Energy Tidbits

Oil Growth Challenge: Permian DUCs at Fall 2014 Levels, When Permian Oil was 1.67 mmb/d, 35% of 5.79 mmb/d in May 2023

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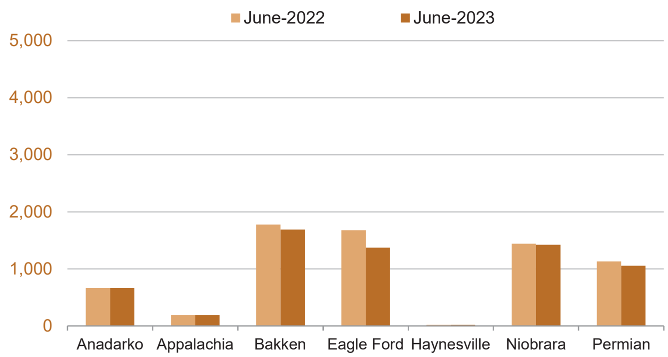
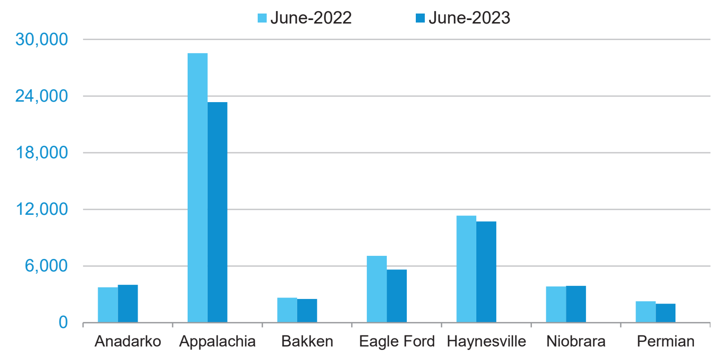
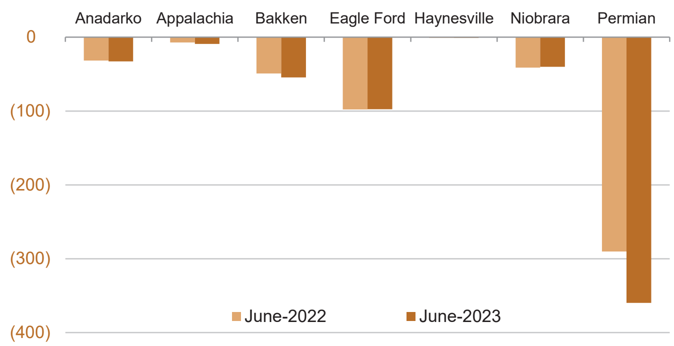
New-well oil production per rig
barrels/day



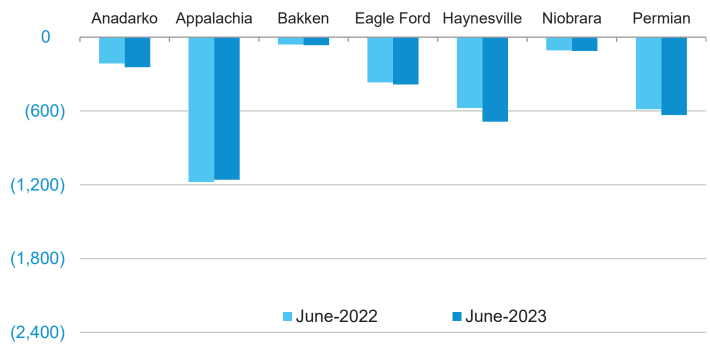
New-well gas production per rig
thousand cubic feet/day



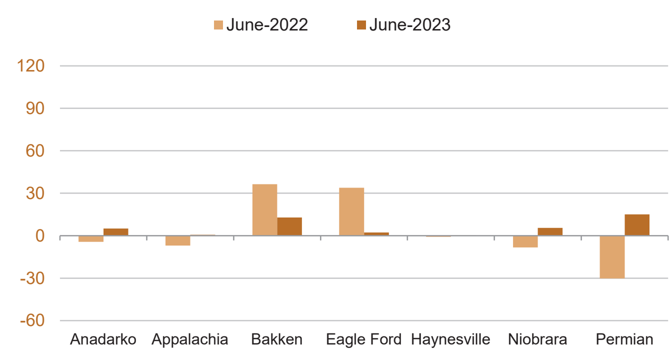
Legacy oil production change
thousand barrels/day



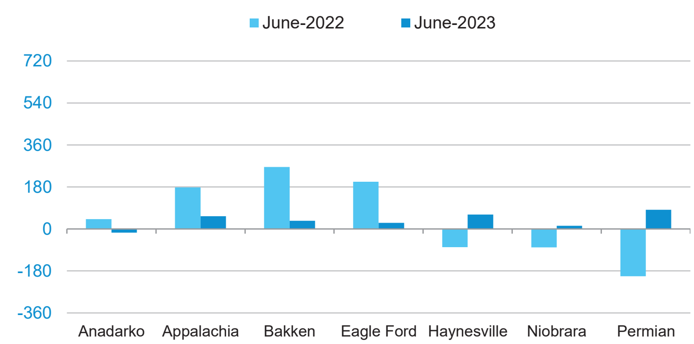
Legacy gas production change
million cubic feet/day



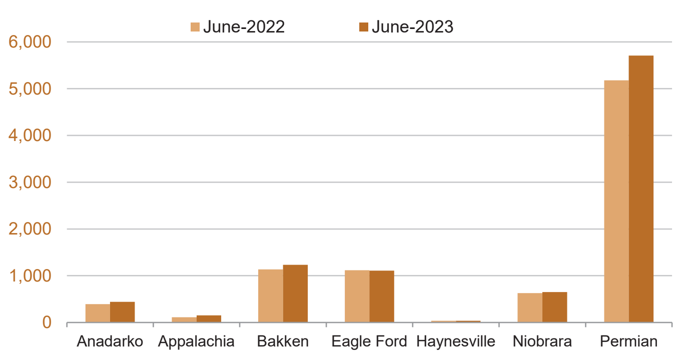
Indicated monthly change in oil production (Jun vs. May)
thousand barrels/day



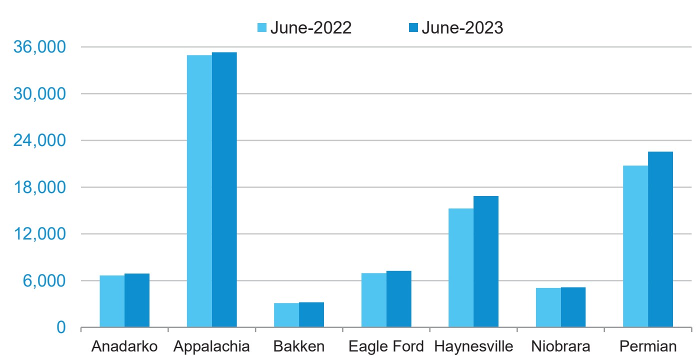
Indicated monthly change in gas production (Jun vs. May)
million cubic feet/day



Oil production
thousand barrels/day



Natural gas production
million cubic feet/day



Anadarko Region

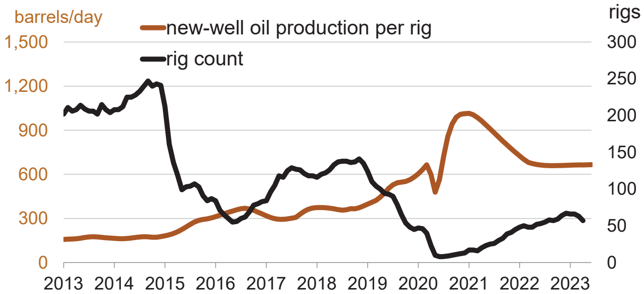
Drilling Productivity Report

May 2023

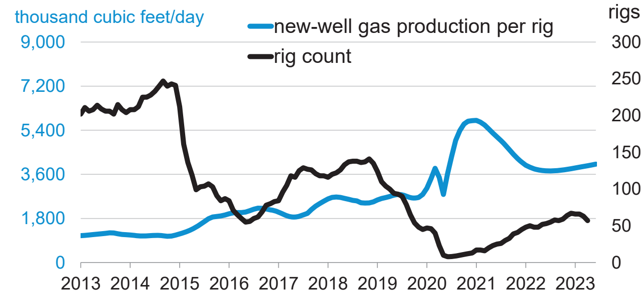
drilling data through April
projected production through June

Oil		Monthly additions from one average rig		Gas
+1 barrels/day month over month	**666** June / **665** May barrels/day		**4,016** June / **3,984** May thousand cubic feet/day	**+32** thousand cubic feet/day month over month

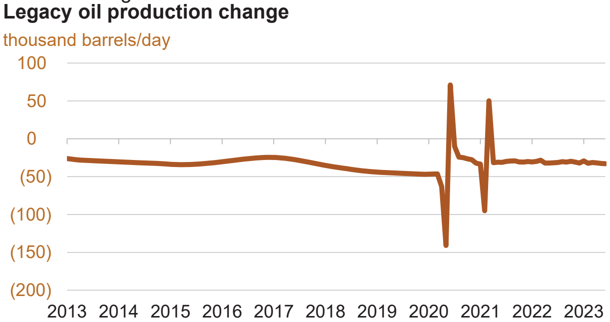
Anadarko Region
New-well oil production per rig **Rig count**



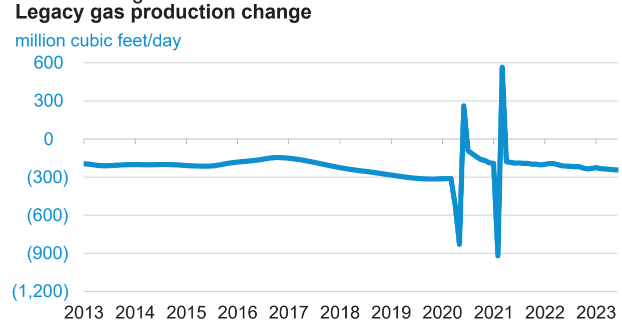
Anadarko Region
New-well gas production per rig **Rig count**



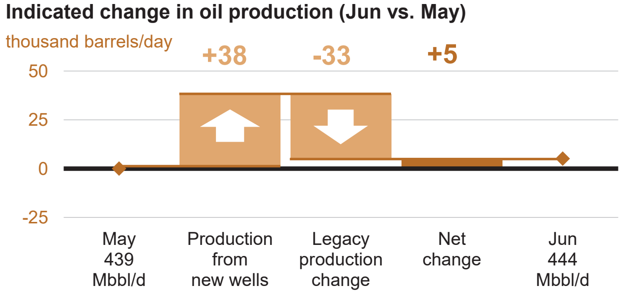
Anadarko Region
Legacy oil production change



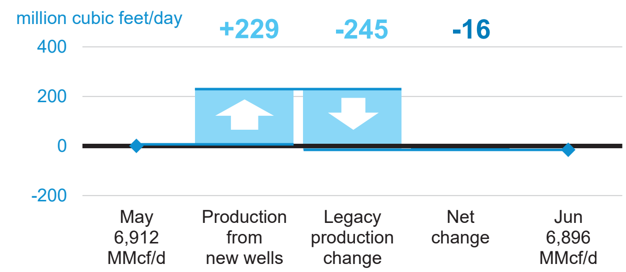
Anadarko Region
Legacy gas production change



Anadarko Region
Indicated change in oil production (Jun vs. May)

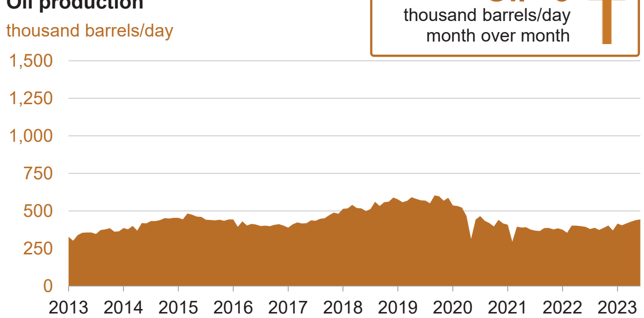


Anadarko Region
Indicated change in natural gas production (Jun vs. May)



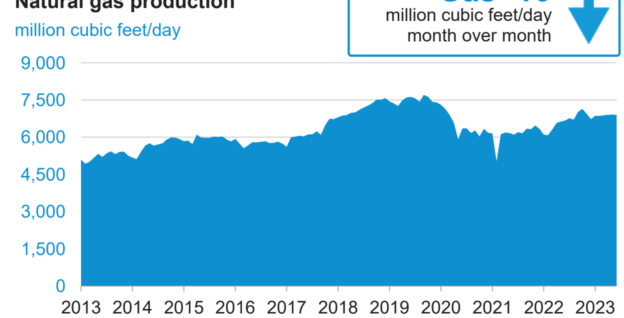
Anadarko Region
Oil production

Oil +5
thousand barrels/day
month over month



Anadarko Region
Natural gas production

Gas -16
million cubic feet/day
month over month



Appalachia Region
Drilling Productivity Report

May 2023
drilling data through April
projected production through June

Oil
0
barrels/day
month over month

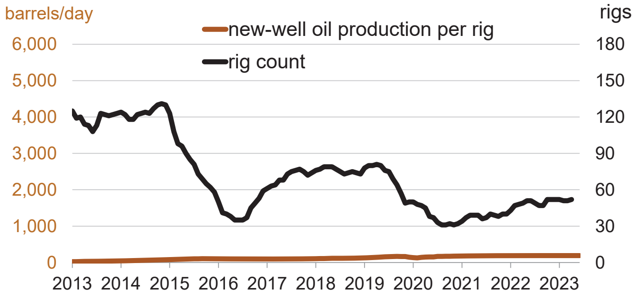
191 *June*
191 *May*
barrels/day

Monthly additions from one average rig

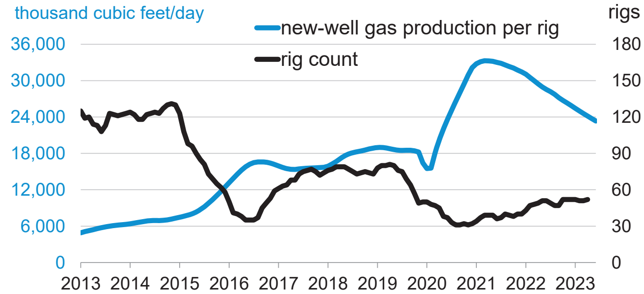
June **23,346**
May **23,750**
thousand cubic feet/day

Gas
-404
thousand cubic feet/day
month over month

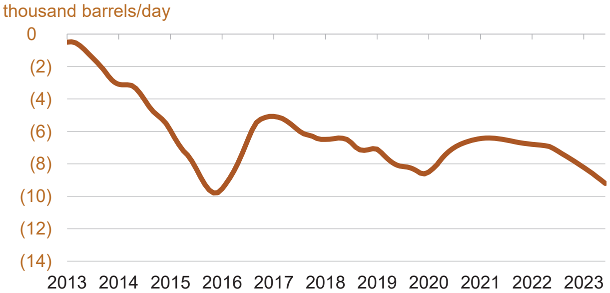
Appalachia Region
New-well oil production per rig



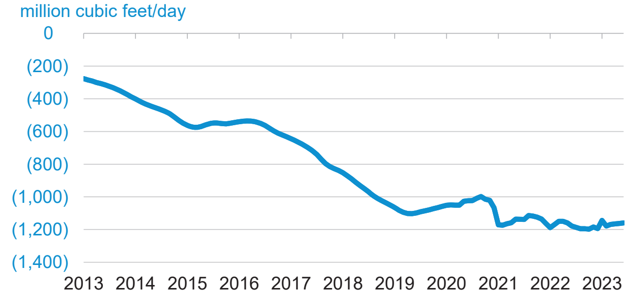
Appalachia Region
New-well gas production per rig



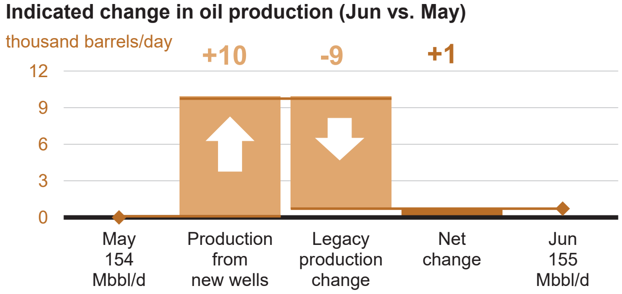
Appalachia Region
Legacy oil production change



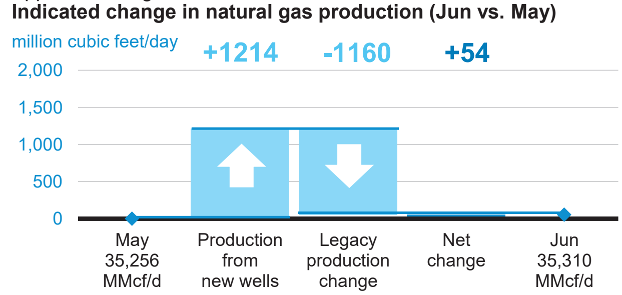
Appalachia Region
Legacy gas production change



Appalachia Region
Indicated change in oil production (Jun vs. May)

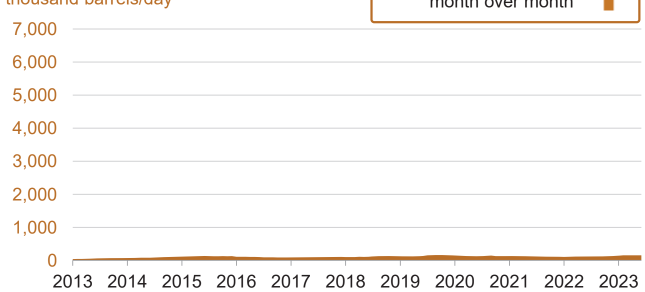


Appalachia Region
Indicated change in natural gas production (Jun vs. May)



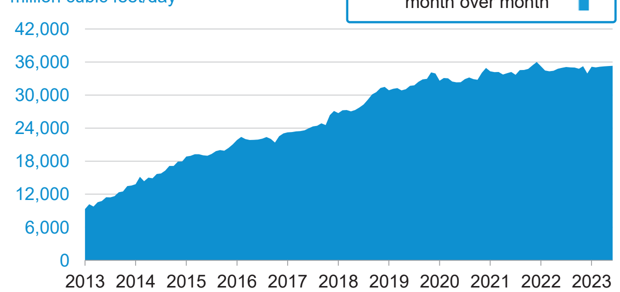
Appalachia Region
Oil production

Oil +1
thousand barrels/day
month over month



Appalachia Region
Natural gas production

Gas +54
million cubic feet/day
month over month



Bakken Region

Drilling Productivity Report

May 2023

drilling data through April
projected production through June

Oil +2 barrels/day month over month

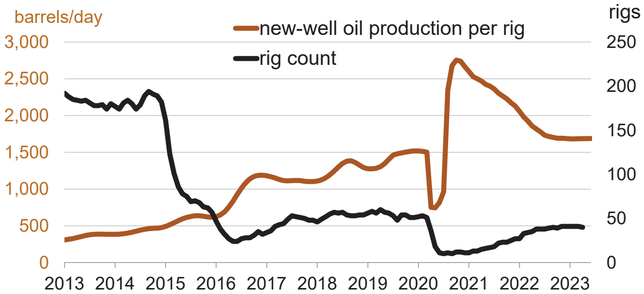
1,688 *June*
1,686 *May*
barrels/day

Monthly additions from one average rig

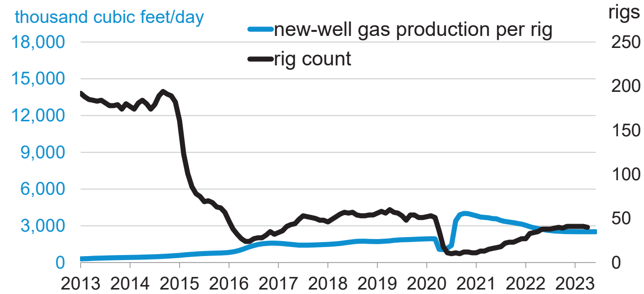
June **2,514**
May **2,510**
thousand cubic feet/day

Gas +4 thousand cubic feet/day month over month

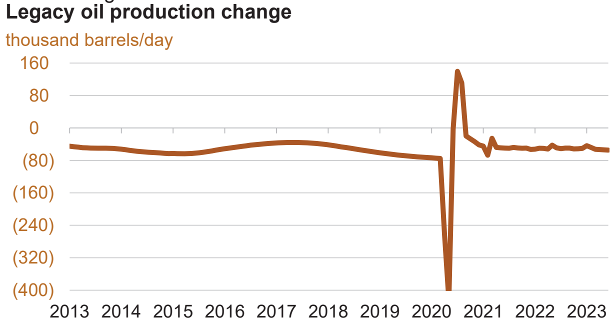
Bakken Region
New-well oil production per rig **Rig count**



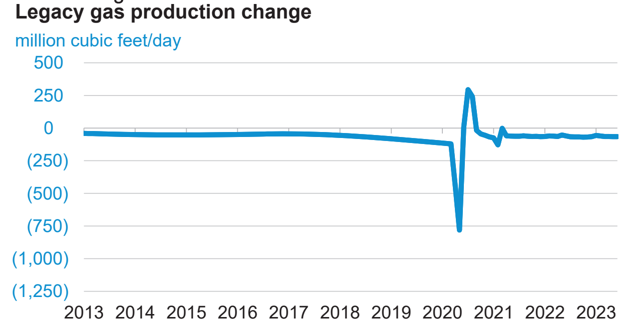
Bakken Region
New-well gas production per rig **Rig count**



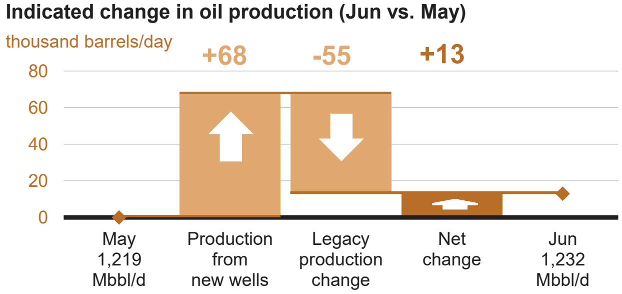
Bakken Region
Legacy oil production change



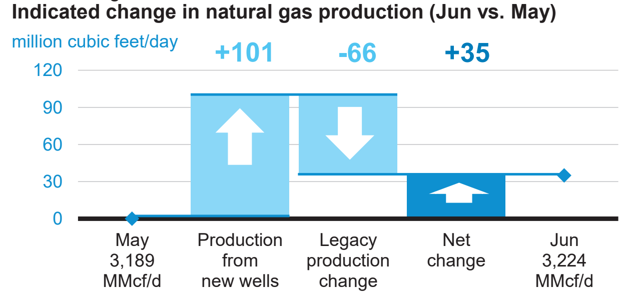
Bakken Region
Legacy gas production change



Bakken Region
Indicated change in oil production (Jun vs. May)

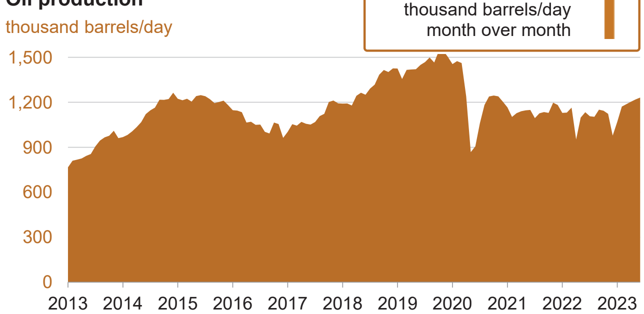


Bakken Region
Indicated change in natural gas production (Jun vs. May)



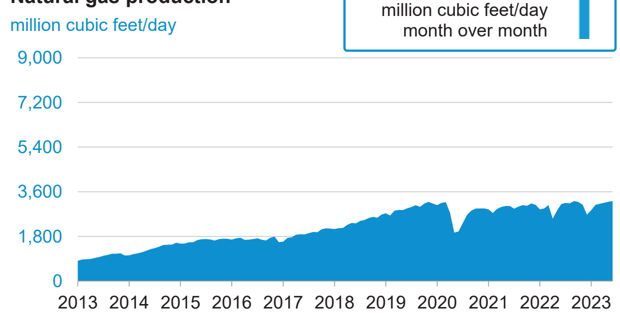
Bakken Region
Oil production

Oil +13 thousand barrels/day month over month



Bakken Region
Natural gas production

Gas +35 million cubic feet/day month over month



Eagle Ford Region

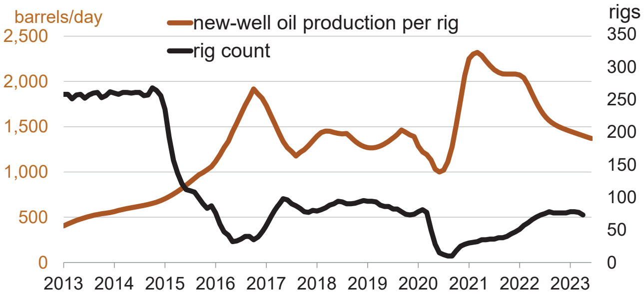
Drilling Productivity Report

May 2023

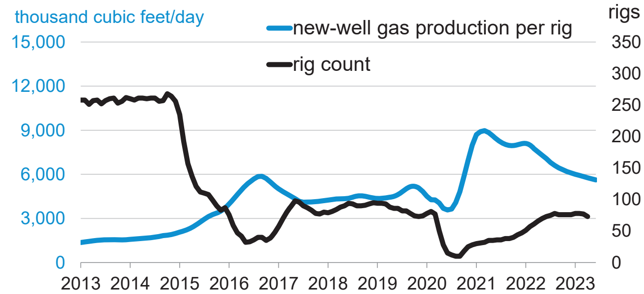
drilling data through April
projected production through June

Oil				Gas
Oil -16 barrels/day month over month	1,370 June / 1,386 May barrels/day	Monthly additions from one average rig	June 5,621 / May 5,695 thousand cubic feet/day	Gas -74 thousand cubic feet/day month over month

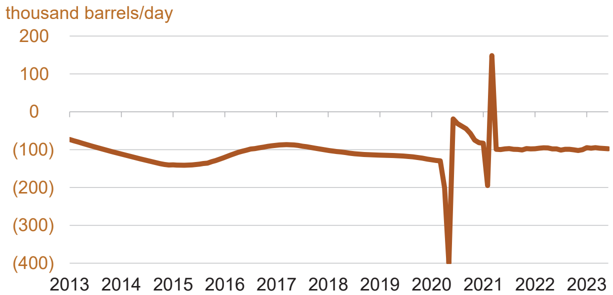
Eagle Ford Region
New-well oil production per rig



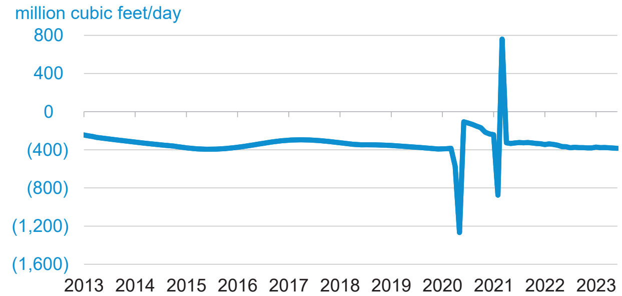
Eagle Ford Region
New-well gas production per rig



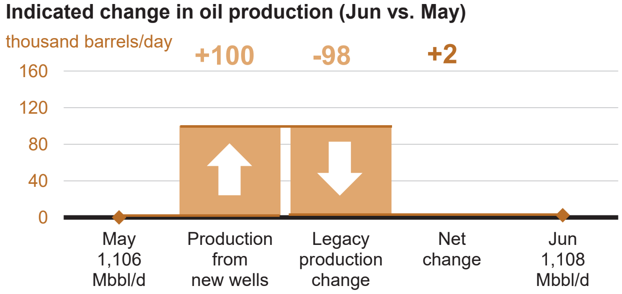
Eagle Ford Region
Legacy oil production change



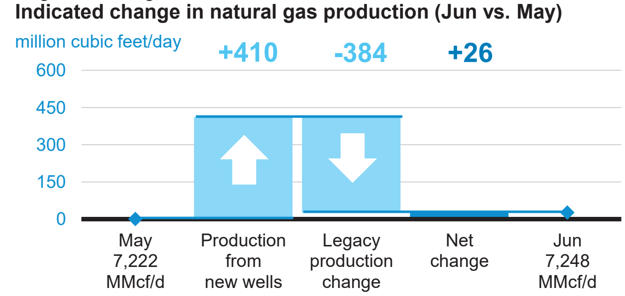
Eagle Ford Region
Legacy gas production change



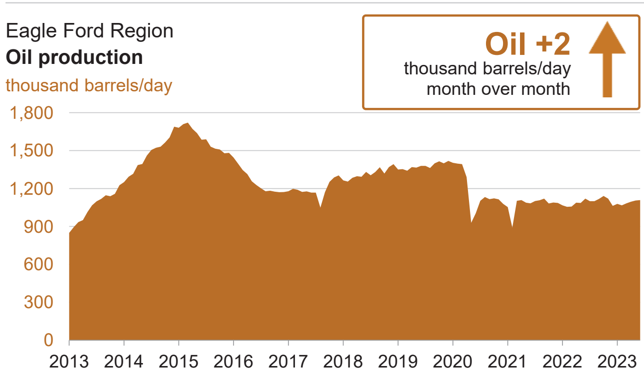
Eagle Ford Region
Indicated change in oil production (Jun vs. May)



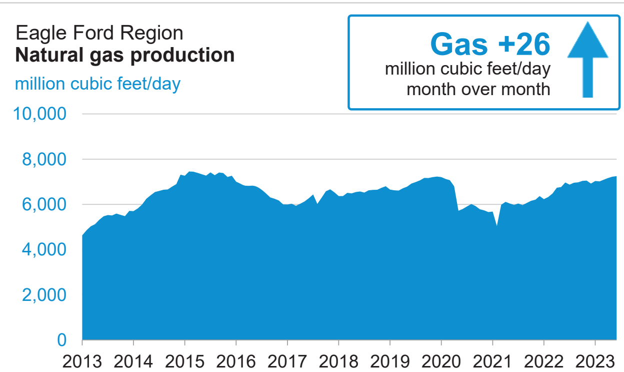
Eagle Ford Region
Indicated change in natural gas production (Jun vs. May)



Eagle Ford Region
Oil production



Eagle Ford Region
Natural gas production



Haynesville Region

Drilling Productivity Report

May 2023

drilling data through April
projected production through June

Oil
0
barrels/day
month over month

19 *June*
19 *May*
barrels/day

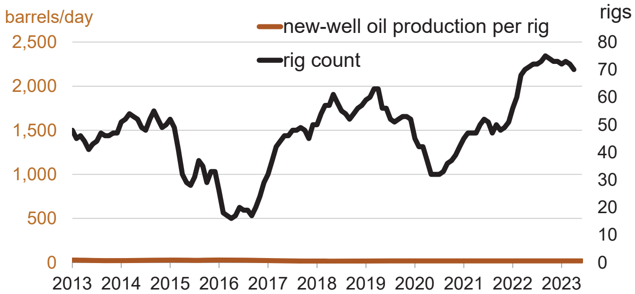
Monthly additions from one average rig

June **10,712**
May **10,723**
thousand cubic feet/day

Gas
-11
thousand cubic feet/day
month over month

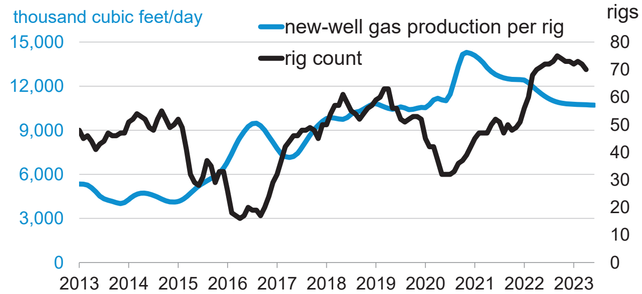
Haynesville Region
New-well oil production per rig

Rig count

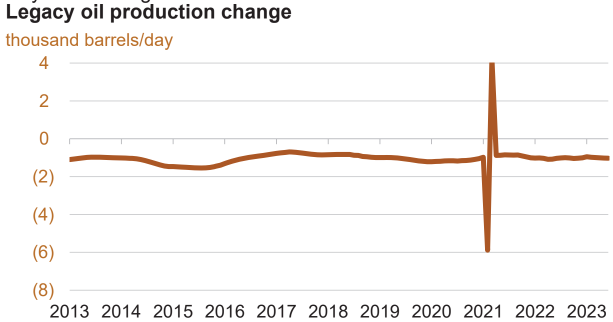


Haynesville Region
New-well gas production per rig

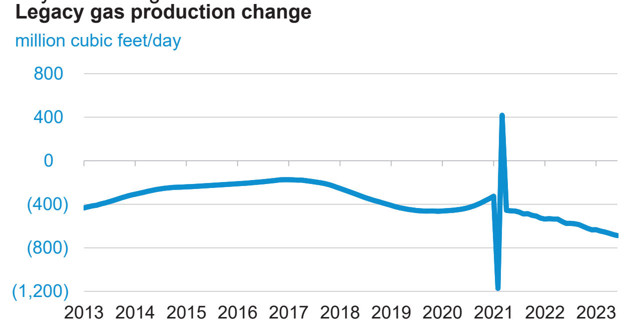
Rig count



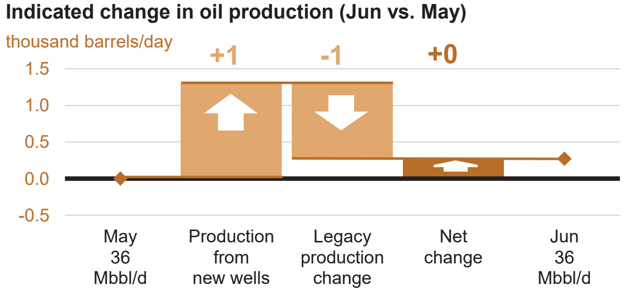
Haynesville Region
Legacy oil production change



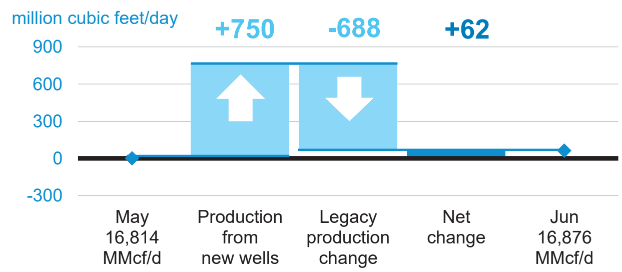
Haynesville Region
Legacy gas production change



Haynesville Region
Indicated change in oil production (Jun vs. May)

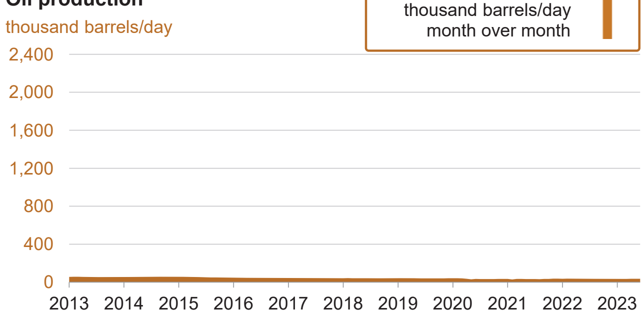


Haynesville Region
Indicated change in natural gas production (Jun vs. May)



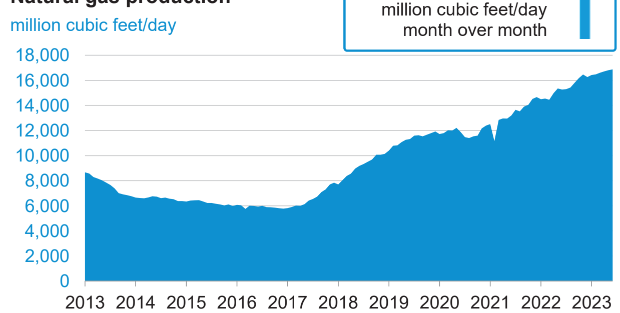
Haynesville Region
Oil production

Oil +0
thousand barrels/day
month over month



Haynesville Region
Natural gas production

Gas +62
million cubic feet/day
month over month



Niobrara Region

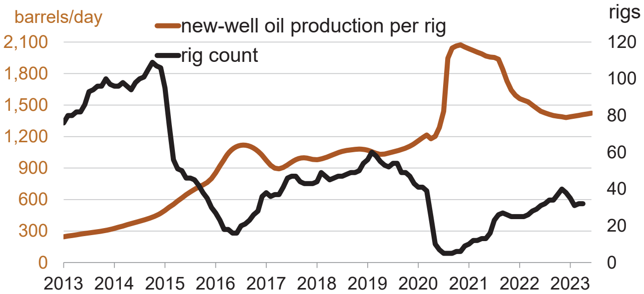
Drilling Productivity Report

May 2023

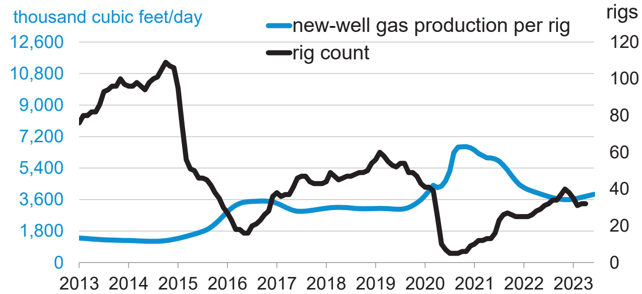
drilling data through April
projected production through June

Oil		Monthly additions from one average rig		Gas
Oil +7 barrels/day month over month	1,423 June 1,416 May barrels/day		June 3,897 May 3,839 thousand cubic feet/day	Gas +58 thousand cubic feet/day month over month

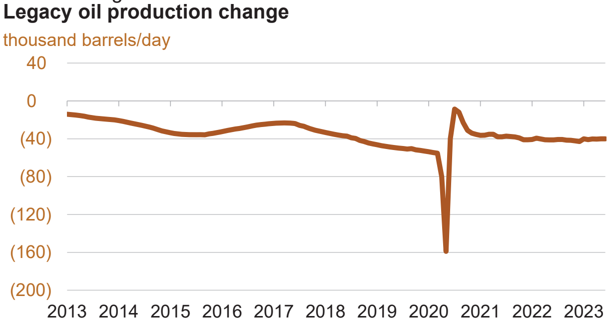
Niobrara Region
New-well oil production per rig **Rig count**



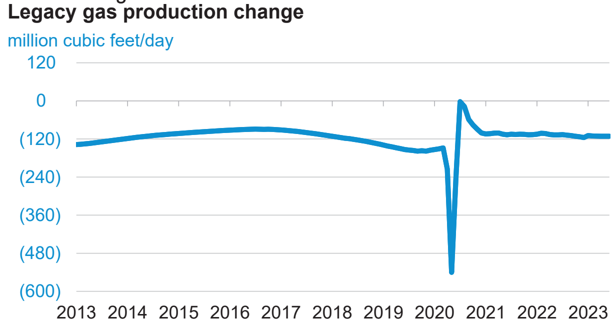
Niobrara Region
New-well gas production per rig **Rig count**



