

Energy Tidbits

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Supplemental Documents

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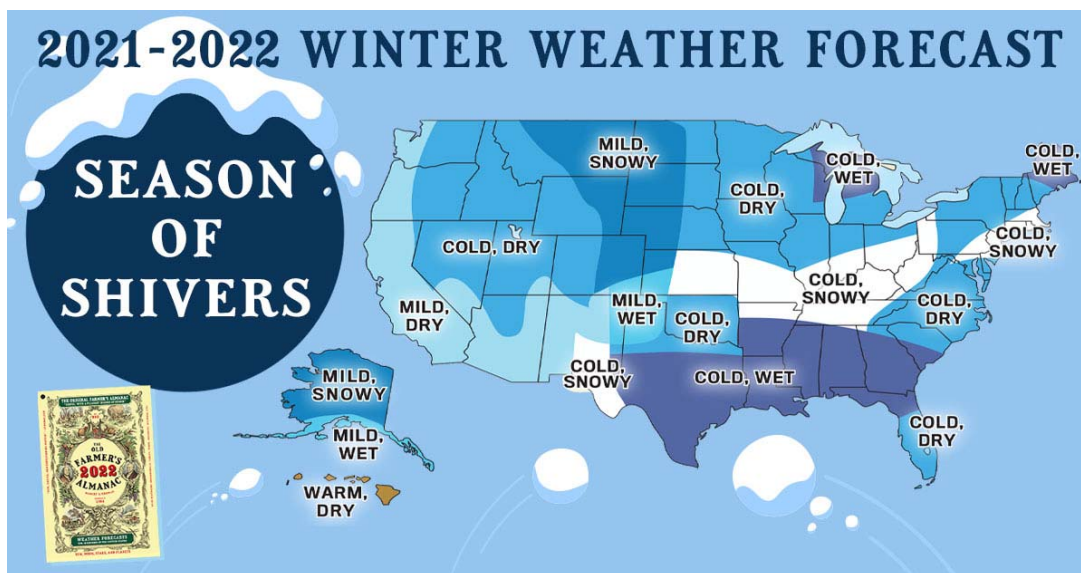
THE OLD
FARMER'S ALMANAC
FOUNDED IN 1792

2021-2022 WINTER WEATHER FORECAST

PRESENTING THE WINTER PREDICTIONS FROM *THE 2022 OLD FARMER'S ALMANAC!*

Every year, the first questions that folks ask us are “*Will this winter be a cold one?*” and “*When will it snow?*” Courtesy of the new 2022 edition, here are highlights from our annual winter weather predictions!

“A SEASON OF SHIVERS” PREDICTED FOR THE U.S.



Brrr! *The 2022 Old Farmer's Almanac* comes with a winter warning: Prepare for a “**Season of Shivers.**” This winter will be punctuated by positively bone-chilling, below-average temperatures across most of the United States.

“This coming winter could well be one of the longest and coldest that we’ve seen in years,” says Janice Stillman, editor of *The Old Farmer's Almanac*. For 230 years, the Almanac has been helping readers to prepare for winter’s worst with its 80 percent-accurate weather forecasts.

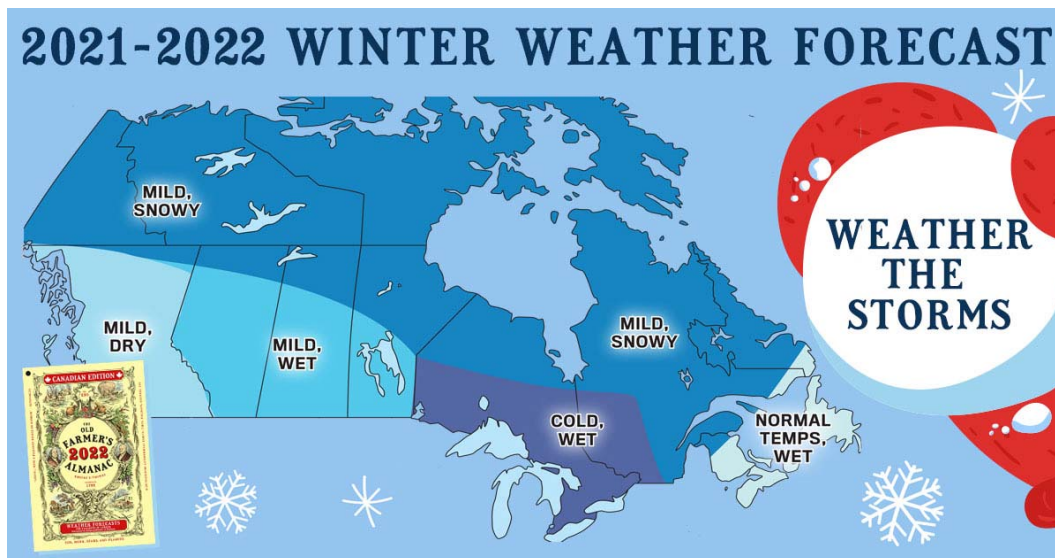
In some places, the super cold of the coming winter will also bring lots of snow. This extreme wintry mix is expected in areas of New England as well as throughout the Ohio Valley, in northern portions of the Deep South, and in southeast New Mexico.

