 1.7K

Dan Tsubouchi @Energy_Tidbits · 3h

Did #LNGCanada's govt approvals ys ago grandfather its 1.8 bcfd Phase 2 from 🇨🇦@JonathanWNV requirement on using clean electricity & not #NatGas to power.

ie. can they FID on an agreement/commitment to use hydro when and if available?
#OOTT

"We are one of the only countries in the world that actually effectively requires the liquefaction of natural gas using clean electricity and not natural gas"
Canada Energy & Natural Resources Minister Wilkinson

SAF Group created transcript of comments by Jonathan Wilkinson (Canada, Minister of Energy and Natural Resources) with Bloomberg's Dani Burger and Manus Cranny on Bloomberg Brief on Feb 14, 2024.

Items in "italics" are SAF Group created transcript

At 3:18am MT, Wilkinson "*As I've said, we've done that. We are the only country in the world that's put in place regulations that actually require 75% methane reductions in the upstream in terms of the production of natural gas. We are one of the only counties in the world that actually effectively requires the liquefaction of natural gas using clean electricity and not natural gas, which eliminates much of the emissions. And we actually look externally in the context of what is the LNG going to be used for. If its' not being used to displace coal, then it's being used to potentially to displace potentially future renewables, which doesn't help us at all from a climate perspective*".

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

1 1 1K

Dan Tsubouchi @Energy_Tidbits · 5h

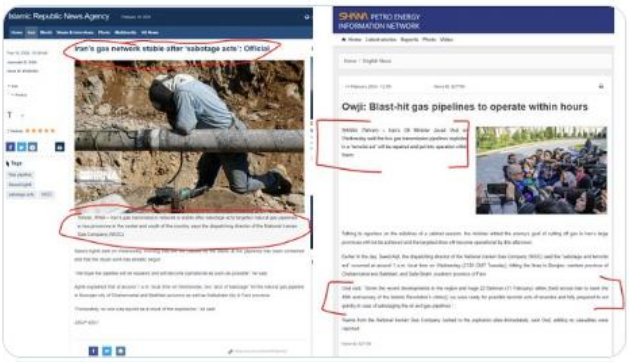
Who did it?

Iran state media says #NatGas transmission pipeline explosion was "sabotage"

Maybe not fixed in "hours" but pipeline repairs are normally fixed quickly.

Who will Iran blame & what will they do?

#OOTT



> **Dan Tsubouchi** @Energy_Tidbits · 14h
>
> 
>
> Iran watch!
>
> Let's hope it's an accident and not sabotage.
>
> Breaking reports of explosion/fire on Iran's major ...

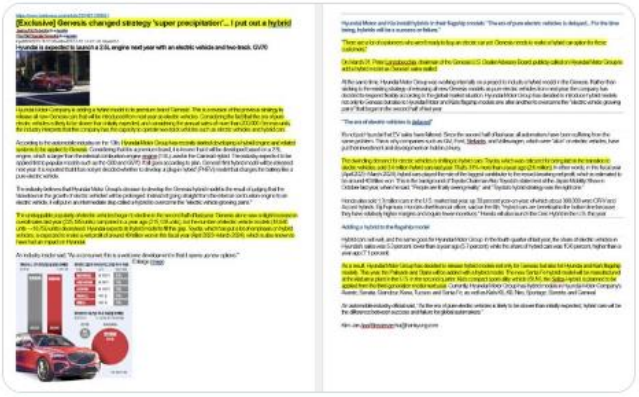
3 2 2.2K

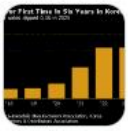
Dan Tsubouchi @Energy_Tidbits · 11h

Hyundai latest to pull back #EVs ambition.