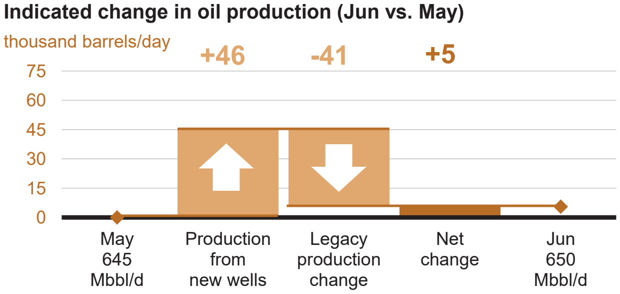
Niobrara Region
Legacy oil production change



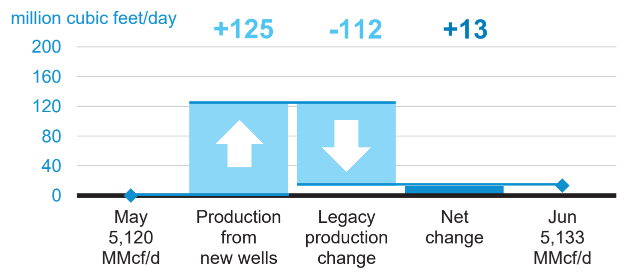
Niobrara Region
Legacy gas production change



Niobrara Region
Indicated change in oil production (Jun vs. May)

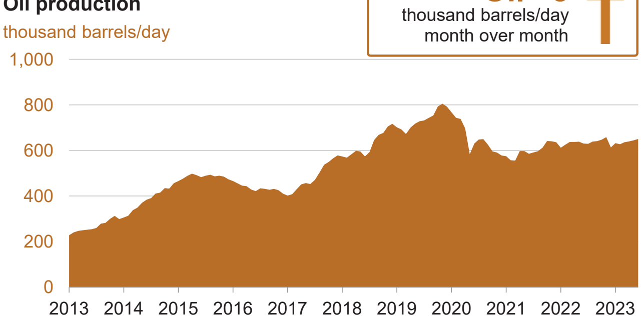


Niobrara Region
Indicated change in natural gas production (Jun vs. May)



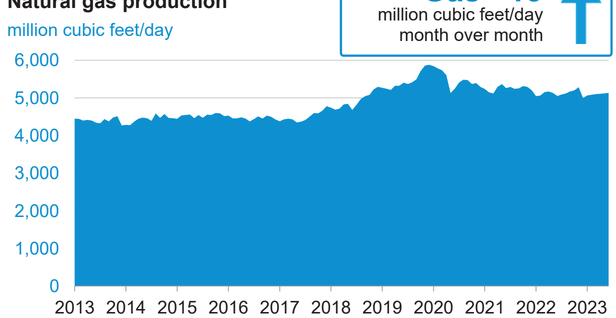
Niobrara Region
Oil production

Oil +5
thousand barrels/day
month over month



Niobrara Region
Natural gas production

Gas +13
million cubic feet/day
month over month



Permian Region
Drilling Productivity Report

May 2023
drilling data through April
projected production through June

Oil
-1
barrels/day
month over month

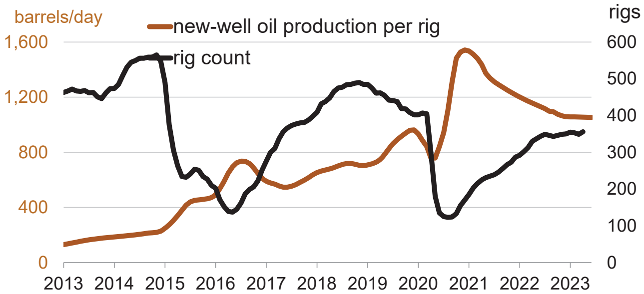
1,053 *June*
1,054 *May*
barrels/day

Monthly additions from one average rig

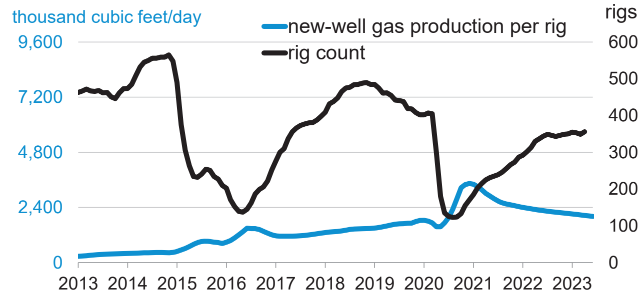
June **2,010**
May **2,030**
thousand cubic feet/day

Gas
-20
thousand cubic feet/day
month over month

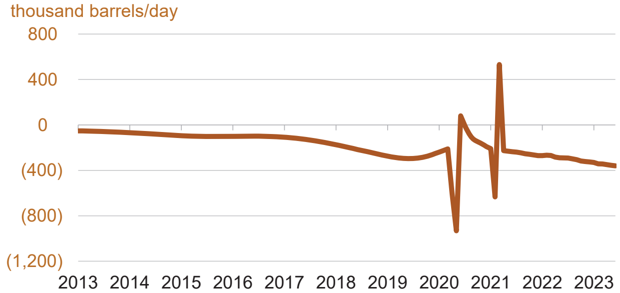
Permian Region
New-well oil production per rig



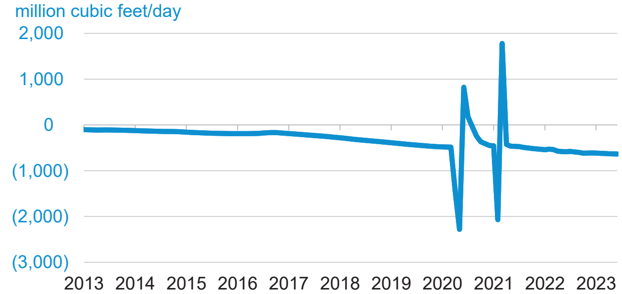
Permian Region
New-well gas production per rig



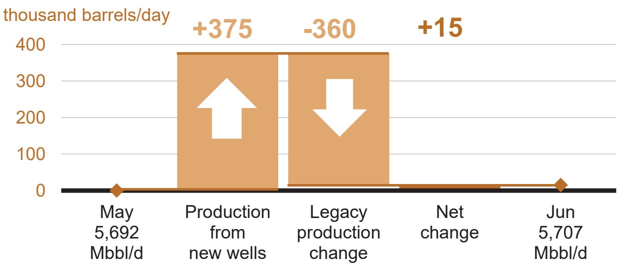
Permian Region
Legacy oil production change



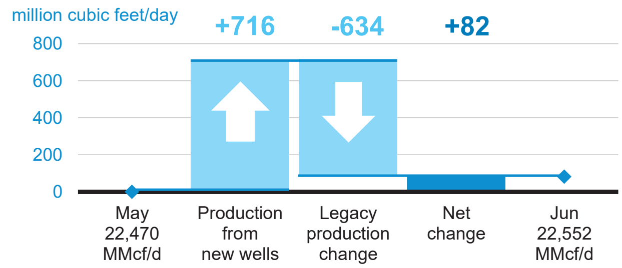
Permian Region
Legacy gas production change



Permian Region
Indicated change in oil production (Jun vs. May)

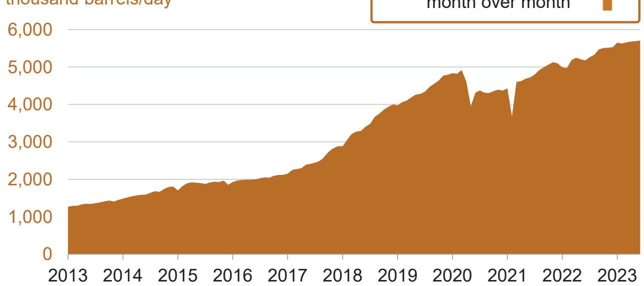


Permian Region
Indicated change in natural gas production (Jun vs. May)



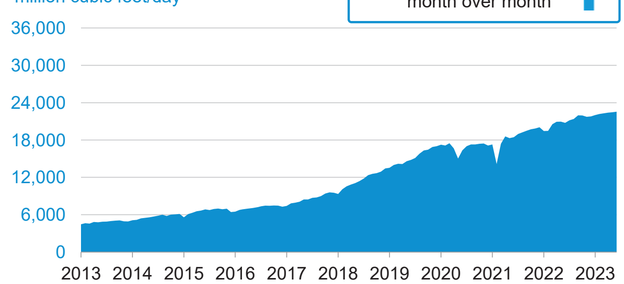
Permian Region
Oil production

Oil +15
thousand barrels/day
month over month



Permian Region
Natural gas production

Gas +82
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

Summary

Overview of Activity for March 2023

- **Top five countries of destination, representing 60.9% of total U.S. LNG exports in March 2023**
  - United Kingdom (70.5 Bcf), Netherlands (61.0 Bcf), Spain (38.1 Bcf), France (28.6 Bcf), and Germany (24.8 Bcf)
- **366.3 Bcf of exports in March 2023**
  - 12.4% increase from February 2023
  - 0.7% more than March 2022
- **121 cargos shipped in March 2023**
  - Sabine Pass (41), Cameron (36), Corpus Christi (19), Freeport (12), Cove Point (8), and Elba (5)
  - 100 cargos in February 2023
  - 114 cargos in March 2022

1a. Table of Exports of Domestically-Produced LNG Delivered by Region (Cumulative from February 2016 through March 2023)

Region	Number of Countries Receiving Per Region	Volume Exported (Bcf)	Percentage Receipts of Total Volume Exported (%)	Number of Cargos*
East Asia and Pacific	8	4,640.5	31.7%	1375
Europe and Central Asia	15	6,581.0	45.0%	2062
Latin America and the Caribbean**	13	2,173.6	14.9%	777
Middle East and North Africa	5	376.6	2.6%	110
South Asia	3	858.1	5.9%	255
Sub-Saharan Africa	0	0.0	0.0%	0
Total LNG Exports	**44**	**14,629.7**	**100.0%**	**4,579**

*Split cargos counted as both individual cargos and countries

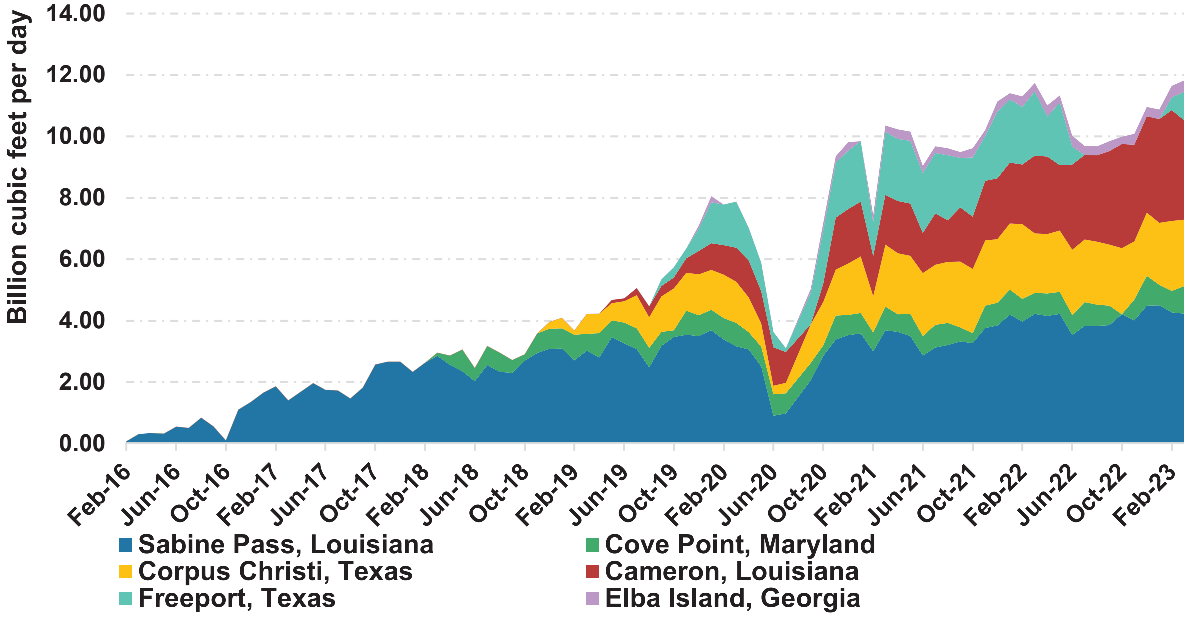
**Number of cargos does not include the shipments by ISO container

1b. Shipments of Domestically-Produced LNG Delivered – by Country (Cumulative from February 2016 through March 2023)

	Country of Destination	Region	Number of Cargos	Volume (Bcf of Natural Gas)	Percentage of Total U.S LNG Exports (%)
1.	South Korea*	East Asia and Pacific	513	1,779.8	12.2%
2.	Japan*	East Asia and Pacific	380	1,294.5	8.8%
3.	United Kingdom*	Europe and Central Asia	361	1,194.5	8.2%
4.	Spain*	Europe and Central Asia	363	1,135.1	7.8%
5.	France*	Europe and Central Asia	330	1,073.9	7.3%
6.	China*	East Asia and Pacific	296	1,007.9	6.9%
7.	Netherlands*	Europe and Central Asia	260	871.6	6.0%
8.	India*	South Asia	195	661.3	4.5%
9.	Turkiye*	Europe and Central Asia	205	656.9	4.5%
10.	Brazil*	Latin America and the Caribbean	218	609.7	4.2%
11.	Mexico*	Latin America and the Caribbean	166	553.1	3.8%
12.	Chile*	Latin America and the Caribbean	135	429.9	2.9%
13.	Italy*	Europe and Central Asia	110	352.7	2.4%
14.	Taiwan*	East Asia and Pacific	109	343.9	2.4%
15.	Poland*	Europe and Central Asia	90	297.9	2.0%
16.	Portugal*	Europe and Central Asia	88	280.5	1.9%
17.	Argentina*	Latin America and the Caribbean	112	269.8	1.8%
18.	Greece*	Europe and Central Asia	80	188.7	1.3%
19.	Dominican Republic*	Latin America and the Caribbean	69	165.8	1.1%
20.	Belgium*	Europe and Central Asia	50	160.3	1.1%
21.	Lithuania	Europe and Central Asia	51	157.6	1.1%
22.	Kuwait	Middle East and North Africa	45	156.4	1.1%
23.	Croatia	Europe and Central Asia	43	129.3	0.9%
24.	Pakistan*	South Asia	40	128.9	0.9%
25.	Jordan*	Middle East and North Africa	36	124.2	0.8%
26.	Singapore*	East Asia and Pacific	33	107.4	0.7%
27.	Thailand*	East Asia and Pacific	27	92.7	0.6%
28.	Bangladesh*	South Asia	20	67.8	0.5%
29.	Panama*	Latin America and the Caribbean	32	57.9	0.4%
30.	Jamaica*	Latin America and the Caribbean	27	57.9	0.4%
31.	Germany	Europe and Central Asia	17	54.5	0.4%
32.	United Arab Emirates	Middle East and North Africa	15	51.1	0.3%
33.	Israel*	Middle East and North Africa	9	28.0	0.2%
34.	Colombia*	Latin America and the Caribbean	18	24.2	0.2%
35.	Malta*	Europe and Central Asia	11	20.1	0.1%
36.	Egypt*	Middle East and North Africa	5	16.9	0.1%
37.	Indonesia*	East Asia and Pacific	16	10.7	0.1%
38.	Finland	Europe and Central Asia	3	7.2	0.0%
39.	Malaysia	East Asia and Pacific	1	3.7	0.0%
	Total Exports by Vessel		**4,579**	**14,624.4**	
	Germany	Europe and Central Asia	1	0.0	0.0%
40.	Antigua and Barbuda	Latin America and the Caribbean	42	0.0	0.0%
41.	Nicaragua	Latin America and the Caribbean	1	0.0	0.0%
42.	Haiti	Latin America and the Caribbean	137	0.4	0.0%
43.	Barbados	Latin America and the Caribbean	305	1.3	0.0%
	Jamaica	Latin America and the Caribbean	167	1.6	0.0%
44.	Bahamas	Latin America and the Caribbean	705	2.0	0.0%
	Total Exports by ISO		**1358**	**5.4**	
	Total Exports by Vessel and ISO		**5,937**	**14,629.7**	

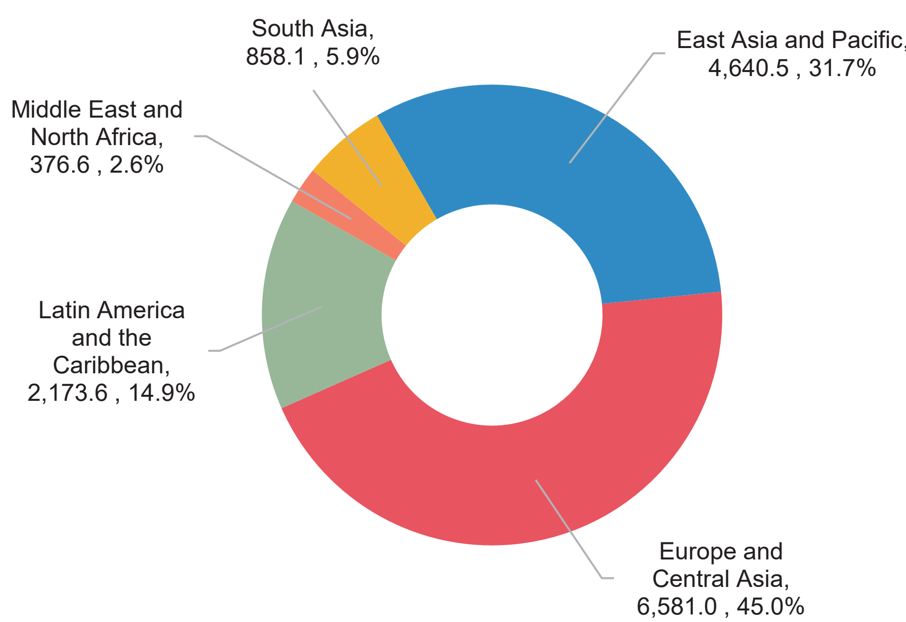
Note:
Volume and Number of Cargos are the cumulative totals of each individual Country of Destination by Region starting from February 2016.
Jamaica has received U.S. LNG exports by both vessel and ISO container. The volumes are totaled separately
* Split cargos counted as both individual cargos and countries.
Vessel = LNG Exports by Vessel and ISO container = LNG Exports by Vessel in ISO Containers.
Does not include re-exports of previously-imported LNG. See table 2c for re-exports data.
Totals may not equal sum of components because of independent rounding.

1c. Domestically-Produced LNG Exported by Point of Exit
(February 2016 through March 2023)



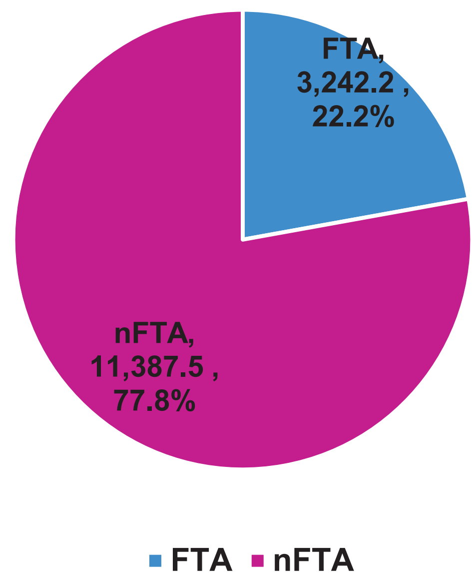
The Cameron, LA point of exit includes exports from Cameron LNG and Venture Global Calcasieu Pass.

1d. Domestically-Produced LNG Exported by Region
(Cumulative from February 2016 through March 2023)
(Bcf, %)



1e. Volumes and Percentages of FTA and nFTA Shipments of Domestically-Produced LNG Delivered
(Cumulative from February 2016 through February 2023)

Volume (Bcf)		Percentage of Total Volume	Number of Countries
FTA	3,242.2	22.2%	8
nFTA	11,387.5	77.8%	36
Total LNG Exports	**14,629.7**	**100.0%**	**44**



Spot cargos total 640.5 Bcf - or 4.4 percent - of the 14,629.7 Bcf total volume of shipments.

These totals are cumulative starting from February 2016 through March 2023 - a cumulative listing of cargos and regions in Table 1b and a cumulative list of FTAs and nFTAs in Table 1h.

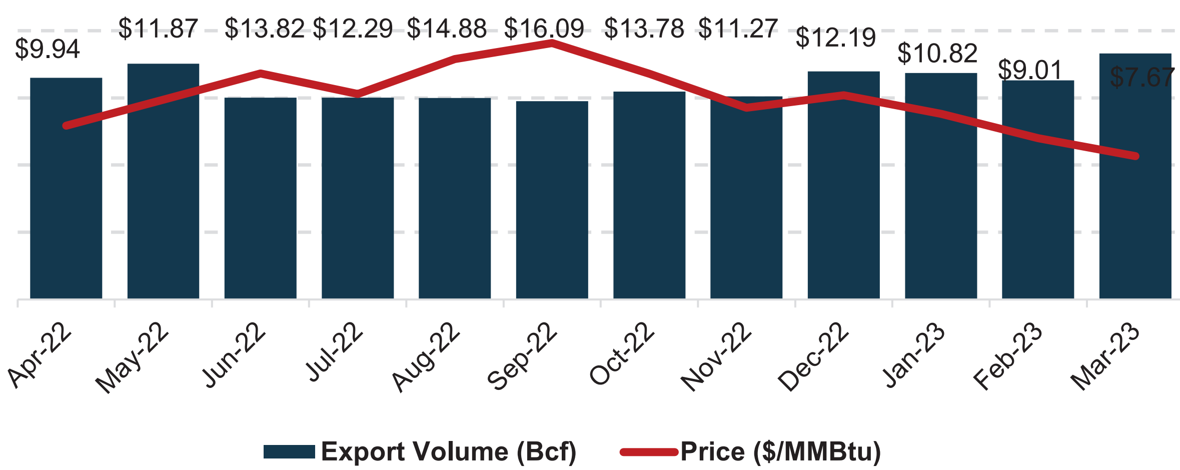
FTA Countries that Require National Treatment for Trade in Natural Gas -As of October 31, 2012, the United States has FTAs that require national treatment for trade in natural gas with Australia, Bahrain, Canada, Chile, Colombia, Dominican Republic, El Salvador, Guatemala, Honduras, Jordan, Mexico, Morocco, Nicaragua, Oman, Panama, Peru, Republic of Korea and Singapore. Panama is the most recent country with which the United States has entered into a FTA that requires national treatment for trade in natural gas, effective October 31, 2012. Not all countries that have a FTA with the United States require national treatment for trade in natural gas (i.e. Costa Rica and Israel). A list of all countries with which the United States has a FTA can be found at: http://www.ustr.gov/trade-agreements/free-trade-agreements.

More information can be found on DOE's website - https://energy.gov/fe/services/natural-gas-regulation/how-obtain-authorization-import-andor-export-natural-gas-and-lng

Totals may not equal sum of components because of independent rounding.

1f. Domestically-Produced LNG Exported – Volume (Bcf) and Weighted Average price ($/MMBtu) by Point of Exit per month

	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Total
Sabine Pass, LA	124.6	130.7	105.7	118.5	118.7	115.6	130.4	120.1	139.2	139.2	119.5	131.0	**1,623.6**
	$8.80	$10.93	$12.90	$10.50	$12.71	$13.71	$10.85	$9.26	$10.43	$8.67	$6.72	$5.86	**$9.86**
Cove Point, MD	21.8	22.2	19.7	24.2	21.4	18.8	0	20.4	29.8	20.8	19.4	27.8	**267.8**
	$9.32	$10.85	$12.33	$11.28	$12.36	$13. 61	0	$10.10	$10.98	$8.67	$8.35	$6.96	**$10.21**
Corpus Christi, TX	58.3	62.0	63.7	63.1	63.4	59.8	66.8	57.0	64.1	62.6	64.1	67.1	**812.2**
	$10.48	$11.95	$13. 57	$12.17	$14.70	$15.99	$12.42	$10.36	$10.60	$10.74	$7.06	$6.26	**$11.21**
Cameron, LA	75.4	65.8	83.3	85.2	87.2	91.1	104.9	94.1	97.1	104.8	100.8	100.0	**1168.4**
	$12.33	$14.85	$16.05	$15.15	$18.92	$19.89	$18.38	$14.82	$16.34	$14.33	$12.99	$11.65	**$15.11**
Freeport, TX	39.3	63.5	17.3	0	0	0	0	0	0	0	11.6	29.0	**225.1**
	$9.07	$11.23	$12.83	0	0	0	0	0	0	0	8.23	6.14	**$9.36**
Elba Island, GA	10.8	6.9	10.7	9.1	9.2	9.7	7.4	10.6	9.4	9.4	10.6	11.4	**124.0**
	$7.93	$9.66	$11.40	$12.20	$11.58	$14.31	$12.53	$9.62	$10.14	$8.81	$10.72	$7.54	**$10.42**
Total	**330.1**	**351.1**	**300.4**	**300.2**	**299.9**	**295.1**	**309.4**	**302.3**	**339.6**	**336.9**	**326.0**	**366.3**	**4,221.1**
	$9.94	**$11.87**	**$13.82**	**$12.29**	**$14.88**	**$16.09**	**$13.78**	**$11.27**	**$12.19**	**$10.82**	**$9.01**	**$7.67**	**$11.59**



Notes:

Prices are free on board (FOB) and are inclusive of all costs of the LNG up to the point of export, including commodity costs and liquefaction fees.

Does not include re-exports of previously-imported LNG. See table 2c for re-exports data.

Totals may not equal sum of components because of independent rounding.

The Cameron, LA point of exit includes exports from Cameron LNG and Venture Global Calcasieu Pass.

W - Withheld to avoid disclosure of individual company data.

DOE has a confidentiality policy for certain data elements collected on Form FE-746R that allows DOE to publish a monthly volume-weighted average price for each point of LNG import or export, but not a price for each individual imported or exported LNG cargo. For additional information, please see the Federal Register Notice concerning this Information Collection Extension at https://www.federalregister.gov/documents/2018/08/30/2018-18829/information-collection-extension.

1h. Destination of Domestically-Produced LNG Delivered by Country and Region with Trade Agreement Status
(February 2016 through March 2023)

Country of Destination	Region	FTA or nFTA	Type of FTA	Name of FTA
Antigua and Barbuda	Latin America and the Caribbean	nFTA		
Argentina	Latin America and the Caribbean	nFTA		
Bahamas (ISO)	Latin America and the Caribbean	nFTA		
Bangladesh	South Asia	nFTA		
Barbados (ISO)	Latin America and the Caribbean	nFTA		
Belgium	Europe and Central Asia	nFTA		
Brazil	Latin America and the Caribbean	nFTA		
Chile	Latin America and the Caribbean	FTA	Bilateral	United States-Chile Free Trade Agreement
China	East Asia and Pacific	nFTA		
Colombia	Latin America and the Caribbean	FTA	Bilateral	United States- Colombia Trade Promotion Agreement
Croatia	Europe and Central Asia	nFTA		
Dominican Republic	Latin America and the Caribbean	FTA	Multilateral	CAFTA-DR
Egypt	Middle East and North Africa	nFTA		
Finland	Europe and Central Asia	nFTA		
France	Europe and Central Asia	nFTA		
Germany	Europe and Central Asia	nFTA		
Greece	Europe and Central Asia	nFTA		
Haiti	Latin America and the Caribbean	nFTA		
India	South Asia	nFTA		
Indonesia	East Asia and Pacific	nFTA		
Israel[4]	Middle East and North Africa	FTA	Bilateral	United States-Israel Free Trade Agreement
Italy	Europe and Central Asia	nFTA		
Jamaica	Latin America and the Caribbean	nFTA		
Japan	East Asia and Pacific	nFTA		
Jordan	Middle East and North Africa	FTA	Bilateral	United States-Jordan Free Trade Agreement
Kuwait	Middle East and North Africa	nFTA		
Lithuania	Europe and Central Asia	nFTA		
Malaysia	East Asia and Pacific	nFTA		
Malta[1]	Europe and Central Asia	nFTA		
Mexico[2]	Latin America and the Caribbean	FTA	Multilateral	USMCA - United States-Mexico-Canada Agreement[3]
Netherlands	Europe and Central Asia	nFTA		
Nicaragua	Latin America and the Caribbean	FTA		CAFTA-DR
Pakistan	South Asia	nFTA		
Panama	Latin America and the Caribbean	FTA	Bilateral	U.S.- Panama Trade Promotion Agreement
Poland	Europe and Central Asia	nFTA		
Portugal	Europe and Central Asia	nFTA		
Singapore	East Asia and Pacific	FTA	Bilateral	Singapore FTA
South Korea	East Asia and Pacific	FTA	Bilateral	KORUS - U.S.-Korea Free Trade Agreement
Spain	Europe and Central Asia	nFTA		
Taiwan	East Asia and Pacific	nFTA		
Thailand	East Asia and Pacific	nFTA		
Turkey	Europe and Central Asia	nFTA		
United Arab Emirates	Middle East and North Africa	nFTA		
United Kingdom	Europe and Central Asia	nFTA		

Source: Office of the United States Trade Representative and the World Bank

[1]For classification purposes, Malta is included in the Europe and Central Asia region.
[2]For classification purposes, Mexico is included in the Latin America and the Caribbean region.
[3]USMCA entered into force on 1 July 2020. These data previously attributed to the North American Free Trade Agreement (NAFTA).
[4]For classification purposes, the U.S. FTA with Israel does not require national treatment for natural gas, meaning natural gas is not covered as a good or service under the FTA.

https://lngir.cheniere.com/news-events/press-releases/detail/277/cheniere-and-kospo-sign-long-term-lng-sale-and-purchase

Cheniere and KOSPO Sign Long-Term LNG Sale and Purchase Agreement

Download as PDFMAY 16, 2023 7:29AM EDT

Long-Term SPA Expected to Support Sabine Pass Expansion Project

HOUSTON--(BUSINESS WIRE)-- Cheniere Energy, Inc. ("Cheniere" or the "Company") (NYSE American: LNG) announced today that Cheniere's subsidiary, Cheniere Marketing International LLP ("Cheniere Marketing"), has entered into a long-term liquefied natural gas ("LNG") sale and purchase agreement ("SPA") with Korea Southern Power Co. Ltd ("KOSPO").

Under the SPA, KOSPO has agreed to purchase approximately 0.4 million tonnes per annum ("mtpa") of LNG from Cheniere Marketing on a delivered ex-ship ("DES") basis from 2027 through 2046, with a smaller annual quantity to be delivered starting in 2024. The purchase price for LNG to be delivered under the SPA prior to 2027 will be a market-based price, after which the purchase price will be indexed to the Henry Hub price, plus a fee.

The volumes associated with the SPA from 2028 through 2046 are subject to a positive final investment decision with respect to the first train of the Sabine Pass Liquefaction Expansion Project ("SPL Expansion Project").

"We are pleased to enter into this long-term LNG contract with KOSPO, the leading power generation company in Korea, in support of KOSPO's growing natural-gas fired power generation capacity," said Jack Fusco, Cheniere's President and Chief Executive Officer. "This SPA is expected to support the SPL Expansion Project, and we are excited to build commercial momentum as the project's development progresses. This SPA further highlights Cheniere's leadership in providing flexible, cleaner burning energy supply to meet both the energy security needs and environmental goals of our customers in both the short and long term."

The SPL Expansion Project is being developed to include up to three natural gas liquefaction trains with an expected total production capacity of approximately 20 mtpa of LNG. In February 2023, certain subsidiaries of Cheniere Energy Partners, L.P. (NYSE American: CQP) initiated the pre-filing review process with respect to the SPL Expansion Project with the Federal Energy Regulatory Commission under the National Environmental Policy Act.

About Cheniere

Cheniere Energy, Inc. is the leading producer and exporter of LNG in the United States, reliably providing a clean, secure, and affordable solution to the growing global need for natural gas. Cheniere is a full-service LNG provider, with capabilities that include gas procurement and transportation, liquefaction, vessel chartering, and LNG delivery. Cheniere has one of the largest liquefaction platforms in the world, consisting of the Sabine Pass and Corpus Christi liquefaction facilities on the U.S. Gulf Coast, with total production capacity of approximately 45 mtpa of LNG in operation and an additional 10+ mtpa of expected production capacity under construction. Cheniere is also pursuing liquefaction expansion opportunities and other projects along the LNG value chain. Cheniere is headquartered in Houston, Texas, and has additional offices in London, Singapore, Beijing, Tokyo, and Washington, D.C.

For additional information, please refer to the Cheniere website at www.cheniere.com and Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, filed with the Securities and Exchange Commission.

About KOSPO

Korea Southern Power (KOSPO) is a public energy company that spun off from Korea Electric Power Corporation in 2002. As of the end of 2022, KOSPO accounted for approximately 9% of Korea's total generation capacity and power generation. In addition to efforts to improve the environmental performance of fossil fuel use, KOSPO is focused on providing clean and stable electricity, leading the way to carbon neutrality in Korea, including by developing renewable energy such as solar power, wind power, and fuel cells. KOSPO also develops its digitalization of power plant operations, hydrogen and ammonia convergence business. Through this, KOSPO plans to set the global standard in the new energy industry.

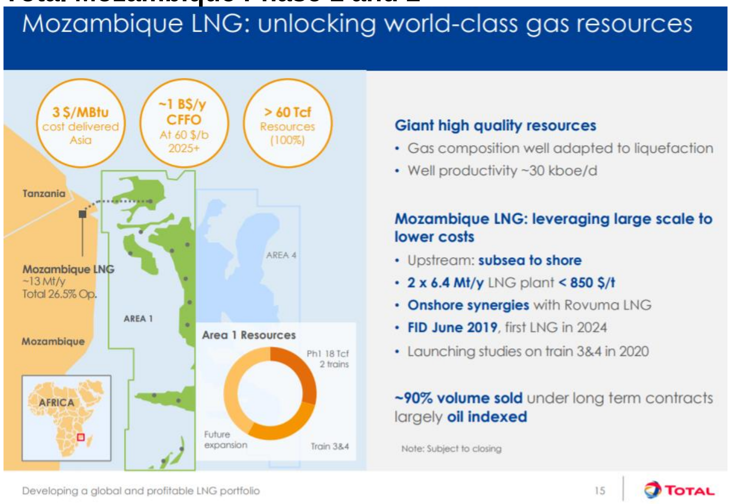
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

Posted Wednesday April 28, 2021. 9:00 MT

The next six months will determine the size and length of the new LNG supply gap that is hitting harder and faster than anyone expected six months ago. Optimists will say the Mozambique government will bring sustainable security and safety to the northern Cabo Delgado province and provide the confidence to Total to quickly get back to LNG development such that its LNG in-service delay is a matter of months and not years. We hope so for Mozambique's domestic situation, but will it be that easy for Total's board to quickly look thru what just happened? Total suspended LNG development for 3 months, restarted development on March 25, but then 3 days of violence led it to suspend development again on March 28, and announce force majeure on Monday April 26. Even if the optimists are right, Mozambique LNG is counted on for LNG supply and the major LNG supply project that are in LNG supply forecasts are now all delayed – Total Phase 1 of 1.7 bcf/d and its follow on Phase 2 of 1.3 bcf/d, and Exxon's Rozuma Phase 1 of 2.0 bcf/d. It is important to remember this 5.0 bcf/d of major LNG supply is being counted in LNG supply forecasts and starting in 2024. At a minimum, we think the more likely scenario is a delay of at least 2 years in this 5.0 bcf/d from the pre-Covid timelines. And this creates a much bigger and sooner LNG supply gap starting ~2025 and stronger outlook for LNG prices. Thermal coal in Asia will play a role in keeping a lid on LNG prices. But there will be the opportunity for LNG suppliers to at least review the potential for brownfield LNG projects to fill the growing supply gap. The thought of increasing capex was a non-starter six months ago, but there is a much stronger outlook for global oil and gas prices. Oil and gas companies are pivoting from cutting capex to small increases in 2021 capex and expecting for higher capex in 2022. We believe this sets the stage for looking at potential FID of brownfield LNG projects before the end of 2021 to be included in 2022 capex budgets. Mozambique is causing an LNG supply gap that someone will try to fill. And if brownfield LNG is needed, what about Shell looking at 1.8 bcf/d brownfield LNG Canada Phase 2? Cdn natural gas producers hope so as this would mean more Cdn natural gas will be tied to Asian LNG markets and not competing in the US against Henry Hub.

Total declares force majeure on Mozambique LNG, Yesterday, Total announced [LINK] "*Considering the evolution of the security situation in the north of the Cabo Delgado province in Mozambique, Total confirms the withdrawal of all Mozambique LNG project personnel from the Afungi site. This situation leads Total, as operator of Mozambique LNG project, to declare force majeure. Total expresses its solidarity with the government and people of Mozambique and wishes that the actions carried out by the government of Mozambique and its regional and international partners will enable the restoration of security and stability in Cabo Delgado province in a sustained manner".* Total is working Phase 1 is ~1.7 bcf/d (Train 1 + 2, 6.45 mtpa/train) and was originally expected to being LNG deliveries in 2024. There was no specific timeline for Phase 2 of 1.3 bcf/d (Train 3 + 4, 5.0 mtpa/train), but was expected to follow Phase 1 in short order to keep capital costs under control with a continuous construction process with a potential onstream shortly after 2026.

Total Mozambique Phase 1 and 2



Source: Total Investor Day September 24, 2019

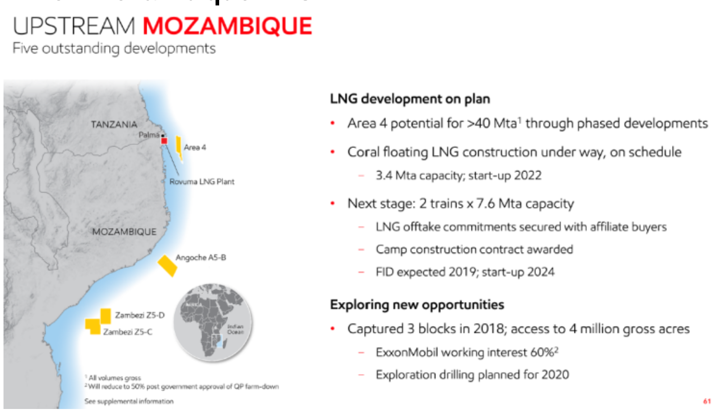
<u>Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner"</u>. Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF Group posts a weekly Energy Tidbits research memo [LINK], wherein we have, in multiple weekly memos, that Total had shut down development in December for 3 months due to the violent and security risks. It restarted development on Wed March 24, violence/attacks immediately resumed for 3 consecutive days, and then Total suspended development on Sat March 27. Local violence/attacks shut development down in Dec, the situation gets settled enough for Total to restart in March, only to be shut down 3 days thereafter. No one should be surprised especially with Total's need to see security and stability "in a sustained manner".