Above-average snowfall is also in the forecast along a track from eastern Montana southward through the western halves of the Dakotas and into northeastern Colorado. While temperatures in this midcountry strip will be relatively normal, snowfall will be abundant, with several storms predicted throughout the winter.

Meanwhile, most western areas will remain relatively dry, with all but the Pacific Coast itself and portions of the Southwest experiencing the frigid cold predicted for much of the rest of the country.

[Pick up a copy of the new 2022 edition for a year of forecasts!](#)

GET READY TO “WEATHER THE STORMS” ACROSS CANADA



Canadians should be prepared to “**Weather the Storms**,” as winter will be punctuated by a series of storms leaving them snowed in, sleeted on, slushed about, soaked, and otherwise generally soggy. “This coming winter won’t be remarkable in terms of temperature, but for our Canadian friends who will end up just wanting to dry out, it will be a long season indeed,” says Editor Janice Stillman. Whether snow, sleet, or rain arrives will depend on location, location, location!

Snowfall will be above normal from western Atlantic Canada and eastern Quebec out through northern Ontario and the northern Prairies and into Nunavut, the Northwest Territories, and the Yukon. A series of back-to-back storms from mid-December to late January could leave Atlantic Canada snowed under for several weeks.

With slightly above-average temperatures throughout the season in all but the northernmost portions of the Prairies, winter storm clouds may sometimes bring rain or freezing rain across the nation’s midsection. However, this doesn’t mean that snow is completely out of the forecast: Major snowstorms are predicted for the Prairies in late November, mid-January, and early March.

This winter’s white-and-wet forecast will see colder-than-average temperatures from western Quebec into southern Ontario. While storms throughout the season are expected to bring plenty of rain, freezing rain, sleet, and flurries, snowfall itself will be below average overall.

The only place in Canada that won’t have many storms to weather is British Columbia, which should expect below-average precipitation and above-average temperatures throughout the season.

[Order *The 2022 Old Farmer’s Almanac Canadian Edition* for a year](#)

<https://www.prnewswire.com/news-releases/farmers-almanac-forewarns-of-frosty-flip-flop-winter-ahead-301346229.html>

Farmers' Almanac Forewarns of Frosty Flip-Flop Winter Ahead

NEWS PROVIDED BY

Farmers' Almanac

Aug 04, 2021, 06:15 ET

LEWISTON, Maine, Aug. 4, 2021 /PRNewswire/ -- As the nation is immersed in a summer wrought with weather extremes, many find their thoughts drifting to cooler temps. Right on cue, the *Farmers' Almanac* is releasing its much-anticipated 2021-22 winter weather outlook that has its own set of extremes, earning it a "frosty flip-flop" moniker that might be a little too frosty for some and not enough flip-flop for others.

Will this winter be as snowy as last? Is Texas expected to get another snowstorm? Will winter precipitation help with the drought out West?



Farmers' Almanac Releases Frosty Flip Flop Winter Forecast

Farmers' Almanac releases a flip-flop winter weather forecast.

Tweet this

The *Farmers' Almanac* is predicting a near-normal amount of snowfall from coast to coast however, the unusual aspect of this winter will be the notable month-to-month variations.

January's Flip

The *Farmers' Almanac's extended forecast*, which is based on a proprietary formula that looks at many astronomical factors, warns that January will start out mild for much of the country but then turn cold and stormy, especially along the Atlantic Seaboard.

The Great Lakes, Midwest, and Ohio Valley will experience a cold and snowy January, with a blizzard forecast for the Northern Plains and Rockies later in the month.

February's Flop

In sharp contrast, February will be a much quieter month in terms of storminess across much of the nation, especially the eastern-third. However, expect a "winter whopper" for parts of the Northeast and Ohio Valley toward the end of the month.

Will Another Storm Hit Texas?

The arctic outbreak in February 2021, which the *Farmers' Almanac* accurately predicted, brought frigid temperatures along with snow and ice to Texas and Oklahoma. The Almanac is predicting similar cold and snowy conditions in late January, but fortunately, they shouldn't be as bad as last year.

The West can expect some hefty storms moving inland from the Pacific during the second week of January and the end of February, but they most likely won't alleviate the drought conditions that area is experiencing.

Cold?

Farmers' Almanac is forecasting near- to somewhat-below normal temperatures across the eastern-third of the nation, well below-normal over the Central US, and near-normal across the western US, especially in February.

The 2022 *Farmers' Almanac* not only contains the winter forecast but weather predictions for all four seasons. More at [FarmersAlmanac.com](https://www.farmersalmanac.com)

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Related Links

www.farmersalmanac.com

SOURCE Farmers' Almanac

Table 1. Summary of natural gas supply and disposition in the United States, 2016-2021

(billion cubic feet)