"*adding a hybrid model to its premium brand 'Genesis'. This is a revision of the previous strategy to release all new Genesis cars that will be introduced from next year as EVs*", EVs sales were down YoY. reports @hankyungmedia

#OOTT



> **Dan Tsubouchi** @Energy_Tidbits · Feb 5
>
> 
>
> More slowing #EVs growth
>
> EVs sales -0.1% YoY to 157,823 EVs in South Korea, key factors holding back are safety concerns on fires in a crash or during charging, & lack of fast chargers. ...

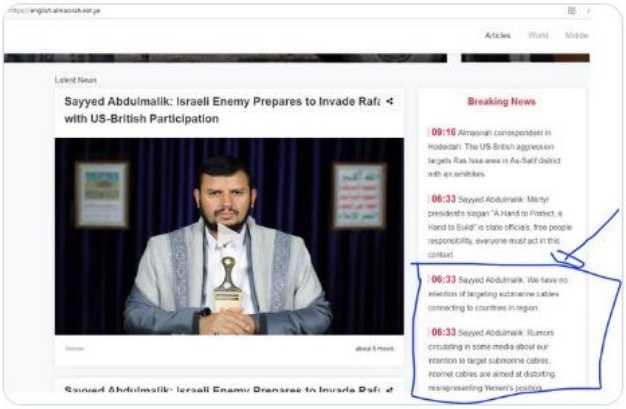
7 12 4.8K

Dan Tsubouchi @Energy_Tidbits · 12h

Houthis leader "*we have no **intention** of targeting submarine cables connecting to countries in region*".

Lets hope his intention is more indicative than when politicians say no intention.

#OOTT



> **Dan Tsubouchi** @Energy_Tidbits · Feb 5
>
> 
>
> Overlooked Houthis global risk.
>
> "*we also have to make sure they never build the capacity to touch the underground sea cables that handle most of the internet traffic between EU and ...*

2 1 2.8K

Dan Tsubouchi @Energy_Tidbits · 13h

Got to be #NatGas as data centers don't run less when sun goes down or wind doesn't blow

"demand is just cranking up very fast, one to keep up with growing demand from data-center loads & the electrification that's going on" $WMB CEO, reports @ElizabethElkin.

See 👇 02/06...

Show more

2024-02-13 22:54:53.284 GMT

By Elizabeth Elkin
(Bloomberg) -- Surging electricity usage because of data centers and the energy transition has been pushing up demand for natural gas, according to pipeline operator Williams Cos.
"The demand is just cranking up very fast, one to keep up with growing demand from data-center loads and the electrification that's going on," Chief Executive Officer Alan Armstrong said in an interview on the sidelines of the Williams Clean Energy Expo in Washington.
The Biden administration's push to build factories that make electric cars, batteries and semiconductors is straining the US's already-stressed electricity grid. That has some power companies reconsidering plans to scrap plants that burn fossil fuels and others petitioning regulators for permission to build new gas-powered ones.
Read More: AI Needs So Much Power That Old Coal Plants Are Sticking Around

--With assistance from Jennifer A. Dlouhy.

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Elizabeth Elkin in New York at eelkin4@bloomberg.net
To contact the editors responsible for this story:
Joe Ryan at jryan173@bloomberg.net
Kevin Orland

To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/S8SQQYT0G1KW

> **Dan Tsubouchi** @Energy_Tidbits · Feb 6
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> Data centers/AI growth = massive need for power.
>
> Data centers don't run less when the sun goes down or the wind isn't blowing.
> ...

4 8 3.5K

Dan Tsubouchi @Energy_Tidbits · 13h

Thank you #WarrenBuffett say investors in Japanese stocks.

He led the way in getting investors going on Japanese stocks in his 04/12/23 CNBC interview with @BeckyQuick.

Nikkei +35% from 04/11/23 close.

@business TV chart tonight.k

> **Dan Tsubouchi** @Energy_Tidbits · May 18, 2023
>
> 
> The #WarrenBuffett effect is still working.
>
> @business "foreigners loving Japanese stocks. positive flows into equities for 7th straight week" ...