<u>Does anyone really think Total will risk another quick 2-3 month restart or even in 2021?</u> The Mozambique government will be working hard to convince Total to restart soon. We just find it hard to believe Total board will risk a replay of March 24-27 in 2021. Unfortunately, Mozambique has had internal conflict for years. It reached a milestone to the positive in August 2019. Our SAF Group August 11, 2019 Energy Tidbits memo [LINK] highlighted the signing of a peace pact between Mozambique President Nyusi and leader of the Renamo opposition Momade. This was the official end to a 2013 thru 2016 conflict following a failure to hold up the prior peace pact. At that time, FT reported [LINK] "Mr Nyusi has said that "*the government and Renamo will come together and hunt" rebels who fail to disarm. The government has struggled to stem the separate insurgency in the north, which has killed or displaced hundreds near the gas-rich areas during the past two years. While the roots of the conflict remain murky, it is linked to a local Islamist group and appears to be drawing on disaffection over sharing gas investment benefits, say analysts*." This is just a reminder this is not a new issue. LNG is a game changer to Mozambique's economic future. It is, but also has been, a government priority to have the security and safety for Total and Exxon to move on their LNG developments. Its hard to believe the Mozambique government will be able to quickly convince Total and Exxon boards that they can be comfortable there is a sustained security/safety situation and they can send their people back in to develop the LNG. Total's board would allow any resumption of development before year end 2021. The last thing Total wants is a replay of March 24-27. The first question is how long will it take before the Total board is convinced its safe to restart. Could you imagine them doing a replay of what just happened? Wait three months, restart development and have to stop again right away? We have to believe that could lead the Total board to believe it is unfixable for years. We just don't think they are to prepared to risk that decision in 3 months. Its why we have to think there isn't a restart approval until at least in 2022 at the earliest ie. why we think the likely scenario is a delay of 2-3 years, and not a matter of months.

<u>Mozambique's security issues pushes back 5.0 bcf/d of new LNG supply at least a couple years.</u> The global LNG issue is that 5 bcf/d of new Mozambique LNG supply (apart from the Eni Coral FLNG of 0.45 bcf/d) won't start up in 2024 and

continuing thru the 2020s. And we believe all LNG forecasts included this 5.0 bcf/d to be in service in the 2020s as Mozambique had been considered the best positioned LNG supply to access Asia after Australia and Papua New Guinea. (i) Eni Coral Sul (Rovuma Basin) FLNG of 0.45 bcf/d planned in service in 2022. [LINK] This is an offshore floating LNG vessel that is still expected to be in service in 2022. (ii) Total Phase 1 to add 1.7 bcf/d with an in service originally planned for 2024. We expect the in service data to be pushed back to at least 2026 assuming Total gives a development restart approval in Dec 2021. In theory, this would only be a 1 year loss of time. However, Total has let services go, the project will be idle for 9 months, it isn't clear if the need to get people out quickly let them do a complete put the project on hold, and how many people will be on site maintaining the status of the development during the force majeure. Also what new procedures and safety will be put in place for a restart. These all mean there will be added time needed to get the project back to where it was when force majeure was declared ie. why we think a 12 month time delay will be more like an 18 month project delay. (iii) Exxon's Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was expected to be in service in 2025. We believe the delays related to security and safety at Total are also going to impact Exxon. We find it highly unlikely the Exxon board would take a different security and safety decision than Total. Pre-pandemic, Exxon's March 6, 2019 Investor Day noted their operated Mozambique Rovuma LNG Phase 1 was to be 2 trains each with 1.0 bcf/d capacity for total initial capacity of 2.0 bf/d with FID expected in 2019 and first LNG deliveries in 2024. The 2019 FID expectation was later pushed to be expected just before the March 2020 investor day. But the pandemic hit, and on March 21, 2020, we tweeted [LINK] on the Reuters story "*Exclusive: Coronavirus, gas slump put brakes on Exxon's giant Mozambique LNG plan"* [LINK] that noted Exxon was expected to delay the Rovuma FID. There was no timeline, but the expectation was that FID would now be in 2022 (3 years later than original timeline0 and that would push first LNG likely to 2027. (iv) Total Phase 2 was to add 1.3 bcf/d. There was no firm in service date but it was expected to follow closely behind Phase 1 to maintain services. That would have put it originally in the 2026/2027 period. But if Phase 1 is pushed back 2 years, so will Phase 2 so more likely 2028/2029.. (v) Total Phase 1 + 2 and Exxon Rozuma Phase 1 total 5.0 bcf/d and would have been (and still are) in all LNG supply forecasts for the 2020s. (vi) We aren't certain if the LNG supply forecasts include Exxon Rozuma Phase 2 ,which would be an additional 2.0 bcf/d on top of the 5.0 bcf/d noted above. Exxon Rozuma has always been expected to be at least 2 Phases. This has been the plan since the Anadarko days given the 85 tcf size of the resource on Exxon's Area 4. There was no firm in service data for Phase 2, but it was expected they would also closely follow Phase 1 to maintain services. We expect that original timeline would have been 2026/2027 and that would not be pushed back to 2029/2030. (vii) It doesn't matter if its only 5 bcf/ of Mozambique that is delayed 2 to 3 years, it will cause a bigger LNG supply gap and sooner. The issue for LNG markets is this is taking projects that are in development effectively out of the queue for some period.

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

Won't LNG and natural gas get hit by Biden's push for carbon free electricity? Yes, in the US. For the last 9 months, we have warned on Biden's climate change plan that were his election platform and now form his administration's energy transition map. We posted our July 28, 2020 blog "*Biden To Put US On "Irreversible Path to Achieve Net-Zero Emissions, Economy-Wide" Is a Major Negative To US Natural Gas in 2020s* "[LINK] on Biden's platform "*The Biden Plan to Build a Modern, Sustainable Infrastructure and an Equitable Clean Energy Future*" [LINK]. Biden's new American Jobs Plan

[LINK] lines up with his campaign platform including to put the US "*on the path to achieving 100 percent carbon-free electricity by 2035*.". Our July 28, 2020 blog noted that it would require replacing ~60% of US electricity generation with more renewable and it could eliminate ~40% (33.5 bcf/d) of 2019 US natural gas consumption. If Biden is 25% successful by 2030, it would replace ~6.3 bcf/d of natural gas demand. It would be a negative to US natural gas and force more US natural gas to export markets. The wildcard when does US natural gas start to decline if producers are faced with the reality of natural gas being phased out for electricity. The other hope is that when Biden says "carbon-free", its not what ends up in the details of any formal policy statement ie. carbon electricity will be allowed with Biden's push for CCS.

Will Cdn natural gas be similarly hit by if Trudeau move to "emissions free" and not "net zero emissions" electricity? Yes and No. Our SAF Group April 25, 2021 Energy Tidbits memo [LINK] was titled ""*Bad News For Natural Gas, Trudeau's Electricity Goal is Now 100% "Emissions Free" And Not "Net Zero Emissions*". On Thursday, PM Trudeau spoke at Biden's global climate summit [LINK] and looks like he slipped in a new view on electricity than was in last Monday's budget and his Dec climate plan. Trudeau said "*In Canada, we've worked hard to get to over 80% emissions-free electricity, and we're not going to stop until we get to 100%."* Speeches, especially ones made on a global stage are checked carefully so this had to be deliberate. Trudeau said "*emissions free*" and not net zero emissions electricity. It seems like this language is carefully written to exclude any fossil fuels as they are not emissions free even if they are linked to CCS. Recall in Liberals big Dec 2020 climate announcement [LINK], Liberals said ""*Work with provinces, utilities and other partners to ensure that Canada's electricity generation achieves net-zero emissions before 2050*." There is no way Trudeau changed the language unless he meant to do so. And this is a major change as it would seem to indicate his plan to eliminate all fossil fuels used for electricity. If so this would be a negative to Cdn natural gas that would be stuck within Western Canada and/or continuing to push into the US when Biden is trying to switch to carbon free electricity. We recognize that there is still some ambiguity in what will be the details of policy and the Liberals aren't changing to no carbon sourced electricity at all. Let's hope so. But let's also be careful that politicians don't change language without a reason or at least with a view to setting up for some future hit. Plus Trudeau had a big warning in that same speech saying "*we will make it law to respect our new 2030 target and achieve net-zero emissions by 2050*". They plan to make it the law that Canada has to be on track for the Liberals 2030 emissions targets. This means that the future messaging will be that the Liberals have no choice but to take harder future emissions actions as it is the law. They will be just obeying the law as they will be obligated to obey the law. Everyone knows the messaging will be we have to do more get to Net Zero, that in itself will inevitably mean it will be the law if he actually does move to eliminate any carbon based electricity. So yes it's a negative, that is unless more Cdn natural gas can be exported via LNG to Asia. We believe this would be a plus to be priced against global LNG instead of Henry Hub.

Biden's global climate summit reminded there is too much risk to skip over natural gas as the transition fuel. Apart from the US and Canada, we haven't seen a sea shift to eliminating natural gas for power generation, especially from energy import dependent countries. There is a strong belief that hydrogen and battery storage will one day be able to scale up at a competitive cost to lead to the acceleration away from fossil fuels. But that time isn't yet here, at least not for energy import dependent countries. One of the key themes from last week's leader's speeches at the Biden global climate summit – to get to Net Zero, the world is assuming there wilt be technological advances/discoveries that aren't here today and that have the potential to immediately ramp up in scale. IEA Executive Director Faith Birol was blunt in his message [LINK] saying "*Right now, the data does not match the rhetoric – and the gap is getting wider*." And "*IEA analysis shows that about half the reductions to get to net zero emissions in 2050 will need to come from technologies that are not yet ready for market. This calls for massive leaps in innovation. Innovation across batteries, hydrogen, synthetic fuels, carbon capture and many other technologies.* US Special Envoy for Climate John Kerry said a similar point that half of the emissions reductions will have to come from technologies that we don't yet have at scale. UK PM Johnson [LINK] didn't say it specifically, but points to this same issue saying "*To do these things we've got to be constantly original and optimistic about new technology and new solutions whether that's crops that are super-resistant to drought or more accurate weather forecasts like those we hope to see from the UK's new Met Office 1.2bn supercomputer that we're investing in*." It may well be that the US and other self sufficient energy countries are comfortable going on the basis of assuming technology developments will occur on a timely basis. But, its clear that countries like China, India, South Korea and others are not prepared to do so. And not prepared to have the confidence to rid themselves of coal power generation. This is why there hasn't been any material change in the LNG demand outlook

We expect the IEA's blunt message that the gap is getting wider will be reinforced on May 18. We have had a consistent view on the energy transition for the past few years. We believe it is going to happen, but it will take longer, be a bumpy road and cost more than expected. This is why we believe the demise of oil and natural gas won't be as easy and fast as hoped for by the climate change side. The IEA's blunt warning on the gap widening should not be a surprise as they warned on this in June 2020. Birol's climate speech also highlighted that the IEA will release on May 18 its roadmap for how the global energy sector can reach net zero by 2050. Our SAF Group June 11, 2020 blog "*Will The Demise Of Oil Take Longer, Just Like Coal? IEA and Shell Highlight Delays/Gaps To A Smooth Clean Energy Transition*" [LINK] feature the IEA's June 2020 warning that the critical energy technologies needed to reduce emissions are nowhere near where they need to be. In that blog, we said "there was an excellent illustration of the many significant areas, or major pieces of the puzzle, involved in an energy transition by the IEA last week. The IEA also noted the progress of each of the major pieces and the overall conclusion is that the vast majority of the pieces are behind or well behind where they should be to meet a smooth timely energy transition. It is important to note that these are just what the IEA calls the "*critical energy technologies*" and does not get into the wide range of other considerations needed to support the energy transition. The IEA divides these "critical energy technologies "into major groupings and then ranked the progress of each of these pieces in its report "*Tracking Clean Energy Progress*" [LINK] by on track, more efforts needed, or not on track". Our blog included the below IEA June 2020 chart.

IEA's Progress Ranking For "Critical Energy Technologies" For Clean Energy Transition

🔴 Power	🟡 Renewable Power 🟢 Solar PV 🟡 Onshore Wind 🟡 Offshore Wind 🟡 Hydropower 🟢 Bioenergy Power Generation 🔴 Concentrating Solar Power	🔴 Geothermal 🔴 Ocean Power 🔴 Nuclear Power 🟡 Natural Gas-Fired Power 🔴 Coal-Fired Power 🔴 CCUS in Power
🔴 Fuel Supply	🔴 Methane Emissions from O&G	🔴 Flaring Emissions
🟡 Industry	🟡 Chemicals 🟡 Iron and Steel 🟡 Cement	🟡 Pulp and Paper 🟡 Aluminum 🔴 CCUS in Industry and Transformation
🟡 Transport	🟢 Electric Vehicles 🟢 Rail 🔴 Fuel Consumption of Cars and Vans 🟡 Trucks and Busses	🔴 Transport Biofuels 🟡 Aviation 🟡 International Shipping
🔴 Buildings	🔴 Building Envelopes 🔴 Heating 🟡 Heat Pumps 🟡 Cooling	🟢 Lighting 🟡 Appliances and Equipment 🟢 Data Centres and Data Transmission Networks
🟡 Energy Integration	🟡 Energy Storage 🟡 Hydrogen 🟡 Smart Grids	🟡 Demand Response 🟡 Direct Air Capture

Source: IEA

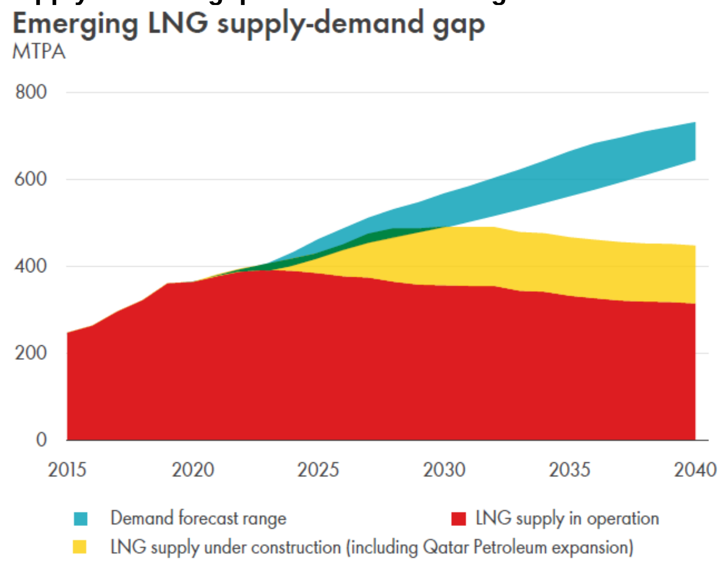
🟢 On Track 🟡 More Efforts Needed 🔴 Not on Track

Source: IEA Tracking Clean Energy Progress, June 2020

We are referencing Shell's long term outlook for LNG We recognize there are many different forecasts for LNG, but are referencing Shell' LNG Outlook 2021 from Feb 25, 2021 for a few reasons. (i) Shell's view on LNG is the key view for when and what decision will be made for LNG Canada Phase 2. (ii) Shell is one of the global leaders in LNG supply and trading. (iii) Shell provides on the record LNG outlooks every year so there is the ability to compare and make sure the outlook fits the story. It does. (iv) Shell, like other supermajors, has had to make big capex cuts post pandemic and that certainly wouldn't put any bias to the need for more capex.

Shell's March 2021 long term outlook for LNG demand was basically unchanged vs 2020 and leads to a LNG supply gap in mid 2020s Shell does not provide the detailed numbers in their Feb 25, 2021 LNG forecast. We would assume they would have reflected some delay, perhaps 1 year, at Mozambique but would be surprised if they put a 2-3 year delay in for the 5 bcf/d from Total Phase 1 +2 and Exxon Rozuma Phase 1. Compared to their LNG Outlook 2020, it looks like there was no change for their estimate of global natural gas demand growth to 2040, which looked relatively unchanged at approx. 5,000 bcm/yr or 484 bcf/d. Similarly, long term LNG demand looked unchanged to 2040 of ~700 mm tonnes (92 bcf/d) vs 360 mm tonnes (47 bcf/d) in 2020. In the 2021 outlook, Shell highlighted that the pandemic delayed project construction timelines and that the "*lasting impact expected on LNG supply not demand"*. And that Shell sees a LNG "*supply-demand gap estimated to emerge in the middle of the current decade as demand rebounds*". Comparing to 2020, it looks like the supply-demand gap is sooner.

Supply-demand gap estimated to emerge in the middle of the current decade



Source: Shell LNG Outlook 2021, Feb 25, 2021

<u>Mozambique delays are redefining the LNG markets for the 2020s: Delaying 5 bcf/d of Mozambique new LNG supply 2-3 years means a much bigger supply gap starting in 2025..</u> Even if the optimists are right, there are now delays to all major Mozambique LNG supply from LNG supply forecasts. We don't have the detail, but we believe all LNG forecasts, including Shell's LNG Outlook 2021, would have included Total's Phase 1 and Phase 2 and Exxon Rozuma Phase 1. As noted earlier, we believe that the likely impact of the Mozambique security concerns is that these forecasts would likely have to push back 1.7 bcf/d from Total Phase 1 to at least 2026, 2.0 bcf/d Exxon Rozuma Phase 1 to at least 2027, and 1.3 bcf/d Total Phase 2 to at least 2028/2029 with the real risk these get pushed back even further. 5.0 bcf/d is equal to 38 mtpa. These delays would mean there is an increasing LNG supply gap in 2025 and increasingly significantly thereafter. And even if a new greenfield LNG project is FID's right away, it wouldn't be able to step in to replace Total Phase 1 prior startup timing for 2024 or likely the market at all until at least 2027. Its why the decision on filling the gap will fall on brownfield LNG projects.

<u>And does this bigger, nearer supply gap force LNG players to look at what brownfield LNG projects they could advance?</u> A greenfield LNG project would likely take at least until 2027 to be in operations. Its why we believe the Mozambique delays will effectively force major LNG players to look to see if there are brownfield LNG projects they should look to advance. Prior to the just passed winter, no one would think Shell or other major LNG players would be considering any new LNG FIDs in 2021. All the big companies are in capital reduction mode and debt reduction mode. But Brent oil is now solidly over $60 and LNG prices hit record levels in Jan and the world's economic and oil and gas demand outlook are increasing with vaccinations. And we are starting to see companies move to increasing capex with the higher cash flows. We would not expect any major LNG players to move to FID right away. But we see them watching to see if 2021 plays out to still support this increasing LNG supply gap. And unless new mutations prevent vaccinations from returning the world to normal, we suspect that major LNG players, like other oil and gas companies, will be looking to increase

capex as they approve 2022 budgets. The outlook for the future has changed dramatically in the last 5 months. The question facing Shell and others, should they look to FID new LNG brownfield projects in the face of an increasing LNG supply gap that is going to hit faster and harder than expected a few months ago. We expect these decisions to be looked at before the end of 2021. LNG prices will be stronger, but we expect the limiting cap in Asia will be that thermal coal will be used to mitigate some LNG price pressure.

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

A LNG Canada Phase 2 would be a big plus to Cdn natural gas. A LNG Canada Phase 2 FID would be a big plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against Asian LNG prices and not against Henry Hub. And it would provide demand offset versus Trudeau if he moves to make electricity "emissions free" and not his prior "net zero emissions". Mozambique may be in Africa, but, unless sustained peace and security is attained, it is a game changer to LNG outlook creating a bigger and sooner LNG supply gap. And with a stronger tone to oil and natural gas prices in 2021, the LNG supply gap will at least provide the opportunity for Shell to consider FID for its brownfield LNG Canada Phase 2 and provide big support to Cdn natural gas for back half of the 2020s. And perhaps if LNG Canada is exporting 3.6 bcf/d from two phases, it could help flip Cdn natural gas to a premium to US natural gas especially if Biden is successful in reducing US domestic natural gas consumption for electricity. The next six months will be very interesting to watch for LNG markets.

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

Posted 11am on July 14, 2021

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

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

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

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

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

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

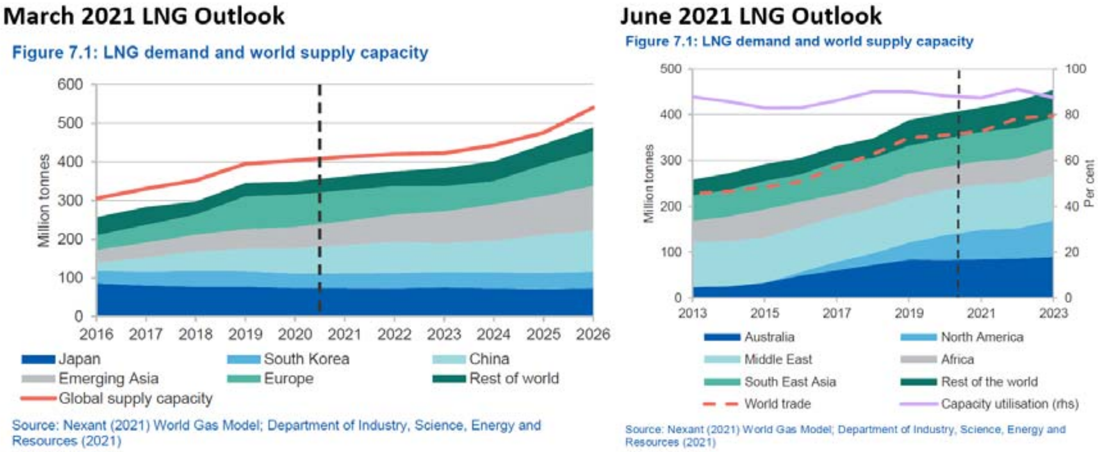
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required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

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

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

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

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

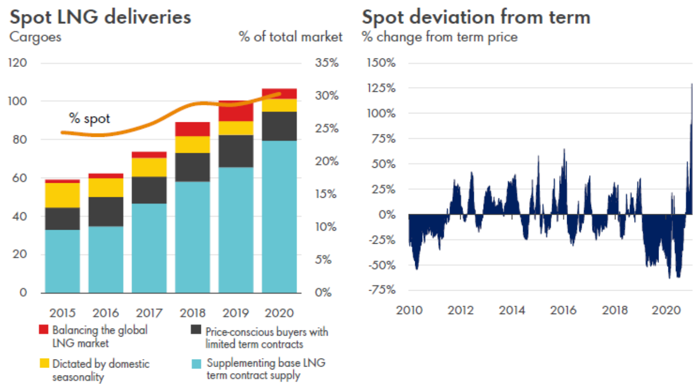


Source: Australia Resources and Energy Quarterly

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

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

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

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

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

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

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

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

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

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

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

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

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

https://www.iea.org/reports/oil-market-report-may-2023

Oil Market Report - May 2023

Flagship report
May 2023

About this report

The IEA Oil Market Report (OMR) is one of the world's most authoritative and timely sources of data, forecasts and analysis on the global oil market – including detailed statistics and commentary on oil supply, demand, inventories, prices and refining activity, as well as oil trade for IEA and selected non-IEA countries.

Highlights

- World oil demand is forecast to rise by 2.2 mb/d year-on-year in 2023 to an average 102 mb/d, 200 kb/d above last month's Report. China's demand recovery continues to surpass expectations, with the country setting an all-time record in March at 16 mb/d. While the OECD is set to return to growth in 2Q23, its average 2023 increase of 350 kb/d pales in comparison with 1.9 mb/d in non-OECD gains.

- Significant outages in Iraq, Nigeria and Brazil were only partly offset by increases elsewhere, with global oil supply down by 230 kb/d to 101.1 mb/d in April. Steeper losses are in store for May as wildfires shut in Canadian barrels and extra cuts from some OPEC+ producers take effect. From April through December, OPEC+ oil supply is set to fall by 850 kb/d, while non-OPEC+ rises by 710 kb/d. For 2023 as a whole, global oil supply expands by 1.2 mb/d, led by the United States and Brazil.

- Global crude throughputs reach an estimated 82.3 mb/d in 2023 as record 1Q23 runs in Asia led to a 300 kb/d upward adjustment versus last month's Report. However, weak margins mean the 2H23 runs forecast has been downgraded, most notably for Europe and the US. New capacity and ample availability of discounted Russian crude in Asia skews activity away from the Atlantic Basin.

- Russian exports of crude and refined oil products edged up in April to a post-invasion high of 8.3 mb/d. Shipments of crude oil increased by 250 kb/d, offsetting a decline in product exports of 200 kb/d. Estimated oil export revenues increased by $1.7 billion to $15 billion on the back of higher crude oil exports and a narrower Urals discount.

- Global observed oil inventories declined by 7.9 mb in March as a surge in oil on water and a slight increase in non-OECD stocks failed to offset a hefty 56 mb decline in the OECD. Led by a sharp draw in products, OECD industry stocks fell to a six-month low of 2 753 mb to 89 mb below their five-year average. Preliminary April data show a build in on land inventories and a draw in oil on water.

- North Sea Dated crude soared by around $10/bbl to $88.09/bbl in mid April following the surprise output cuts announced by some OPEC+ members. Prices failed to hold on to the gains, however, as pessimism about global economic growth resurfaced, exacerbated by tightening bank credit and a reversal of technical support in paper markets. At the time of writing, Dated was trading around $76/bbl.

Roller coaster ride

Oil prices retreated during April and early May as concerns over the health of the global economy and oil demand prospects depressed market sentiment. North Sea Dated plunged by nearly $16/bbl in just two weeks, reversing gains that followed the surprise announcement by some OPEC+ countries to cut output from May. Prices were pressured lower by muted industrial activity and higher interest rates, which, combined have led to recessionary scenarios gaining traction and worries of a downward shift in oil demand growth. The current market pessimism, however, stands in stark contrast to the tighter market balances we anticipate in the second half of the year, when demand is expected to eclipse supply by almost 2 mb/d.

Our forecast for world oil demand growth for 2023 has been revised up to 2.2 mb/d in this Report, with China's rebound even stronger than previously expected. The world's second biggest oil user after the US will account for nearly 60% of global growth in 2023. Record demand in China, India and the Middle East at the start of the year more than offset lacklustre industrial activity and oil use in the OECD. The latter accounts for just 15% of growth this year, supported by consumer spending and personal mobility. Overall, world oil demand is set to average 102 mb/d in 2023, 1.3 mb/d more than 2019.

On the supply side, hefty losses from Iraq's northern Kurdish region following the shutdown of the Iraq-Türkiye export pipeline since end-March, wildfire disruptions in Canada, worker protests in Nigeria and maintenance related cuts in Brazil have dominated recent news. Yet, so far, these outages have neither prompted a spike in prices nor triggered a visible decline in inventories.

At the same time, Russian oil supply continued to prove resilient. In April, Russian oil exports reached a post-invasion high of 8.3 mb/d. By our estimates, Moscow did not deliver its announced 500 kb/d supply cut in full. Indeed, Russia may be boosting volumes to make up for lost revenue. The country's oil export revenues rose by $1.7 bn to $15 bn last month but were 27% lower than a year ago while tax receipts from its oil and gas sector were down by 64% y-o-y.

Russia seems to have few problems finding willing buyers for its crude and oil products, frequently at the expense of fellow OPEC+ members in the two-tier market that has emerged since the embargoes came into force. New refining capacity is driving a continued shift east in forecast crude runs for the remainder of the year, mirroring regional demand strength. Record runs from refiners with access to discounted feedstock along with sustained Russian product exports and lacklustre global diesel demand have undermined product cracks, margins and crude price premiums.

With world oil supply set to fall further this month as new OPEC+ cuts take effect, global oil inventories may again come under pressure. The release of record volumes from IEA government stocks over the past year has reduced the industry inventory deficit versus its five-year average to less than 90 mb from more than 300 mb a year ago. Preliminary data for April show a rise in on land product stocks. Those builds may help mitigate price volatility in the coming months if supply falls short of the seasonal rise in world oil demand.

OPEC+ crude oil production[1]
million barrels per day

	Mar 2023 Supply	Apr 2023 Supply	Apr Prod vs Target	Mar-2023 Target	Sustainable Capacity[2]	Eff Spare Cap vs Mar[3]
Algeria	1.01	1	-0.01	1.01	1.02	0.02
Angola	0.97	1.06	-0.4	1.46	1.17	0.11
Congo	0.28	0.28	-0.03	0.31	0.28	0.0
Equatorial Guinea	0.05	0.05	-0.07	0.12	0.09	0.04
Gabon	0.19	0.2	0.02	0.18	0.2	0.0
Iraq	4.35	4.1	-0.33	4.43	4.7	0.6
Kuwait	2.68	2.68	0.0	2.68	2.8	0.12
Nigeria	1.27	1.02	-0.72	1.74	1.37	0.35
Saudi Arabia	10.43	10.48	0.0	10.48	12.22	1.74
UAE	3.35	3.32	0.3	3.02	4.12	0.8
Total OPEC-10	**24.58**	**24.19**	**-1.23**	**25.42**	**27.98**	**3.79**
Iran[4]	2.69	2.75			3.8	
Libya[4]	1.16	1.13			1.2	0.07
Venezuela[4]	0.73	0.78			0.76	-0.02
Total OPEC	**29.16**	**28.85**			**33.75**	**3.86**
Azerbaijan	0.51	0.51	-0.17	0.68	0.58	0.07
Kazakhstan	1.63	1.63	0.0	1.63	1.65	0.02
Mexico[5]	1.65	1.68		1.75	1.66	-0.02
Oman	0.84	0.84	0	0.84	0.86	0.02
Russia	9.6	9.6	-0.88	10.48	10.1	
Others [6]	0.83	0.83	-0.23	1.06	0.93	0.1
Total Non-OPEC	**15.07**	**15.09**	**-1.27**	**16.44**	**15.78**	**0.21**
OPEC+ 19 in cut deal[4]	**38.0**	**37.6**	**-2.5**	**40.1**	**42.1**	**4.02**
Total OPEC+	**44.23**	**43.94**			**49.53**	**4.07**

1. Excludes condensates. 2. Capacity levels can be reached within 90 days and sustained for an extended period. 3. Excludes shut in Iranian, Russian crude. 4. Iran, Libya, Venezuela exempt from cuts. 5. Mexico excluded from OPEC+ compliance. Only cut in May, June 2020. 6. Bahrain, Brunei, Malaysia, Sudan and South Sudan.

IEA World Oil Supply and Demand Forecasts: Summary (Table)
2023-05-16 08:00:00.0 GMT
By Kristian Siedenburg
(Bloomberg) -- Following is a summary of world oil supply and demand forecasts from the International Energy Agency in Paris:

	4Q	3Q	2Q	1Q	4Q	3Q	2Q	1Q		
	2023	2023	2023	2023	2022	2022	2022	2022	2023	2022
Demand										
Total Demand	103.1	103.0	101.3	100.5	100.6	100.6	98.6	99.4	102.0	99.8
Total OECD	46.6	47.1	45.9	45.5	46.0	46.6	45.4	45.8	46.3	46.0
Americas	25.1	25.6	25.1	24.7	25.0	25.3	25.0	24.8	25.1	25.0
Europe	13.6	14.1	13.6	13.0	13.3	14.1	13.4	13.2	13.6	13.5
Asia Oceania	7.9	7.4	7.2	7.8	7.7	7.2	7.0	7.9	7.6	7.4
Non-OECD countries	56.5	55.9	55.4	55.0	54.7	54.0	53.2	53.6	55.7	53.9
FSU	4.9	5.0	4.8	4.9	5.1	5.1	4.8	4.8	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	16.3	15.9	15.9	15.7	15.0	14.5	14.1	15.1	16.0	14.7
Other Asia	14.7	13.9	14.2	14.3	14.2	13.5	14.1	14.2	14.3	14.0
Americas	6.3	6.4	6.2	6.2	6.3	6.3	6.2	6.0	6.3	6.2
Middle East	9.1	9.7	9.3	8.9	9.0	9.5	9.1	8.6	9.2	9.0
Africa	4.3	4.2	4.2	4.3	4.3	4.2	4.2	4.3	4.3	4.2
Supply										
Total Supply	n/a	n/a	n/a	101.4	101.3	101.0	98.6	98.7	n/a	99.9
Non-OPEC	67.3	67.2	66.7	66.8	66.6	66.0	64.6	64.8	67.0	65.5
Total OECD	30.8	30.4	30.2	30.2	30.0	29.6	28.8	28.7	30.4	29.3
Americas	27.0	26.9	26.6	26.5	26.3	26.1	25.3	24.9	26.7	25.6
Europe	3.2	3.1	3.2	3.3	3.2	3.1	3.0	3.3	3.2	3.2
Asia Oceania	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5
Non-OECD	31.0	30.9	30.9	31.6	31.4	30.8	30.4	31.3	31.1	31.0
FSU	13.4	13.4	13.5	14.1	14.1	13.7	13.4	14.4	13.6	13.9
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.2	4.3	4.3	4.3	4.1	4.1	4.2	4.2	4.3	4.2
Other Asia	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.7
Americas	6.2	6.1	5.9	6.0	5.9	5.8	5.5	5.4	6.0	5.6
Middle East	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.2
Africa	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Processing Gains	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3
Total OPEC	n/a	n/a	n/a	34.6	34.7	34.9	34.0	33.8	n/a	34.4
Crude	n/a	n/a	n/a	29.2	29.4	29.6	28.7	28.5	n/a	29.1
Natural gas liquids NGLs	5.4	5.4	5.3	5.4	5.3	5.3	5.3	5.3	5.4	5.3
Call on OPEC crude and stock change *	30.5	30.4	29.3	28.4	28.7	29.2	28.6	29.3	29.6	29.0

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: April Crude Oil Production in OPEC Countries (Table)
2023-05-16 08:00:00.2 GMT
By Kristian Siedenburg
(Bloomberg) -- Following is a summary of oil production in
OPEC countries from the International Energy Agency in Paris:

	April 2023	March 2023	April MoM
Total OPEC	28.85	29.16	-0.31
Total OPEC10	24.19	24.58	-0.39
Algeria	1.00	1.01	-0.01
Angola	1.06	0.97	0.09
Congo	0.28	0.28	0.00
Equatorial Guinea	0.05	0.05	0.00
Gabon	0.20	0.19	0.01
Iraq	4.10	4.35	-0.25
Kuwait	2.68	2.68	0.00
Nigeria	1.02	1.27	-0.25
Saudi Arabia	10.48	10.43	0.05
UAE	3.32	3.35	-0.03
Iran	2.75	2.69	0.06
Libya	1.13	1.16	-0.03
Venezuela	0.78	0.73	0.05

NOTE: Figures are in million of barrels per day. Monthly
level change calculated by Bloomberg. Production data excludes
condensates.
OPEC10 excludes Iran, Libya and Venezuela.
SOURCE: International Energy Agency

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IEA REPORT WRAP: Oil Demand Forecast for 2023 Buoyed by China
2023-05-16 09:08:12.312 GMT
By Rachel Graham
(Bloomberg) -- Summary of stories from IEA's monthly Oil
Market Report:
* Oil Demand to Rise More Than Expected on China Rebound
** Global oil demand to grow 2.2m b/d to 102m b/d in 2023
*** 2023 demand forecast raised by 200k b/d as China's recovery
surpasses expectations
*** China oil demand to increase by record 1.3m b/d in 2023
*** China growth led by rebounding international aviation and

chemical feedstocks
** Global oil supply forecast to expand by 1.2m b/d, led by US and Brazil
** Global crude throughput forecast raised by 300k b/d to 82.3m b/d
* IEA World Oil Supply/Demand Key Forecasts
** Click here for detailed quarterly forecast table by region
** Click here for revisions to supply/demand forecast
* OPEC Output Fell 310k B/D in April on Iraq, Nigeria Losses
** Click here for table
* Russia Hasn't Made Its Pledged Crude-Output Cuts
** Russia needs to cut 300k b/d in May to reach target
** Russian exports of crude and oil products rose in April to a post-invasion high of 8.3m b/d
** Shipments of crude oil increased by 250k b/d, offsetting a decline in product exports of 200k b/d
** Russian oil revenues rose in April on smaller Urals discount
* Other stories include:
** West African Oil Stashed at Saldanha as Asia Buys Russian
** West African Light Crude Struggles Due to Cheap Russia Oil
** IEA Cuts Forecast for 3rd-Quarter Refining Runs in Europe and US
** Gasoline and Gasoil on Diverging Demand Growth Paths
* NOTE: OPEC released its monthly report on May 11, when it raised its forecast for China's demand in 2023

--With assistance from Dina Khrennikova, Sherry Su, Jack Wittels, Amanda Jordan, John Deane, Paul Burkhardt and Bill Lehane.

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Oil Demand to Rise More Than Expected on China, IEA Says (1)
2023-05-16 09:08:22.282 GMT
By Grant Smith
(Bloomberg) -- Global oil demand will climb more strongly than previously estimated this year as a post-pandemic rebound in China beats expectations, the International Energy Agency said.
World fuel consumption will increase by 2.2 million barrels

a day in 2023 — about 200,000 a day more than forecast before — to a record 102 million as China's demand hits an all-time high after scrapping anti-Covid restrictions, the IEA said in its monthly report.
"The Chinese recovery has been faster and stronger than expected, and in March, Chinese demand reached an all-time high," Toril Bosoni, head of the agency's oil market division, said in a Bloomberg Television interview. "We're seeing really strong demand, especially in Asia."
As demand accelerates and the OPEC+ alliance led by Saudi Arabia curbs supplies, global oil markets remain on track to tighten sharply in the second half of the year, the agency predicts.
That could give a renewed boost to crude prices, which have steadied near $75 a barrel in London after shedding all the earlier gains from OPEC's cutbacks amid fears over a recession. Last month, the IEA warned that rallying prices may worsen the "siege on consumers," squeezed by elevated inflation.

Economic Risks

Chinese fuel consumption hit 16 million barrels a day in March, according to the Paris-based agency that advises major economies. Beijing's latest economic indicators may have faltered, but "the vast majority of the projected demand recovery is already in train."
While the agency's report emphasized the strength of the recovery, it also pointed to lingering risks.
The IEA noted a "gloomier outlook" for the wider economy that's being worsened by a slump in manufacturing and subdued global trade with the projected boost from China remaining elusive.
"The economic picture has deteriorated," said Bosoni. "Interest rates remain high and rising, inflation is running high and there is concern we're going into contraction in many areas."
The agency's stronger estimate for demand growth in 2023 stems in part from historical downgrades for the previous two years. These baseline changes focus on emerging economies including China, so even though Beijing is driving this year's growth its total consumption is lower than estimated last month. Nonetheless, the IEA projects that global oil markets will still tip into deficit this summer, causing inventories to deplete at a rapid clip of 2 million barrels a day in the second half of the year.