Year and Month	Gross Withdrawals	Marketed Production	NGPL Production ^a	Dry Gas Production ^b	Supplemental Gaseous Fuels ^c	Net Imports	Net Storage Withdrawals ^d	Balancing Item ^e	Consumption ^f
2016 Total	32,592	28,400	1,808	26,592	57	671	340	-216	27,444
2017 Total	33,292	29,238	1,897	27,341	66	-121	254	-400	27,140
2018 Total	37,326	33,009	2,235	30,774	69	-719	314	-300	30,139
2019									
January	3,385	2,981	208	2,773	5	-74	730	-25	3,409
February	3,067	2,709	189	2,520	5	-97	586	-4	3,010
March	3,396	3,019	211	2,809	5	-121	257	-43	2,907
April	3,329	2,934	205	2,729	5	-132	-401	4	2,205
May	3,432	3,055	213	2,842	5	-161	-494	-67	2,126
June	3,317	2,969	207	2,761	5	-159	-452	-36	2,119
July	3,412	3,084	215	2,869	5	-163	-270	-31	2,410
August	3,467	3,159	220	2,939	5	-165	-303	-35	2,441
September	3,399	3,054	213	2,841	5	-186	-440	-2	2,217
October	3,571	3,200	223	2,977	5	-215	-364	-75	2,328
November	3,496	3,120	218	2,902	5	-218	159	-70	2,779
December	3,621	3,232	226	3,007	5	-225	433	-73	3,148
Total	40,892	36,515	2,548	33,968	62	-1,915	-558	-458	31,099
2020									
January	€3,590	€3,182	€233	€2,949	6	-248	571	€19	3,296
February	€3,342	€2,959	€212	€2,747	6	-216	536	-40	3,033
March	€3,561	€3,166	€235	€2,931	6	-284	49	6	2,708
April	€3,372	€3,002	€214	€2,788	6	-231	-306	-12	2,245
May	€3,298	€2,934	€212	€2,722	5	-209	-448	1	2,071
June	€3,225	€2,876	€226	€2,651	5	-151	-358	-11	2,135
July	€3,383	€3,023	€241	€2,783	6	-139	-161	4	2,493
August	€3,388	€3,037	€240	€2,797	4	-148	-227	-21	2,404
September	€3,273	€2,914	€230	€2,684	4	-221	-323	30	2,174
October	€3,379	€2,996	€238	€2,757	5	-282	-92	-64	2,323
November	€3,370	€2,990	€231	€2,760	5	-316	-4	-4	2,440
December	€3,508	€3,094	€225	€2,869	6	-287	587	-17	3,158
Total	€40,690	€36,173	€2,736	€33,437	64	-2,732	-178	€-108	30,482
2021									
January	€3,506	€3,100	€232	€2,868	5	-279	707	€-14	€3,287
February	€2,924	€2,577	€170	€2,407	6	-152	781	-8	3,034
March	€3,482	€3,081	€229	€2,852	5	-357	59	48	€2,608
April	€3,409	€3,025	€237	€2,788	5	-353	-174	€-21	€2,246
May	€3,522	€3,131	€245	€2,886	3	-370	-416	€-3	€2,101
June	€3,396	€3,031	€238	€2,793	5	-328	-248	-3	2,218
2021 6-Month YTD	€20,238	€17,945	€1,350	€16,595	30	-1,839	709	-1	15,494
2020 6-Month YTD	€20,389	€18,118	€1,331	€16,787	34	-1,339	43	-36	15,489
2019 6-Month YTD	19,926	17,666	1,233	16,434	30	-743	227	-171	15,777

^a Monthly natural gas plant liquid (NGPL) production, gaseous equivalent, is derived from sample data reported by gas processing plants on Form EIA-816, *Monthly Natural Gas Liquids Report*, and Form EIA-64A, *Annual Report of the Origin of Natural Gas Liquids Production*.

^b Equal to marketed production minus NGPL production.

^c Supplemental gaseous fuels data are collected only on an annual basis except for the Dakota Gasification Co. coal gasification facility which provides data each month. The ratio of annual supplemental fuels (excluding Dakota Gasification Co.) to the sum of dry gas production, net imports, and net withdrawals from storage is calculated. This ratio is applied to the monthly sum of these three elements. The Dakota Gasification Co. monthly value is added to the result to produce the monthly supplemental fuels estimate.

^d Monthly and annual data for 2016 through 2019 include underground storage and liquefied natural gas storage. Data for January 2020 forward include underground storage only. See Appendix A, Explanatory Note 5, for discussion of computation procedures.

^e Represents quantities lost and imbalances in data due to differences among data sources. Net imports and balancing item excludes net intransit deliveries. These net intransit deliveries were (in billion cubic feet): 35 for 2019; -11 for 2018; 14 for 2017; and 70 for 2016. See Appendix A, Explanatory Note 7, for full discussion.

^f Consists of pipeline fuel use, lease and plant fuel use, vehicle fuel, and deliveries to consuming sectors as shown in Table 2.

^R Revised data.

^E Estimated data.

^{RE} Revised estimated data.

Notes: Data for 2016 through 2018 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 states and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources: 2016-2019: U.S. Energy Information Administration (EIA), *Natural Gas Annual 2019*. January 2020 through current month: Form EIA-914, *Monthly Crude Oil and Lease Condensate, and Natural Gas Production Report*; Form EIA-857, *Monthly Report of Natural Gas Purchases and Deliveries to Consumers*; Form EIA-191, *Monthly Underground Gas Storage Report*; EIA computations and estimates; and Office of Fossil Energy, *Natural Gas Imports and Exports*. See Table 7 for detailed source notes for Marketed Production. See Appendix A, Notes 3 and 4, for discussion of computation and estimation procedures and revision policies.