1 4 9 3.3K

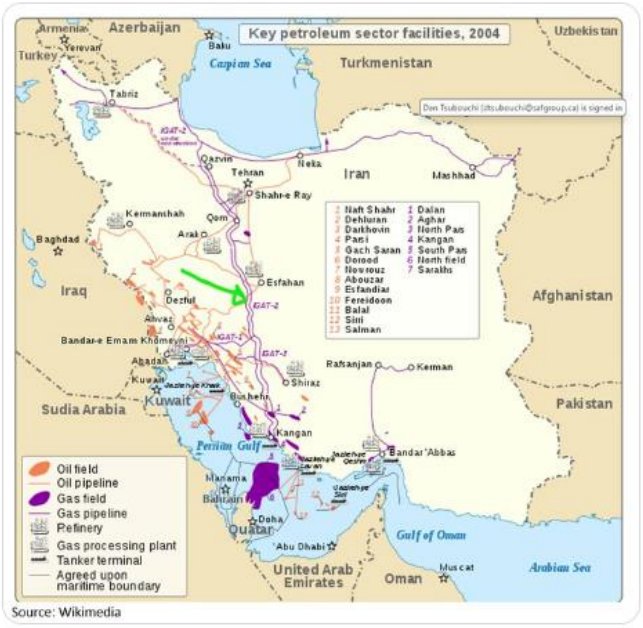
Dan Tsubouchi @Energy_Tidbits · 14h

Iran watch!

Let's hope it's an accident and not sabotage.

Breaking reports of explosion/fire on Iran's major #NatGas pipeline from fields in south to Tehran and other cities is a big hit. Although pipeline repairs are normally quick.

#OOTT



Source: Wikimedia

3 9 27 6.8K

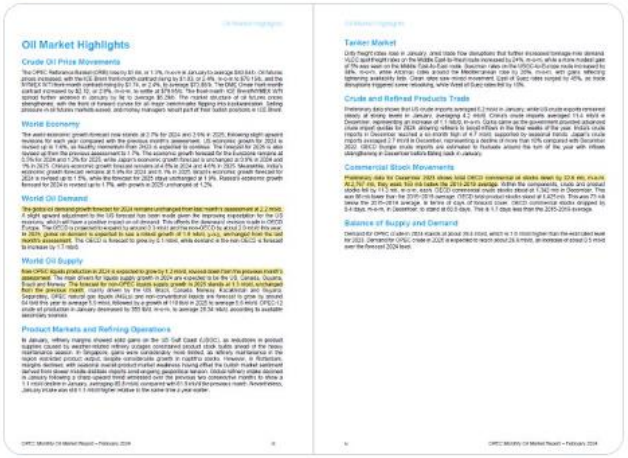
Dan Tsubouchi @Energy_Tidbits · 6h

Neutral/slight positive #OPEC MOMR Feb.

Demand growth unchanged for 2024 & 2025

Non-OPEC supply growth now +1.2 mmb/d YoY for 2024 (was +1.3). Unchanged for 2025.

Total Oil + Products stocks at 12/31 159 mmb below 2015-19 ave, slightly more vs 151 mmb below at 11/30
#OOTT



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Dan Tsubouchi @Energy_Tidbits · 7h

"western Europe has slowed down.. Asia & Latin America are also now slowing down. So the macro is tougher. Travel just doesn't grow till infinity .....so the post Covid thing is slowing down" Expedia CEO to @andrewrsorkin @BeckyQuick @JoeSquawk just now on @SquawkCNBC, #OOTT

3 4 1.5K

Dan Tsubouchi @Energy_Tidbits · 8h

Thx @TomMackenzieTV @KritiGuptaNews @business for posting the video of the @fbirol interview.