OPEC Cuts

Much of the tightening will be caused by the Organization

of Petroleum Exporting Countries and its partners as key members embark this month on a new round of production curbs, which the IEA has criticized for threatening to inflame prices. Output from the alliance will drop by 850,000 barrels a day between April and December, the agency predicts.
The policy has revived tensions between OPEC and the IEA, institutions that respectively represent energy producers and consumers, with each side warning that the other should "be careful" in its prescriptions. OPEC+ meets to review its production strategy on June 4.
Ironically, some supply relief is being provided by OPEC+ member Russia, which has sustained exports despite threats to slash sales in retaliation for western sanctions over its war on Ukraine.
Russian shipments of crude and refined oils reached a post-invasion high of 8.3 million barrels a day in April, while export revenues swelled by $1.7 billion to $15 billion, according to the agency.

--With assistance from Francine Lacqua.
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IEA World Oil Supply/Demand Key Forecasts
2023-05-16 08:00:00.3 GMT
By Kristian Siedenburg
(Bloomberg) -- World oil demand 2023 forecast was revised to 102.0m b/d from 101.9m b/d in Paris-based Intl Energy Agency's latest monthly report.
* 2022 world demand was revised to 99.8 from 99.9m b/d
* Demand change in 2023 est. 2.2% y/y or 2209m b/d
* Non-OPEC supply 2023 was revised to 67.0m b/d from 67.1m b/d
* Call on OPEC crude 2023 was revised to 29.6m b/d from 29.5m b/d
* Call on OPEC crude 2022 was revised to 29.0 m b/d from 29.1m b/d
** OPEC crude production in April fell by 310k b/d on the month to 28.85m b/d
* Detailed table: FIFW NSN RUQMJPGFLIIO <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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OPEC Output Fell 310k B/D in April on Iraq, Nigeria Losses: IEA
2023-05-16 08:00:00.7 GMT
By Amanda Jordan
(Bloomberg) -- OPEC's April crude output slid 310k b/d from a month earlier to 28.85m b/d following supply curbs in Iraq and Nigeria, the IEA said in a report.
* Iraq's production sank 250k b/d to 4.1m b/d, the lowest since August 2021, due to a halt in its northern crude exports
* Nigeria also lost 250k b/d from a labor dispute, leaving supply at 1.02m b/d
** The issue was resolved at the end of April, allowing production and exports to restart
* Elsewhere in Africa, Angolan output climbed 90k b/d to 1.06m b/d, while Libyan supply inched down to 1.13m b/d
* Saudi production rose 50k b/d to 10.48m b/d; UAE volumes edged down 30k b/d to 3.32m b/d; Kuwait held steady at 2.68m b/d
* In Iran, exempt from OPEC+ quotas, output increased 60k b/d to 2.75m b/d
* Venezuela, also exempt from curbs, added 50k b/d to pump 780k b/d
* NOTE: Last week, OPEC released its own production figures for April, estimating its 13 members pumped 28.6m b/d

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Russia Hasn't Made Its Pledged Crude-Output Cuts, the IEA Says
2023-05-16 08:00:00.22 GMT
By Bloomberg News
(Bloomberg) -- Russia hasn't implemented its pledged crude-

output cuts, with exports hitting a postwar high as Moscow seeks to boost energy revenue to fund military spending, according to the International Energy Agency,

The Kremlin promised to cut production by 500,000 barrels a day in March and maintain the curbs for the rest of the year in retaliation for Western sanctions. While Russia's Energy Ministry said the cutswere close to that target last month, tanker-tracking data have shown record export volumes by sea while domestic crude processing is only beginning to drop amid refinery maintenance.

Meanwhile, the government in Moscow has classified oil statistics due to their "sensitive" nature, making it difficult to assess progress of the curbs beyond the assurances of energy officials.

Russia's crude production in April was about 9.6 million barrels per day, the IEA said in its monthly report on Tuesday. That's only 200,000 barrels below the February baseline for the cuts, according to the agency.

"By our estimates, Moscow did not deliver its announced 500,000 barrel-a-day supply cut in full," the Paris-based IEA said. "Indeed, Russia may be boosting volumes to make up for lost revenue."

The country's oil-export revenue rose by $1.7 billion to $15 billion in April, but was still down by 27% from a year earlier, according to the report. To comply with the Kremlin's pledge, Russian producers would need to cut another 300,000 barrels a day of crude output in May, the IEA said.

READ: Russian Oil Revenues Slump 67% in April Amid Sanctions Hit

Russia's total production, including crude and a light oil called condensate, in April was relatively stable at 10.93 million barrels a day, some 470,000 barrels lower than before the invasion in Ukraine, according to the IEA. The agency revised up its annual estimate for the nation's production to 10.7 million barrels a day.

The discount at which Russian crude trades compared with benchmark Dated Brent narrowed last month to $24.35 a barrel, according to the IEA. As a result, the weighted-average price of the nation's seaborne supplies climbed to $60.12 a barrel, slightly above the crude-price cap set by G7, the agency said.

Still, the price of the Russia's Urals crude blend delivered in the country's key western ports remained below the cap, according to the IEA estimates, which would allow the use of European insurance and shipping services for those shipments.

The figures provided by the IEA are used by the G-7 to assess the efficacy of their price caps.

The price of ESPO blend, sold into the Asia-Pacific market, averaged at $73.18 a barrel. It has consistently traded above the price cap since it was introduced.

Despite narrowing, the discount on Russian oil is still large enough to encourage strong demand for the nation's barrels, according to the report. "Russia seems to have few problems finding willing buyers for its crude and oil products," the IEA said.

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Russia Oil Revenues Rose in April on Smaller Urals Discount: IEA
2023-05-16 08:00:00.5 GMT
By Sherry Su
(Bloomberg) -- Russian oil revenues rose by $1.7 billion to $15 billion in April due to a narrower discount for Urals, the IEA said in its monthly oil market report.
* Since April, Moscow has applied a capped discount on Urals crude sales versus North Sea Dated for calculating taxes on companies. The discount narrows from $34/bbl in April progressively to $25/bbl from July
* Oil and gas, which account for around 50% of Russia's budget revenues, fell 45% y/y in 1Q23
* Russian oil exports rose by 50k b/d last month to 8.3m b/d, the highest since the invasion of Ukraine, as a drop in products exports were offset by an increase in crude shipments
* Crude exports rose by 250k b/d to 5.2m b/d in April, the highest since May 2022
** China and India, the two biggest consumers in Asia, lifted 2.1m b/d and 2m b/d, respectively, together accounting for nearly 80% of the total
* Products exports dropped by 200k b/d with more diverse destinations
** Turkey, China and India are the primary recipients - receiving about 430k b/d, 220k b/d and 180k b/d, respectively.
** The UAE and Saudi Arabia stand out, importing 175k b/d and 140k b/d, respectively, while Brazil lifted 160k b/d
** Tunisia and Egypt, new buyers of Russian barrels, are now importing more than 50k b/d each – mostly gasoil
** In Southeast Asia, Singapore took 170k b/d and Malaysia over 80k b/d, mainly naphtha
* The EU product embargo's impact has led to a 520k b/d plunge in gasoil imports from Russia in April to practically zero. This decline has mostly been offset by increased volumes from the

Middle East, Asia and Turkey

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West African Oil Stashed at Saldanha as Asia Buys Russian: IEA
2023-05-16 08:00:00.23 GMT
By Paul Burkhardt
(Bloomberg) -- Commercial use of South Africa's oil storage hub picked up in 1Q, with 4.9m bbl arriving at the terminal during the period, the IEA said, citing Kpler data.
* "The deliveries into storage appear to be West African barrels struggling to find buyers East of Suez (due to cheaper Russian crude) while Atlantic Basin refiners undergo maintenance"
* Biggest inflow of crude from Nigeria at 2m bbl, followed by Angola with 1.9m and 900k from Ghana
* Preliminary data show another 3.1m bbl in April
* To date, no crude shipments from the terminal have been observed: IEA
* IEA will account for net crude oil imports at Saldanha as non-OECD stock changes until the local refinery is restarted
** NOTE: Refinery halted in 2020 after a fire
** READ (Dec. 30): Glencore Unit's Cape Town Refinery Restarts Utility Systems

--With assistance from Rachel Graham.
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West African Light Crude Struggles Due to Cheap Russia Oil: IEA
2023-05-16 08:00:00.12 GMT
By Bill Lehane
(Bloomberg) --

West African light sweet crudes struggled to find buyers as
competition from cheaper Russian cargoes eroded their Asian
market share, IEA says in monthly oil market report.
* India only took about 5% of West Africa's crude exports in 1Q,
down from around 15% before the invasion of Ukraine, IEA says
** China's share fell from 35% to 25%
* French refinery strikes and influx of US crude supply to
Europe also limited WAF sales to that region
* The end of the strikes at Exxon Mobil terminals offshore
Nigeria also added more supply
* These factors combined kept a lid on spreads - Bonny Light
declined by 64c/bbl versus North Sea Dated in April to -28c/bbl,
Brass fell by $1.27/bbl to -$1.11/bl
* "Heavier sweet Angolan crudes were more resilient, supported
by robust Chinese demand as refinery activity responded to
stronger gasoline cracks and the end of maintenance"
* Cabinda added 28c/bbl vs North Sea Dated to +$1.58/bbl;
Girassol +9c/bbl to $2.11/bbl

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IEA Cuts Forecast for 3Q Oil Refining Runs in Europe, US (1)
2023-05-16 10:14:41.442 GMT
By Rachel Graham
(Bloomberg) -- (Updates with OECD Europe and Americas
revisions in fourth bullet.)
* Oil refiners in Europe and the US will run less hard than
previously expected in the third quarter after a drop in
margins, the IEA said in its monthly report
* Margins have weakened as the availability of discounted
Russian crude spurred record throughput in Asia in 1Q, which in
turn contributed to better supplied product markets
* "New capacity and ample availability of discounted Russian
crude in Asia skews activity away from the Atlantic Basin"
* 3Q OECD Americas forecast revised down to 19m b/d from 19.4m
previously, according to an email
** OECD Europe revised to 11.5m b/d from 11.7m previously
* Global crude throughput for 2023 forecast at 82.3m b/d vs
80.5m b/d last year, with growth led by China and India
* In Russia, April runs were 5.5m b/d, about 400k b/d above last

month’s estimate, signaling maintenance may have been deferred
* Also see IEA Report Wrap

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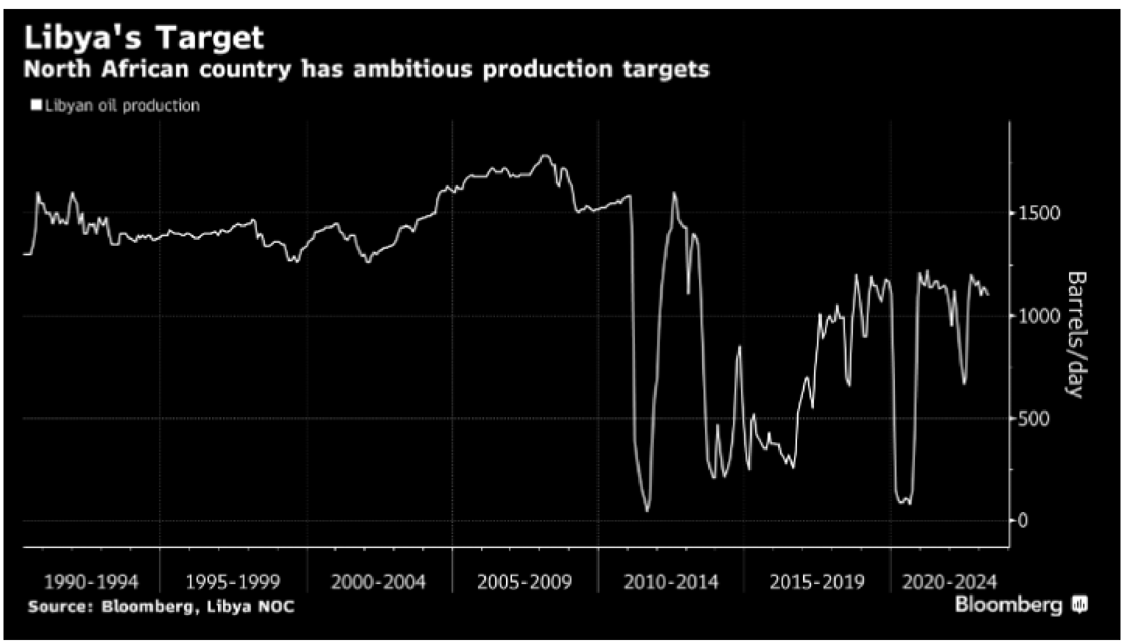
Libya's Oil Chief Sees Output Hitting Decade High by Year End
2023-05-19 08:57:31.222 GMT

By Hatem Mohareb
(Bloomberg) -- Libya is aiming to boost oil production by about 8% by December, a level that would catapult it to the highest in a over a decade.
North Africa's biggest producer should be able to pump about 1.3 million barrels a day by the end of the year, Farhat Bengdara, chairman of the National Oil Company, said in an interview. Avoiding field closures and steps like improving oil workers' pay already helped boost output by nearly a quarter since January 2022 to 1.2 million barrels a day now, he said.
Libya has been dogged by political turmoil ever since the overthrow and killing of leader Moammar Al Qaddafi in 2011, with a political stalemate pitting rival governments and factions against each other.
Crude production has frequently been held hostage to infighting, although output has held steady this year, offering hope that the country's troubles might abate.
Read more: Libya Parliament Ousts PM It Chose as Challenger to Tripoli Rule
Bengdara said that $17 billion of investment across 45 projects would allow the National Oil Corp. to raise production to 2 million barrels a day within five years. If sustained, that would far exceed anything achieved during Qaddafi's rule.



The government will offer rights to develop additional fields next year, he said.
NOC is restarting natural gas supply from the Mellitah complex after maintenance, Bengdara said. Flows should remain stable for the next 5 years after the work, he said.
The NOC on Tuesday signed a $1.05 billion deal with Italy's

Eni SpA to capture flared natural gas, a project that should start operating in 2025.

International companies are working in the country to expand production at some its main fields, like the Waha deposit. Italy’s Eni SpA and BP Plc are set to start new drilling operations by the end of 2024, Bengdara said.

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https://www.libyaherald.com/2023/02/libya-will-produce-more-than-1-5-million-barrels-of-oil-per-day-in-2023-agoco-chairman/

Libya will produce more than 1.5 million barrels of oil per day in 2023: AGOCO chairman

Provision of budget, continued and fast development, stability in Libya and oil sector - all contributing factors

by**Ibrahim Senusi** February 14, 2023

AGOCO chairman Gatrani said Libya can increase production to 1.5 million bpd this year (Photo: AGOCO).

The continuation of the Arabian Gulf Oil Company's (AGOCO) development operations at this pace will inevitably lead to Libya reaching a production rate of more than 1.5 million barrels of oil per day in 2023, AGOCO chairman Salah Gatrani said in an exclusive statement to *Libya Herald*.
He said this was because of the stability witnessed by the country in general, and by the oil sector in particular. Therefore, he continued, the Gulf Company has developed its own plan within the efforts of the National Oil Corporation (NOC). Libya has been unable to maintain production beyond 1.2 million bpd.

Gatrani was commenting to *Libya Herald* following Sunday's AGOCO's meeting on developing reserves and increasing oil production in the sector companies, attended by relevant AGOCO and NOC management.
The AGOCO chairman said that his company has already begun to implement the plan prepared by the NOC to raise production and increase reserves.

Training, localising and developing new techniques
He said AGOCO had actually delayed several projects to raise the efficiency of the employees in the company, including a cooperation project with KAMCO Oil Services Company to raise the efficiency

of employees, localize and develop technology in the company, and keep pace with global updates in the fields of drilling oil wells and extracting crude oil.

Gatrani referred to the conclusion of a training course for workers in the Nafoura field in the field of production engineering on the use of new techniques of electrical narratives and their applications to evaluate rock layers in oil-producing wells as well as water injection wells.

NOC is providing finance after securing it from government

He commended the NOC for supporting its oil companies financially, especially after allocating a good budget to the sector from the Abd Alhamid Aldabaiba government, which positively affected the entire oil sector, as several oil wells have returned to production and the completion of preparations in several new wells.

At the meeting Gatrani referred to the speech by NOC chairman Farhat Bengdara at a previous expanded meeting on the NOC's strategic plan to raise production and develop reserves. He pointed to the importance of this plan, which he said requires concerted efforts to achieve it and provide the necessary capabilities that would ensure access to the target smoothly. The most important of these capabilities, he said, is the steady cash flow as well as overcoming and developing all the problems that hinder the productive process.

AGOCO expected to increase most production

Speaking at the meeting, Khalifa Abdul Sadig, NOC board member, said that this meeting is very important and strategic to increase production and develop reserves in AGOCO, which, he said, constitutes the largest percentage of this plan. He said the NOC is counting on AGOCO to Increase production, develop reserves, and counting on it for the success of the NOC's increased production plan. He admitted that the challenges are great, but with a strong will and wise management, Libya will be able to achieve the goals and results.

Tags: AGOCO Arabian Gulf Oil Company https://www.globaltimes.cn/page/202304/1289654.shtml

China not yet in middle of second wave of COVID-19: epidemiologists

By Global Times Published: Apr 23, 2023 10:36 PM

Discussion of re-infection with COVID-19 has become trendy on Chinese social media after a bunch of users posted positive antigen results for the coronavirus. Epidemiologists whisked off concerns of a second wave coming, and they said that most people infected with COVID-19 now are those who did not contract the virus before.

Recently, some netizens posted pictures of their positive antigen tests on Chinese social media, claiming they were "re-infected" with COVID-19. A Nanjing netizen said on Chinese Instagram-like fashion and lifestyle-sharing platform Xiaohongshu that five people in her family tested positive for COVID-19 in recent days, almost four months after they first tested positive in December last year.

A company in Beijing on Sunday began to survey whether its employees had been infected with COVID-19 lately, and asked those who had contracted the virus to stay at home, the Global Times learned. Similarly, a primary school in South China's Guangdong Province is following a similar practice for teachers and students alike.

The Chinese Center for Disease Control and Prevention (China CDC), which has been monitoring COVID-19 infection numbers and new variants, said on Sunday that health departments reported 2,661 positive COVID-19 cases nationwide on Thursday.

The COVID-19 positive rate for Thursday was slightly higher than it was on April 13. On March 13, the China CDC announced that 1.3 percent of those who took nucleic acid tests were positive, and the rate on Thursday was 1.7 percent.

Chinese epidemiologists believed those who get infected twice are "rare cases." Most COVID-19 infections in China at the current stage are people who dodged the bullet during the first massive infection wave at the end of last year.

"From December until now, almost one-third of those who did not infect during the last wave are gradually getting infected. Later, more and more of those who haven't got COVID-19 will be infected, but the peak won't surpass even 10 percent of that in December last year," Wang Guangfa, a respiratory expert from Peking University First Hospital, told the Global Times.

Thus, there won't be palpable pressure on China's hospitals and the medical system, according to Wang, who expects a second wave will come in September this year.

Li Tongzeng, chief physician in the respiratory and infectious diseases department at Beijing You'an hospital, told the Global Times that the risk of being reinfected with COVID-19 will increase, but most people who are infected a second time will have relatively milder symptoms, thus the blow of the second wave to the medical system will be less severe than in December.

According to China CDC's data, the number of COVID-19 infections in China peaked at 6.94 million per day on December 22 last year and then began to fall gradually.

Speaking at a forum on Thursday, Zhang Wenhong, head of the infectious disease department at Huashan Hospital in Shanghai, also director of the National Center for Infectious Diseases, said that monitoring data showed that most of the current infections in China are people who haven't contracted the virus before.

Zhang noted that if the coronavirus mutates, some people will be re-infected after six months. But the scale will not be huge. However, if the mutation manages to break the immune barrier formed during the previous wave, an infection peak will come.

The China CDC claimed it had detected 12 new variants in this country. The center had found 42 cases of

XBB.1.16 - referred to as "arcturus"— which has been the dominant variant in India since March. The China CDC assured the public, saying that there are a very small number of XBB.1.16 carriers, which have yet to form a transmission trend.

Although the scale won't be as huge as the previous wave, Zhang still called for stockpiling of small molecule antivirals of COVID-19, and at the same time establishing a model that could treat COVID-19 patients within 48 hours.

"I believe constant monitoring, warnings and stockpiling of medicines will enable us to respond rapidly to any mutations and run faster than the next infection," said Zhang.

The public are concerned if infections will surge during the upcoming May Day holidays, as a booking surge leads to large-scale gatherings.

Wang said it's likely that infections will climb during the May Day holidays. Yet the majority of people in China are vaccinated, and many have already been infected, which means high-level immunity among the public.

"Large-scale infection is unlikely," said Wang.

May 19, 2023 05:27:48

OIL DEMAND MONITOR: Diesel Is the Laggard as Industry Stutters

Sluggish industrial activity is limiting diesel consumption
Growing personal mobility still supports overall oil demand

By John Deane

(Bloomberg) -- While the oil market still looks set to tighten in the second half of this year, demand gains are being limited by muted consumption of diesel, the fuel that powers industry.

As personal mobility follows an upward trajectory and China's Covid Zero policies are consigned to history, oil usage is setting records around the world, with the Paris-based International Energy Agency seeing demand set to eclipse supply by almost 2 million barrels a day in the second half.

But tepid economic growth in many countries means that demand for diesel, the heavy-machinery fuel that powers everything from commercial trucking fleets to construction equipment, is missing out on the wider upswing.

In the US, sluggish industrial activity is showing up in weak trucking, the biggest diesel user by far. That was reflected in government data this week, which showed the four-week average of implied distillates demand dipping to the lowest seasonal level in a decade, with the exception of 2020. Diesel consumption saw marked month-on-month declines in April in several European countries, including Spain and Portugal.

In the US, the four-week average for implied distillates demand dipped to the lowest seasonal level in a decade, with the exception of 2020.

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Diesel's lethargy is widely visible, even amid plenty of evidence of a continuing recovery in broader oil demand.

In its monthly Oil Market Report this week, the IEA increased its estimate for global oil demand growth this year by 200,000 barrels a day to 2.2 million, with demand set to average a record 102 million. China's demand recovery continues to surpass expectations, with the country setting an all-time high at 16 million barrels a day in March.

But while seeing buoyant overall demand, the agency cautioned that the picture is not uniformly positive. "Listless" Organisation for Economic Co-Operation and Development countries saw a second straight quarterly decline in oil demand in the early part of the year, weighed down by weak GDP growth and rising fuel efficiencies.

The IEA predicted that the divergence between the OECD and non-OECD countries will continue through the remainder of the year, with China's consumption boosted by a continuing recovery in domestic travel by road and air.

The mismatch between more robust personal mobility and weak industrial activity – exemplified by China's two-speed recovery – is entrenching a gap between demand for gasoline and gasoil, with the IEA seeing gasoline use climbing by 490,000 barrels a day this year but gasoil falling by 50,000.

Mild winter weather eroded gasoil usage over the past two quarters, while contracting manufacturing gauges reflected the struggles of industrial consumers that dominate diesel use. Gasoline usage more closely mirrors services and employment levels, which have been more robust, the agency noted.

"In the medium-term, electrification will increasingly sap demand from the personal vehicle fleet, but in 2023 gasoline appears to be firmly in the driving seat," the IEA said.

That view was echoed by the Vienna-based Organization of the Petroleum Exporting Countries in its latest monthly report. OPEC noted that in the US, modest demand growth in the second quarter will be led by jet fuel and gasoline, with diesel anticipated to remain relatively weak on muted manufacturing activity. A similar pattern was anticipated in Europe.

The International Energy Agency sees world fuel consumption increasing by 2.2 million barrels a day in 2023 as a post-pandemic rebound in China beats expectations. IEA Head of Oil Market Division Toril Bosoni joins Francine Lacqua on "Bloomberg Surveillance Early Edition."Source: Bloomberg

While some analysts fear that diesel is flashing a warning signal of a wider economic malaise that will eventually undermine broader demand for oil, for now there are signs of robust overall consumption.

Global demand for oil rose to a record in March, driven by growth in China and the US, the Riyadh-based International Energy Forum said in an update on Thursday. China alone saw total product demand jump 1.6 million barrels a day to 16.79 million in the month, IEF said. In the US, demand rose month-on-month by 1.77 million barrels a day to 21.77 million.

On the roads, five of 13 major world cities – including New York and London – registered congestion that exceeded 2019 levels on Monday, according to BNEF seven-day moving average calculations based on TomTom data. Los Angeles was within a couple of index points of that marker.

In the skies, commercial flights monitored by Flightradar24 were 25% higher than a year earlier on May 15, and continue to track above 2019 levels, as they have for the last couple of months. While flights tracked by Eurocontrol lagged that level, a seven-day average for passenger throughput in the US was within a fraction of the 2019 marker.

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

Demand Measure	Location	%vs 2022	% vs 2021	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline product supplied	US	-1.3	-3.4	+20	-2.6	+4.6	w	May 12	8.91m b/d	EIA
Distillates product supplied	US	-2.1	-7.9	-2.1	-8.7	-0.8	w	May 12	3.74m b/d	EIA
Jet fuel product supplied	US	-15	+16	+291	-22	-15	w	May 12	1.38m b/d	EIA
Total oil products supplied	US	-0.5	+1.5	+16	+0.5	+1.2	w	May 12	19.56m b/d	EIA
All motor vehicle use index	UK	+2	+11	+106	+1	unch.	m	May 4	101	DfT
Car use	UK	+3.2	+11	+116	-3	unch.	m	May 4	97	DfT
Heavy goods vehicle use	UK	unch.	-1	+51	+7	+3.9	m	May 4	107	DfT
Gasoline (petrol) avg sales per filling station	UK	+5.6	+10	+183	+0.9	+5.5	m	Week to April 30	7,256 liters/d	BEIS

Diesel avg sales per station	UK	-2.5	-6	+95	-12	+1.9	m	Week to April 30	9,180 liters/d	BEIS
Total road fuels sales per station	UK	+0.9	+0.5	+126	-6.6	+3.5	m	Week to April 30	16,436 liters/d	BEIS
Diesel sales	India	+8.6	+17			+0.3	m	April	7.82m tons	PPAC
Gasoline sales	India	+2.9	+21			-7.4	m	April	2.88m tons	PPAC
Jet fuel sales	India	+18	+59			-4.8	m	April	655k tons	PPAC
LPG sales	India	-0.1	+2.5			-10	m	April	2.15m tons	PPAC
Total product sales	India	-0.2	+13			-10	m	April	18.41m tons	PPAC
Gasoline deliveries	Spain	+8.9				+2.2	m	April	520k m3	Exolum
Diesel (and heating oil) deliveries	Spain	-4.5				-12	m	April	2,090k m3	Exolum
Jet fuel deliveries	Spain	+12				+17	m	April	564k m3	Exolum
Total oil products deliveries	Spain	+0.1				-5.6	m	April	3,173k m3	Exolum
Road fuel sales	France	-7.8				-13	m	April	3.722m m3	UFIP
Gasoline sales	France	+1.1					m	April	n/a	UFIP
Road diesel sales	France	-11					m	April	n/a	UFIP
Jet fuel sales	France	+1				+4.7	m	April	555k m3	UFIP
All petroleum products sales	France	-6.7				-13	m	April	4.123m tons	UFIP
All vehicles traffic	Italy	+2				+1	m	April	n/a	Anas
Heavy vehicle traffic	Italy	+1				-9	m	April	n/a	Anas
Gasoline consumption	Portugal	+24	+21	+156	-0.9	-9.1	m	April	90.63k tons	ENSE
Diesel consumption	Portugal	+21	+7.6	+74	-3.6	-10	m	April	409k tons	ENSE
Jet fuel consumption	Portugal	+19	+343	+1,675	+18	+19	m	April	148k tons	ENSE

Notes: Click here for a PDF with more information on sources, methods. The frequency column shows w for data updated weekly, 2/m for twice a month and m for monthly.

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

In BEIS UK daily data, the column showing versus 2019 is actually showing the change versus the average of Jan. 27-March 22, 2020, to represent the pre-Covid era.

After December, Atlantia ceased publishing its toll road data.

City congestion:

Measure	Location	May 15	May 8	May 1	Apr 24	Apr 17	Apr 10	Apr 3	Mar 27	Mar 20	Mar 13	Mar 6	Feb 27
Congestion	Tokyo	85	67	83	85	81	83	105	102	106	91	88	92
Congestion	Taipei	86	89	80	86	82	66	82	85	80	84	74	85
Congestion	Jakarta	69	69	26	35	85	68	69	51	87	89	99	93
Congestion	Mumbai	43	45	49	50	51	47	45	48	52	39	49	50
Congestion	New York	111	98	97	94	77	76	88	87	87	86	80	70
Congestion	Los Angeles	98	90	95	95	90	86	94	94	92	96	93	86
Congestion	London	122	100	107	122	96	87	107	119	125	117	117	96
Congestion	Rome	122	123	86	110	98	102	113	119	116	113	107	99
Congestion	Madrid	81	77	79	96	92	27	76	88	73	89	86	74
Congestion	Paris	113	74	78	95	98	92	96	94	106	108	82	78
Congestion	Berlin	118	111	94	110	94	75	109	104	106	85	100	97
Congestion	Mexico City	74	73	71	79	63	35	81	74	72	77	81	75
Congestion	Sao Paulo	87	79	72	71	81	69	80	87	87	99	86	56

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

NOTE: TomTom changed its methodology for calculating traffic delays with data for Feb. 20 and no longer publishes comparisons with pre-Covid levels. We have therefore switched to using figures calculated by BNEF, which show 7-day moving average congestion indexed to average 2019 levels. See the linked PDF for more details.

Air Travel:

Measure	Location	vs 2022	vs 2021	vs	vs 2019	m/m	w/w	Freq.	Latest	Latest	Source

				2020					Date	Value	
		changes shown as %									
All flights	Worldwide	+6	+30	+155	+16	+4.2	+3.4	d	May 15	218,229	Flightradar24
Commercial flights	Worldwide	+25	+59	+264	+5.7	+3.8	+0.5	d	May 15	120,595	Flightradar24
Seat capacity per week	Worldwide	+18	+66	+216	-3.1		unch.	w	May 15 week	106.7m seats	OAG
Air traffic (flights)	Europe				-7.3	+5.7	+1.7	d	May 15	29,875	Eurocontrol
Airline passenger throughput (7-day avg)	US	+8	+50	+1,099	-1	+2	+2	w	May 14	2.36m	TSA
Air passenger traffic per month	China	+197	-4.4	+203	-15	+5.8		m	March	45.7m	CAAC
Heathrow airport passengers	UK	+26	+1,094	+2,997	-5.9	+2.7		m	April	6.4m	Heathrow

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

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

NOTE: May 8 was a holiday in the UK, which likely affected some w/w comparisons.

Refineries:

Measure	Location	vs 2022	vs 2021	vs 2019	m/m chg	Latest as of Date	Latest Value	Source
			Changes are in ppt unless noted					
Crude intake	US	+0.3%	+5.8%	-4.1%	+0.9%	May 12	15.99m b/d	EIA
Utilization	US	+0.2	+5.7	+1.5	+1	May 12	92%	EIA
Utilization	US Gulf	+2.4	+9.6	+3.5	+2.6	May 12	97.6%	EIA
Utilization	US East	-4.7	+3.1	+5.5	-2.1	May 12	90.3%	EIA
Utilization	US Midwest	-3.6	+1.4	-1.1	-1.1	May 12	86.2%	EIA
Utilization (indep. refs)	Shandong, China	+7.2	-7.2	-0.7	+0.4	May 12	62.11%	Oilchem

NOTE: US refinery data is weekly. Changes are shown in percentages for the row on crude intake, while refinery utilization changes are shown in percentage points. SCI99 data on Chinese refinery run rates was discontinued in late 2021.

Previous versions:

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

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https://newsroom.aaa.com/2023/05/42-3-million-americans-expected-to-travel-for-memorial-day/

AAA NEWSROOM

42.3 Million Americans Expected to Travel for Memorial Day Weekend

Air travel set to surpass pre-pandemic numbers as demand for flights soars

Aixa Diaz Media Relations Manager ADiaz@national.aaa.com

5/15/2023

WASHINGTON, DC (May 15, 2023) AAA projects 42.3 million Americans will travel 50 miles or more from home this Memorial Day weekend*, a 7% increase over 2022. This year, 2.7 million more people will travel for the unofficial start of summer compared to last year, a sign of what's to come in the months ahead.

"This is expected to be the third busiest Memorial Day weekend since 2000, when AAA started tracking holiday travel," said Paula Twidale, Senior Vice President of AAA Travel. "More Americans are planning trips and booking them earlier, despite inflation. This summer travel season could be one for the record books, especially at airports."

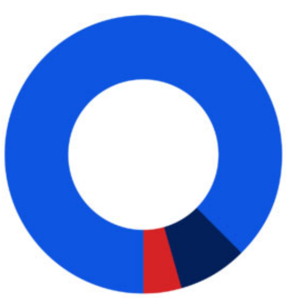
Nearly 3.4 million travelers are expected to fly to their destinations this Memorial Day, that's an increase of 11% over last year. Air travel over the holiday weekend is projected to exceed pre-pandemic levels, with 170,000 more passengers – or 5.4% more – than in 2019. Despite high ticket prices, demand for flights is skyrocketing. This Memorial Day weekend could be the busiest at airports since 2005.

Memorial Day road trips are up 6% over last year. 37.1 million Americans will drive to their destinations, an increase of more than 2 million. Gas prices are lower this holiday compared to last year, when the national average was more than $4 a gallon. Despite the lower prices at the pump, car travel this holiday will be shy of pre-pandemic numbers by about 500,000 travelers.

More people this holiday are taking other modes of transportation, like buses and trains. These travelers are expected to total 1.85 million, an increase of 20.6% over 2022.

2023 Memorial Day Travel Forecast

Share of Travelers by Mode



Number of Travelers by Mode

	Auto	Air	Other	Total
2023 (forecast)	37.1M	3.39M	1.85M	42.3M
2022	35.0M	3.05M	1.53M	39.6M
2019	37.6M	3.22M	1.90M	42.8M
Growth* (2022 to 2023)	6.0%	11.0%	20.6%	7.0%
Growth* (2019 to 2023)	-1.4%	5.4%	-2.4%	-1.0%

*Percentages may differ due to rounding. | *Source:* S&P Global Market Intelligence

Best/Worst Times to Travel and Peak Congestion by Metro

INRIX, a provider of transportation data and insights, **expects Friday, May 26 to be the busiest day on the roads** during the long Memorial Day weekend. The best times to travel by car are in the morning or evening after 6 p.m. The **lightest traffic days will be Saturday and Sunday**. Major metro areas like Boston, New York, Seattle, and Tampa will likely see travel times double compared to normal.

“With lower fuel prices and more travelers on the road compared to last year, drivers should expect long delays this holiday weekend, especially in and around major metros as commuters mix with Memorial Day travelers,” said Bob Pishue, transportation analyst at INRIX. “Knowing when and where congestion will build can help drivers avoid the stress of sitting in traffic. Our advice is to avoid driving during peak hours or use alternative routes.”

Best and Worst Times to Travel by Car		
Date	Worst Travel Time	Best Travel Time
Thursday, May 25	3:00 - 6:00 PM	Before 1:00 PM
Friday, May 26	3:00 - 6:00 PM	Before 12:00 PM
Saturday, May 27	*Minimal Traffic Impact Expected*	
Sunday, May 28	*Minimal Traffic Impact Expected*	
Monday, May 29	12:00 - 3:00 PM	Before 10:00 AM
Tuesday, May 30	4:00 - 6:00 PM	Before 2:00 PM, After 6:00 PM

Source: INRIX

Peak Congestion by Metro				
Metro	Route	Peak Congestion Period	Est. Travel Time	Compared to Typical
Atlanta	Atlanta to Augusta via I-20 E	Thursday, 6:00 PM	3 hours 48 minutes	+65%
Boston	Nantucket to Boston via Pilgrim Hwy N	Monday, 8:00 PM	2 hours 12 minutes	+89%
Chicago	Milwaukee to Chicago via I-94 E	Thursday, 5:00 PM	2 hours 42 minutes	+34%
Washington DC	Williamsburg to Washington via I-95 N	Monday, 5:00 PM	4 hours 30 minutes	+65%
Denver	Fort Collins to Denver via I-25 S	Friday, 1:00 PM	1 hour 54 minutes	+65%
Detroit	Detroit to Kalamazoo via I-94 W	Friday, 5:00 PM	2 hours 48 minutes	+34%
Houston	Galveston to Houston via I-45 N	Tuesday, 5:00 PM	1 hour 24 minutes	+58%
Los Angeles	Los Angeles to San Diego via I-5 S	Sunday, 1:00 PM	3 hours 24 minutes	+47%
Minneapolis	Rochester to Minneapolis via US-52 E	Tuesday, 12:00 PM	1 hour 48 minutes	+40%
New York	Jersey Shore to New York via Garden State Pkwy N	Monday, 8:00 PM	2 hours 42 minutes	+87%
Portland	Seattle to Portland via I-5 S	Friday, 1:00 PM	3 hours 54 minutes	+37%
San Diego	Los Angeles to San Diego via I-5 S	Sunday, 1:00 PM	3 hours 24 minutes	+47%
San Francisco	San Francisco to Napa via I-80 E	Tuesday, 9:00 AM	1 hour 36 minutes	+77%
Seattle	Ellensburg to Seattle via I-90 W	Monday, 4:00 PM	3 hours 18 minutes	+97%
Tampa	Gainesville to Tampa via I-75 S	Friday, 5:00 PM	4 hours 0 minutes	+82%

Source: INRIX

Top Departing & Returning Trips by Metro

Main City	Trip Type	From	To	Road	Worst Day	Worst Time	Projected Travel Time (hours)	Normal Travel Time (hours)	Increase in Travel Time
Atlanta	Departing	Atlanta	Augusta	I-20 E	Thursday	6:00 PM	3.8	2.3	65%
	Returning	Birmingham	Atlanta	I-20 E	Sunday	8:00 PM	3.2	2.2	45%
Boston	Departing	Boston	Portsmouth	I-95 N	Tuesday	4:00 PM	2.0	1.6	28%
	Returning	Nantucket	Boston	Pilgrim Hwy N	Monday	8:00 PM	2.2	1.2	89%
Chicago	Departing	Chicago	Milwaukee	I-94 W	Saturday	11:00 AM	1.7	1.4	22%
	Returning	Milwaukee	Chicago	I-94 E	Thursday	5:00 PM	2.7	2.0	34%
Washington DC	Departing	Washington DC	Rehoborh Beach	US-50 E	Friday	1:00 PM	3.8	2.5	51%
	Returning	Williamsburg	Washington DC	I-95 N	Monday	5:00 PM	4.5	2.7	65%
Denver	Departing	Denver	Fort Collins	I-25 N	Friday	11:00 AM	1.6	1.0	56%
	Returning	Fort Collins	Denver	I-25 S	Friday	1:00 PM	1.9	1.2	65%
Detroit	Departing	Detroit	Kalamazoo	I-94 W	Friday	5:00 PM	2.8	2.1	34%
	Returning	Cleveland	Detroit	I-75 N	Thursday	6:00 PM	3.2	2.6	23%
Houston	Departing	Houston	Galveston	I-45 S	Sunday	12:00 PM	1.2	0.8	47%
	Returning	Galveston	Houston	I-45 N	Tuesday	2:00 PM	1.4	0.9	58%
Los Angeles	Departing	Los Angeles	San Diego	I-5 S	Sunday	1:00 PM	3.4	2.3	47%
	Returning	Las Vegas	Los Angeles	I-15 S	Monday	3:00 PM	6.8	4.9	41%
Minneapolis	Departing	Minneapolis	Eau Claire	I-94 E	Tuesday	1:00 PM	1.8	1.4	26%
	Returning	Rochester	Minneapolis	US-52 E	Tuesday	12:00 PM	1.8	1.3	40%
New York	Departing	New York	Jersey Shore	GSP S	Friday	5:00 PM	2.8	1.7	64%
	Returning	Jersey Shore	New York	GSP N	Monday	8:00 PM	2.7	1.4	87%
Portland	Departing	Portland	Hood River	I-84 E	Tuesday	6:00 PM	1.3	1.1	17%
	Returning	Seattle	Portland	I-5 S	Friday	1:00 PM	3.9	2.8	37%
San Diego	Departing	San Diego	Los Angeles	I-5 N	Monday	12:00 PM	2.5	2.0	22%
	Returning	Los Angeles	San Diego	I-5 S	Sunday	1:00 PM	3.4	2.3	47%
San Francisco	Departing	San Francisco	Napa	I-80 E	Tuesday	9:00 AM	1.6	0.9	77%
	Returning	Sacramento	San Francisco	I-80 W	Saturday	9:00 AM	1.8	1.3	44%
Seattle	Departing	Seattle	Ocean Shores	I-5 S	Friday	1:00 PM	3.5	2.3	48%
	Returning	Ellensburg	Seattle	I-90 W	Monday	4:00 PM	3.3	1.7	97%
Tampa	Departing	Tampa	Gainesville	I-75 N	Tuesday	2:00 PM	2.9	2.2	31%
	Returning	Gainesville	Tampa	I-75 S	Friday	5:00 PM	4.0	2.2	82%

Source: INRIX

Top Destinations

AAA booking data for the Memorial Day weekend shows tourist hotspots like Orlando, New York City, and Las Vegas are top domestic destinations. Cruise port cities in Florida and Alaska, as well as Seattle, are high on the list given the 50% increase in domestic cruise bookings compared to last year. Other popular U.S. cities this Memorial Day include Denver, Boston, Anaheim, and Canton, Ohio – home of the Pro Football Hall of Fame.