Table 5. U.S. natural gas exports, 2019-2021

(volumes in million cubic feet; prices in dollars per thousand cubic feet)

	2021	2020	2019	2021			
	6-Month YTD	6-Month YTD	6-Month YTD	June	May	April	March
Exports							
Volume (million cubic feet)							
Pipeline							
Canada	469,082	469,153	475,335	69,528	70,561	74,567	91,301
Mexico	1,057,068	925,210	885,213	194,753	189,018	179,505	183,051
Total Pipeline Exports	1,526,150	1,394,363	1,360,548	264,281	259,579	254,072	274,352
LNG							
Exports							
By Vessel							
Argentina	42,261	10,601	26,227	19,312	16,226	4,485	2,238
Bahamas	235	108	89	48	45	46	39
Bangladesh	27,374	7,046	0	3,493	6,948	10,219	3,566
Barbados	120	142	96	22	19	30	14
Belgium	5,584	25,028	3,390	0	2,100	0	3,484
Brazil	119,861	25,762	21,739	32,293	19,726	11,615	21,977
Chile	65,519	48,513	47,567	0	17,598	10,293	21,320
China	197,719	53,374	6,851	42,319	37,731	46,837	28,476
Colombia	892	1,528	5,869	0	0	892	0
Croatia	17,320	0	0	2,923	3,364	3,666	7,367
Dominican Republic	31,019	7,264	4,049	4,670	5,283	2,905	5,577
Egypt	0	0	0	0	0	0	0
France	103,845	76,456	51,870	3,683	11,926	36,120	33,678
Greece	14,201	27,908	6,891	0	6,796	0	6,805
Haiti	65	53	4	18	12	3	10
India	110,037	57,863	45,364	16,503	28,259	13,752	17,381
Israel	6,051	6,474	0	0	0	3,225	2,826
Italy	23,983	55,404	30,272	3,425	2,923	6,896	10,739
Jamaica	16,752	9,554	5,211	2,927	2,925	2,370	2,458
Japan	203,873	129,133	70,920	39,783	25,058	28,756	27,673
Jordan	0	3,294	21,990	0	0	0	0
Kuwait	14,653	3,297	3,502	7,126	0	3,705	3,821
Lithuania	19,492	9,467	0	3,285	3,049	3,078	3,228
Malaysia	0	0	0	0	0	0	0
Malta	2,928	2,648	413	0	0	2,928	0
Mexico	13,354	16,968	75,633	0	0	0	0
Netherlands	96,630	58,553	40,896	3,030	26,611	17,060	24,204
Pakistan	13,801	10,224	6,647	3,376	0	3,323	3,421
Panama	6,136	7,384	9,743	0	2,341	0	3,279
Poland	32,204	26,709	16,877	10,635	3,581	7,382	3,507
Portugal	27,021	16,964	24,406	5,538	10,765	7,358	0
Singapore	17,378	10,610	21,032	0	3,089	7,297	3,303
South Korea	229,868	156,835	104,215	55,918	46,033	21,683	32,203
Spain	61,051	130,251	62,026	7,833	5,234	22,974	13,900
Taiwan	43,618	33,035	9,658	3,097	10,157	6,594	13,450
Thailand	10,841	25,664	3,401	0	3,453	7,388	0
Turkey	53,947	84,120	19,281	0	3,017	0	3,619
United Arab Emirates	0	3,474	10,247	0	0	0	0
United Kingdom	97,682	79,514	17,753	0	10,586	13,877	17,440
By Truck							
Canada	40	2	1	7	18	15	0
Mexico	366	434	478	105	48	48	19
Re-Exports							
By Vessel							
Argentina	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0
Japan	0	305	0	0	0	0	0
South Korea	0	305	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0
Total LNG Exports	1,727,720	1,222,265	774,608	271,368	314,922	306,818	321,023
CNG							
Canada	0	222	130	0	0	0	0
Total CNG Exports	0	222	130	0	0	0	0
Total Exports	3,253,870	2,616,850	2,135,286	535,650	574,501	560,890	595,375

See footnotes at end of table.

Table 5. U.S. natural gas exports, 2019-2021

(volumes in million cubic feet; prices in dollars per thousand cubic feet) – continued