> **Dan Tsubouchi** @Energy_Tidbits · 8h
>
> Is @IEA tweaking up again its 24 #Oil demand fcast?
>
> 👇 transcript @fbirol demand +1.2, 1.3 mmbd in 24.
>
> IEA Jan OMR was +1.2, Dec OMR was +1.1....
> Show more
>
> ***"We expect oil demand growth to be significantly weaker than last year, 2023. The increase we expect about 1.2, 1.3 million barrels per day"*** **Fatih Birol, Executive Director IEA**
>
> 
>
>
> SAF Group created transcript of IEA Executive Director Fatih Birol with Bloomberg's Tom Mackenzie and Kriti Gupta on February 13, 2024 https://www.bloomberg.com/news/videos/2024-02-13/iea-new-oil-supply-enough-to-satisfy-demand-in-2024-video
>
> Items in "italics" are SAF Group created transcript
>
> At 0.03 min mark, Birol *"we expect oil demand growth to be significantly weaker than last year, 2023. The increase we expect about 1.2, 1.3 million barrels per day, mainly as a result of the slowing down of the economic growth China but as well and also electrification of the transportation system, more electric cars coming into the picture. This is on the demand side. On the supply side, the growth coming from Americas, namely US, Canada, Brazil and Guyana. This growth put all together, is more than enough to meet the global oil demand growth. So in the absence of major geopolitical turmoil or major extreme weather events, we would expect a rather comfortable oil market and moderate price evolution throughout 2024."*
>
> Prepared by SAF Group https://safgroup.ca/news-insights/

1 · 1.7K

Dan Tsubouchi @Energy_Tidbits · 8h

Is @IEA tweaking up again its 24 #Oil demand fcast?

👇transcript @fbirol demand +1.2, 1.3 mmbd in 24.

IEA Jan OMR was +1.2, Dec OMR was +1.1.

If so, fits yesterday👇post on Saudi Energy Minister Abdulaziz on "others" consistent backpedaling on pessimistic demand fcasts
#OOTT

> ***"We expect oil demand growth to be significantly weaker than last year, 2023. The increase we expect about 1.2, 1.3 million barrels per day"*** **Fatih Birol, Executive Director IEA**
>
> 
>
>
> SAF Group created transcript of IEA Executive Director Fatih Birol with Bloomberg's Tom Mackenzie and Kriti Gupta on February 13, 2024 https://www.bloomberg.com/news/videos/2024-02-13/iea-new-oil-supply-enough-to-satisfy-demand-in-2024-video
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>
> Prepared by SAF Group https://safgroup.ca/news-insights/

> **Dan Tsubouchi** @Energy_Tidbits · 16h
>
> 
>
> *"Just look at how consistently OPEC Secretariat has been on the spot and how much others, they keep backpedaling"* Saudi Energy Minister Abdulaziz on OPEC's demand growth forecast of +2.4 mmb/d in 2024 and +1.8 mmb/d in 2025....

1 · 5 · 11 · 4.5K

Dan Tsubouchi @Energy_Tidbits · 8h

Note @fbirol highlights Brazil #Oil supply growth in 2024.

See Feb 7 post, Petrobras head of E&P doesn't expect YoY growth in Brazil oil until 2026 and noted how many analysts have a more optimistic view on production than Petrobras. twitter.com/Energy_Tidbits...

#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Feb 7
>
> One for the Oil bulls.
>
> Petrobras reminds its 11/23/23 2024-28 plan forecasts flat Brazil #Oil production in 24 & 25 vs IEA forecast for +240,000 b/d YoY in 2024.
>
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Dan Tsubouchi @Energy_Tidbits · 16h

"future problem on energy security, it will not be oil, it will be renewables, and the materials, and the mines..." Saudi Energy Minister Abdulaziz

Need dispatchable #NatGas #Coal #Nuclear for renewable down time.

Who ensures stable metals supply?