“We are seeing a demand for iconic cities, international vacation packages, and cruises with included amenities that provide more value for the price,” Twidale added.

Travelers are paying more for Memorial Day trips this year, in large part due to the rising cost of airline tickets. AAA booking data shows a 40% increase in airfare to this year’s Top Destinations. But that’s not stopping travelers from booking flights abroad. International travel is surging with bookings 250% higher this holiday weekend compared to 2022. European cities are the most popular, including Rome, Paris, Dublin, London, Barcelona, and Athens. International car rentals are up more than 80% over 2022. AAA reports strong sales for International Driving Permits this year, almost double what they were last year. The passport courier service RushMyPassport is also seeing an unprecedented number of applications for expedited passport and visa services this year.

Holiday Forecast Methodology

Travel Forecast

In cooperation with AAA, S&P Global Market Intelligence developed a unique methodology to forecast actual domestic travel volumes. The economic variables used to forecast travel for the current holiday are leveraged from S&P Global Market Intelligence’s proprietary databases. These data include macroeconomic drivers such as employment, output, household net worth, asset prices including stock indices, interest rates, housing market indicators, and variables related to travel and tourism including gasoline prices, airline travel, and hotel stays. AAA and S&P Global Market Intelligence have quantified holiday travel volumes going back to 2000.

Historical travel volume estimates come from DK SHIFFLET's TRAVEL PERFORMANCE/MonitorSM. The PERFORMANCE/MonitorSM is a comprehensive study measuring the travel behavior of U.S. residents. DK SHIFFLET contacts over 50,000 U.S. households each month to obtain detailed travel data, resulting in the unique ability to estimate visitor volume and spending, identify trends, and forecast U.S. travel behavior —all after the trips have been taken.

The travel forecast is reported in person-trips. In particular, AAA and SPGMI forecast the total U.S. holiday travel volume and expected mode of transportation. The travel forecast presented in this report was prepared the week of April 17, 2023.

***Memorial Day Holiday Travel Period**

For purposes of this forecast, the Memorial Day holiday travel period is defined as the five-day period from Thursday, May 25 to Monday, May 29. The five-day holiday length is consistent with previous holiday periods.

About AAA

Started in 1902 by automotive enthusiasts who wanted to chart a path for better roads in America and advocate for safe mobility, AAA has transformed into one of North America's largest membership organizations. Today, AAA provides roadside assistance, travel, discounts, financial and insurance services to enhance the life journey of over 63 million members across North America, including 56 million in the United States. To learn more about all AAA has to offer or to become a member, visit AAA.com.

About S&P Global
S&P Global (NYSE: SPGI) provides essential intelligence. We enable governments, businesses and individuals with the right data, expertise and connected technology so that they can make decisions with conviction. From helping our customers assess new investments to guiding them through ESG and energy transition across supply chains, we unlock new opportunities, solve challenges and accelerate progress for the world. We are widely sought after by many of the world's leading organizations to provide credit ratings, benchmarks, analytics and workflow solutions in the global capital, commodity and automotive markets. With every one of our offerings, we help the world's leading organizations plan for tomorrow, today. For more information, visit www.spglobal.com.

About DKSA

DK SHIFFLET boasts the industry's most complete database on U.S. resident travel both in the U.S. and worldwide. Data is collected monthly from a U.S. representative sample, adding over 60,000 traveling households annually and is used daily by leading travel organizations and their strategic planning groups. DK SHIFFLET is an MMGY Global company.

About INRIX

Founded in 2004, INRIX pioneered intelligent mobility solutions by transforming big data from connected devices and vehicles into mobility insights. This revolutionary approach enabled INRIX to become one of the leading providers of data and analytics into how people move. By empowering cities, businesses, and people with valuable insights, INRIX is helping to make the world smarter, safer, and greener. With partners and solutions spanning across the entire mobility ecosystem, INRIX is uniquely positioned at the intersection of technology and transportation – whether it's keeping road users safe, improving traffic signal timing to reduce delay and greenhouse gasses, optimizing last mile delivery, or helping uncover market insights. Learn more at INRIX.com.

TIPRO Reports Growth in Oil and Gas Employment and Emphasizes Need for Federal Permitting Reform

May 19 Posted by Kelli Way in Uncategorized

Austin, Texas - Citing the latest Current Employment Statistics (CES) report from the U.S. Bureau of Labor Statistics (BLS), the Texas Independent Producers and Royalty Owners Association (TIPRO) today highlighted new employment figures showing a gain in Texas upstream employment last month. According to TIPRO's analysis, direct Texas upstream employment for April 2023 totaled 199,400, an increase of 700 jobs from March employment numbers. Texas upstream employment in April 2023 represented the addition of 17,600 positions compared to April 2022, including an increase of 1,700 jobs in oil and natural gas extraction and 15,900 jobs in the services sector.

TIPRO's new employment data yet again indicated strong job postings for the Texas oil and natural gas industry during the month of April. According to the association, there were 15,127 active unique jobs postings for the Texas oil and natural gas industry in April, including 5,011 new job postings added in the month by companies. In comparison, the state of California had 5,139 unique job postings last month, followed by Louisiana (2,628), Oklahoma (2,184) and Pennsylvania (1,722). TIPRO reported a total of 64,286 unique job postings nationwide last month within the oil and natural gas sector.

Among the updated 17 specific industry sectors TIPRO uses to define the Texas oil and natural gas industry, Support Activities for Oil and Gas Operations led in the rankings for unique job listings in April with 3,989 postings, followed by Gasoline Stations with Convenience Stores (1,927) and Crude Petroleum Extraction (1,682). The leading three cities by total unique oil and natural gas job postings were Houston (5,228), Midland (1,391) and Odessa (686), said TIPRO.

The leading three companies ranked by unique job postings in March were John Wood Group (844), Love's (613) and Halliburton (540), according to TIPRO. Of the top ten companies listed by unique job postings last month, five companies were in the services sector, followed by two midstream companies, two in gasoline stations with convenience stores, and one in oil and natural gas extraction. Top posted industry occupations for April included maintenance and repair workers (467), heavy tractor-trailer truck drivers (437) and managers (400). The top posted job titles for April included lease operators (103), field service technicians (94) and process engineers (78).

Top qualifications for unique job postings included valid driver's license (2,590), commercial driver's license (CDL) (345), and CDL Class A license (289). TIPRO reports that 41 percent of unique job postings required a bachelor's degree, 30 percent required a high school diploma or GED, and 30 percent had no education requirement listed. There were 1,719 advertised salary observations (11 percent of the 15,127 matching postings) with a median salary of $49,800.

Additional TIPRO workforce trends data:

- - A sample of 500 active industry job postings in Texas for April 2023 can be viewed here. Please note, some positions may no longer be available.
- - The top three posting sources in April included indeed.com (5,926), simplyhired.com (3,413) and dejobs.org (1,893).
- - Average annual wages for the Texas oil and natural gas industry can be viewed here.
- - Leading industry positions in Texas with median hourly earnings, education, work experience and typical on-the-job training is available here.

TIPRO also highlights recent data released from the Texas comptroller's office showing strong levels of tax contributions paid by the Texas oil and natural gas industry. In April, Texas energy producers paid $453 million in oil production taxes, up from levels reported for March. Producers also contributed $203 million in natural gas production taxes. Oil and natural gas severance taxes are extremely important to state and local governments and are used help to support road and infrastructure investments, water conservation projects, schools and education, first responders and other essential public services.

Additionally, TIPRO reports that oil and natural gas output is poised to see further growth this summer. New data from the U.S. Energy Information Administration (EIA) projects that U.S. oil production in June will grow by 41,000 barrels per day (b/d) and top 9.33 million b/d. In the Permian Basin, the most nation's most prolific shale oil basin, output will rise by 15,000 b/d to hit 5.71 million b/d. Oil production in the Eagle Ford Shale in South Texas is also expected to see modest gains by 2,000 b/d to total 1.108 million bpd. According to the latest EIA estimates, domestic natural gas production also will climb in June and reach 97.239 billion cubic feet per day (bcf/d) next month. This in part will be driven by production gains from the Permian, where natural gas production is expected to grow to 22.552 bcf/d and in the Eagle Ford, where natural gas production will total 7.248 bcf/d.

"We are pleased to report continued growth in employment and production levels for the Texas oil and natural gas industry," said Ed Longanecker, president of TIPRO. "This equates to enhanced energy security for our country and unmatched economic contributions to our state. Federal policymakers must remove, not add, regulatory barriers to unleash the true potential and positive impact of domestic oil and natural gas production. This includes long overdue federal permitting reform. We will continue to advocate for a compromise permitting reform bill to be included in the final debt ceiling package that is being negotiated between Congressional leaders and the White House," concluded Longanecker.

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PRINT

G7 Hiroshima Leaders' Communiqué

May 20, 2023

<Preamble>

1. We, the Leaders of the Group of Seven (G7), met in Hiroshima for our annual Summit on May 19-21, 2023, more united than ever in our determination to meet the global challenges of this moment and set the course for a better future. Our work is rooted in respect for the Charter of the United Nations (UN) and international partnership.

We are taking concrete steps to:

- support Ukraine for as long as it takes in the face of Russia's illegal war of aggression;
- strengthen disarmament and non-proliferation efforts, towards the ultimate goal of a world without nuclear weapons with undiminished security for all;
- coordinate our approach to economic resilience and economic security that is based on diversifying and deepening partnerships and de-risking, not de-coupling;
- drive the transition to clean energy economies of the future through cooperation within and beyond the G7;
- launch the Hiroshima Action Statement for Resilient Global Food Security with partner countries to address needs today and into the future; and
- deliver our goal of mobilizing up to $600 billion in financing for quality infrastructure through the Partnership for Global Infrastructure Investment (PGII)

as outlined in the reference documents of this Communique.

We are determined to work together and with others to:

- support a free and open Indo-Pacific and oppose any unilateral attempts to change the status quo by force or coercion;
- foster a strong and resilient global economic recovery, maintain financial stability, and promote jobs and sustainable growth;
- accelerate achievement of the Sustainable Development Goals (SDGs), recognizing that reducing poverty and tackling the climate and nature crisis go hand in hand;
- promote the evolution of the Multilateral Development Banks (MDBs);
- strengthen our partnerships with African countries and support greater African representation in multilateral fora;
- preserve the planet by accelerating the decarbonization of our energy sector and the deployment of renewables, end plastic pollution and protect the oceans;
- deepen cooperation through Just Energy Transition Partnerships (JETPs), the Climate Club and new Country Packages for Forest, Nature and Climate;

<Disarmament and Non-proliferation>

5. Together with the G7 Leaders' Hiroshima Vision on Nuclear Disarmament, we express our commitment to achieving a world without nuclear weapons with undiminished security for all, through taking a realistic, pragmatic, and responsible approach. We reaffirm the importance of disarmament and non-proliferation efforts to create a more stable and safer world. The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is the cornerstone of the global nuclear non-proliferation regime and the foundation for the pursuit of nuclear disarmament and peaceful uses of nuclear energy. We remain committed to the universalization, effective implementation, and strengthening of the Biological and Toxin Weapons Convention, as well as the Chemical Weapons Convention. We welcome the steps taken to strengthen effective and responsible export controls on materials, technology, and research that could be used for military purposes in a way that keeps pace with rapid technological developments and recognize the central role of multilateral export control regimes in this regard.

<Indo-Pacific>

6. We reiterate the importance of a free and open Indo-Pacific, which is inclusive, prosperous, secure, based on the rule of law, and that protects shared principles including sovereignty, territorial integrity, peaceful resolution of disputes, and fundamental freedoms and human rights. Given the importance of the region, G7 members and our partners have taken respective Indo-Pacific initiatives to help strengthen our engagement. We underscore our commitment to strengthen coordination with regional partners, including the Association of Southeast Asian Nations (ASEAN) and its member states. We reaffirm our unwavering support for ASEAN centrality and unity and our commitment to promoting cooperation in line with the ASEAN Outlook on the Indo-Pacific. We also reaffirm our partnership with Pacific Island countries and reiterate the importance of supporting their priorities and needs in accordance with the Pacific Islands Forum's 2050 Strategy for the Blue Pacific Continent. We welcome and further encourage efforts made by the private sector, universities and think tanks, which contribute to realizing a free and open Indo-Pacific.

<Global Economy, Finance and Sustainable Development>

7. The global economy has shown resilience against multiple shocks including the COVID-19 pandemic, Russia's war of aggression against Ukraine, and associated inflationary pressures. Nevertheless, we need to remain vigilant and stay agile and flexible in our macroeconomic policy amid heightened uncertainty about the global economic outlook. In striving for strong, sustainable, balanced and inclusive growth, we are committed to a stability- and growth-oriented macroeconomic policy mix that supports medium-term fiscal sustainability and price stability. Inflation remains elevated and central banks remain strongly committed to achieving price stability, in line with their respective mandates. Meanwhile, fiscal policy should continue to

provide, as appropriate, temporary and targeted support to vulnerable groups suffering from the increase in cost of living and catalyze investment needed for the green and digital transformations while the overall fiscal stance should ensure medium-term sustainability. We also reaffirm our existing G7 exchange rate commitments. We reemphasize the importance of supply-side reforms, especially those that increase labor supply and enhance productivity. We also stress the crucial role of women and under-represented groups for the long-term success of our economies through promoting inclusion, diversity and innovation. We look forward to a successful review of the G20/Organisation for Economic Co-operation and Development (OECD) Principles of Corporate Governance to strengthen sustainability and resilience of the private sector. Recognizing that our economic and social structures have undergone dynamic and fundamental transformation, we underscore the multidimensional aspects of welfare and that these aspects should be brought into policymaking in a practical and effective manner. Such efforts will help preserve confidence in democracy and a market-based economy, which are the core values of the G7.

8. We will continue to closely monitor financial sector developments and stand ready to take appropriate actions to maintain financial stability and the resilience of the global financial system. We reaffirm that our financial system is resilient, supported by the financial regulatory reforms implemented after the 2008 global financial crisis. We strongly support the work of the Financial Stability Board (FSB) and standard-setting bodies on enhancing the resilience of non-bank financial intermediation. We will continue policy deliberation on digital money to harness the benefits of innovation such as payment efficiency as well as financial inclusion while addressing potential risks to the stability, resilience and integrity of the monetary and financial system. Effective monitoring, regulation and oversight are critical to addressing financial stability and integrity risks posed by crypto-asset activities and markets and to avoid regulatory arbitrage, while supporting responsible innovation.

9. We re-emphasize our strong political commitment towards the swift global implementation of the OECD/G20 Inclusive Framework Two-Pillar Solution to address the tax challenges arising from globalization and the digitalization of the economy and to establish a more stable and fairer international tax system. We recognize significant progress in the negotiation of the Pillar 1 Multilateral Convention (MLC) and reaffirm our commitment to the swift completion of the negotiation so that the MLC can be ready for signature within the agreed timeline. We welcome the progresses in domestic legislation toward the implementation of Pillar 2. We will further provide developing countries with support for strengthening their tax capacity to build sustainable tax revenue sources, highlighting the importance of assistance for the implementation of the Two-Pillar Solution.

10. We recognize that achieving the sustainable development goals by 2030, reducing poverty,

including Small Island Developing States, we will accelerate international disaster risk reduction cooperation in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 and the output of its midterm review conducted by the UN Office for Disaster Risk Reduction (UNDRR). We emphasize the importance of a disaster preparedness approach and investment in human capital, goods and infrastructure that contribute not only to "risk transfer" but also to "risk reduction," resulting in the strengthening of anticipatory actions. We remain committed to holding ourselves accountable, in an open and transparent way, for the promises we have made. In this regard, we endorse the 2023 Hiroshima Progress Report, following up on the G7's development-related commitments on food security and nutrition as well as refugees and migration.

17. We emphasize the transformative power of cities worldwide as drivers for every aspect of sustainable development. We will continue our cooperation on sustainable urban development and task our relevant Ministers to consider the development of principles on carbon neutral, resilient and inclusive cities and on the digitalization in cities, and to accelerate the use of data and technologies for cities. This work will support exchanges with our global partners, whose cities face some of the most significant challenges relating to climate change.

<Climate Change>

18. Our planet is facing unprecedented challenges from the triple global crisis of climate change, biodiversity loss and pollution as well as from the ongoing global energy crisis. We are steadfast in our commitment to the Paris agreement, keeping a limit of 1.5°C global temperature rise within reach through scaled up action in this critical decade, halting and reversing biodiversity loss by 2030, and ensuring energy security, whilst leveraging synergies and recognizing the interdependent nature of these challenges. While Russia's war of aggression against Ukraine impacts energy markets and supply chains globally, our goal to achieve net-zero greenhouse gas (GHG) emissions by 2050 at the latest remains unchanged. We emphasize our strong concern, amplified by the latest finding of the Intergovernmental Panel on Climate Change (IPCC) and its Sixth Assessment Report (AR6), at the accelerating and intensifying impacts of climate change, and highlight the increased urgency to reduce global GHG emissions by around 43 percent by 2030 and 60 percent by 2035, relative to the 2019 level, in light of its latest findings. We reiterate our commitment made in Elmau last year to rapidly implement domestic mitigation measures aimed at achieving our Nationally Determined Contribution (NDC) targets and to increase our ambition including, for example, by adopting or strengthening sectoral targets, by developing non-CO2 sub targets, and by adopting stringent implementation measures. Mindful of our leadership role, and noting that emissions have already peaked in all G7 countries, we recognize the critical role of all major economies in limiting increases in global temperature over this critical decade and in subsequent decades. In this context, we underscore that every major economy

should have significantly enhanced the ambition of its NDC since the Paris Agreement; already peaked its GHG emissions or indicated that it will do so no later than 2025; and in particular, included economy-wide absolute reduction targets and that cover all GHGs in its NDC. Accordingly, we call on all Parties - especially major economies - whose 2030 NDC targets or long-term low GHG emission development Strategies (LTSs) are not yet aligned with a 1.5°C pathway and net zero by 2050 at the latest, to revisit and strengthen the 2030 NDC targets and publish or update their LTSs as soon as possible and well before UNFCCC-COP28, and to commit to net zero by 2050 at the latest. Furthermore, we call on all Parties to commit at UNFCCC-COP28 to peak global GHG emissions immediately and by no later than 2025. We reaffirm our commitment to the Global Methane Pledge and we will step up efforts to collectively reduce global anthropogenic methane emissions by at least 30 percent below 2020 levels by 2030. We commit to actively contributing to securing the most ambitious outcomes of the first global stocktake (GST) at UNFCCC-COP28, which should result in enhanced, immediate and ambitious actions across mitigation, adaptation, means of implementation and support. We call on all Parties to submit their next round of NDCs and LTSs well ahead of UNFCCC-COP30 that are informed by the outcomes of the GST, reflecting economy-wide absolute reduction targets including all GHGs, sectors and categories. These should reflect significantly enhanced ambition aligned with a 1.5°C pathway and should also include their revisited and strengthened 2030 targets.

19. Noting the importance of increasing the pace and scale of action on climate change, biodiversity loss and clean energy transitions, we will globally advance and promote a green transformation, working together to realize transformation of our economies to reach net-zero GHG emissions by 2050 at the latest. We will engage with developing and emerging countries to accelerate emission reduction, including by supporting their transitions to climate resilient, circular, and nature positive economies and net-zero GHG emissions through various and practical pathways taking into account national circumstances. To that end, we reaffirm our strong commitment to supporting developing countries' just energy transitions, which will be supported by coordinated actions, including through the PGII. We welcome progress achieved on JETPs with South Africa, Indonesia and Vietnam, and also continue our discussions with India and Senegal. We take note of initiatives that are intended to support clean energy transition in countries around the world, such as Asia Zero Emission Community (AZEC) initiative, the Powering Past Coal Alliance (PPCA), 2050 Pathways Platform, Net Zero World (NZW), and the Global Carbon Pricing Challenge and underscore the importance of actions taken through such initiatives being aligned with a 1.5°C pathway. We will take further action on supply-side measures and recognize the need for further decarbonization efforts on the demand-side such as promoting changes in infrastructure and material use and end-use technology adoption as well as promoting sustainable consumer choice. We also recognize the vital role of sub-national governments in collaboration with other stakeholders and partners to advance climate and energy actions based on local needs and

environmental conditions. We reaffirm the important role of high integrity carbon markets and carbon pricing to foster cost-efficient reductions in emission levels, drive innovation and enable a transformation to net zero, through the optimal use of a range of policy levers to price carbon. We support appropriate policy mixes including carbon pricing, non-pricing mechanisms, and incentives that effectively reduce emissions, and note that these could vary reflecting country-specific circumstances. We strongly support the OECD Inclusive Forum on Carbon Mitigation Approaches (IFCMA). We look forward to advancing the open, cooperative, and inclusive Climate Club, in collaboration with international partners, to advance industrial decarbonization. We encourage private entities to commit to GHG net-zero emissions throughout the value chain via credible net zero pledges and transparent implementation strategies. We also encourage and promote private entities' work to foster innovation contributing to the emission reduction of other entities through decarbonization solutions. We welcome the progress of the Industrial Decarbonization Agenda (IDA) that decided to start working on implementation of the new Global Data Collection Framework for steel production and product emissions. We reaffirm our commitment to a highly decarbonized road sector by 2030, and recognize the importance of reducing GHG emissions from the global fleet and the range of pathways to approach this goal in line with trajectories required for keeping a limit of 1.5°C within reach. We are committed to the goal of achieving net-zero emissions in the road sector by 2050. In this context, we highlight the various actions that each of us is taking to decarbonize our vehicle fleet, including such domestic policies that are designed to achieve 100 percent or the overwhelming penetration of sales of light duty vehicles (LDVs) as zero emission vehicles (ZEV) by 2035 and beyond; to achieve 100 percent electrified vehicles in new passenger car sales by 2035; to promote associated infrastructure and sustainable carbon-neutral fuels including sustainable bio- and synthetic fuels. We note the opportunities that these policies offer to contribute to a highly decarbonized road sector, including progressing towards a share of over 50 percent of zero emission LDVs sold globally by 2030. Considering the findings of the International Energy Agency (IEA)'s Energy Technology Perspective 2023, we also note the opportunity to collectively reduce by at least 50 percent CO_2 emissions from G7 vehicle stock by 2035 or earlier relative to the level in 2000 as a halfway point to achieving net zero and to track the progress on a yearly basis. We reaffirm our commitment to strengthen global efforts to achieve GHG lifecycle zero emissions from international shipping by 2050 at the latest. We commit to support this target and introducing intermediate targets for 2030 and 2040 for the revised International Maritime Organization (IMO) GHG reduction strategy, in line with efforts to limit the temperature increase to 1.5 °C above pre-industrial levels through a credible basket of measures. We commit to accelerate global efforts to achieve the International Civil Aviation Organization (ICAO)'s goal of net-zero emissions in international aviation by 2050, including making an effort for promoting and introducing sustainable aviation fuel (SAF), introducing new technologies and improving operations, also building on ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

20. In the face of the increasing threats posed by climate change, supporting climate-vulnerable groups is essential for ensuring human security and achieving resilient and sustainable development. We will continue to scale up and enhance support to strengthen the resilience of climate-vulnerable groups through enhancing climate change adaptation and climate disaster risk reduction, response and recovery and early-warning systems including through the Global Shield against Climate Risks and other initiatives related to early warning systems and the adoption of climate-resilient debt clauses. We reaffirm our commitments to the developed country Parties' goal of jointly mobilizing $100 billion annually in climate finance by 2020 through to 2025 in the context of meaningful mitigation actions and transparency on implementation. We will work together with other developed country Parties in order to fully meet the goal in 2023. We welcome discussions on an ambitious and fit-for-purpose new collective quantified goal (NCQG) which contributes as a global effort, from a wide variety of sources, public and private, to reaching the goals of the Paris Agreement, including making finance flows consistent with a pathway toward low GHG emissions and climate resilient development. Recognizing the critical role of the G7 and that developed country parties should take the lead in mobilizing climate finance, we underscore the need for all countries and stakeholders, who have the capabilities and are not yet among the current providers of international climate finance, to contribute to global efforts in this regard.

21. We are committed to accelerating our own efforts to making financial flows consistent with a pathway toward low GHG emissions and climate resilient development, in line with Article 2.1c of the Paris Agreement. We stress the importance of mobilizing finance especially including private finance focusing on further implementation and development of clean technologies and activities. We underline our commitment to consistent, comparable and reliable disclosure of information on sustainability including climate. We support the International Sustainability Standards Board (ISSB) finalizing the standards for general reporting on sustainability and for climate-related disclosures and working toward achieving globally interoperable sustainability disclosure frameworks. We also look forward to the ISSB's future work on disclosure on biodiversity and human capital, in line with its work plan consultation. We remain committed to supporting the implementation and monitoring of the G20 Sustainable Finance Roadmap. We highlight the need for corporates to implement their net-zero transitions in line with the temperature goal of the Paris Agreement based on credible corporate climate transition plans. We also highlight that transition finance, in line with keeping a limit of 1.5°C temperature rise within reach, avoiding carbon lock-ins and based on effective emissions reduction, has a significant role in advancing the decarbonization of the economy as a whole. We look forward to an ambitious and successful second replenishment for the Green Climate Fund (GCF) and reaffirm the need for robust G7 pledges. We urge other countries to do the same and underscore the need to broaden the GCF's

contributor base by encouraging all potential contributors. We continue to accelerate efforts to respond to the Glasgow Climate Pact that urges developed countries to at least double their collective provision of climate finance for adaptation to developing countries from the 2019 level by 2025, in the context of achieving a balance between mitigation and adaptation in the provision of scaled-up financial resources. We also urge MDBs to commit to ambitious adaptation finance targets, announcing revised and enhanced 2025 projections, and call on non-G7 countries to enhance provision and mobilization including private finance for adaptation. We stress the key role of International Financial Institutions (IFIs) in mobilizing finance and call on them to mainstream climate and environment issues in their policies, investments, operations and governance. We also urge MDBs to increase finance for global public goods including climate finance and support ambitious regulatory reforms in developing countries via policy-based finance in order to foster the transition to net zero and enable private sector investment. Furthermore, in order to promote the development of carbon markets while ensuring their environmental integrity, we endorse the "Principles of High Integrity Carbon Markets" to facilitate their implementation in carbon credit markets. We emphasize our extreme concern at the scale of impacts that are already resulting in economic and non-economic loss and damage associated with the adverse effects of climate change and being felt globally, particularly by the most vulnerable. Alarmed by the adverse effects of climate change globally, we will scale up action and support to avert, minimize and address loss and damage, especially for the most vulnerable countries. This will include implementing the UNFCCC-COP27/The 4th session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA4) decision to establish new funding arrangements, including a fund, for developing countries that are particularly vulnerable to the adverse effects of climate change, in the context of article 8 of the Paris Agreement, and providing support identified in the "G7 Inventory on Climate Disaster Risk Reduction, Response and Recovery".

<Environment>

22. We commit to realizing the transformation of the economic and social system towards net-zero, circular, climate-resilient, pollution-free and nature-positive economies and to halting and reversing biodiversity loss by 2030, in an integrated manner, while ensuring sustainable and inclusive economic growth and development and enhancing the resilience of our economies. Highlighting that enhancing resource efficiency and circularity along value chains reduces primary resource use and contributes to achieving our climate and other environmental goals, we encourage stakeholders and in particular businesses to strengthen their action. Thus, we endorse the Circular Economy and Resource Efficiency Principles (CEREP). We will increase domestic and international environmentally-sound, sustainable and efficient recovery and recycling of critical minerals and raw materials and other applicable materials while increasing circularity along the supply chains. We reaffirm that management and governance of water-related ecosystems are

essential for all life on earth. We are actively engaging in relevant international fora including following up on the UN Water Conference successfully held this year.

23. Building on the G7 Ocean Deal, we commit to act towards realizing clean, healthy and productive oceans. We reaffirm our commitment to end illegal, unreported and unregulated (IUU) fishing and will take further actions to address this phenomenon in all its dimensions, including supporting developing countries and strengthening policy coordination among our relevant agencies and task them to take stock of their progress on this issue by the end of this year. In particular, we encourage non-parties to the Food and Agriculture Organization (FAO) Agreement on Port State Measures (PSMA) to join for further global acceptance and effective implementation of the PSMA. We welcome the conclusion of the negotiations for an international legally binding instrument under the UN Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ) and call for its rapid entry into force and implementation. We will continue to actively engage in the development of a regulatory framework on deep seabed mineral exploitation under the International Seabed Authority (ISA) that ensures effective protection for the marine environment from harmful effects which may arise from such activities, as required under the UNCLOS. We are committed to end plastic pollution, with the ambition to reduce additional plastic pollution to zero by 2040. With this in mind, we are determined to continue and step up our actions based on the comprehensive life cycle approach. We support the Intergovernmental Negotiating Committee (INC) process, look forward to the next round of negotiation in Paris with a view to completing its work with an international legally binding instrument covering the whole life cycle of plastics by the end of 2024 and call for ambitious outcomes. We will make as much progress as possible on these issues and on the broader agenda of ocean protection by the UN Ocean Conference in 2025.

24. We welcome the adoption of the historic Kunming-Montreal Global Biodiversity Framework (GBF) to halt and reverse biodiversity loss by 2030, which is fundamental to human well-being, a healthy planet and economic prosperity, and commit to its swift and full implementation and to achievement of each of its goals and targets. In this regard, G7 members that are parties to the Convention on Biological Diversity (CBD) commit to revise, update and submit our National Biodiversity Strategies and Action Plans (NBSAPs) aligned with the GBF and its goals and targets, or to communicate national targets reflecting as applicable all the goals and targets of the GBF in 2023 or sufficiently in advance of CBD-COP16. We will identify incentives, including subsidies, harmful to biodiversity by 2025, and redirect or eliminate them while scaling up positive incentives for the conservation and sustainable use of biodiversity by 2030 at the latest, taking initial steps without delay. We call on all signatories to swiftly implement their commitments under the GBF and stand ready to provide support to developing countries. We reiterate our

commitment to substantially increase our national and international funding for nature by 2025. We will ensure that our international development assistance aligns with the GBF. We call on the MDBs to increase support for biodiversity including through leveraging financial resources from all sources and deploying a full suite of instruments. To implement the GBF, we commit to substantially and progressively increasing the level of financial resources from all sources, and to align all relevant fiscal and financial flows with the GBF and call on others to do the same. We commit to supporting the establishment of the GBF Fund within the Global Environment Facility (GEF) and its successful launch at the GEF Assembly in Vancouver in August 2023, noting the importance of financial contributions from all sources to capitalize the new fund. We reaffirm our commitment to enhance synergies between finance for climate and biodiversity, including increased funding for Nature-based Solutions. We also commit to supporting and advancing a transition to nature positive economies, including through sharing knowledge and creating information networks among the G7 such as the G7 Alliance on Nature Positive Economy. We call on businesses to progressively reduce negative and increase positive impacts on biodiversity. We look forward to the publication of the Taskforce on Nature-related Financial Disclosures' (TNFD's) market framework and urge market participants, governments and regulators to support its development. We stress our commitment to achieving the target of effectively conserving and managing at least 30 percent of terrestrial and inland water areas, and at least 30 percent of marine and coastal areas by 2030 (30 by 30), nationally and globally, according to national circumstances and approaches through promoting the designation and management of protected areas and other effective area-based conservation measures (OECMs). We commit to conserving and protecting global marine biological diversity and sustainably using its resources based on the best available scientific evidence. In this context, we reconfirm our commitment under the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) to adopt, as a matter of urgency, proposals to designate Marine Protected Areas (MPAs) in Eastern Antarctica, the Weddell Sea and the Western Antarctic Peninsula, based on the best available scientific evidence. In this regard, we will support other countries by sharing best practices for protected areas and OECMs to achieve the GBF target of 30 by 30. We will enhance international cooperation on measures against invasive alien species. We reiterate our commitment to halting and reversing forest loss and land degradation by 2030, and are committed to conserving forests and other terrestrial ecosystems and accelerating their restoration, supporting sustainable value and supply chains as well as promoting sustainable forest management and use of wood. We will work together, with high ambition to deliver integrated solutions to support the protection, conservation and restoration of high-carbon, high-biodiversity ecosystems, including by coordinating our offers through Country Packages on Forests, Nature and Climate, especially in countries which host vital reserves of carbon and biodiversity, with an initial focus on forests. We commit to continuing our efforts to reduce risk of deforestation and forest and land degradation linked to the production of relevant commodities and enhance cooperation with various stakeholders on this issue. We will, if appropriate, develop further regulatory frameworks or policies to support this.

<Energy>

25. We commit to holistically addressing energy security, the climate crisis, and geopolitical risks. In order to address the current energy crisis caused by Russia's war of aggression against Ukraine and achieve our common goal of net-zero emissions by 2050 at the latest, we highlight the real and urgent need and opportunity to accelerate clean energy transitions also as a means of increasing energy security at the same time. While acknowledging various pathways according to each country's energy situation, industrial and social structures and geographical conditions, we highlight that these should lead to our common goal of net zero by 2050 at the latest in order to keep a limit of 1.5 °C within reach. In this regard, we invite the IEA to make recommendations by the end of this year on options how to diversify the supplies of energy and critical minerals as well as clean energy manufacturing. Through this, together with our partners, we seek to holistically address energy security, climate crisis, and geopolitical risk including the expansion of global use of renewable energy in order to achieve net-zero emissions by 2050 at the latest and keep a limit of 1.5 °C temperature rise within reach. Through our experience in coping with past and current energy crises, we highlight the importance of enhanced energy efficiency and savings as the "first fuel," and of developing demand side energy policies. We also need to significantly accelerate the deployment of renewable energies and the development and deployment of next-generation technologies. The G7 contributes to expanding renewable energy globally and bringing down costs by strengthening capacity including through a collective increase in offshore wind capacity of 150GW by 2030 based on each country's existing targets and a collective increase of solar PV to more than 1TW by 2030 estimated by the IEA and the International Renewable Energy Agency (IRENA) through means such as each country's existing targets or policy measures. We recognize that low-carbon and renewable hydrogen and its derivatives such as ammonia should be developed and used, if this can be aligned with a 1.5 °C pathway, where they are impactful as effective emission reduction tools to advance decarbonization across sectors and industries, notably in hard-to-abate sectors in industry and transportation, while avoiding N2O as a GHG and NOx as air pollutant. We also note that some countries are exploring the use of low-carbon and renewable hydrogen and its derivatives in the power sector to work towards zero-emission thermal power generation if this can be aligned with a 1.5°C pathway and our collective goal for a fully or predominantly decarbonized power sector by 2035. We will enhance our efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. We affirm the importance of developing international standards and certification including for a GHG calculation methodology for hydrogen production and mutual recognition mechanism for carbon intensity-based tradability, transparency,

trustworthiness and sustainability. We reaffirm our commitment to achieving a fully or predominantly decarbonized power sector by 2035, and prioritizing concrete and timely steps towards the goal of accelerating the phase-out of domestic unabated coal power generation in a manner consistent with keeping a limit of 1.5°C temperature rise within reach and urge others to join us. We will work towards ending the construction of new unabated coal fired power generation as identified in the IEA's Coal in Net Zero Transitions report in 2022 as one of the primary actions to be taken in line with the IEA net zero by 2050 scenario. We call on and will work with other countries to end new unabated coal-fired power generation projects globally as soon as possible to accelerate the clean energy transition in a just manner. We highlight that we ended new direct government support for unabated international thermal coal power generation in 2021. We call on other countries, especially major economies to join us in fulfilling their commitments to do the same. We acknowledge that Carbon Capture, Utilization and Storage (CCUS)/carbon recycling technologies can be an important part of a broad portfolio of decarbonization solutions to reduce emissions from industrial sources that cannot be avoided otherwise and that the deployment of carbon dioxide removal (CDR) processes with robust social and environmental safeguard, have an essential role to play in counterbalancing residual emissions from sectors that are unlikely to achieve full decarbonization.