	2021			2020			
	February	January	Total	December	November	October	September
Exports							
Volume (million cubic feet)							
Pipeline							
Canada	78,198	84,927	902,449	84,307	81,358	72,833	62,211
Mexico	137,381	173,360	1,990,809	164,577	166,135	185,799	182,068
Total Pipeline Exports	215,579	258,287	2,893,258	248,884	247,493	258,632	244,279
LNG							
Exports							
By Vessel							
Argentina	0	0	15,068	0	0	0	0
Bahamas	29	28	257	36	31	25	20
Bangladesh	0	3,148	10,660	0	0	0	0
Barbados	19	17	241	25	15	17	14
Belgium	0	0	31,946	0	3,633	3,285	0
Brazil	13,118	21,132	111,826	29,927	30,191	22,427	0
Chile	6,524	9,784	80,615	9,793	3,252	6,836	3,277
China	3,415	38,940	214,401	45,525	45,083	35,115	11,245
Colombia	0	0	4,626	0	0	0	2,548
Croatia	0	0	3,275	3,275	0	0	0
Dominican Republic	5,689	6,895	26,050	5,000	5,106	5,909	0
Egypt	0	0	0	0	0	0	0
France	14,851	3,587	90,237	3,752	3,390	6,639	0
Greece	0	600	48,403	3,382	3,543	0	7,027
Haiti	11	12	118	17	11	9	8
India	13,776	20,367	124,402	10,241	10,299	17,762	10,514
Israel	0	0	15,834	0	0	0	3,041
Italy	0	0	68,453	0	3,083	0	0
Jamaica	2,365	3,708	17,052	2,374	0	2,514	2,610
Japan	18,271	64,331	287,672	54,004	32,967	31,554	6,855
Jordan	0	0	6,872	0	0	0	3,578
Kuwait	0	0	17,293	0	0	3,603	3,508
Lithuania	6,851	0	28,879	6,291	3,621	6,191	3,308
Malaysia	0	0	0	0	0	0	0
Malta	0	0	2,648	0	0	0	0
Mexico	13,354	0	34,408	0	3,056	7,398	3,285
Netherlands	22,777	2,949	85,573	3,316	6,684	3,603	6,671
Pakistan	0	3,682	36,934	0	3,436	10,009	9,853
Panama	0	516	12,764	271	1,448	433	3,228
Poland	7,099	0	36,900	7,033	0	3,157	0
Portugal	3,360	0	36,922	3,711	5,830	3,564	6,853
Singapore	0	3,688	28,341	0	7,658	3,416	0
South Korea	18,094	55,936	316,227	39,617	49,103	14,239	32,126
Spain	3,733	7,377	199,966	13,583	9,907	14,118	15,206
Taiwan	0	10,319	64,363	12,470	6,216	3,636	9,007
Thailand	0	0	32,622	0	3,705	0	0
Turkey	20,652	26,659	123,957	20,188	12,817	0	3,611
United Arab Emirates	0	0	10,110	0	0	0	0
United Kingdom	34,343	21,436	160,199	30,378	26,544	17,191	3,664
By Truck							
Canada	0	0	10	8	0	0	0
Mexico	63	83	822	46	52	68	73
Re-Exports							
By Vessel							
Argentina	0	0	2,164	0	0	0	0
Brazil	0	0	82	0	0	82	0
Japan	0	0	387	0	0	82	0
South Korea	0	0	387	0	0	82	0
United Kingdom	0	0	0	0	0	0	0
Total LNG Exports	208,394	305,196	2,389,963	304,263	280,682	222,963	151,128
CNG							
Canada	0	0	386	29	35	26	17
Total CNG Exports	0	0	386	29	35	26	17
Total Exports	423,972	563,483	5,283,607	553,176	528,210	481,621	395,424

See footnotes at end of table.

Table 5. U.S. natural gas exports, 2019-2021

(volumes in million cubic feet; prices in dollars per thousand cubic feet) – continued

							2020
	August	July	June	May	April	March	February
Exports							
Volume (million cubic feet)							
Pipeline							
Canada	60,810	71,778	66,516	67,752	71,722	86,579	77,354
Mexico	185,867	181,152	162,927	145,242	138,544	166,550	151,071
Total Pipeline Exports	246,677	252,930	229,442	212,994	210,266	253,130	228,425
LNG							
Exports							
By Vessel							
Argentina	2,249	2,218	2,229	8,372	0	0	0
Bahamas	21	15	18	20	23	20	13
Bangladesh	0	3,614	0	3,406	0	0	0
Barbados	14	15	20	20	15	28	26
Belgium	0	0	0	1,348	3,324	3,724	9,872
Brazil	3,520	0	0	0	0	6,891	10,433
Chile	7,428	1,515	3,313	11,068	14,098	3,216	10,731
China	13,699	10,358	0	14,535	21,140	17,699	0
Colombia	550	0	0	0	0	0	1,003
Croatia	0	0	0	0	0	0	0
Dominican Republic	2,772	0	0	2,554	1,838	2,872	0
Egypt	0	0	0	0	0	0	0
France	0	0	0	9,546	16,336	23,491	20,520
Greece	0	6,544	1,076	3,430	3,233	8,892	0
Haiti	11	8	7	10	8	9	11
India	10,319	7,404	10,100	10,534	16,674	17,245	0
Israel	3,001	3,317	3,277	0	0	3,197	0
Italy	6,734	3,232	12,998	6,452	3,135	9,895	16,616
Jamaica	0	0	0	0	5,770	1	2,914
Japan	22,541	10,618	21,836	13,729	18,387	21,845	21,360
Jordan	0	0	0	3,294	0	0	0
Kuwait	6,886	0	0	0	3,297	0	0
Lithuania	0	0	3,049	3,473	2,945	0	0
Malaysia	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	48
Mexico	3,701	0	0	0	0	7,037	3,167
Netherlands	0	6,746	6,870	6,826	10,305	13,772	14,099
Pakistan	3,412	0	0	0	3,334	0	3,567
Panama	0	0	0	3,070	0	906	3,408
Poland	0	0	3,385	6,258	3,523	3,583	6,677
Portugal	0	0	0	0	10,777	0	6,187
Singapore	2,967	3,690	0	0	0	10,610	0
South Korea	13,814	10,492	28,171	20,921	24,258	28,095	11,071
Spain	3,222	13,679	9,640	29,360	22,943	23,657	20,240
Taiwan	0	0	2,953	6,662	0	6,987	7,115
Thailand	0	3,254	0	7,397	11,049	3,783	3,435
Turkey	0	3,222	0	6,661	14,030	6,489	24,303
United Arab Emirates	3,359	3,277	0	3,474	0	0	0
United Kingdom	0	2,908	0	0	0	20,202	28,884
By Truck							
Canada	0	0	0	0	0	0	0
Mexico	78	72	61	18	23	123	87
Re-Exports							
By Vessel							
Argentina	2,164	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0
Japan	0	0	0	0	0	0	0
South Korea	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0
Total LNG Exports	112,462	96,200	109,002	182,438	210,466	244,269	225,786
CNG							
Canada	20	37	43	39	35	38	34
Total CNG Exports	20	37	43	39	35	38	34
Total Exports	359,159	349,167	338,486	395,472	420,767	497,437	454,245