See 👇 SAF transcript #OOTT

"The future problem on energy security, it will not be oil, it will be renewables, and the materials, and the mines, and the mining industry" **Saudi Energy Minister Abdulaziz**

SAF Group created transcript of comments by Prince Abdulaziz (Saudi Energy Minister) with John Defterios at the IPTC on Feb 12, 2024 https://www.youtube.com/watch?v=PbsXnNEQFEk

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

At 11:00 min mark, Abdulaziz *"what we want to do also is make sure that people understand that we also used to maintain what you have rightly said the 1.5 to 2 million because energy security in the 70s, and 80s and 90s was more dependent on oil. Now, look at what happened last year, 22 I mean. It was gas. The future problem on energy security, it will not be oil, it will be renewables, and the materials, and the mines, and the mining industry. And who is going to be the source of these materials that will constitute the very essence of the new energy of the world. Therefore, and we have also, and it should be said that if emergency stocks were utilized for commercial purposes in 22 because they were not used for attending to shortages of supply. Why should we be he last country to hold energy capacity, capacity, emergency capacity when it is not appreciated and when it is not recognized. I think we owe it to the oil market, to the stability of the market that we have to manage our capacity in a way that enables us to continue to again, our first and foremost endeavour, of sustainable stability of the market. That's what we owe actually to ourselves to start with, and to the rest of our colleagues in OPEC and OPEC+. And we really believe that we are doing a remarkable job attending to this task because, not only we're helping ourselves, but we are helping the industry, be it in the US, Patrick is here, he's enjoying what we're doing. I hope so. But also we believe that we're helping the world economy because there is nothing, as we have seen happening in 22, there is nothing that can be ruinous to the world economy more than not stable energy markets."*

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

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Dan Tsubouchi @Energy_Tidbits · 16h

"Just look at how consistently OPEC Secretariat has been on the spot and how much others, they keep backpedaling" Saudi Energy Minister Abdulaziz on OPEC's demand growth forecast of +2.4 mmb/d in 2024 and +1.8 mmb/d in 2025.

See 👇 SAF Group transcript.
#OOTT

"***Just look at how consistently OPEC Secretariat has been on the spot and how much others, they keep backpedaling***" **Saudi Energy Minister Abdulaziz on OPEC's demand growth forecast of +2.4 mmb/d in 2024 and +1.8 mmb/d in 2025.**

SAF Group created transcript of comments by Prince Abdulaziz (Saudi Energy Minister) with John Defterios at the IPTC on Feb 12, 2024 https://www.youtube.com/watch?v=PbsXeNEQPEk

Items in "italics" are SAF Group created transcript

At 15:40 min mark, Defterios *"... we saw demand last year, when people were talking about peak demand here by 2030, of 101.7 mmb/d, that's a record. OPEC suggests we could see demand growth of 2.4 this year, even potentially 1.8 in 25. Are you comfortable with these projections for demand growth and where do you see demand growing?"*

Abdulaziz *"Not only myself but the job of all of us in this sector is not to be comfortable. Our job is to be attentative. Now, I am not a fortune teller and I keep telling people. Although I would give it to OPEC by a record if you compare what they have been doing, as Secretariat, over the last 3 years and compare it with others, which we did and I would be more than happy to share it with anybody. Just look at how consistently OPEC Secretariat has been on the spot and how much others, they keep backpedaling, which is they issue numbers at the early part of the year which are low and disgustingly pessimistic. And then they, in a shy way, they come back and they keep chasing the can by saying Oh we've got it wrong. And then, after the fact, they say sorry, we've had it, got it wrong, now we are going to be reassessing, then they reveal the true number, tadda, and the number is way much bigger. Consistently they have been doing that. And I would ask you John and those who are interested, check the record. Especially the revisions that they do after the year, after the fact. By that time, the market will have been impacted with this negativity. And then when they do the backpedaling, it will have been an ex post facto thing and they get away with it. Because nobody, again is going to look at what they have done at the beginning of the year and how hey fare at the end or the beginning of the first quarter of the year after."*

Defterios *"So you're comfortable with these projections is what you're suggesting here is that you don't see a recession in 2024, 25?" Abdulaziz "we, at the ministry, we look at all the numbers. And we put the contours of what is possible and that's why we have been consistently attending to this market by having regularly, every two months, JMMC meeting. That's why we have kept saying to, everybody in the market knows it, that we are ready to meet at any time. And we're ready to tweak, be it upward, downward, whatever the market necessity dictates. We will be attending to it."*

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Dan Tsubouchi @Energy_Tidbits · 16h

Here's why Saudi can postpone the 1 mmb/d increase to MSC.