26. We underline our commitment, in the context of a global effort, to accelerate the phase-out of unabated fossil fuels so as to achieve net zero in energy systems by 2050 at the latest in line with the trajectories required to limit global average temperatures to 1.5 °C above preindustrial levels, and call on others to join us in taking the same action. We reaffirm our commitment to the elimination of inefficient fossil fuel subsidies by 2025 or sooner, and reaffirm our previous calls for all countries to do so. In view of the emerging need for net-zero and circular industrial supply chains in the transformation towards a 1.5°C pathway, we recognize the opportunities associated with decarbonized, sustainably and responsibly produced non-combustion feedstocks, and are committed to supporting our workers and communities in this transformation. We also highlight that we ended new direct public support for the international unabated fossil-fuel energy sector in 2022, except in limited circumstances clearly defined by each country consistent with a 1.5 °C warming limit and the goals of the Paris Agreement, recognizing the importance of national security and geostrategic interests. It is necessary to accelerate the phase out of our dependency on Russian energy, including through energy savings and gas demand reduction, in a manner consistent with our Paris commitments, and address the global impact of Russia's war on energy supplies, gas prices and inflation, and people's lives, recognizing the primary need to accelerate the clean energy transition. In this context, we stress the important role that increased deliveries of LNG can play, and acknowledge that investment in the sector can be appropriate in response to the current crisis and to address potential gas market shortfalls provoked by the crisis. In the exceptional circumstance of accelerating the phase out of our dependency on Russian energy,

publicly supported investment in the gas sector can be appropriate as a temporary response, subject to clearly defined national circumstances, if implemented in a manner consistent with our climate objectives without creating lock-in effects, for example by ensuring that projects are integrated into national strategies for the development of low-carbon and renewable hydrogen. We will further utilize neutral and impartial statistical data made available by international organizations such as the IEA and strengthen their data-collection and analysis functions, with a view to stabilizing energy markets. We emphasize the importance of strengthening forums for communication and cooperation between producing and consuming countries with a view to stabilizing energy markets and mobilizing necessary investment consistent with climate goals. Those G7 countries that opt to use nuclear energy recognize its potential to provide affordable low-carbon energy that can reduce dependence on fossil fuels, to address the climate crisis and to ensure global energy security as a source of baseload energy and grid flexibility. They commit to maximizing the use of existing reactors safely, securely, and efficiently, including by advancing their safe long-term operation, in addressing the current energy crisis. They also commit, domestically as well as in partner countries, to supporting the development and construction of nuclear reactors, such as small modular and other advanced reactors with advanced safety systems, building robust and resilient nuclear supply chains including nuclear fuel, and maintaining and strengthening nuclear technology and human resources. They will work with like-minded partners to reduce dependence on Russia. The G7 underlines that the highest standards of nuclear safety and security are important to all countries and their respective publics. We welcome the steady progress of decommissioning work at Tokyo Electric Power Company Holdings (TEPCO)'s Fukushima Daiichi Nuclear Power Station, and Japan's transparent efforts with the International Atomic Energy Agency (IAEA) based on scientific evidence. We support the IAEA's independent review to ensure that the discharge of Advanced Liquid Processing System (ALPS) treated water will be conducted consistent with IAEA safety standards and international law and that it will not cause any harm to humans and the environment, which is essential for the decommissioning of the site and the reconstruction of Fukushima.

<Clean Energy Economy>

27. Emphasizing that the global climate and energy crisis highlights the urgent need to accelerate the clean energy transition towards achieving net-zero emissions no later than 2050 and to transform our energy systems, we underline the necessity of economic diversification and transformation, including in supply chains. In order to further promote clean energy transitions on a global scale, we are determined to increase our efforts and, in particular, will pursue secure, resilient, affordable, and sustainable clean energy supply chains, including those for critical minerals and clean energy technologies. In implementing energy transitions, we also reaffirm the importance of working collectively to avoid market distortions and ensuring a global level playing field. We will continue to work with international partners to realize a clean energy economy through

concrete actions as laid out in the Clean Energy Economy Action Plan.

<Economic Resilience and Economic Security>

28. Ensuring economic resilience and economic security globally remains our best protection against the weaponization of economic vulnerabilities. Recalling our commitment from the 2022 G7 Elmau Summit, we will advance economic policies that enhance global economic resilience and economic security to protect against systemic vulnerabilities. To this end, we will engage in dialogue and follow a cooperative approach within the G7 as well as with partners beyond the G7 and globally, including in collaboration with developing countries. In so doing, we will promote international rules and norms in order to facilitate trade and promote economic resilience, based on the rules-based multilateral trading system with the World Trade Organization (WTO) at its core. Our efforts will include taking action to make our supply chains and those of our partners around the world more resilient, sustainable and reliable, as well as appropriate measures to promote prosperity for all. We will also promote trust and security in critical infrastructure. We will enhance ongoing collaboration to address non-market policies and practices that exacerbate strategic dependencies and systemic vulnerabilities, harm our workers and businesses, and can undermine international rules and norms. Building on our resolve in Elmau to increase vigilanceand enhance our cooperation to address risks that undermine global security and stability, we will enhance collaboration by launching the Coordination Platform on Economic Coercion to increase our collective assessment, preparedness, deterrence and response to economic coercion, and further promote cooperation with partners beyond the G7. We will deepen our strategic dialogue against malicious practices to protect global supply chains from illegitimate influence, espionage, illicit knowledge leakage, and sabotage in the digital sphere. We affirm our shared responsibility and determination to coordinate on preventing the cutting-edge technologies we develop from being used to further military capabilities that threaten international peace and security. In this context, we hereby adopt the G7 Leaders' Statement on Economic Resilience and Economic Security.

29. We reaffirm the growing importance of critical minerals in various fields, especially for the global clean energy transition, and the need to manage economic and security risks caused by vulnerable supply chains. We support open, fair, transparent, secure, diverse, sustainable, traceable, rules- and market-based trade in critical minerals, oppose market-distorting practices and monopolistic policies on critical minerals, and reaffirm the need to build resilient, robust, responsible, and transparent critical mineral supply chains. We are committed to strengthening our preparedness and resilience against emergencies such as market disruptions, and considering ways to jointly address any such disruptions, including through the support of the IEA's "Voluntary Critical Mineral Security Program." We welcome joint progress in efforts to diversify supply chains, including the refining and processing of critical minerals, such as the Minerals Security Partnership

(MSP). We will support local value creation in critical minerals supply chains in line with the WTO rules. We will promote domestic and international recycling of critical minerals in collaboration with developing countries. We affirm that strong environmental, social and governance (ESG) standards will ensure benefits to local communities, including people living in the vicinity of areas with mineral reserves and refining and processing plants, protect workers' rights, and promote transparency, while giving due consideration to upstream and midstream environments. In order to further promote the clean energy transition we reiterate the need to establish sustainable an resilient supply chains for critical mineral resources and products manufactured using such resources. We welcome the "Five-Point Plan for Critical Mineral Security" adopted by G7 Climate, Energy and Environment Ministers and instruct them to implement the plan.

<Trade>

30. We stand united in our commitment to free and fair trade as foundational principles and objectives of the rules-based multilateral trading system with the WTO at its core, which proves more important than ever in the current geopolitical environment. We confirm that honoring these foundational principles is essential to creating resilient global supply chains that are transparent, diversified, secure, sustainable, trustworthy, and reliable, and that are fair for all and responsive to the needs of global citizens. We affirm our attachment to transparency, coordination and to the respect of WTO rules in our respective policies. This global trading system must be inclusive and ensure that the prosperity it can bring is felt by all, including those that have been traditionally underrepresented. To this end, we will continue to work with non-G7 partners, in particular developing country partners, which are integral partners in supply chains and in the global trading system. Based on the outcome of the 12th WTO Ministerial Conference (MC12) and looking ahead to achieving a successful MC13, we underscore the importance of working towards WTO reform, including by conducting discussions with the view to having a fully and well-functioning dispute settlement system accessible to all Members by 2024 and by reinforcing deliberation to respond to global trade policy challenges. In addition, we call on all WTO members to work together to secure the prompt entry into force of the Agreement on Fisheries Subsidies, to engage constructively on recommendations for additional provisions that would achieve a comprehensive agreement on fisheries subsidies, and the plurilateral initiatives including the joint statement initiatives (JSIs), and to make permanent the Moratorium on Customs Duties on Electronic Transmissions. We are committed to accelerating the WTO JSI E-Commerce negotiations and working to conclude an ambitious outcome by the end of 2023. The outcome should be high standard and commercially meaningful. Free and fair trade flows, consistent with our commitment to our multilateral trading system, play an important role in the green and just transition. We will continue our collaboration at the WTO including to facilitate and promote trade in environmental goods and services, and technologies. We reaffirm our shared concerns with non-market policies and practices, including their problematic evolution, that

distort global competition, trade and investment. We will further step up our efforts to secure a level playing field through the more effective use of existing tools, as well as development of appropriate new tools and stronger international rules and norms. We will seek to ensure that our responses to unfair trading practices will not create unnecessary barriers to our partners' industries and are consistent with our WTO commitments. We reaffirm that export controls are a fundamental policy tool to address the challenges posed by the diversion of technology critical to military applications as well as for other activities that threaten global, regional, and national security. We affirm the importance of cooperation on export controls on critical and emerging technologies such as microelectronics and cyber surveillance systems to address the misuse of such technologies by malicious actors and inappropriate transfers of such technologies through research activities. We task our Trade Ministers to deepen these discussions towards the G7 Trade Ministers' Meeting in October, and to explore, both within and beyond the G7, coordinated or joint actions where appropriate against trade-related challenges, including economic coercion.

<Food Security>

31. We remain deeply concerned with the ongoing and worsening global food security and nutrition situation, with the world facing highest risk of famine in a generation. Multiple factors including the COVID-19 pandemic, soaring energy prices, the climate crisis and shocks, biodiversity loss, land degradation, water security and armed conflicts have contributed to the global disruption and disorder in food systems and supply chains and the deterioration in global food security in recent years. In particular, Russia's illegal war of aggression against Ukraine has drastically aggravated the global food security crisis. We are committed to continuing our efforts to address pressing issues to improve global food security including through initiatives already launched by the G7 and relevant international organizations, building on the positive outcomes achieved. Stressing that we have exceeded our joint commitment of $14 billion to the global food security announced at the 2022 G7 Elmau Summit, we will continue to provide assistance in the food and nutrition related sectors to vulnerable countries and regions affected by the current food security crisis, in particular in Africa and the Middle East. Given the scale of the needs across the Horn of Africa, we have collectively met our commitment from Elmau and have effectively delivered assistance to tackle one of the worst droughts in the region's history. We also call on other international donors to step up their contributions in this regard. We further call on Russia to lift its measures that hinder the exports of Russian grain and fertilizers. Given Ukraine's essential role as a major exporter of food to the world, we are seriously concerned about the current and future impact of Russia's deliberate disruption of Ukraine's agricultural sector on food security in the most vulnerable countries. Building on our commitment made at Elmau, we continue to provide support for the restoration of Ukraine's agriculture sector, including support to its efforts in identifying and evidencing illegal seizure of Ukrainian grains by Russia, through the creation of a grain database which can be used to verify the origin of grain shipments. We reaffirm

the importance of the EU-Ukraine Solidarity Lanes and President Zelenskyy's Grain from Ukraine Initiative. We reiterate the critical importance of continued and scaled-up implementation of the UN and Türkiye-brokered Black Sea Grain Initiative (BSGI) in order to further facilitate grain exports from Ukraine and enable stable supply to those in need. We call on Russia to stop threatening global food supplies and to allow the BSGI to operate at its maximum potential and for as long as necessary. We reiterate the importance of ensuring rules-based, open, fair, transparent, predictable, and non-discriminatory trade and avoiding unjustified restrictive trade measures to keep the food and agricultural markets open and call on our G20 partners to do the same. We welcome the Ministerial Decision on World Food Programme (WFP) Food Purchases Exemption from Export Prohibitions or Restrictions adopted at the MC12 and call for its full implementation. We call for more concrete actions to address export restrictions imposed by agricultural producer countries on global food security, recognizing that such measures have a disproportionate effect on countries at greater risk of famine and acute food insecurity. We emphasize the necessity of market transparency and accurate information backed by neutral and impartial data and analysis to prevent arbitrary measures and reduce market volatility in addressing ongoing and future food crises, and commit to strengthening the G20 Agricultural Market Information System (AMIS) as well as various efforts by international organizations in this regard. We underscore the importance of strengthening the capacity of low and lower-middle income countries to collect, analyze and use high quality agricultural, market and food security data and maintain the quality of data. We also recognize the value of dialogue between food exporting countries and importing countries to develop a shared understanding on crisis responses.

32. We share the view that it is essential to focus on each human and enable stable access to affordable, safe, sufficient and nutritious food for each and every individual. In our pursuit to ensure that all people can progressively realize their right to adequate food, we affirm the need to protect and assist members of the most vulnerable populations, including women and children, in all aspects of food security from short-term food crisis responses through medium to long-term efforts to make food systems sustainable. Nutrition is also fundamental from the viewpoint of a human centered approach, and we highlight the importance of improving access to healthy diets, including through school meal programs. We recognize the urgent need of establishing inclusive, resilient and sustainable agriculture and food systems including through enhancing, diversifying and ensuring sustainability of local, regional and global food supply chains as well as through solving structural bottlenecks. This includes increasing local production capacities by making use of existing domestic agricultural resources and by facilitating trade, sustainable productivity growth with climate adaptation and mitigation and biodiversity conservation, and sustainable food consumption. We promote a wide range of innovations and technology which is suitable for local, environmental and farming conditions and benefits all stakeholders including smallholder

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Speech by the President of the Republic on the occasion of the reception Accelerating our industrial reconquest.

Madam Mayor in particular, thank you for simply this testimony, but this ode to industry, ladies and gentlemen industrialists and entrepreneurs, trade union leaders, employers,

ladies and gentlemen.

Much has been said through these testimonies in an extremely clear way about the issues. But I would like to start with two observations that are without appeal and I think we must build on to try to speed up and build useful action.

First, France has become more deindustrialized than other countries in Europe. There has been a crisis and deindustrialization that has hit many economies, but we have experienced greater deindustrialization. Sometimes he was allowed to do that. There was an almost ideological choice to finally say the industry, these are not good jobs. It is better to be a country of services and tourism. Sometimes it was also suffered. And as you can see, we have lost 12 points of the share of industry in French GDP in just over 40 with the losses of industrial jobs that go with it. So this deindustrialization is the fact that from the end of 2000 until the summer of 2017, we lost industrial jobs every quarter and that there were basically nearly a million fewer industrial jobs during this period. What we have discovered to our cost is that it is dragging the whole economy down because when the industry leaves, the services attached to it leave and the administrations that remain to hold a territory leave with it.

So industry has an economically and territorially structuring role. Rather, they are good jobs, jobs that pay better than others. And so it pulls, if I may say so, the rest of the economy into good jobs. So when you deindustrialize, you suffer even more. The figures are there to show the great difficulty. So at the end of this period when the share has almost stabilized, post-financial crisis, we lose about 600 factories. So there is a phase of deindustrialization, if I may say so, gradual. There is one when other countries make reforms in the early 2000s, which we do not do and after the financial crisis, we deindustrialize even faster than our neighbors. So there was a pro-cyclical aspect.

Yes, we have deindustrialized more than others, which puts us in a deadlock. First, because it means that we create dependencies when we deindustrialize, whether we like it or not. We have experienced it sometimes more than others in the Covid period or elsewhere. The second thing is that you cannot have a strong social model by deindustrializing. And that's the impasse we've gotten ourselves into because we can do it up to a certain level. This is the one that has been tested, that is to say, we are raising taxes, we are despite our reductions, still very high, we are running a deficit, we have accumulated a lot. But at some point, we have to produce more wealth and we created a huge differential. If I take GDP per capita, we have a differential of 10 points compared to our German neighbours, 12 points compared to our Dutch neighbours. The explanation for this is deindustrialization. It is not sustainable in terms of our social model, in terms of our public finances and it is not sustainable in terms of foreign trade.

When we look at our foreign trade, we export agriculture, our agri-food, our services. After energy, industry is our problem. Without industry, we cannot succeed in our ecological transition. The battle for climate and biodiversity cannot succeed with a strategy of deindustrialization. What for? Because, in fact, we import products that we do not choose and therefore we import models that are perhaps less demanding than us in terms of climate and that are more detrimental to biodiversity. It is also not a good solution. That is the situation, first observation.

In recent years, we have seen a very strong acceleration: not ours, that of the world. We have a very strong acceleration of a twin challenge that we link very deeply in our strategy: climate change and the protection of biodiversity. This challenge of ours, which has been documented by the IPES and the IPCC, means that we have a transformation to make of our industrial and productive fabric if we want to meet it. And if we want to meet it in a coherent way, we must have a mode of production in our industry, our agriculture, our agri-food industry that reduces our emissions and is more respectful of biodiversity. While being consistent in our import strategy so as not to create new dependencies that will encourage deforestation on the other side of the world or the destruction of biodiversity, or practices that are the exact opposite of what we are asking for here. This is the first acceleration that justifies having a coherent strategy of carbon-free industrialization, in any case respectful of the climate and biodiversity objective.

The second acceleration is the technological acceleration that is transforming industry squared. It is quantum, artificial intelligence among others and that we see deployed in absolutely all industrial segments and that revolutionize production methods, even industrial products themselves. We have very clearly on this subject a technological acceleration that makes it clear, the key is to know how to decide very quickly, to invest massively to be at the top of the wave. And if I may say so, we have experienced it in other segments such as medicine. Many of you, whose faces I recognize, are more in the pharmaceutical industry or medical devices. We experienced it in the Covid period. We had a general alert in the world. Countries that had a good innovation system and put a lot of capital into it were able to do in less than a year what was thought impossible. We had never, in less than a year, invented a vaccine and we had never stabilized a messenger RNA vaccine. It was done because there was a concentration of resources and technological innovation. So there has been an acceleration of technological innovation and in particular of disruptive elements.

Then the third acceleration, it is geopolitical. There is an acceleration of the rise of conflicts, obviously, the return of war in Europe with Ukraine and consequences that directly affect our industry and our ability to produce because for Europe. It is not just a geopolitical shock, but it is a fairly asymmetric energy shock because we are much more affected than others. And if I compare us to the Americans, we are not oil and gas producers and so we have essentially suffered an increase in our costs without being producers, having to carry out accelerated diversification. Obviously, there is the acceleration of geopolitical tension between China and the United States, with two production models, two very polar choices. Obviously, I am not equidistant from us. The Americans are our allies, we share the same values. But in this battle, we don't want to depend. It is not our vocation to become the consumers of American industry. So very clearly, in this game, we see that we have a China that invests massively with a very stato-centric model and a relationship to public freedoms that is not ours. And we have an American choice that has been made and that is at odds with the last 20 years, which is rather America First, and which is to say we are not going to fight so much for the Chinese to respect the rules of international trade — which was what we did until then. In fact, we are going to do like them, we are going to over-subsidize the parts of the industry that we want to keep because, basically, we want to defend our national economic security and produce at home what we think is critical in terms of digital or cleantech, and therefore industries that are strategic.

This geopolitical acceleration implies an acceleration of our decisions and very clearly not just an awakening — because, as Commissioner Breton said, we did not wait — but critical choices for us.

The reindustrialisation of France and Europe is a key issue of sovereignty. If we don't, we will depend on others. There is at some point an immense geopolitical tension or crises as we have experienced or a new Covid pandemic, we can be broken. I let you imagine what that will mean. So it is an element of sovereignty. This is key for the climate and biodiversity for the reasons I mentioned earlier. It is key for our territories and the cohesion of the country. Reindustrialization is the only way to give back projects and jobs throughout the country. This is key to creating good jobs and therefore giving opportunities to the middle classes, because it is what will allow progress for these generations and their children. And this is obviously key for more productivity and the improvement of foreign trade. So it's an economic, political, territorial and geopolitical battle. The battle for industrialization, and on which we must intensify our efforts for all the reasons I mentioned.

So second element, we have done a lot and I am convinced that this battle, we can win. We can win it because, first of all, we have objective assets: we are a country that has very good infrastructure, which has a public service structure that is extremely resilient, which is a strength, and we have a good school, a good education and training system. We have a lot of things to improve, I will come back to that, but when we look at the neighbours we have a solid structure, we have very good transport and development infrastructure.

We continue to invest, we want to do it, but they are there. We have a very good energy mix because we already produce very carbon-free energy. And these are the choices that were made by our predecessors, but the nuclear installed base is an opportunity for industry and the climate and that is a reality that should not be neglected. And then, we embarked on a resolute policy based on four pillars. I think that this slope that we have begun to bend must now be intensified.

The first pillar is a macroeconomic policy of competitiveness. Very often, there was a form of inconsistency in the French public debate, we must be honest. That is to say, we all defended the industry, but we were against the reforms that allowed it. That is to say, we were for industry, but to tax capital much more. That we were for industry, but to complicate labour law. The experiment has been done, it does not work. If you have a more complicated labour law than your neighbour, if you tax labour and capital more, you create fewer jobs because industrialists will set up elsewhere. Sorry to say it in such crude terms, but it is somewhat the basis of the observation we made.

And so, we cannot continue to deplore the consequences whose causes we cherish. So we tackled the causes, that is to say a real policy of competitiveness. We have lowered the cost of labour and capital and we have reduced taxes by 52 billion. 52 billion, half on households, half on businesses; on households, focusing on the working middle classes and those who invest in our economy with the flat tax; and on companies, in particular through the reduction in corporate tax, which has put us back in the European field.

The flat tax, the reduction of the corporate tax, the reduction of income tax, the reduction in labour contributions which will continue now with the reduction of the CVAE which is one of our production taxes, have allowed us to return to the European game in terms of taxation of capital and labour. The work orders issued six years ago have greatly simplified matters. Proof of this is the best experience in political terms; It's when we no longer talk about a subject. When you hear a lot about a subject, it's a problem. We said thank you for fixing it, but that means we don't talk about it anymore. I am pleased to note that there are no demonstrations relating to unemployment. No one talks about unemployment anymore. The issue has not been fully settled. But in a complicated period when several of our neighbours have re-increased their unemployment, we have continuously lowered it and it continues to fall, by more than two points. And that is the fruit of these reforms and of the commitment of all of you.

Then we invested in training and the quality of work. The reforms on schools, but also and above all the reform of apprenticeship which was, I believe, one of the great achievements of the recent period and which has a very clear industrial impact. We have gone from about 250,000 a year to now about 850,000 a year and we will reach one million apprentices a year. Investment in skills through the Skills Investment Plan. The work that has been done with our regions and local authorities in this area. We have reinvested in research, which is key and innovation with a multiannual law 25 billion euros of investment. To simplify, put more on certain research verticals and improve the attractiveness of the professions of researchers and teacher-researchers.

And then, we invested in energy with emergency measures during the crisis that we must fully assume because these are measures that have made it possible to resist. During the Covid crisis and during energy inflation, coming out of Covid and then during the war period. And this is key because they are measures of resistance that avoid destroying productive capital. And then by assuming to carry out an energy strategy that is the only one compatible with a carbon-free reindustrialization. This is the so-called Belfort strategy: sobriety, energy efficiency, massive development of renewable energies, massive development of nuclear power. Because thanks to the work done by RTE, the IEA, all the experts, we saw that there was not a single strategy that worked, but that we needed these three levers and what allows us today and tomorrow to have a secure energy production, one of the most decarbonized in Europe and to play on our achievements by accelerating what we must improve, which is the development of renewable energy. This strategy is, I believe, the right one. That is the first pillar, it is a policy of competitiveness. We improve quality, we lower costs, we invest in the factors of production.

The second lever is investment, because at the same time as we are making these reforms, we have assumed to invest massively in several plans from 2018 on batteries, electronics, pharmaceutical industries, artificial intelligence, quantum, which are each time several billion euros that have been put with the actors of the different sectors to precisely develop verticals with, Each time, obviously key centres, I will not return here, I will have the opportunity to come back in the coming weeks for some of them. To have a strategy, if I may say so, microeconomic, with very strong axes that we then sought, I will come back to this, to Europeanize.

Then with the Territories of Industry and France recovery, we irrigated this by developing our strategic sectors and reducing our dependencies. More than 800 localization or relocation projects have been funded. And then, France 2030 was built to continue the effort in different segments. Most of those I have just mentioned, but I will complete with agri-food, with cultural and creative industries and obviously pharma, space and several others that I have not mentioned, I will have the opportunity, here too, to return to France 2030.

The third pillar of this approach is Europe and a European industrial policy. And here, I will be very clear, it is a small doctrinal revolution that we have led in recent years. Until then, Europe only spoke to consumers. Europe had a competition policy and a trade policy and it thought of itself as an open market. That is the reality. And it made the de facto choice to give up the industrial base if it would lower prices and open up the economy. So some countries that had played a lot on their own competitiveness were doing well or that had greatly intensified their choices, were doing well. But this is not sustainable and above all, this approach is not sustainable with a climate and biodiversity strategy and a sovereignty strategy.

And so, this European sovereignty approach announced in the Sorbonne speech, we declined it and the European Commissioner is quite right to say "very early and before crises". We began to have a densified defence industry strategy in 2018. We created these famous IPCEIs, these European investment plans. It is still 50 billion euros of public and private funding that we have massified on first priorities. Then, there was an acceleration of this phase during the Covid period where, under the impetus of the European Commission, we invented a policy that did not exist and I would say almost without a mandate but to structure our health industry to recreate the value chain, secure parts of our value chain, and also develop investment.

As I have often said, without Europe and this policy, we would not have been able to vaccinate as we vaccinated in France. There has been an acceleration through what is called the Versailles agenda, which is what we built together in March 2022 which, in the light of the first weeks of the war, led us to say that we can clearly see that we need to accelerate our strategic autonomy and that we need, in terms of technology, In terms of semiconductors, energy, health, agri-food and others, to accelerate our sovereignty and autonomy. This awakening is salutary and I think it has really made it possible to build, to support innovation, the reconstruction of value chains. In microelectronics on batteries, on hydrogen, we have developed very important projects with a real Franco-German alliance, but a real European portage.

And we have been able, in parallel, to build one of the most ambitious climate policies in the world with Carbon Neutrality 2050, 2030 objectives declined, the shutdown of 2035 combustion vehicles, a carbon border adjustment mechanism and a social climate fund to support. All this is a policy of recoherence. Sovereignty and climate have been reinjected into a policy that was essentially for the consumer and openness. Added to this is a phase of acceleration in recent months, which has indeed been the reaction to the American IRA, where we have negotiated to have exemption mechanisms like the Canadians and the Mexicans, or then we have built similar rules, and the Commissioner was right to insist on two things.
We have defined the sectors on which we will put more investment and acceleration, those that are the technologies that will make it possible to move towards carbon neutrality and we have adapted our state aid rules by creating flexibility and saying, basically, it is an emergency so we must adapt the framework to face all these challenges and make it possible to decarbonize, to invest, to support this transition and to have a fully adapted industrial policy. This is what we defended as early as December during the state visit to the United States. It's to have this acceleration in a way to put us in a position to do the same thing.

The fourth pillar of our strategy, so far, is a territorial strategy, as the mayor recalled. The Territoires d'industrie program is an alliance with all the territories that had this history, this desire, this will to do. The program involved 149 industrial territories and 550 intercommunalities. It is an approach that has given carte blanche to elected officials and industrialists to build their action plan. And so we have built 2000 actions that have been identified as part of the program, 2 billion euros mobilized, about 50,000 jobs that are being created. And this is connected to everything we have been able to do through France Recovery and the France 2030 mission, and obviously our "blue roosters" of the French Fab as well as our startups that have come to irrigate all these territories.

The territorialisation of this policy is absolutely key. And this is why most of these jobs are outside Paris. They are sometimes often in provincial cities that are sub-prefectures or cities that had been hit hard by deindustrialization, and on a few large industrial sites that concentrate energy challenges. We also have in Fos, Le Havre, Dunkirk, real multi-company poles of attraction. The results of all this are very clear results that I want to emphasize at the macro and micro level.

And basically, I was talking about some territories, but when we look at Chalampé in the Haut-Rhin, Fos, Le Havre or even Denain, we have real industrial transformations that are happening. Dunkirk, where I will be going tomorrow, is simple: we had lost 6,000 industrial jobs in 20 years. Thanks to what has already been signed, 16,000 jobs will be created by 2030. On some sites, it is not just that we repair, we are even overtaking.

Nevertheless, at the macroeconomic level, we have results: unemployment falling, as I said, by just over 2 points; Growth that remains solid, 1.7 million jobs have been created, and above all, we are clearly recreating factories: 200 net factory creations in 2021-2022 and 300 since 2017, which means that we have repaired half of the factory destruction made since the financial crisis, and about 90,000 industrial jobs created since 2017.
This means that if we continue these efforts, basically, we will have repaired the consequences of the financial crisis and the post-financial crisis drop-out by 2027.

My conviction is that given the acceleration I mentioned, we can and must go much further in many territories by 2030. We also have real results in terms of attractiveness. The fruit of this policy is what we see through Choose France and what we will see with the ministers on Monday at the summit. For the fourth year in a row, we are the most attractive country in Europe in terms of investments and I think we will surpass investment records on Monday. 75% of these investments, and their consequences in terms of jobs, are in medium-sized provincial cities and in all territories. It is therefore lives that we change everywhere on our soil.

Then, at the sectoral level, here too, we have real results. On semiconductors, we had an installed base thanks to our tradition and in particular to the strength of the Grenoble site. We were able to use, by stealing a little from the start, the European Chips Act. We will double semiconductor production in France, particularly in Grenoble. For medicines, I thank all the players in the sector, we will accelerate access to the market for innovative treatments with early access and direct access and therefore our health innovation plan, on medicines, innovation and medical devices. We have simplified procedures, accelerated, invested, so we will succeed in innovative treatments and their access. We will also have the relocation of other strategic drugs that we will announce, starting in June, and I will be on the ground to do so with the competent ministers. This is key to dealing with the tensions that we have experienced in recent weeks on certain drugs that are the result of our dependencies and bottlenecks on certain parts of manufacturing. On critical metals, here too, with a metals fund that will be deployed in the coming years, a lithium recycling mine in Allier and therefore real very concrete sectoral results, with projects to decarbonize transport and industries. To take the lead in the race for electric vehicles, we have three projects for very large factories, gigafactories, in the North: the ACC plant, which will open in May with production autonomy by 2027 and export capacity by 2030 in terms of electric batteries.

Now the fight will be to go back upstream to secure the elements of production, upstream of the battery, on our soil in terms of hydrogen, there too, with gigafactories of electrolysers, the production of equipment for mobility and two first projects of production of carbon-free hydrogen. For example, we have the projects of Plastic Omnium, which is the largest in Europe in terms of the hydrogen-based automotive industry, to projects like GENVIA in Béziers, which are key in terms of innovation between the CEA and Schlumberger, which will allow us to secure the upstream and production of electrolyzers. We are in the process of securing the entire chain and learning from the past, that is to say that we are not simply developing carbon-free solutions, but we are putting ourselves in a position to produce industrial solutions, and reduce our dependencies throughout the chain. This is the same thing that we are doing and that we want to accelerate with the wood industry, which is absolutely key to decarbonization, both by securing downstream and use with regulatory changes, RE2020 and new standards that will enhance wood in construction. This is also absolutely key for our decarbonization and with a whole strategy going upstream to improve, lower the cost of production by continuing to improve quality and make better use of French forests. This presupposes structuring upstream, as we know, the investments we are making and support for all stakeholders. Without the constant support of all, and I really want to thank you all because each time, it is the logic of territories and sectors, that's the matrix, it's the industrial actors, it's their employees, it's the trade unions, it's the branch and sector organizations, the elected representatives in the field and the services of the State. I really want to thank the ministers here, their administrations and their teams, not just for today's event, but for all the work that is being done behind it and that makes it possible to have these results.

In terms of innovation, we also have very convincing results. The France has become an entrepreneurial country with 25,000 startups and business start-ups at its highest. So we are still in the top 2 or 3 in terms of the number of start-ups created, but now also in terms of the number of tickets and raises, the size of these tickets and these raises, we have consolidated our entrepreneurial fabric, which was already a real force for almost 10 years. The weaknesses we had in terms of consolidation and growth in Europe of our start-ups, we responded by deepening, improving the integration of the European market and building more innovative financing solutions, with in particular the Tibi fund and with several sectoral funds that allowed us to have much larger raising, in terms of health, for example, but also artificial intelligence, quantum, energy and hydrogen. We have start-ups that are rising and industrial start-ups that irrigate the territory with our famous Deep Tech. These start-ups that are becoming more and more industrial and contribute to the objectives we have set, it is Verkor that will help us on the production of electric vehicles, Rosi Solar on recycling, Pasqal on quantum and there too with very clear results alongside our communities. It is this dynamic that I mentioned that brings together all those I mentioned, plus our operators, BPI France, Business France, ADEME, but also the CRE and the Caisse des Dépôts and several others, present here.

So, now, that we have done all that, we have irrigated the territory, we have these first results, we have shown that there is no fatality, we have a real consistency of approach, we must go further. It is on this point that I wanted to conclude my remarks by relying on the work that was carried out — I thank them, by Bruno LE MAIRE and Roland LESCURE — the very broad consultations with several parliamentarians present here, who worked alongside them and elected officials and companies, entrepreneurs, employees and unions to build the green industry bill. I want to say it again, the French industry of 2030, it will have to be decarbonized, respectful of biodiversity, digitized and transformed. It is this challenge, which we want to take up, which we are going to take up. It means developing a timber industry in this direction; a cement sector that must be decarbonized and more generally the entire off-site construction sector that will be deployed; a chemistry sector, it has been very well said, which must be transformed but which we cannot do without; an electronics sector that must also be strengthened; A hydrogen sector, batteries, carbon capture that must emerge, and at the same time all that we have been able to do on the health sector. To do this and to accelerate, we will focus our efforts first by accelerating what has worked and by sticking to the line of competitiveness. I say it here very clearly, I hear people saying "it would take a turning point, a this, a that", what works best is not to break it. I tell you in all sincerity, I will have a policy of macroeconomic consistency.

What does our country need to do? To continue to be competitive on capital, labor, innovation, to continue to be reliable and clear on its strategy and to increase the quantity of labor. It is in this strategy that the pension reform is inscribed, I say this by assuming it in a very clear and very quiet way. If the France has deindustrialized and has a weakness compared to its neighbours, and the 10 GDP gap with Germany, it is because we work less than our neighbours in the life cycle, it is because there are fewer young people who are in employment, it is because we work less in key ages, and it is because we work less time. And it is not true that we will reindustrialize if we do not do this and it is not true that we will have the most ambitious social model in Europe if we say "this is great and it will live for all eternity." No. So we must also succeed in the battle to move towards full employment and more jobs. But we must also have a competitive industry. We will therefore keep the line of tax cuts, confirm the decrease in the CVAE, offer visibility to industrialists so that they benefit from carbon-free electricity at competitive prices. This is based on targeted aid policies, when there are very short-term booms, which we have assumed, a policy of reforming the European market which is essential because it will make it possible to avoid volatility because, given our production structure and our production costs, there is no reason for us to have volatility, We, in France, and therefore the reform of the European electricity market will allow us to reduce price volatility and bring them closer to production costs and our electricity mix. We just have to bridge the gap until early next year when it comes into effect. It is the deployment of our own strategy, which is to continue to have sovereign, carbon-free, nuclear and renewable production, with two major texts that have been passed in recent months with ad hoc majorities, and I congratulate the Minister on this, but which have made it possible to accelerate projects on renewable energy and to deploy a strategy on nuclear power.

The second lever for accelerating our strategy is to continue to bring the French people to employment and industry. We will indeed continue our efforts to bring everyone to employment and to the bottom, to meet the needs and at the same time to the chance for the country.

It is that we will have job offers, as you have described perfectly, in a lot of trades and therefore we must both break the representations we sometimes make, succeed in better orienting our young people, adapting our training and investing in the right place. That's the best battle, and that's the one we're going to fight. Industry needs skills and if we want to win this battle for acceleration, this is great news, I will give you the figures, 60,000 jobs are unfilled today in the industry.

Et encore, ce n’est que la face émergée, on a 100.000 emplois, pour ne prendre qu'un exemple, dans le nucléaire pour les prochaines années. Donc on aura des centaines de milliers d'emplois qui vont apparaître dans la réindustrialisation du pays. Et donc nous devons tout faire pour former plus d'ingénieurs chaque année, de techniciens, d'opérateurs, de collaborateurs dans tous les domaines et à tous les niveaux de qualification. Pour cela, que va-t-on faire ?

One, we need to improve orientation. If we want to change representations, we must inform young people and their families from the fifth grade. This is the next day of learning. I need you. We have lived in a dogma until now, which was somehow to close the school to the rest of the world. I believe that I am very keen on the single college model and the need to train all our young people in the learning of knowledge, critical thinking up to at least the third grade. But we must give them the opportunity to orient themselves in this world and to know professions. The third year internship is not enough. And so the orientation work must be done by the actors of the economic world. And so to bring in to explain, to give the taste, to show where the opportunities are, that's what we need in each territory, with local authorities, industry players, orientation.

We will also better make the link between high school and college to improve it. Then there is the fundamental reform of the vocational high school. It is fundamental because it is a third of our high school students, 600,000 high school students each year. And this is one of the greatest injustices in the country. That's 600,000 high school students every year because we haven't adapted the training map enough. A third of them will drop out and for those who will go to the baccalaureate or who will have a higher education diploma, only 40% will have a job. If we had these figures on the rest of our education system, we would have tackled it a long time ago. Simply, this is where the children of the most modest families are concentrated. And so we thought that because we had 80% of bachelors, we could not reform. It needs to be addressed.

And reindustrialization is a great opportunity for our professional high schools. So what are we going to do? We will first change the map of training, as close as possible to the territories with the regions, the cities, all the actors in the field to say what are our needs today, what are our prospective needs and what does each professional sector give? And when a sector does not give access to a job or access to a diploma, we must agree to close it. And so we must close the sectors without outlets and we must open the sectors where there are needs. We will carry out this work ardently in the coming months to change the map by the end of the year and obviously reinvest massively in training where there is demand.

The second point: we will invest in zero dropouts, which means having smaller class sizes, and invest in skills so that there is no more dropping out of high school pro and move towards 100% integration, which will make it possible to adapt the pedagogical model, the link with companies, adapt the duration of internships and improve this link. This, we do it by relying on the success of the learning that we will obviously consolidate. As I said, we have tripled the number of apprentices, we are going to go to one million. But besides that, we will carry out this reform of the pro high school. And then, we will continue to bring schools and universities closer to economic actors.

And in this regard, we will continue the reform of short courses in higher education, of bringing our universities closer to the business world, which is a decisive element. In addition, we will massively accelerate training for the trades of the future of the industry by giving ourselves the means. With the means to France 2030, more than 15,000 new training places for industrial professions will be opened from the start of the 2023 school year. That's working with CFAs, engineering schools, universities. And this is also the declination for the superior of what I have just said for the vocational high school. But these are training courses adapted to needs, as close as possible to the field and which also make it possible to ward off another form of inequality. For many families, sending children to train in the Metropolis is a cost, in terms of housing, sometimes transport. And so, developing training that is sometimes shorter, adapted, superior, as close as possible to where one lives, sometimes in cities, in sub-prefectures or small prefectures, is much less expensive and this is what also allows access to these trainings. We will accelerate this effort, especially on the trades currently in tension in the industry, on those of tomorrow which will be the key. 700 million euros will also be committed in the coming days and in the coming year to change the map of training at all levels of diploma and basically, systematize what I have just said in the vocational high school up to the master's and doctorate, but also to the professions of technician and engineer, through the requalification of employees to new technologies.

We need, as I said for young people who are in vocational high school, for young people entering the first university cycles, our employees who are retraining, the long-term unemployed who need to retrain, to have at the level of each territory a map of needs and alongside that, Adapted training. And it is this investment that we will accelerate. This is exactly what we have started to do with, for example, the battery academy in the North, the hydrogen sector project in Occitania, the production schools or the campuses of the trades that we have developed in recent years. I think there is also obviously the role of our engineering schools and our various university cycles. For that, we will need you, to build adapted training courses and especially to make them attractive.