See footnotes at end of table.

Table 5. U.S. natural gas exports, 2019-2021

(volumes in million cubic feet; prices in dollars per thousand cubic feet) – continued

	2020						2019
	January	Total	December	November	October	September	August
Exports							
Volume (million cubic feet)							
Pipeline							
Canada	99,231	971,334	109,175	92,089	76,246	71,573	78,302
Mexico	160,875	1,865,329	151,308	158,633	171,535	162,649	168,089
Total Pipeline Exports	260,106	2,836,662	260,483	250,722	247,781	234,222	246,391
LNG							
Exports							
By Vessel							
Argentina	0	39,293	0	0	0	0	0
Bahamas	15	156	11	14	8	2	20
Bangladesh	3,640	3,419	3,419	0	0	0	0
Barbados	33	211	20	20	25	17	17
Belgium	6,761	23,897	10,407	3,293	3,402	3,404	0
Brazil	8,438	54,298	0	3,279	3,345	6,117	12,868
Chile	6,087	90,357	7,207	3,484	6,608	9,811	6,297
China	0	6,851	0	0	0	0	0
Colombia	525	6,518	0	0	0	0	649
Croatia	0	0	0	0	0	0	0
Dominican Republic	0	10,334	501	0	2,927	2,857	0
Egypt	0	0	0	0	0	0	0
France	6,563	117,791	14,758	26,946	14,228	6,740	3,249
Greece	11,276	14,643	7,752	0	0	0	0
Haiti	7	42	12	8	4	9	3
India	3,309	91,481	7,090	6,933	6,961	14,355	7,294
Israel	0	0	0	0	0	0	0
Italy	6,308	68,655	12,764	6,345	0	3,230	6,082
Jamaica	869	13,892	2,435	2,464	0	0	2,946
Japan	*31,975	201,085	21,226	17,603	24,504	28,084	17,506
Jordan	0	32,332	0	0	0	3,616	3,277
Kuwait	0	10,308	0	0	0	0	3,401
Lithuania	0	3,455	3,455	0	0	0	0
Malaysia	0	3,698	0	3,698	0	0	0
Malta	2,600	413	0	0	0	0	0
Mexico	6,764	143,371	9,696	3,273	6,437	10,442	13,681
Netherlands	6,681	81,361	13,405	10,099	3,456	3,431	6,688
Pakistan	3,323	26,787	3,253	3,247	3,472	6,512	0
Panama	0	10,221	0	478	0	0	0
Poland	3,282	38,042	7,013	3,432	3,489	0	3,537
Portugal	0	53,342	6,345	0	6,621	2,924	6,051
Singapore	0	31,440	3,375	0	3,463	0	0
South Korea	*44,320	270,025	38,139	24,962	42,233	10,818	16,995
Spain	24,412	166,684	13,874	19,985	13,704	37,938	15,861
Taiwan	9,317	27,397	3,658	3,736	3,138	0	7,207
Thailand	0	6,635	0	0	0	3,234	0
Turkey	32,637	30,611	536	7,266	3,528	0	0
United Arab Emirates	0	20,561	0	0	0	3,325	3,502
United Kingdom	30,428	118,662	30,054	39,957	26,260	3,303	1,335
By Truck							
Canada	2	25	0	1	14	9	0
Mexico	122	1,105	93	86	139	95	113
Re-Exports							
By Vessel							
Argentina	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0
Japan	305	0	0	0	0	0	0
South Korea	305	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0
Total LNG Exports	250,305	1,819,399	220,498	190,610	177,966	160,274	138,578
CNG							
Canada	33	263	25	30	28	15	15
Total CNG Exports	33	263	25	30	28	15	15
Total Exports	510,444	4,656,324	481,006	441,362	425,775	394,511	384,983

See footnotes at end of table.