Saudi Energy Minister reminds will be saving ~0.95 to 1.0 mmb/d of consumed crude, diesel and fuel oil in great part with 0.6 to 0.75 mmb/d of condensate/NGLs from Jafurah #NatGas.

See 👇 SAF transcript.
#OOTT

"because we are transitioning, which is a good thing, we are going to be saving approximately around 950 to a million barrels of consumed crude, diesel, and fuel oil" Saudi Energy Minister Abdulaziz

SAF Group created transcript of comments by Prince Abdulaziz (Saudi Energy Minister) with John Defterios at the IPTC on Feb 12, 2024 https://www.youtube.com/watch?v=PbeXnNEQFEk

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

At 3:00 min mark, Defterios *"In your remarks last night at the dinner, you talked about this decision to maintain capacity at 12.3 mmb/d as opposed to bumping it up a million, and I wanted to find out if you could share some insights, because the strategy's always been maintain 1.5 to 2.0 mmb/d of spare capacity today. Is there anything else behind this decision that people should be aware of in the industry, because when it was announced, it was 'oh, there's a retrenchment by Saudi Aramco, they're not putting it forward', but what is the reality behind that decision your royal highness?"*

Prince Abdulaziz *"It's very simple. I think we have responded this investment simply because to what I have tried to demonstrate last night that we are transitioning, and transitioning means that even our oil company, which used to to be an oil company, became a hydrocarbon company, now it's becoming an energy company. It has lots of investments to do, it has oil, it has gas, it has even geothermal very soon, it is going to go into oil chemicals, something that we really want to put lots of money on, and we're going to chemicals, and we are of course going to renewables. We are going to be, as we've been saying all along, that we are going to be the country that produces every source of energy. Aramco will be involved in quite a few of these things including downstream and what have you. But also, we are the one who have created that word 'transitioning'. And last night, I did allude to the fact that ever since you were there in Abu Dhabi, September 2019, we had a big space that was mainly dedicated to showcase how Saudi Arabia will be transitioning. I think even I have to give it to our leadership. Over the last nine years we've been transitioning to things that not even ourselves as Saudi would have thought that we will be able to achieve those changes that has taken place in this country. And the fact is, because we are transitioning, which is a good thing, we are going to be saving approximately around 950 to a million barrels of consumed crude, diesel, and fuel oil. In fact, most of it was imported fuel oil, simply because we are transitioning to renewables and gas. The fact is that we're getting so much gas out of Jafurah, even actually, we're going to get around 650 thousand barrels of condensate, NGLs, and if you aggregate the net effect of these savings, of even the million, if you assume you'll be consuming somewhere around 250-300 thousand barrels over the next few years as an additional demand, you still have the 700 [thousand barrels], and you still have the 6-750 [thousand barrels] and you still have the 650 [thousand barrels] of liquids, that will come out actually of gas, so between the two numbers you're talking about 1.3 to 1.4 million [barrels]. You still have the 100 [thousand barrels] as I said in Safaniya, and you aggregate it with the 3.2 [million barrels], you're talking about, I don't know, 4.6, 4.7 [million barrels]?"*

Defterios *"So there's no reason to push forward, is what you're saying? There is a cushion though, correct your royal highness? 1.5-2 million which is ample? I'm a little concerned about time here."*

Prince Abdulaziz *"There is [a] huge cushion for that."*

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

Dan Tsubouchi @Energy_Tidbits · 18h

#Oil prices may not reflect it, but inventories in the seasonally low Q1 demand period are playing out as KSA Abdulaziz expected when #OPEC+ agreed to voluntary cuts!