The third lever is to accelerate the momentum of France 2030. So competitiveness, training, skills and the dynamics of France 2030. We will continue to accelerate deployment with all industrial players. Over France 2030, €13 billion has already been committed for 2,800 projects that have been supported and we will have committed more than €20 billion before the end of the year, with projects led by industrial start-ups such as mid-caps or large groups, in the field of space, nuclear and medicine, agri-food, culture, with also the first factories. We already have about thirty projects announced and 13 new projects will be revealed today of deep tech and therefore industrial startups.

You have within this map the representation of all industrial projects, with 13 new projects that are now revealed that will irrigate the territory. And here too, it is in the whole France. And so France 2030 is also, beyond this policy of acceleration in all territories, a major lever for decarbonization on the 50 most emitting sites. I remind you that it was launched a few months ago. Industry accounts for 20% of CO_2 emissions, and half of that is on 50 sites. So we focused the effort on telling these sites, "We're making a pact, we're helping you and you're lowering emissions." And we will accelerate this approach as part of ecological planning, sector by sector and site by site.

The fourth lever of acceleration is to reactivate the dynamics of the territories and to multiply what has worked and that I mentioned. And so here too, the Territories of Industry program will be relaunched by changing the map of the 149 territories that have worked. We are going to invest 100 million euros this year by supporting reindustrialization projects with a strong territorial impact and by seeking, if I may say so, territories that are even more in difficulty or further away from employment. Basically, we have models that work very well, on which we are already succeeding, Dunkirk type, because we had existing industrial potential but deindustrialization had taken its toll. We have already repaired the last 10 years and we will largely exceed because it is at the heart of decarbonization and the sectors of the future.

In the same region, we have territories that are very depressed (Béthune, Denain) and there we are going to go all out with Territoires d'industrie, second generation, to seek them out further and reopen — we have started to accelerate in recent months —industrial sites and accelerate this reindustrialization strategy in these areas. We are going to relaunch a phase with elected officials, who for many are there, to have simplification, projects that are basically scaled up, from each sub-prefecture to get the projects we need and that will to restore perspective.

And then to achieve this acceleration, we also need to open a new chapter and, basically, to enter into a new logic given this acceleration of the world. And this is basically the last point of this acceleration. This is the very meaning of the new European framework that I mentioned. What have we done at European level in recent months? We said: we put in place, we adapt all the rules, we define industrial policy objectives and we adapt our State aid rules. In a way, we lift our constraints to meet a need for speed. It is the same thing that we must do at the French level and we must decline it. And so, if we want to open a new chapter and a new method, we have to build on what we have achieved in recent years but in a way stressing it, pushing it to its limits given the acceleration of the challenges we face.

To do this, we must first accelerate industrial establishments. You said it very well. It's a question of rhythm. And me, what strikes me is that the strength of the American plan is not just its amounts, it's that it's very clear and it's going very quickly. Basically, we can offer many billions to manufacturers. If we take three or four years to deploy them, we are already late. China is going much faster. The Americans are moving much faster. So it is clear that we have to change our approaches. So a lot of work has been done in recent years, in particular the so-called ASAP law. Lots of simplification levers. Deputy KASBARIAN is there, who in particular takes up these subjects with great courage. But if we look at things, the real deadlines for industrial projects today are 17-18 months. We have already reduced them a lot for some. Before, it was more like two or three years. Today, in reality, it is 17 or 18 months. What we have to do is bring them in nine months guaranteed. And so, in the green industry bill, we are going to put in place a system, which will make it possible to guarantee for 9 months, between the moment when we say we have all the authorizations and the start of the work can be done at up to 9 months later. It is a key element of competitiveness and reduction of delays and therefore of the cost for an investor. That's possible.

The mayor said it very well by putting all the procedures in parallel. I try to say it in a somewhat concrete way, but you have probably all experienced it. We have procedures that are complex, but which are also the fruit of social demands, of objectives that we have set ourselves. We're not going to say we're going to reindustrialise without having any more environmental, biodiversity or other constraints, otherwise I wouldn't be keeping the promise I mentioned. What is not consistent is that our procedures are done end to end; we have the environmental procedure, then we have town planning procedures, then we have the procedure. That's what's wrong. There, in a way, we say that all these constraints, it is the administration which must take them.

You have a project. We set up a project team, we take the constraint for us and everyone will do their work in parallel and we guarantee that in 9 months, the environmental, administrative, urban planning, phyto etc. subjects are dealt with. We guarantee it and we know how to do it because in fact, we don't take more than that today.

The second thing is that it avoids abusive recourse. There is legitimate recourse, but we know very well today that in many of our projects, we have abusive recourse which suddenly sets in as a result of the inefficiency of our procedures. And that creates discouragement. When territories no longer have the possibility of carrying out a project. It's not true that after 3 years, people discover something new when the studies are well done. So we will all gain in professionalization. We do all this in parallel and we guarantee in 9 months, a key element. That means, basically, as you have understood, halving the time required to obtain permits. And all that must be done, you said it very well, by consulting the public better and therefore by optimizing our procedures, the association of scientists, experts, the public in the matter.

And then, for major projects of national interest, we are going to provide for an exceptional procedure to prevent them from leaving for competing economies. And there, on certain projects of national interest, we must give ourselves the means to go even faster. All of this will allow us, as I was saying, to move towards reducing litigation times. First point on speed.

If we want to go even further and I hear what is sometimes said, I travel to the territories, we basically have another challenge. We want to fight against the artificialization of our soils for biodiversity, it is completely legitimate. And so people tell us “you have put a lot of constraints, with zero net artificialisation and you want to make industrial projects for us? It's never going to work." Yes. If we organize ourselves, plan and take the constraint. We need approximately 20 to 30,000 new hectares if we really want to massively reindustrialize. We happen to have between 90,000 and 150,000 hectares of brownfields in our country. You have to know how to use them properly.

Today, the great difficulty is that we leave municipalities that sometimes do not have the means to make this conversion. We don't have a good compensation system, it's extremely expensive to convert these sites, it's too long, too slow. And there, in the same way, at a time of land sobriety, we are going to tackle these sites and these wastelands by planning our locations. I believe that we can do very concrete “at the same time” on this subject, to quote the great authors, which is reindustrialization and non-artificialization and hyper acceleration.

By doing what? By decontaminating wasteland and providing pre-developed and ready-to-use sites. In fact, we should not wait until we have a project to redevelop these wastelands. We have to tackle it now and that's what we're going to do. And so, we will build a strategy to build what we will call sites France 2030. With the communities, we will identify these sites and therefore it is a work with the regions, the metropolises, the municipalities, etc., the intercommunalities. We will identify these wastelands where local actors are ready to say: let's go; where there is consensus. We invest right away. We do not wait for the project to be on the table, we renovate them, we put in place everything we can put in place before having a project. And like that, we know, the day there is a project, we have already done three-quarters of the work, we have revived them. 1 billion euros will be invested by the Banque des territoires for these industrial projects in the transition and in particular on these sites by choosing an attractive site for industrialists and preparing the development as much as possible. And here, we will have to be very concrete.

There are lands, as we know very well, that are not suitable for certain industries. There are some who need proximity, connections. There are others, not necessarily. So we will have to be very pragmatic, realistic, but we will already do this work of anticipation, pre-development, pre-equipment. And so we mobilize 1 billion euros with the Banque des territoires, we mobilize associations with all elected officials who are ready for it and we accelerate to precisely release industrial land available by better exploiting the wasteland.

To put all this to music, I hope that we work collectively on a national strategy dedicated to the issue of industrial land, with the communities obviously, who will be associated with this work. But it is also a huge challenge for all players in the recycling and circular economy sector. Because behind it, there is a lot of work for this sector that we want to develop, which creates jobs. When you redevelop a site, there is a lot of business potential for players in the circular economy and recycling. So that's a real acceleration strategy. As you can see, in the paradigm shift and new chapter, we are accelerating industrial establishments through these new levers.

Then, we will go further in terms of funding. This is at the heart of the bill that the minister has prepared and that will be presented to the next cabinet. With, basically, we are the first in Europe to decline what the European texts allow us to do. As I was telling you, the Americans, their IRA is good because they are moving quickly on procedures - that's what we're going to do with what I just told you - and they are putting in place simple things, tax credits. We are going to introduce a green industry tax credit.

To support green technologies, by fiscally supporting decarbonization, we will set up a green industry tax credit for the technologies identified in the European texts, i.e. batteries, i.e. heat pumps, i.e. wind turbines, solar panels. The analysis made by the Ministry of Economy, Finance and Industrial Sovereignty is that it will trigger 20 billion of investment on the national territory by 2030.

What for? Because these are very simple mechanisms, very visible to the industrialist and immediate, which moreover complements the aid that can be made, European IPCEI mechanisms. It's right away, it's visible.

Afterwards, we will see if we perpetuate them according to what our competitors do, but this is what will also allow us to massively reduce imports of equipment or strategic components from other countries, which benefit from them. Because in doing so, we are realigning ourselves with China and the United States.

Second element, to support all the 20,000 SMEs and industrial mid-caps that want to decarbonize, our famous blue roosters, we will make all this aid more readable, with the tools Bpifrance and ADEME and their devices, green loans 1 billion euros, green guarantees, 1 billion euros that are supported by the text, with a green subsidy for VSEs and SMEs and also with support in support of the CDMA networks and CCI. And so it is a mechanism for simplifying aid for the actors who are the smallest, if I may say so, and for synergizing the networks of the State, local authorities and all the actors of the territory.

Alongside these innovations and this work, it is the mobilization of private savings. The minister will have the opportunity to come back and deploy, but we will develop private equity in life insurance and the PER to direct it towards green industries by developing new products and making it possible to multiply. New products on the one hand and to do for green industries what we did on startups, and that we will also bring to the second generation. I will have the opportunity to come back to it at Viva Tech in mid-June, these are the famous Tibi funds, that is to say mobilize institutional funders to raise more money and finance in own funds players in the sector. And then, a green industry label to direct investments towards the most virtuous projects for industrial development in France, which is also absolutely key. All in all, with France 2030, this funding framework should allow us to compete with the American IRA and we will be one of the first European countries to be so attractive by deploying all the instruments that the text proposed by the Commission allows. All this will be clarified in the coming hours and days by the ministers. It will be presented to the Council of Ministers next week and will arrive in Parliament in the coming weeks so that it can be voted on as soon as possible. And so these are things that are going to roll out this year.

And then the last point to complete this strategy, as you have understood, is to intensify what we have already done. Open a new logic of acceleration, new projects, which is more financing by using European texts, change the logic of support, and basically, assume a new doctrine of European economic security and economic coherence. And I will end on this point of doctrine that I had the opportunity to raise with some of our European neighbours, in particular in the Netherlands, but which is close to my heart. Basically, I think what we are doing and what we have to step up is to assume the fact that we do not just want to be a green market, but to produce green on our soil. And so we have already passed a lot of regulations in Europe, more than all the neighbors. We are ahead, in regulatory terms, of the Americans, the Chinese or any other power in the world. We have set ourselves the 2050 2030 objectives to decarbonize, reduce phytos, etc.

I call for a European regulatory pause. Now we have to execute. We must not make new rule changes because we will lose all the players. So we need stability. Now, we must speed up deployments because otherwise, the risk we run is basically to be the best bidder in terms of regulation and the lowest in terms of funding. So we are compensating for that. But that was the lag we had after the American IRA. So the first point of resynchronization and coherence at European level. We're going to fight for it. We implement what we have decided, but we stop adding more every day. And we are accelerating European funding because we need it. And I will support the sovereignty fund proposed by the Commission in the coming months. We must be very clear, we cannot succeed in technological sovereignty, the transition for the climate and biodiversity, for our industrialists and to support households, if we do not invest massively at European level. The priority must be there and therefore we must assume consistency. We are making this change, we are supporting it, we need a real policy of massive investments. In addition, we must have a coherent policy and put the consumer in a position to choose. Several of you have pleaded for it, it is also one of the real contributions of the climate convention in our country. We started to do this with the Carbon Score which is provided for by the Climate and Resilience Act. We need to have a carbon labelling instrument and, ideally, we should have it at European level. In Franco-French, we will have from next year, we will start on textiles. We will then generalize this to food. But this Carbon Score, the environmental labelling, is a very good thing because for the consumer, the citizen, it is a lever for change and it is also what makes it possible to value French and European manufacturers and producers who make the effort and to allow consumers to say "Yes, the Carbon Score or the environmental labelling is very bad because it is a product that, Certainly is there, but comes from the end of the world." We must have this European policy, we must have carbon and environmental labelling at European level. We must fight this battle, it is key to be consistent.

The third lever is a doctrine of coherence and economic security. It is that we must agree to target our aid and our purchasing policies on what is good for the climate and what is good for Europe. And I say it very clearly, we must not repeat the mistakes we made on, for example, photovoltaics. We have massively deployed photovoltaics in Europe and, at the same time, we have massively destroyed our photovoltaic industry. And so we built a dependence on China and we made Chinese industry succeed. And I don't want anyone to say it on the battery issue, especially the battery issue. This is why we will also be the first European country to reform the criteria for awarding the car bonus as soon as the bill is drafted, to better take into account the carbon footprint of vehicle production and so that public support is targeted towards these objectives. In short, we will support batteries and vehicles that are produced in Europe because their carbon footprint is good. And we're not going to put these bonuses, it doesn't mean we're protectionism, we're not going to close the market. But we are not going to use French taxpayers' money to accelerate non-European industrialization. I think that is solid common sense. But in fact, we are going to do now what we did not do until then. And so, by the end of the year, we're going to mark that out. It is a small revolution and it is one that we also want to carry out at European level. When I see the discussions on battery regulations, I say it very clearly, I do not want Europe to be able to help in the regulation of batteries that are not made in Europe because it turns out that neither the Americans nor the Chinese help batteries that are made in Europe. Why would we be the only space in the world that likes what is done by competitors? We are not closing the door on them, but even though they have non-cooperative policies, we are not going to add our aid. It gets better by saying it. It is a very strong change in our policy, it is a coherence of industrial policy and decarbonization, it is to reward virtuous companies and that is what we are going to do. And so this signposting of the automotive bonus from the green industries bill, the fight that we will then lead in Europe and the reward to the most virtuous industries with the implementation of the new Triple E label to certify this approach, is key.

It is the same thing that we are going to do at the level of public procurement. And on that, we're going to do exactly the same thing. It is a coherence of doctrine and therefore we draw the consequences. We will focus on responsible public procurement, particularly in the most critical markets: solar panels, wind turbines, heat pumps and others. We will accelerate by two years, i.e. from July 24 instead of August 26, the mandatory implementation of environmental criteria in public procurement for key decarbonisation products, for example those identified by the European regulation on the Net Zero industry. On solar and onshore wind panels, renewable energies, maritime, geothermal energy, heat pumps. This means that we will be able to very clearly promote European production in our public orders. It will not take away intra-European competition. That is the tax credit that will respond to what you were saying and the acceleration of our procedures. But above all, it means that we will stop financing non-Europeans with our public markets and so we will do it from July 2024.

More broadly, I call on all public purchasers from the State, communities, hospitals and the private sector to follow us in this process. The rules are there, they exist. Public and private buyers must seize it. And that's a collective discipline. And finally, I believe in an agenda of reciprocity. We are going to continue to defend at European level, of course, the carbon border tax, which is a mechanism of reciprocity, sectoral regulations but everywhere what we call the mirror clause. And this is a key point of this industrial strategy and of a coherent economic security doctrine. What does this mean? This means that when you impose a standard on a European manufacturer or a European farmer, you impose it on your non-European competitor when you import the product. Because otherwise, what we do is useless for our purpose. Because we reduce the footprint on our soil, but if we continue to consume products that are not respectful of the climate and biodiversity simply we import them, we no longer produce them, it is the double loss. I tell you, that is what we are doing today. So I am not in favour of trade agreements made with countries that do not have the same constraints and that do not sign these mirror clauses. That is why we will continue to fight to say that trade agreements can only exist with people who have the same standards on climate, biodiversity, and the same health constraints that we impose on our industrialists, our farmers, etc. Because this is the only way to have a real reindustrialization agenda and pro-climate and pro-biodiversity.

These are the few points I wanted to come back to here today, thanking you not just for your presence and attention, but for your mobilization. As you have understood, the battle for reindustrialization is key economically, is key geopolitically, is key politically and on the unity of the nation. In recent years, we have all done a lot together. You have done a lot to achieve a real collective turnaround. Decades of deindustrialization have been averted, and this period has been brought to an end. Now we have to accelerate, go much further. And so the bill that we will announce on Monday, but the whole strategy that we will accelerate, national and European, is an acceleration of this reindustrialization that is absolutely key. We need more work, more capital, more technical progress, with a purpose behind it all: to have a real response to climate and biodiversity, more good jobs for our compatriots and more independence for our nation in an uncertain geopolitical world. This course is possible if we have consistency, ambition and collective mobilization. This is what I am counting on and therefore it is the mobilization of all of you on the course I have just set out and around the few instruments that I have just mentioned for the months and years to come.

Long live the Republic and long live the France!

https://www.ft.com/content/8385f5d8-b045-46a7-a822-47a9ba09e219

Macron warns of threat to global economy from energy crisis

French president urges world leaders to act on climate change with more financial pledges ahead of COP26 summit

Leila Abboud in Paris and Leslie Hook in London YESTERDAY

President Emmanuel Macron has warned that an energy crisis threatens the world's post-pandemic recovery, calling for leaders at a G20 summit in Rome this weekend to work together to stabilise supplies.

In an interview, the French president also urged bigger financial commitments towards the fight against global warming on the eve of the COP26 climate summit in Scotland, and for particular attention to be paid to a deal to phase out coal power.

The G20 needed to co-ordinate between energy producers and consuming countries to prevent a supply breakdown this winter, which risked "extreme tensions both economically and socially", Macron said.

"In the coming weeks and months, we need to get better visibility and stability on prices so tension on the energy prices doesn't generate uncertainties, and undermine the global economic recovery, " he told the Financial Times in the Elysée Palace. "What we expect is to have co-ordination to avoid soaring prices."

Global energy costs have surged this year, disrupting industry and hitting consumers with higher prices. Eurozone inflation surged in October to a 13-year-high of 4.1 per cent, according to a flash estimate published by the EU's statistics arm on Friday.

"I don't think we're going to be able to lower prices given tensions on the demand side," Macron said. "But what we need to avoid is to have a break in supply [and further] increases in prices, particularly as we're moving into the winter period for the northern hemisphere."

Emmanuel Macron: 'I don't think we're going to be able to lower [gas] prices given tensions on the demand side' © Magali Delporte/FT

Rapid economic recovery from the pandemic has pushed up energy prices "almost too rapidly" which risked "weighing on economic growth and putting a burden on households", Macron said.

France and a number of other EU governments have sought to protect consumers and businesses with billions in aid and price freezes.

Concerns have mounted that Russia's state-backed gas producer Gazprom has kept storage levels unusually low in western Europe, exacerbating fears over supplies and driving up prices.

Asked whether he blamed high European energy prices on Russia, Macron said: "I have no evidence that there's been manipulation of prices and I'm not accusing anybody. These are trading relations. They shouldn't be used for geopolitical reasons."

Asked about Gazprom's power over Europe, Macron said: "It's not a matter of whether we're too dependent on a company or not, it's how do we create alternatives. And the only alternatives are to have European renewables and of course, European nuclear."

France is the EU's biggest user of nuclear power, contrasting with a move away from atomic power by Germany and some other countries.

Macron called for Europe to develop a more diverse gas supply but also to speed up a transition away from fossil fuels, which will be necessary to slow rising temperatures and tame the climate disruptions caused by global warming.

"What is happening now is ironic, because we are building a system where in the medium and long term fossil energy will cost more and more, that's what we want [to fight climate change]," he said. "The problem is that industries and households will need to be accompanied in this transition . . . or it won't be sustainable."

The French president, who is facing national elections in April, has been a vocal advocate of multilateralism. He has pushed for more co-operation globally and at EU level to reach deals on issues including international taxation and global warming.

"The first subject for the G20 is to accelerate the exit from coal power" Emmanuel Macron

Against a backdrop of global tensions, a supply chain crisis and the Covid-19 pandemic, Macron said the G20 had a responsibility to work together, especially to help low-income countries. He urged leaders at the Rome summit to agree a plan for faster vaccine delivery to developing countries.

"France has always stressed the importance of maintaining multilateralism, but we have to get concrete results from it," he said.

The leaders of China, Russia and Japan will not attend the summit in Rome in person this weekend because of Covid-19 concerns and an election in Japan.

Macron said the G20 meeting, which is being hosted by Italian leader Mario Draghi on the eve of COP26, would also give countries a chance to hammer out more ambitious plans to fight climate change.

"When we'll be meeting in Rome, the major challenge is to ensure that members of G20 can usefully contribute in Glasgow, to making this COP26 a success," he said. "Nothing can be taken for granted before a COP," he added.

"The first subject for the G20 is to accelerate the exit from coal power," he said. G20 leaders expect a heated debate this weekend over including a pledge to end international coal financing.

"We need the G20 to go right through to the eradication of all international financing of coal-fired power plants," Macron said.

Macron also called for rich countries, particularly the US, to commit more financially to help developing countries meet their climate goals. And he called on China to bring forward the date at which it will peak emissions, from 2030, to 2025.

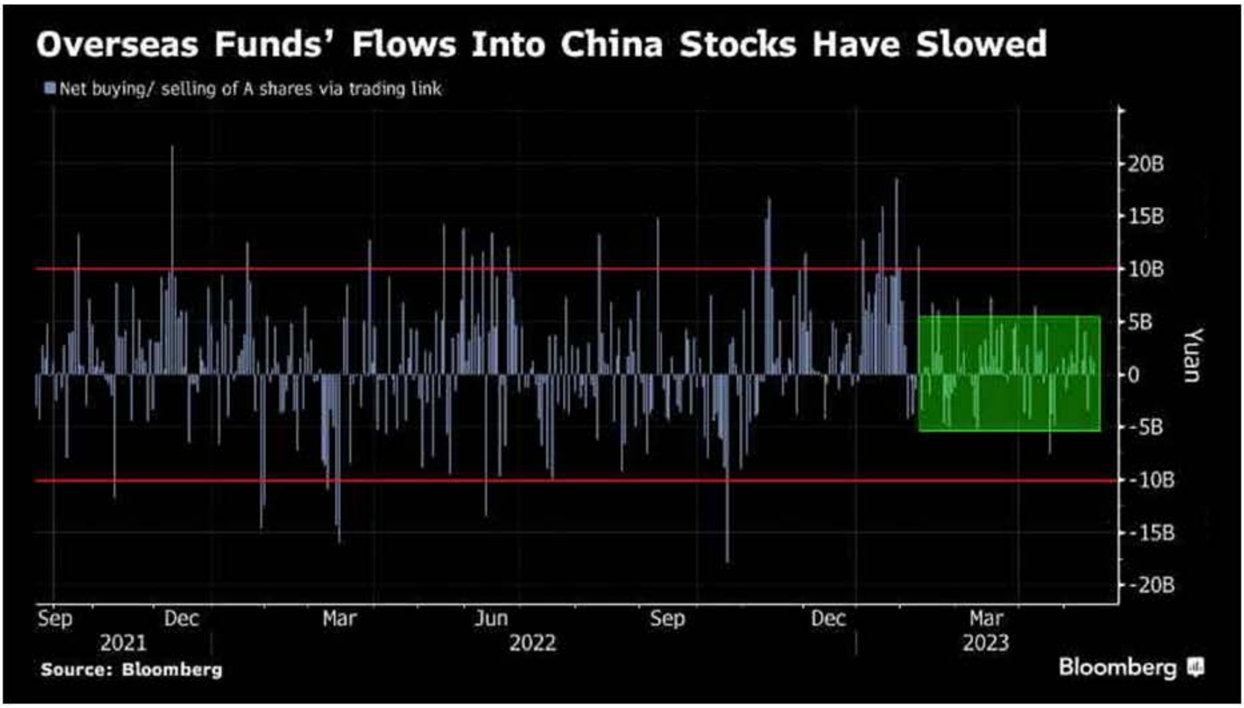
"So as not to lose more time, we have to do as much as is absolutely possible in terms of financing, and encourage the US administration so that they can convince Congress to front-load its financing."

Another issue will be to hold countries to their emissions targets for 2030 and 2050. "Our objective is to get maximum results from all countries," he said. "This pathway is possible, even if it's a challenge, especially for emerging countries which at the same time are trying to recover from the Covid crisis."

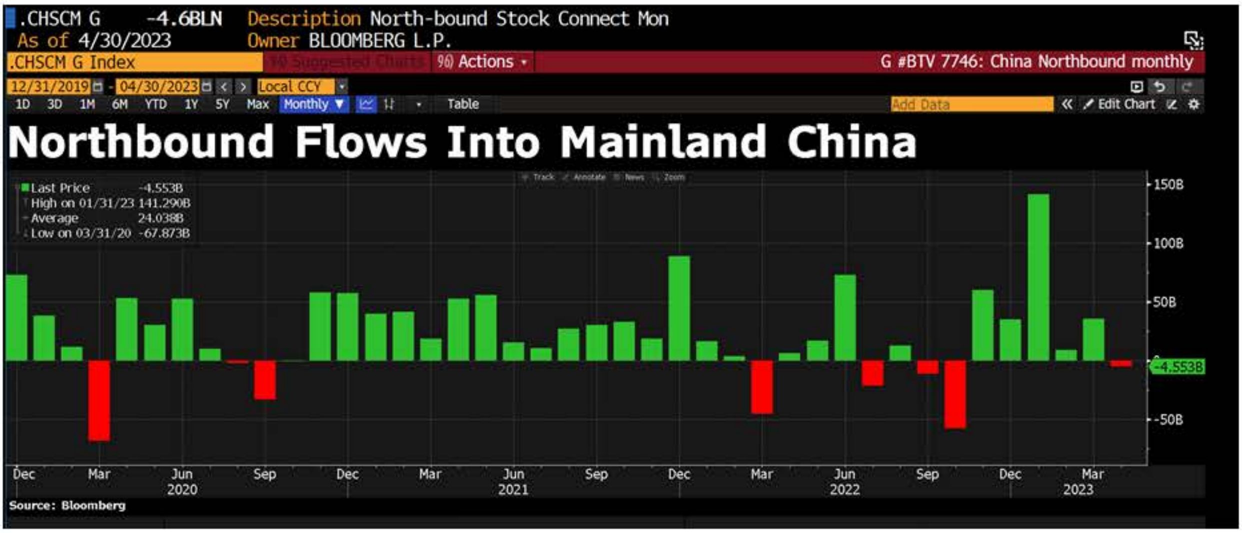
Macron also urged the G20 leaders to do more to help vaccinate the world against Covid-19. The group should end vaccine export bans, increase its donations of vaccine doses, and support vaccine production in Africa, he said.

"Every French person has given one vaccine to somebody else in the world," he said, referring to the roughly 60m doses that were on the way to Covax, the World Health Organisation's procurement scheme for low-income countries. "If everybody in the G20 could do that we would get to the 20 per cent of the population vaccinated. This is vital," he said.

Follow @ftclimate on Instagram



Overseas Funds' Flows Into China Stocks Have Slowed
Net buying/ selling of A shares via trading link
20B
15B
10B
5B
0
-5B
-10B
-15B
-20B
Yuan
Sep
Dec
Mar
Jun
Sep
Dec
Mar
2021
2022
2023
Source: Bloomberg
Bloomberg



.CHSCM G -4.6BLN Description North-bound Stock Connect Mon
As of 4/30/2023 Owner BLOOMBERG L.P.
.CHSCM G Index
96) Actions
G #BTV 7746: China Northbound monthly
12/31/2019 - 04/30/2023
Local CCY
1D 3D 1M 6M YTD 1Y 5Y Max Monthly
Table
Add Data
Edit Chart
Northbound Flows Into Mainland China
Last Price -4.553B
High on 01/31/23 141.290B
Average 24.038B
Low on 03/31/20 -67.873B
150B
100B
50B
-4.553B
-50B
Dec
Mar
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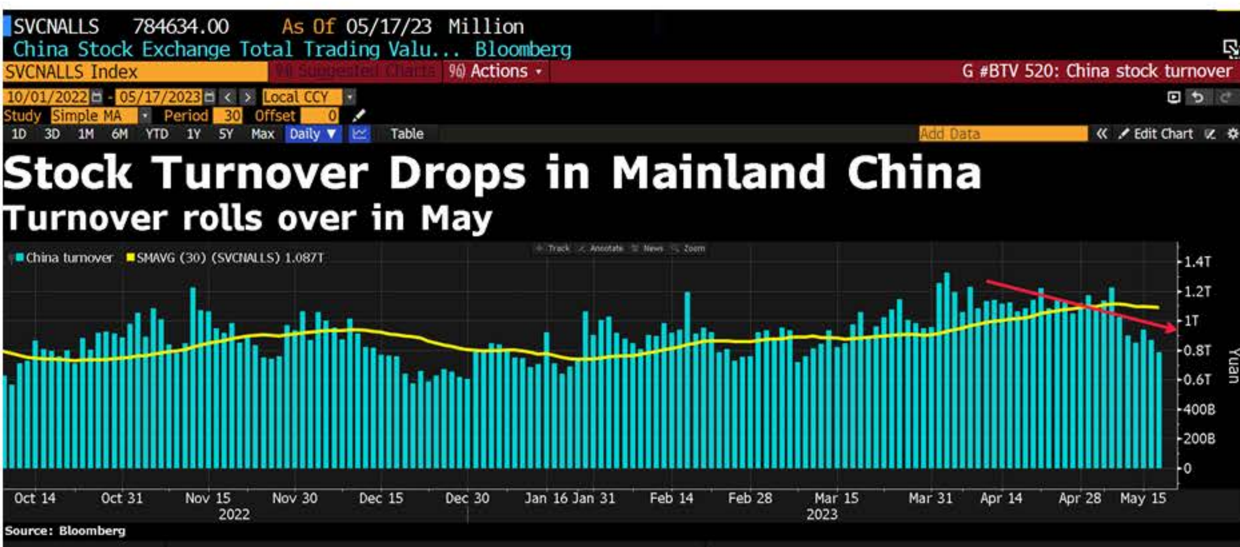
Source: Bloomberg



SVCNALLS 784634.00 As Of 05/17/23 Million
China Stock Exchange Total Trading Valu... Bloomberg
SVCNALLS Index
96) Actions
G #BTV 520: China stock turnover
10/01/2022 - 05/17/2023
Local CCY
Study Simple MA Period 30 Offset 0
1D 3D 1M 6M YTD 1Y 5Y Max Daily
Table
Add Data
Edit Chart
Stock Turnover Drops in Mainland China
Turnover rolls over in May
China turnover
SMAVG (30) (SVCNALLS) 1.087T
1.4T
1.2T
1T
0.8T
0.6T
400B
200B
0
Yuan
Oct 14
Oct 31
Nov 15
Nov 30
Dec 15
Dec 30
Jan 16
Jan 31
Feb 14
Feb 28
Mar 15
Mar 31
Apr 14
Apr 28
May 15
2022
2023
Source: Bloomberg

SAF Group created transcript of comments by Elon Musk in his interview with CNBC's David Faber on May 16, 2023. [LINK]

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

At 10 min mark, Musk "*Tesla is the only car company selling cars where we believe where the car is capable of achieving full autonomy with a software update. So the value of a fully autonomous car is, we think perhaps 5 times more valuable than a non-autonomous car."*

Faber "*Why?"*

Musk "*Well, the utility of a car, typically a passenger car is going to be maybe 10, 10 hours a week, maybe 12. If you say like somebody's going to drive an hour and a half a day, on average, so maybe an hour commute per day and then an occasional long trip but figure it's like 10, 12 hours a week is typical for a passenger vehicle. And then you also have a lot of costs associated with parking. You need a garage or you've got to buy a parking space or you've got to get a parking ticket at the mall. There's a lot of costs associated with cars. And now if you've got a car that's autonomous, that can go around and essentially be like an autonomous Uber, the utility I think is going to be, gonna be much higher perhaps, you know, and this again, there's so much speculative*."

Faber "I *understand, we're talking about robotaxis here. At least what people have called, you have called it.*"

Musk "*Autonomous Uber is the way to think about it. Perhaps the utility there would be in the order of 50 hours a week. This is just a guess. There are 168 hours in a week, and probably as a rough guess, an autonomous car will be able to be active, instead of for 10 hours per week, probably in our view, for about 50. But it's the same car. So the, and it costs the same to build."*

Faber "*I want to understand the business model a little bit because I'm buying the car and instead of it parking at my lot while I'm working, it goes off and picks people off and drops them off*".

Musk "*Yes"*

Faber "*Who's making the money from that? I assume that's the value add you're talking about. Is it a revenue share? Do you have this model?*"

Musk "*Yes*"

Faber "*planned out specifically for how it would look"*

Musk "*Yeah, it's been in the Tesla terms and conditions for quite a long time*"

Faber "*so it has*"

Musk "*Yes. The owner of the car would make some amount. Who knows what it will be, perhaps, it could be a 50/50 split or 70/30, I don't know. But if you buy a Tesla car, it can only be used in the Tesla network. It cannot be used in someone else's network. So that means if the car is able to be used five times as much, Tesla is likely to make basically two or three times the original value, sale value of the car, in robotaxi revenue. This is gigantic. It will be like selling cars for software margins. Because in fact, it is software. So instead of effectively having 25% margins, it might be 70% or more. The free cash flow associated with that is actually truly a staggering amount*. "

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

SAF

Dan Tsubouchi @Energy_Tidbits · 2h

China monthly #Oil imports don't tell full story.

@ClydeCommods: April refinery processing was really strong, a good positive demand signal.

But China oil imports were weak. Rather China dipped into inventories to feed to refineries.

see 👇 SAF transcript.
#OOTT @gulf_intel

SAF Group created transcript of comments by Clyde Russell (Asia Commodities & Energy Columnist, Thomson Reuters) on the Gulf Intelligence PODCAST: Daily Energy Markets – May 19th. [LINK]

Items in "italics" are SAF Group created transcript

Russell "*… we have seen some growth in [oil] imports in China. But I will say that people tend to ignore, they only look at one aspect of, one piece of the puzzle, which is what Chinese imports are doing. They were weak in April, let's be honest. They're going to recover in May. You've got to actually look at how the Chinese do things. Yes, the refinery processing was really strong in April. That's a good positive demand signal because it shows their domestic demand is really absolutely starting to rise. The Chinese didn't actually necessarily import any more. That's probably because they arranged the cargoes several months in advance and they decided to run the refineries harder than they had expected to in April. But they did dip into inventories for the first time since November 2021. That's an 18-month gap where they built inventories every month, albeit in small amounts and now they actually dipped into them. What you are actually seeing is that the Chinese can respond to domestic demand growth by dipping into inventories, they don't necessarily have to import any more. So whether they import more is always going to be a price thing. So if the price remain sort of anchored around the $75-80 a barrel, I expect the Chinese will import more. But if it goes back up to $100, then they'll dip into inventories again because they will say $100 oil is not appropriate for the world's current economic conditions.*"

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

1 · 8 · 905

Dan Tsubouchi @Energy_Tidbits · 4h · ...

Looks like #Macron is offside EU push to accelerate green transition.

Need major reindustrialization push!

Rather calls for no new EU Green rules.

"I call for a European regulatory pause. Now we have to execute. We must not make new rule changes because we will lose all the... Show more

> **Dan Tsubouchi** @Energy_Tidbits · Oct 30, 2021
>
> Oops, #Macron on #EnergyTransition "ironic, because we are building a system where in the medium & long term fossil energy will cost more & more, that's what we want to [to fight climate change]". 2020s will be very good for #Oil #NatGas prices. Great report @labboudles #OOTT twitter.com/labboudles/sta...
>
> Excerpt https://www.ft.com/content/8385f5d8-b045-46a7-a822-47a9ba09e219
>
> ## Macron warns of threat to global economy from energy crisis
>
> French president urges world leaders to act on climate change with more financial pledges ahead of COP26 summit
>
> 
>
> President Macron at the Elysée Palace on Friday © Magali Delporte/FT
>
> Leila Abboud in Paris and Leslie Hook in London YESTERDAY
>
> Macron called for Europe to develop a more diverse gas supply but also to speed up a transition away from fossil fuels, which will be necessary to slow rising temperatures and tame the climate disruptions caused by global warming.
>
> "What is happening now is ironic, because we are building a system where in the medium and long term fossil energy will cost more and more, that's what we want [to fight climate change]," he said. "The problem is that industries and households will need to be accompanied in this transition . . . or it won't be sustainable."

1 · 2 · 9 · 3,500

SAF

Dan Tsubouchi @Energy_Tidbits · 19h

good start to this marriage. winds from the WSW so no smoke coming down from wildfires to the north. so clear day for their pictures by the Bow River in #Canmore on the Cdn Rockies.

11 1,413

SAF

Dan Tsubouchi @Energy_Tidbits · 19h

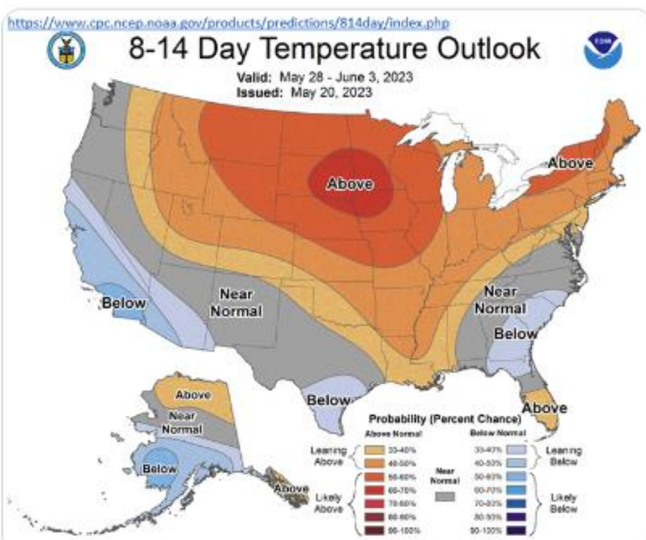
Updated @NOAA 8-14 day temperature outlook for May 28-June 3.

Better WoW, but still not broad big driver for #NatGas demand.

Above normal in Plains, Great Lakes, Mississippi Valley & NE US.

Normal/below normal on West Coast, Texas, SE east coast.