Table 5. U.S. natural gas exports, 2019-2021

(volumes in million cubic feet; prices in dollars per thousand cubic feet) – continued

	2019						
	July	June	May	April	March	February	January
Exports							
Volume (million cubic feet)							
Pipeline							
Canada	68,613	61,809	70,182	71,333	93,182	91,561	87,269
Mexico	167,902	156,440	153,452	139,750	149,514	135,514	150,544
Total Pipeline Exports	236,515	218,249	223,633	211,083	242,696	227,074	237,813
LNG							
Exports							
By Vessel							
Argentina	13,066	13,120	8,737	4,369	0	0	0
Bahamas	11	25	14	14	11	14	11
Bangladesh	0	0	0	0	0	0	0
Barbados	17	13	21	17	14	14	17
Belgium	0	0	0	0	3,390	0	0
Brazil	6,949	9,116	4,905	1,201	3,283	3,234	0
Chile	9,382	19,012	6,188	9,429	10,005	2,933	0
China	0	0	0	0	0	3,464	3,387
Colombia	0	0	0	0	2,935	0	2,934
Croatia	0	0	0	0	0	0	0
Dominican Republic	0	1,108	0	0	0	2,942	0
Egypt	0	0	0	0	0	0	0
France	0	0	6,621	17,092	20,853	0	7,303
Greece	0	0	3,497	0	0	3,394	0
Haiti	2	3	0	2	0	0	0
India	3,485	3,215	13,942	6,742	7,446	6,989	7,030
Israel	0	0	0	0	0	0	0
Italy	9,963	3,072	6,560	0	6,684	3,454	10,502
Jamaica	837	0	2,890	0	2,320	0	0
Japan	21,242	14,582	7,149	14,231	7,143	10,320	17,495
Jordan	3,449	7,342	7,332	3,622	0	3,695	0
Kuwait	3,405	0	3,502	0	0	0	0
Lithuania	0	0	0	0	0	0	0
Malaysia	0	0	0	0	0	0	0
Malta	0	0	0	413	0	0	0
Mexico	24,209	16,955	20,244	10,406	7,038	6,681	14,310
Netherlands	3,386	3,310	10,734	13,010	10,452	3,390	0
Pakistan	3,656	0	0	0	3,282	3,365	0
Panama	0	3,282	0	0	3,191	3,269	0
Poland	3,694	0	0	3,414	3,701	0	9,762
Portugal	6,994	6,908	0	3,489	0	3,720	10,289
Singapore	3,570	3,435	3,397	320	6,631	7,249	0
South Korea	32,663	20,402	18,069	13,000	18,013	17,750	16,981
Spain	3,297	13,506	14,325	10,139	10,678	6,748	6,631
Taiwan	0	0	3,309	6,349	0	0	0
Thailand	0	0	3,401	0	0	0	0
Turkey	0	0	0	2,969	0	6,483	9,829
United Arab Emirates	3,487	3,459	0	6,787	0	0	0
United Kingdom	0	0	0	0	3,669	3,711	10,373
By Truck							
Canada	0	0	0	0	0	1	0
Mexico	101	92	75	87	73	48	104
Re-Exports							
By Vessel							
Argentina	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0
Japan	0	0	0	0	0	0	0
South Korea	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0
Total LNG Exports	156,865	141,956	144,913	127,102	130,814	102,866	126,957
CNG							
Canada	20	20	22	28	29	15	16
Total CNG Exports	20	20	22	28	29	15	16
Total Exports	393,400	360,226	368,568	338,213	373,539	329,954	364,787

See footnotes at end of table.

Table 7. Marketed production of natural gas in selected states and the Federal Gulf of Mexico, 2016-2021
(million cubic feet)