Good set up as demand seasonally ramps up in Q2 & more in Q3

Thx @ericnuttall for sharing @Kpler data #OOTT

> **Eric Nuttall** @ericnuttall · Feb 12
>
> In the first 6 weeks of 2023 global oil inventories rose by 40MM Bbls. This year??? They have fallen by 81MM Bbls, and now stand at their lowest levels since Kpler data began (2017), despite absorbing ~268MM net barrels from the Strategic Political Reserve....
>
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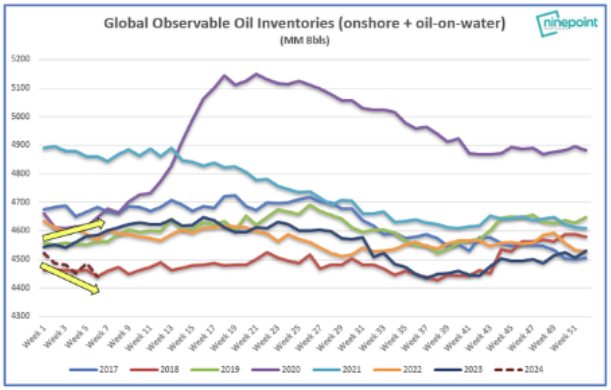


Source: Kpler
NOTE: This is after the global oil market aborbed ~268MM Bbls net from the US Strategic Political Reserve (SPR)

2 11 49 6.8K

Dan Tsubouchi @Energy_Tidbits · Feb 12

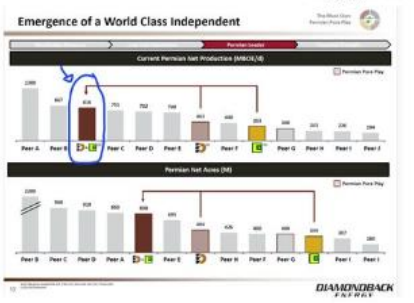
US #Oil supply can grow but the treadmill is not slowing down.

$FANG is now 3rd largest Permian player at 816.000 boe/d.

Says "*Base Total Decline (%) is ~31%" in its Permian lands*"

ie. need to add ~250,000 b/d to keep Permian flat.

#OOTT



> **Dan Tsubouchi** @Energy_Tidbits · Dec 7, 2023
>
> 
>
> For anyone looking at #Oil in 2025+
>
> #Aramco CEO "If you look at existing fields today & the level of maturity that we're seeing in conventional and unconventional resources, you're looking at a 7% ...

2 23 77 24K

Dan Tsubouchi @Energy_Tidbits · Feb 12 ·

Positive to 🇨🇦 #Oil stocks.

@JavierBlas weekly opinion piece brings his 300k global followers to note TMX start up should narrow discount of Cdn oil prices to WTI from -$17 (2010-24 ave) to ~$10 ie. a $7/b uplift To Cdn oil prices!

twitter.com/JavierBlas/sta...

#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Feb 6
>
> Big 2024 upside is coming soon to Cdn #Oil.
>
> Precision CEO: discount for WCS ranged in C$25-C$40 below WTI range, and Trans Mountain TMX startup means "*WCS discounts are expected to moderate to high single-digit discounts*"...
>
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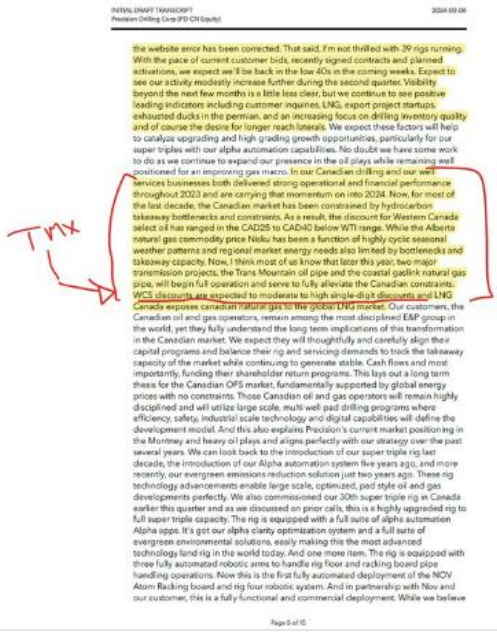