#OOTT

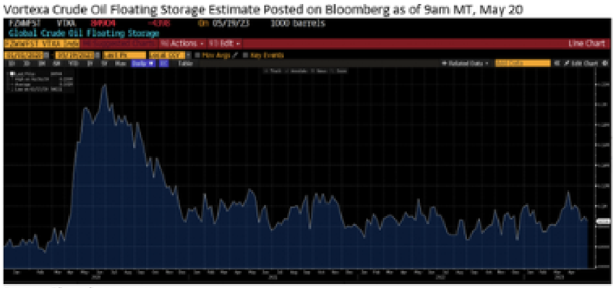


1 2 3 2,070

Dan Tsubouchi @Energy_Tidbits · May 20

#Vortexa crude #Oil floating storage at May 19 est 84.90 mmb, -4.40 mmb WoW vs revised up May 12 of 89.30 mmb. See 👇 table, -29.46 mmb vs 04/07, is this Iran selling floating storage, RUS oil being rerouted after floating & being transferred? Thx @Vortexa @business. #OOTT

Vortexa Crude Oil Floating Storage Estimate Posted on Bloomberg as of 9am MT, May 20



Source: Bloomberg, Vortexa

Posted May 20, 9am MT

FZWWFST VTXA Index — 01/01/2020 - 05/19/2023

Date	FZWWFST VT... Last Px
Fr 05/19/2023	84904
Fr 05/12/2023	89302
Fr 05/05/2023	84925
Fr 04/28/2023	97375
Fr 04/21/2023	100.845k
Fr 04/14/2023	96206
Fr 04/07/2023	114.358k
Fr 03/31/2023	99009
Fr 03/24/2023	95814
Fr 03/17/2023	86464
Fr 03/10/2023	80745

May 13, 9am MT

FZWWFST VTXA Index — 01/01/2020 - 05/12/2023

Date	FZWWFST VT... Last Px
Fr 05/12/2023	84249
Fr 05/05/2023	80996
Fr 04/28/2023	95522
Fr 04/21/2023	100.751k
Fr 04/14/2023	96272
Fr 04/07/2023	116.357k
Fr 03/31/2023	100.981k
Fr 03/24/2023	97478
Fr 03/17/2023	86636
Fr 03/10/2023	80804
Fr 03/03/2023	81511

May 6, 9am MT

FZWWFST VTXA Index — 01/01/2020 - 05/05/2023

Date	FZWWFST VT... Last Px
Fr 05/05/2023	72541
Fr 04/28/2023	93501
Fr 04/21/2023	96627
Fr 04/14/2023	95425
Fr 04/07/2023	117.039k
Fr 03/31/2023	100.406k
Fr 03/24/2023	96842
Fr 03/17/2023	86070
Fr 03/10/2023	80467
Fr 03/03/2023	81210
Fr 02/24/2023	80599

Source: Bloomberg, Vortexa

Vortexa Crude Oil Floating Storage by Region (mmb)				Original Posted	Recent Peak	
Region	May 19/23	May 12/23	WoW	May 12/23	Apr 7/23	May 19 vs Apr 7
Asia	50.77	49.49	1.28	40.95	59.48	-8.71
Europe	4.34	9.18	-4.84	10.31	23.80	-19.46
Middle East	3.74	4.94	-1.20	7.70	5.91	-2.17
West Africa	5.84	8.33	-2.49	7.92	5.96	-0.12
US Gulf Coast	0.00	0.05	-0.05	0.39	3.17	-3.17
Other	20.21	17.31	2.90	16.98	16.04	4.17
Global Total	84.90	89.30	-4.40	84.25	114.36	-29.46

Vortexa crude oil floating storage posted on Bloomberg 9am MT on May 20

Source: Vortexa, Bloomberg

11 · 4 · 27 · 3,596

Dan Tsubouchi @Energy_Tidbits · May 20

Bullish for #Oil #NatGas for 2020s.

G7 Leaders "holistically addressing ENERGY SECURITY, the climate crisis & geopolitical risks"

Potential gas market shortfalls were provoked, not caused, by RUS/UKR.

"accelerating the decarbonization of our energy sector" reminds of #BigOil... Show more

Excerpts from G7 Hiroshima Leaders' Communique May 20, 2023 [LINK]

Items in [Note...] are comments from SAF Group.

Pg 1 In We are determined to work together and with others to section. "*preserve the planet by accelerating the decarbonization of our energy sector*". [Note accelerating decarbonization. Reminds of Exxon focus on reducing carbon intensity of their operations ie. CEO Woods 04/04/23 "*Our strategy focuses on meeting the world's needs for reliable and affordable energy and products, as we reduce our own greenhouse gas emissions and help others do the same. You've heard us refer to this as the AND equation, providing the world with products to support modern living and reducing emissions.]*

Pg 3 Opening paragraph in global economy, finance and sustainable development section. "In striving for strong, sustainable, balanced and inclusive growth, we are committed to a stability- and growth-oriented macroeconomic policy mix that supports medium-term fiscal sustainability and price stability".

pg 18. Opening paragraph on climate change section. "We are steadfast in our commitment to the Paris agreement, keeping a limit of 1.5°C global temperature rise within reach through scaled up action in this critical decade, halting and reversing biodiversity loss by 2030, and ensuring energy security, whilst leveraging synergies and recognizing the interdependent nature of these challenges." [Note energy security is front and center]

Pg 15. Opening paragraph on energy section. "We commit to holistically addressing energy security, the climate crisis, and geopolitical risks" [Note focus is to address energy security]

Pg 16. In energy section "*In this context, we stress the important role that increased deliveries of LNG can play, and acknowledge that investment in the sector can be appropriate in response to the current crisis and to address potential gas market shortfalls provoked by the crisis. In the exceptional circumstance of accelerating the phase out of our dependency on Russian energy, publicly supported investment in the gas sector can be appropriate as a temporary response, subject to clearly defined national circumstances, if implemented in a manner consistent with our climate objectives without creating lock-in effects, for example by ensuring that projects are integrated into national strategies for the development of low-carbon and renewable hydrogen.*" [Note potential gas market shortfalls were provoked not caused by Russia/Ukraine]

Pg 18. Opening paragraph on clean energy economy. "*we are determined to increase our efforts and, in particular, will pursue secure, resilient, affordable, and sustainable clean energy supply chains, including those for critical minerals and clean energy technologies.*" [Note increasing efforts on affordable clean energy]

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

2 6 11 2,504

Dan Tsubouchi @Energy_Tidbits · May 20

"Peace will become closer today" says #Zelensky.

Zelensky is in Hiroshima to meet G7.

No better place to make such an announcement as Hiroshima was a changer for the world. haven't been since the 70s but the feeling is powerful when you walk and think about The Bomb.

#OOTT

Володимир Зеленський @ZelenskyyUa · May 20

Japan. G7. Important meetings with partners and friends of Ukraine. Security and enhanced cooperation for our victory. Peace will become closer today.

1 1 1,740

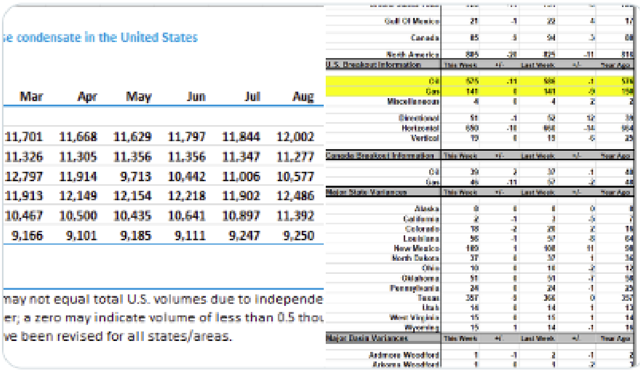
Dan Tsubouchi @Energy_Tidbits · May 19

Math challenge for SUSTAINED growth in US #Oil production.

EIA Form 914 "actuals" Feb oil production +1.167 mmbd YoY to 12.483 mmbd.

But oil rigs basically flat YoY, @xendrEcon notes frac spreads -10% YoY.

Unless decline rates are reducing, need increasing wells drilled, DUCs... Show more



;e condensate in the United States

Mar	Apr	May	Jun	Jul	Aug
11,701	11,668	11,629	11,797	11,844	12,002
11,326	11,305	11,356	11,356	11,347	11,277
12,797	11,914	9,713	10,442	11,006	10,577
11,913	12,149	12,154	12,218	11,902	12,486
10,467	10,500	10,435	10,641	10,897	11,392
9,166	9,101	9,185	9,111	9,247	9,250

nay not equal total U.S. volumes due to independe
er; a zero may indicate volume of less than 0.5 thou
ve been revised for all states/areas.

	This Week	+/-	Last Week	+/-	Year Ago
Gulf Of Mexico	21	-1	22	4	17
Canada	85	-9	94	-3	88
North America	805	-20	825	-11	818
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	525	-11	536	-1	576
Gas	141	0	141	-9	150
Miscellaneous	4	0	4	2	2
Directional	51	-1	52	12	39
Horizontal	650	-10	660	-34	684
Vertical	19	0	19	-6	25
Canada Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	39	2	37	-1	40
Gas	46	-11	57	-2	48
Major State Variances	This Week	+/-	Last Week	+/-	Year Ago
Alaska	8	0	8	0	8
California	2	-1	3	-5	7
Colorado	18	-2	20	2	16
Louisiana	56	-1	57	-8	64
New Mexico	109	1	108	11	98
North Dakota	37	0	37	1	36
Ohio	10	0	10	-2	12
Oklahoma	51	0	51	-7	58
Pennsylvania	24	0	24	-1	25
Texas	357	-9	366	0	357
Utah	14	0	14	1	13
West Virginia	15	0	15	1	14
Wyoming	15	1	14	-1	16
Major Basin Variances	This Week	+/-	Last Week	+/-	Year Ago
Ardmore Woodford	1	-1	2	-1	2
Arkoma Woodford	1	0	1	-2	3

> xendoc @xendrEcon · May 19
>
> 
>
> US Frac Spread check for wk ending 5/19/23, down -10 again to 262 - coupled w/total BH US rig count down another -11 to 720.
>
> So, spreads down -10% YoY - in mid-May - implying ...

9 5 24 11.2K

Dan Tsubouchi @Energy_Tidbits · May 18

The #WarrenBuffett effect is still working.

@business "foreigners loving Japanese stocks. positive flows into equities for 7th straight week"

Last 5 weeks were since #WarrenBuffett made his positive comments on Japanese trading houses in his @BeckyQuick Apr 12 interview in... Show more

2 4 1,558

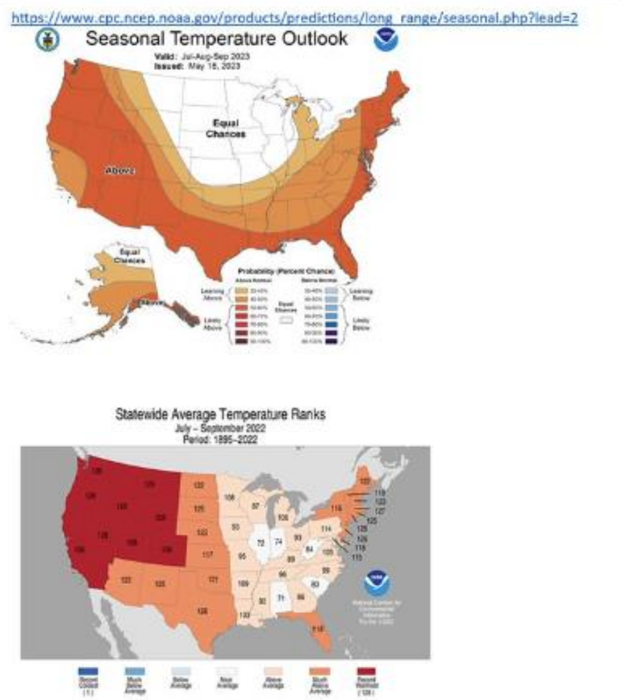
Dan Tsubouchi @Energy_Tidbits · May 18

Will summer JAS 2023 residential/commercial #NatGas demand do better than expected?

Another warm summer is @NOAA's updated summer 2023 JAS temperature outlook.

Yes, summer 2022 was hottest on record, but HH prices are ~$2.40 vs $7.50-$8 last summer.

#OOTT



3 4 6 4,033

SAF

Dan Tsubouchi @Energy_Tidbits · May 18

Is China now seeing a crack in the post Covid restrictions strength of people driving? China city traffic congestion -38% WoW, and down YoY & vs Jan 2021.

Rest of world was up.,
Asia Pacific Ex China +6% WoW, now 11% <2019
EU +6% WoW, 13% >2019
NA +5% WoW, back to 2019... Show more

1 5 13 32.8K

Dan Tsubouchi @Energy_Tidbits · May 18

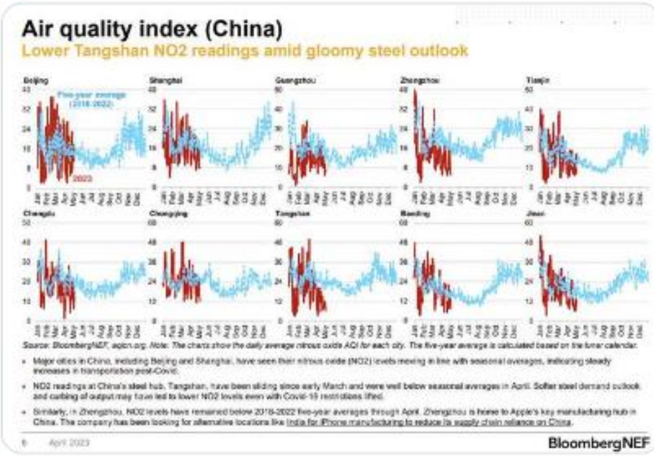
Uneven China recovery.

NO2 levels show split in China recovery.

People are back driving in the major cities.

But steel & manufacturing hubs lag as indicated by NO2 levels still below even with Covid-19 restrictions lifted.

Thx @BloombergNEF Industrial Metals Monthly.
#OOTT



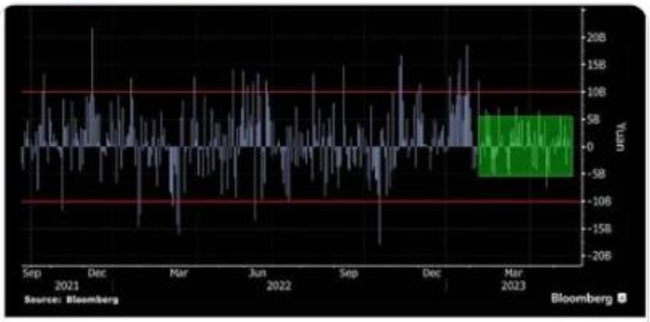
1 1 8 1,434

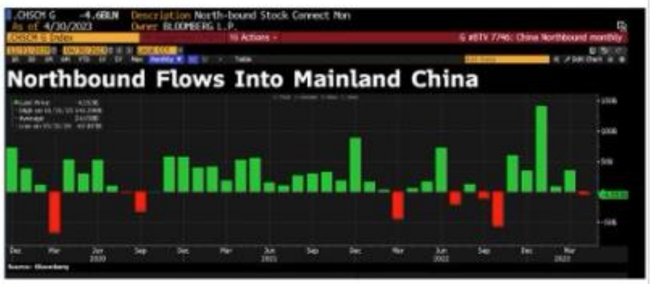
Dan Tsubouchi @Energy_Tidbits · May 17

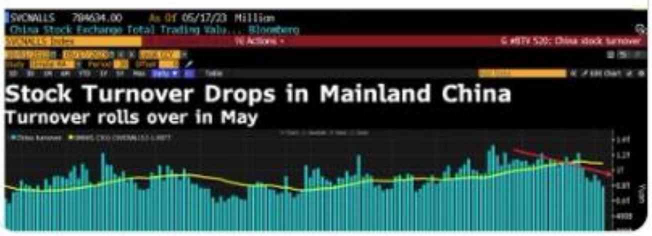
Sell in May and go away seems to be what is happening with investor capital flows into China.

Three charts from @business tonight.

#Oil markets hope @IEA OMR is right "Our forecast for world oil demand growth for 2023 has been revised up to 2.2 mb/d in this Report, with China's... Show more







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SAF GROUP

Dan Tsubouchi @Energy_Tidbits · May 17

US #LNG exports Mar/23 of 11.8 bcfd, up marginal YoY & MoM.

#FreeportLNG feedstock ramp in Mar, LNG exports ramp up in Apr.

Mar/23 top 5 export markets: UK, Dutch, Spain, France, Germany

Mar/22 top 5 export markets: France, Spain, UK, Dutch, Korea

This DOE LNG... Show more

US LNG Exports (bcf/d)	2016	2017	2018	2019	2020	2021	2022	2023
Jan	0.0	1.7	2.3	4.1	8.1	9.8	11.4	10.9
Feb	0.1	1.9	2.6	3.7	8.1	7.4	11.3	11.7
March	0.3	1.4	3.0	4.2	7.9	10.4	11.7	11.8
Apr	0.3	1.7	2.9	4.2	7.0	10.2	11.0	
May	0.3	2.0	3.1	4.7	5.9	10.2	11.3	
June	0.5	1.7	2.5	4.7	3.6	9.0	10.0	
July	0.5	1.7	3.2	5.1	3.1	9.7	9.7	
Aug	0.9	1.5	3.0	4.5	3.6	9.6	9.7	
Sept	0.6	1.8	2.7	5.3	5.0	9.5	9.8	
Oct	0.1	2.6	2.9	5.7	7.2	9.6	10.0	
Nov	1.1	2.7	3.6	6.4	9.4	10.2	10.1	
Dec	1.3	2.7	4.0	7.1	9.8	11.1	11.0	
Full Year	0.5	1.9	3.0	5.0	6.6	9.7	10.6	11.4

2 3 1,719

Dan Tsubouchi @Energy_Tidbits · May 17

Overshadowed by controversial items was @elonmusk on #RoboTaxi #AutonomousUber.

"this is gigantic ... instead of effectively having 25% margins, it might be 70% or more. The free cash flow associated with that is actually truly a staggering amount"

DYK Tesla buyers... Show more

SAF Group created transcript of comments by Elon Musk in his interview with CNBC's David Faber on May 16, 2023. [LINK]

Items in "italics" are SAF Group created transcript.

At 10 min mark, Musk "*Tesla is the only car company selling cars where we believe where the car is capable of achieving full autonomy with a software update. So the value of a fully autonomous car is, we think perhaps 5 times more valuable than a non-autonomous car.*"

Faber "*Why?*"

Musk "*Well, the utility of a car, typically a passenger car is going to be maybe 10, 10 hours a week, maybe 12. If you say like somebody's going to drive an hour and a half a day, on average, so maybe an hour commute per day and then an occasional long trip but figure it's like 10, 12 hours a week is typical for a passenger vehicle. And then you also have a lot of costs associated with parking. You need a garage or you've got to buy a parking space or you've got to get a parking ticket at the mall. There's a lot of costs associated with cars. And now if you've got a car that's autonomous, that can go around and essentially be like an autonomous Uber, the utility I think is going to be, gonna be much higher perhaps, you know, and this again, there's so much speculative.*"

Faber "*I understand, we're talking about robotaxis here. At least what people have called, you have called it.*"

Musk "*Autonomous Uber is the way to think about it. Perhaps the utility there would be in the order of 50 hours a week. This is just a guess. There are 168 hours in a week, and probably as a rough guess, an autonomous car will be able to be active, instead of for 10 hours per week, probably in our view, for about 50. But it's the same car. So the, and it costs the same to build.*"

Faber "*I want to understand the business model a little bit because I'm buying the car and instead of it parking at my lot while I'm working, it goes off and picks people off and drops them off*".

Musk "*Yes*"

Faber "*Who's making the money from that? I assume that's the value add you're talking about. Is it a revenue share? Do you have this model?*"

Musk "*Yes*"

Faber "*planned out specifically for how it would look*"

Musk "*Yeah, it's been in the Tesla terms and conditions for quite a long time*"

Faber "*so it has*"

Musk "*Yes. The owner of the car would make some amount. Who knows what it will be, perhaps, it could be a 50/50 split or 70/30, I don't know. But if you buy a Tesla car, it can only be used in the Tesla network. It cannot be used in someone else's network. So that means if the car is able to be used five times as much, Tesla is likely to make basically two or three times the original value, sale value of the car, in robotaxi revenue. This is gigantic. It will be like selling cars for software margins. Because in fact, it is software. So instead of effectively having 25% margins, it might be 70% or more. The free cash flow associated with that is actually truly a staggering amount.*"

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

1 1 3 2,181

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Dan Tsubouchi @Energy_Tidbits · May 17

Wonder if The Man, Saudi Energy Minister Abdulaziz, subtly reminded Novak to deliver?

"As for the current situation, Russia is cutting [output] by 500,000 barrels per day. We have reached [the announced reduction volume] in May," says Russia Deputy PM Novak.

#OOTT

https://tass.com/economy/1619061
17 MAY, 10:31

Russia reached oil output cuts volume of 500,000 bpd since May — Novak

At the end of April, Alexander Novak said that Russia had already reached the volume of voluntary production cuts

TEHRAN, May 17. /TASS/. Russia has reached the volume of reducing oil output by 500,000 barrels per day (bpd) since May, Russia's Deputy Prime Minister Alexander Novak told reporters.

"As for the current situation, Russia is cutting [output] by 500,000 barrels per day. We have reached [the announced reduction volume] in May," he said.

From March 1, 2023, Russia started reducing oil output by 500,000 barrels per day from March. According to Russian Deputy Prime Minister Alexander Novak, Russia has made the choice voluntarily, without consulting with the OPEC+ countries. Novak's representative explained that the reduction would affect only oil output, excluding gas condensate. The production quota will be distributed evenly among oil companies depending on their level of production.

At the end of April, Novak said that Russia had already reached the volume of voluntary production cuts. At the same time, he did not give an exact figure for the level of production after the cuts.

At the same time, the International Energy Agency (IEA) claimed in its May report that Russia had not reached the declared volume of production cuts.

2 · 2 · 9 · 1,604

SAF

Dan Tsubouchi @Energy_Tidbits · May 17

For those, including me, who weren't near their laptop, @EIAgov released its #Oil #Gasoline #Distillates inventory as of May 12 at 8:30am MT. Table below compares EIA data vs @business expectations and vs @APIenergy yesterday. #OOTT

Oil/Products Inventory May 12: EIA, Bloomberg Survey Expectations, API

(million barrels)	EIA	Expectations	API
Oil	5.04	-2.00	3.69
Gasoline	-1.38	-2.00	-2.46
Distillates	0.08	-1.50	-0.89
	3.74	-5.50	0.34

Note: Oil is commercial so builds in a draw of 2.4 mmb in SPR for the May 12 week
Note: Included in the oil data, Cushing had a 1.46 mmb build for May 12 week
Source EIA, Bloomberg
Prepared by SAF Group https://safgroup.ca/news-insights/

1 · 1 · 6 · 1,284

SAF

Dan Tsubouchi @Energy_Tidbits · May 17

not suggesting in any way that Permian oil falls off a cliff. rather it's tough to understand the math for Permian oil growth like some, including the EIA, expect

declines have to be offset as Buffett and Munger stressed.

and not see the needed ramp up in oil rigs to build... Show more

> **Dan Tsubouchi** @Energy_Tidbits · May 16
>
> Bullish for #Oil
>
> Is there SUSTAINABLE Permian oil GROWTH if Permian DUCs are at 2014 levels & Oil rigs ~65% of 2014 levels, but that was when Permian production was >30% of today's b/d?
>
> @EIAgov new well prod/rig is 3x 2014 levels, but down 1/3 since 2021.
>
> Need DUCs/New Oil... twitter.com/Energy_Tidbits... Show more

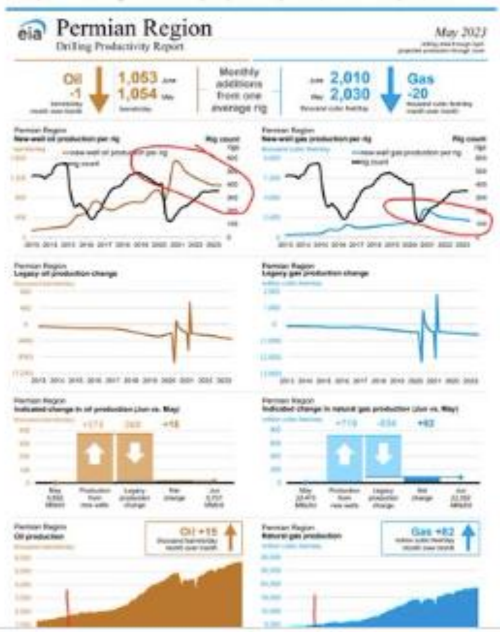
May 2023	915	350	4	5.79	22.5
Aug 2014	902	560	5	1.67	6.0
May 2023 as % Aug 2014	101%	63%	80%	347%	375%
Sept 2014	981	560	5	1.67	5.8
May 2023 as % of Sept 2014	93%	63%	80%	347%	388%

* Rigs are approx for month

Source: EIA Drilling Productivity Report, Baker Hughes

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

Excerpt EIA Drilling Productivity Report May 2023, Posted May 15, 2023



2 · 5 · 24 · 12.3K

SAF

Dan Tsubouchi @Energy_Tidbits · May 17 ···

partly cloudy this morning in san jose del cabo makes for a great sunrise. looking around to the hotel strip in SJD.

1 6 1,515

SAF

Dan Tsubouchi @Energy_Tidbits · May 16 ···

Much slower increase in China domestic flights than expected at end of Mar.

China scheduled domestic flights flat WoW for May 9-15 to 97,049. Scheduled next 4-weeks is increasing to 101,425. BUT that is -14.9% vs 119,180 flights that were expected on Mar 28 for Apr.

Thx... Show more

China scheduled domestic flights from BloombergNEF Aviation Indicators Weekly reports

May 9-15: basically flat at 97,049 flights
May 2-8: +2.8% WoW to 97,087
Apr 25-May 1: +0.04% to 94,471
Apr 18-24: +2.1% WoW
Apr 11-17: +0.7% WoW
Apr 3-10: -4.2% WoW
Mar 28-apr 3: +6.8% WoW
Mar 21-27: +1.5% WoW
Mar 14-20: -0.6% WoW
Mar 7-13: -0.8% WoW
Feb 27-Mar 3: -2.6% WoW
Feb 21-27: +0.0% WoW (note this was +0.01%)
Feb 14-20 -0.5% WoW
Feb 7-13: -0.7% WoW
Jan 31- Feb 6: +10.9% WoW
Jan 24-30: +9.2% WoW
Jan 17-23: +7% WoW
Jan 10-16 week +20% WoW
Prepared by SAF Group https://safgroup.ca/news-insights/

BloombergNEF scheduled domestic flights for next 4-weeks today (May 16) vs March 28 report

2 7 2,458

SAF

Dan Tsubouchi @Energy_Tidbits · May 16

Bullish for #Oil

Is there SUSTAINABLE Permian oil GROWTH if Permian DUCs are at 2014 levels & Oil rigs ~65% of 2014 levels, but that was when Permian production was >30% of today's b/d?

@EIAgov new well prod/rig is 3x 2014 levels, but down 1/3 since 2021.

Need DUCs/New Oil... Show more

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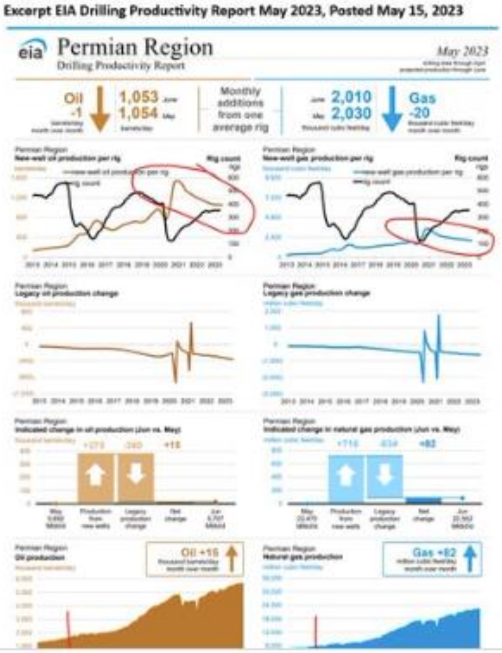


Dan Tsubouchi @Energy_Tidbits · May 9

Is this what #WarrenBuffett & #CharlieMunger wanted?

Reason to not like #Shale? Huge initial production but 1 1/2 yrs, "it becomes practically nothing. "it real...

16 · 12 · 57 · 27.3K

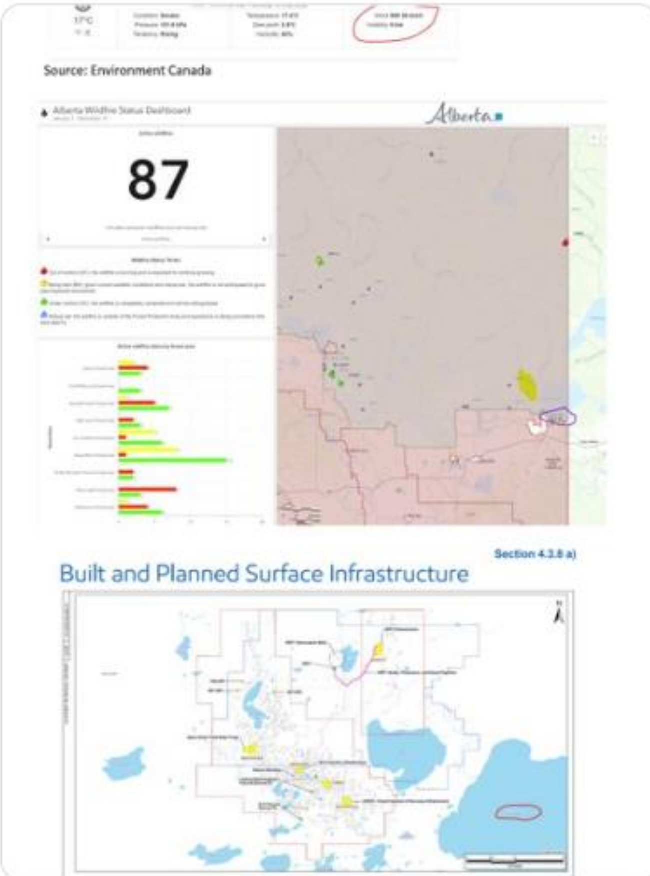
Dan Tsubouchi @Energy_Tidbits · May 16

One of many #AlbertaWildfires to watch.

@CnkGt said keep an eye on out of control fire, ~100 km due north of Cold Lake

Wind right now 26 kph from NW, so hopefully won't bring fire directly south to impact #ImperialOil Cold Lake 140 kbd.

#OOTT



1 1 1,184

Dan Tsubouchi @Energy_Tidbits · May 16
#AlbertaWildfires.

less # of fires, but looks like Out of Control is increasing.

hope anyone anywhere near a wildfire gets to safety!

smoke must be brutal in central/northern AB if we now have smoke now drifting way south over Elbow River in Calgary.

#OOTT

1 2 5 1,885

Dan Tsubouchi @Energy_Tidbits · May 16
yes it makes sense that @amoshochstein says doesn't expect markets to deter plan to buy back 3 mmb for #SPR this summer

that means can say #Biden promise to begin to refill SPR has been met

BUT they aren't committing to the other 217 mmb

#OOTT

> Dan Tsubouchi @Energy_Tidbits · May 15
> #SPR down 220.3 mmb (745 kbd) since RUS/UKR
>
> Biden inauguration 638.1 mmb
> Right before RUS/UKR 582.4 mmb
> 05/05/23 362.1 mmb
>
> US reduced SPR by 745 kbd since RUS/UKR.
>
> Depleting SPR is ending in June.
>
> Thx @Jorgecomments @sean_evers
> #OOTT twitter.com/Energy_Tidbits...

1 4 1,655

Dan Tsubouchi @Energy_Tidbits · May 16

Coming very soon!

"The current market pessimism, however, stands in stark contrast to the tighter market balances we anticipate in the second half of the year, when demand is expected to eclipse supply by almost 2 mb/d" @IEA OMR.
#OOTT

Excerpt IEA Oil Market Report May 2023

Roller coaster ride

Oil prices retreated during April and early May as concerns over the health of the global economy and oil demand prospects depressed market sentiment. North Sea Dated plunged by nearly $16/bbl in just two weeks, reversing gains that followed the surprise announcement by some OPEC+ countries to cut output from May. Prices were pressured lower by muted industrial activity and higher interest rates, which, combined have led to recessionary scenarios gaining traction and worries of a downward shift in oil demand growth. The current market pessimism, however, stands in stark contrast to the tighter market balances we anticipate in the second half of the year, when demand is expected to eclipse supply by almost 2 mb/d.

Our forecast for world oil demand growth for 2023 has been revised up to 2.2 mb/d in this Report, with China's rebound even stronger than previously expected. The world's second biggest oil user after the US will account for nearly 60% of global growth in 2023. Record demand in China, India and the Middle East at the start of the year more than offset lacklustre industrial activity and oil use in the OECD. The latter accounts for just 15% of growth this year, supported by consumer spending and personal mobility. Overall, world oil demand is set to average 102 mb/d in 2023, 1.3 mb/d more than 2019.

6 25 2,896

Dan Tsubouchi @Energy_Tidbits · May 15

Good graph just now on @markets China Open.

"T-Bills Show Debt-Ceiling Dislocation: Yields jump on bills maturing after June 1.

Doesn't seem like much progress on a debt ceiling/deficit deal ie. @SpeakerMcCarthy says still far apart from a deal.

Thx @DavidInglesTV.
#OOTT

1 1 1,269

SAF

Dan Tsubouchi @Energy_Tidbits · May 15 ···

#Oil demand always increases QoQ in Q3 with start of summer travel.

US #Gasoline prices down ~$1 YoY = +2.7 mm to 42.3 mm Americans driving >50 miles Memorial Day Weekend.

~3.4 mm expected to fly, +11% YoY, +5.4% vs pre-Covid.
#OOTT
@AixaDiazNews

newsroom.aaa.com
42.3 Million Americans Expected to Travel for Memorial Day Weekend
WASHINGTON, DC (May 15, 2023) AAA projects 42.3 million Americans will travel 50 miles or more from home this Memorial Day...

9 4 31 2,616

Dan Tsubouchi @Energy_Tidbits · May 15

#SPR down 220.3 mmb (745 kbd) since RUS/UKR

Biden inauguration 638.1 mmb
Right before RUS/UKR 582.4 mmb
05/05/23 362.1 mmb

US reduced SPR by 745 kbd since RUS/UKR.

Depleting SPR is ending in June.

Thx @Jorgecomments @sean_evers
#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · May 15
>
> US depleting #SPR is ending in June after adding 700-750 kbd since RUS/UKR.
>
> KISS reminder from @Jorgecomments.
>
> US main tool to prevent #Oil price rise was deplete the SPR.
>
> Even if no refill, it's taking 745 kbd off market.
>
> #OOTT @sean_evers @gulf_intel

SAF Group created transcript of comments by Jorge Montepeque (President & Founder, Global Markets) on Gulf Intelligence Daily Energy Markets May 15th podcast hosted by Sean Evers (Managing Partner, Gulf Intelligence) [LINK]

Items in "Italics" are SAF Group created transcript

Montepeque *"… there was, whether it was said or not, an objective by the US and the West to either drive down the price of oil plus cutting the price to Russia to punish them as well as economically prevent a rise that would damage the western economies. A large part of that strategy was borne by the US and the main tool they used was by depleting their SPR. Let's not forget that. That depletion of the SPR is getting to a level that has now become a political issue inside. And the US Secretary and the Biden Administration are under pressure to start buying back and refilling that SPR. So part of the low price we have seen in the last year is that steady release from the US which you could say was 700 to 750,000 b/d. So that's like another country, another producing exporting. That is ending in June. There is still oil in the SPR but, I think going forward that may turn into a buy-in rather than a sell-out. And that is going to alter very much the dynamics. And I don't think anybody wants this war to continue much longer"*

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

1 2 14 4,593

Dan Tsubouchi @Energy_Tidbits · May 14

Good advice from #WarrenBuffett at last week's AGM

"you can always tell someone to go to hell tomorrow" "you haven't lost the option"

See 👇 transcript.

#OOTT

Watch Warren Buffett and Charlie Munger preside over full 2023 Berkshire Hathaway annual meeting

SAF Group created transcript of comments by Warren Buffett, Charlie Munger, Greg Abel, and Ajit Jain in the Q&A of the 2023 Berkshire Hathaway annual meeting from CNBC 5hr 16 min video. https://www.cnbc.com/video/2023/05/06/watch-warren-buffett-and-charlie-munger-preside-over-full-2023-berkshire-hathaway-annual-meeting.html?&qsearchterm=berkshire

Items in "italics" are SAF Group created transcript

At 3hr 26 min mark, Buffett "*It's not that complicated, but I will give you a couple lessons. Tom Murphy, the first time I met him, he said two things to me. He said you can always tell someone to go to hell tomorrow. Well that was great advice then, think about great advice it is when can you sit down on a computer and screw your life up forever by telling someone to go to hell or something else in 30 seconds and you can't erase it. You haven't lost the option. He said praise my name, criticize my category. What makes more sense than that. Who do you like to criticize as you've always done. You don't need to vilify anybody to make your point on subjects of discussion.*"

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

Dan Tsubouchi @Energy_Tidbits · May 14

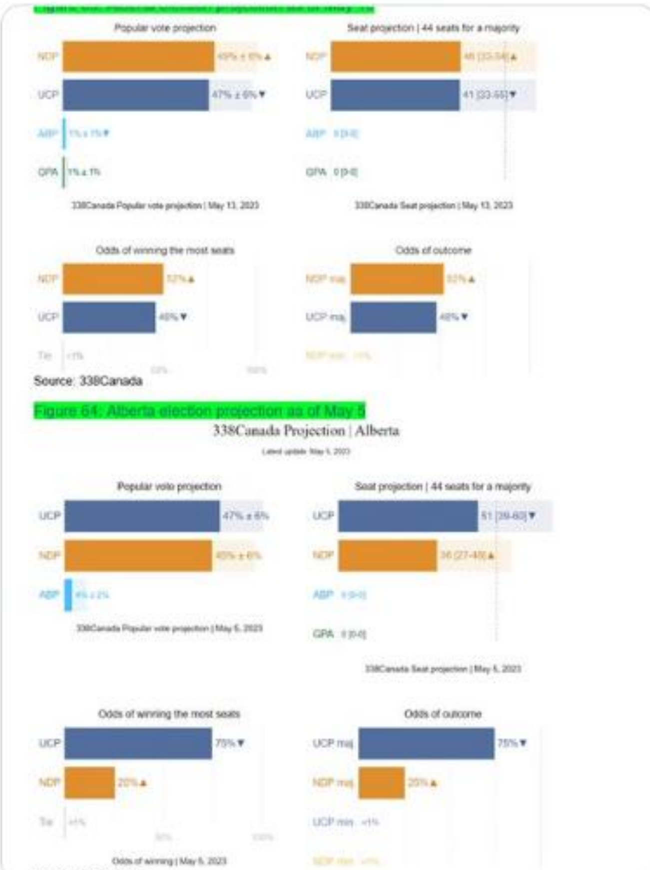
Elections are unpredictable is an understatement.

Reversal in polls for May 29 Alberta election.

@338Canada May 13 update shows big reversal in Week 2 of short 4-week sprint.

NDP moves into lead in polling lead after being way behind in projected seats after Week 1.

#OOTT



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