INITIAL DRAFT TRANSCRIPT 2024-02-06
Precision Drilling Corp (PD CN Equity)

the website error has been corrected. That said, I'm not thrilled with 39 rigs running. With the pace of current customer bids, recently signed contracts and planned activations, we expect we'll be back in the low 40s in the coming weeks. Expect to see our activity modestly increase further during the second quarter. Visibility beyond the next few months is a little less clear, but we continue to see positive leading indicators including customer inquiries, LNG, export project startups, exhausted ducks in the permian, and an increasing focus on drilling inventory quality and of course the desire for longer reach laterals. We expect these factors will help to catalyze upgrading and high grading growth opportunities, particularly for our super triples with our alpha automation capabilities. No doubt we have some work to do as we continue to expand our presence in the oil plays while remaining well positioned for an improving gas macro. In our Canadian drilling and our well services businesses both delivered strong operational and financial performance throughout 2023 and are carrying that momentum on into 2024. Now, for most of the last decade, the Canadian market has been constrained by hydrocarbon takeaway bottlenecks and constraints. As a result, the discount for Western Canada select oil has ranged in the CAD25 to CAD40 below WTI range. While the Alberta natural gas commodity price Nisku has been a function of highly cyclic seasonal weather patterns and regional market energy needs also limited by bottlenecks and takeaway capacity. Now, I think most of us know that later this year, two major transmission projects, the Trans Mountain oil pipe and the coastal gaslink natural gas pipe, will begin full operation and serve to fully alleviate the Canadian constraints. WCS discounts are expected to moderate to high single-digit discounts and LNG Canada exposes canadian natural gas to the global LNG market. Our customers, the Canadian oil and gas operators, remain among the most disciplined E&P group in the world, yet they fully understand the long term implications of this transformation in the Canadian market. We expect they will thoughtfully and carefully align their capital programs and balance their rig and servicing demands to track the takeaway capacity of the market while continuing to generate stable. Cash flows and most importantly, funding their shareholder return programs. This lays out a long term thesis for the Canadian OFS market, fundamentally supported by global energy prices with no constraints. Those Canadian oil and gas operators will remain highly disciplined and will utilize large scale, multi well pad drilling programs where efficiency, safety, industrial scale technology and digital capabilities will define the development model. And this also explains Precision's current market positioning in the Montney and heavy oil plays and aligns perfectly with our strategy over the past several years. We can look back to the introduction of our super triple rig last decade, the introduction of our Alpha automation system five years ago, and more recently, our evergreen emissions reduction solution just two years ago. These rig technology advancements enable large scale, optimized, pad style oil and gas developments perfectly. We also commissioned our 30th super triple rig in Canada earlier this quarter and as we discussed on prior calls, this is a highly upgraded rig to full super triple capacity. The rig is equipped with a full suite of alpha automation Alpha apps. It's got our alpha clarity optimization system and a full suite of evergreen environmental solutions, easily making this the most advanced technology land rig in the world today. And one more item. The rig is equipped with three fully automated robotic arms to handle rig floor and racking board pipe handling operations. Now this is the first fully automated deployment of the NOV Atom Racking board and rig four robotic system. And in partnership with Nov and our customer, this is a fully functional and commercial deployment. While we believe

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