Year and Month	Alaska	Arkansas	California	Colorado	Kansas	Louisiana	Montana	New Mexico	North Dakota	Ohio
2016 Total	332,749	823,196	205,025	1,685,755	244,795	1,784,396	47,921	1,229,647	531,997	1,437,285
2017 Total	344,385	694,676	212,458	1,706,364	219,639	2,139,830	46,311	1,299,732	593,998	1,791,359
2018 Total	341,315	589,985	202,617	1,847,402	201,391	2,832,404	43,530	1,493,082	706,552	2,403,382
2019										
January	30,503	47,446	16,800	166,325	16,063	259,035	3,773	137,823	67,939	213,497
February	26,728	42,215	15,513	149,040	14,237	242,105	3,094	128,379	59,030	192,836
March	29,346	46,206	16,922	163,990	15,820	267,517	3,505	144,822	68,666	213,497
April	28,816	44,463	16,548	161,094	15,613	260,790	3,551	142,363	67,998	208,200
May	29,028	44,901	16,754	166,254	14,898	270,459	3,814	154,100	70,250	215,140
June	26,889	42,696	16,254	162,749	15,558	265,731	3,756	142,240	65,418	208,200
July	25,348	43,847	16,890	166,425	15,695	278,216	3,782	148,454	70,026	235,693
August	22,876	43,500	16,969	167,799	15,638	276,770	3,732	157,091	75,259	235,693
September	24,494	41,793	16,262	159,310	15,038	266,661	3,667	156,608	72,447	228,090
October	27,409	43,088	16,228	174,373	15,157	279,489	3,607	156,870	78,045	236,995
November	28,256	41,725	15,659	172,363	14,436	270,787	3,474	153,617	77,478	229,350
December	29,669	42,825	16,024	178,991	14,944	286,082	3,507	164,968	79,195	236,995
Total	329,361	524,705	196,823	1,988,714	183,097	3,223,642	43,263	1,787,334	851,750	2,654,186
2020										
January	30,018	€42,586	€15,661	€177,810	€13,349	€279,056	€3,580	€164,472	€74,489	€210,045
February	28,537	€39,455	€14,414	€165,333	€13,487	€251,755	€3,303	€158,434	€72,155	€179,594
March	29,219	€41,233	€15,135	€177,377	€14,598	€266,118	€3,587	€169,340	€78,018	€199,544
April	27,513	€40,141	€14,685	€171,025	€13,802	€262,712	€3,113	€159,064	€66,217	€193,938
May	27,076	€41,498	€14,944	€166,654	€13,796	€273,665	€2,616	€150,531	€48,821	€207,596
June	25,545	€39,113	€14,620	€161,714	€13,173	€263,819	€2,689	€152,401	€47,485	€198,554
July	26,779	€40,172	€14,826	€168,601	€13,465	€265,507	€3,144	€163,516	€57,433	€209,347
August	26,846	€41,148	€13,115	€168,528	€13,292	€257,893	€3,164	€168,443	€65,306	€207,182
September	26,978	€39,501	€12,635	€162,274	€12,745	€254,678	€3,035	€165,194	€67,978	€198,167
October	29,080	€41,014	€12,391	€165,226	€12,623	€263,309	€3,189	€179,908	€71,638	€200,302
November	29,575	€39,388	€12,034	€159,417	€10,865	€266,951	€3,059	€173,956	€69,830	€196,183
December	31,161	€40,183	€12,247	€161,889	€12,770	€276,772	€3,107	€172,786	€69,697	€207,905
Total	338,329	€485,432	€166,709	€2,005,848	€157,963	€3,182,236	€37,587	€1,978,044	€789,065	€2,408,358
2021										
January	31,632	€39,964	€12,033	€159,724	€12,578	€271,669	€3,168	€176,770	€69,019	€206,660
February	28,365	€30,061	€10,749	€143,329	€9,965	€220,985	€2,750	€149,598	€58,860	€170,668
March	31,481	€39,947	€12,028	€156,440	€12,340	€281,322	€3,099	€184,351	€69,028	€189,405
April	29,514	RE37,926	RE11,685	RE155,915	RE12,316	RE276,847	RE3,052	RE182,003	RE68,291	RE183,444
May	29,005	RE38,731	RE12,174	RE162,091	RE12,643	RE287,533	RE3,179	RE192,722	RE71,803	RE187,669
June	27,715	€37,054	€11,712	€154,260	€12,335	€274,387	€2,885	€186,832	€69,330	€183,586
2021 6-Month YTD	177,712	€223,684	€70,381	€931,760	€72,176	€1,612,744	€18,133	€1,072,276	€406,331	€1,121,432
2020 6-Month YTD	167,910	€244,026	€89,459	€1,019,913	€82,204	€1,597,125	€18,889	€954,241	€387,185	€1,189,272
2019 6-Month YTD	171,310	267,928	98,791	969,452	92,188	1,565,637	21,493	849,727	399,301	1,251,370

See footnotes at end of table.

Table 7. Marketed production of natural gas in selected states and the Federal Gulf of Mexico, 2016-2021

(million cubic feet) – continued

Year and Month	Oklahoma	Pennsylvania	Texas	Utah	West Virginia	Wyoming	Other States	Federal Gulf of Mexico	U.S. Total
2016 Total	2,468,312	5,210,209	7,225,472	365,268	1,384,458	1,662,909	559,985	1,200,669	28,400,049
2017 Total	2,513,897	5,453,638	7,223,841	315,211	1,514,278	1,590,059	517,698	1,060,452	29,237,825
2018 Total	2,875,787	6,264,832	8,041,010	295,826	1,771,698	1,637,517	485,675	974,863	33,008,867
2019									
January	262,662	576,440	736,511	23,200	169,050	123,341	39,938	90,159	2,980,505
February	240,995	519,802	675,802	21,049	154,910	110,816	35,450	76,741	2,708,742
March	265,283	578,820	756,354	23,387	171,516	122,319	39,386	92,033	3,019,390
April	262,767	560,062	725,217	22,794	167,816	120,098	38,325	87,201	2,933,716
May	269,586	571,803	778,371	23,623	171,305	128,510	38,958	87,724	3,055,477
June	259,034	556,708	764,324	22,904	174,784	121,743	37,916	81,638	2,968,544
July	268,965	583,186	803,273	23,091	180,524	115,230	38,313	66,820	3,083,779
August	268,025	585,405	836,414	23,374	181,927	119,242	38,473	91,215	3,159,401
September	265,447	568,646	785,566	22,150	181,343	124,724	37,254	84,108	3,053,609
October	278,887	589,800	823,698	22,494	201,950	127,708	37,486	86,698	3,199,983
November	263,368	597,779	790,664	21,704	196,185	122,272	36,837	83,634	3,119,588
December	269,990	608,342	825,421	22,099	204,446	124,473	37,106	87,378	3,232,454
Total	3,175,008	6,896,792	9,301,616	271,870	2,155,757	1,460,477	455,443	1,015,349	36,515,188
2020									
January	£263,734	£607,697	£827,368	£21,856	£205,973	£122,406	£36,673	£84,739	£3,181,514
February	£243,139	£579,980	£771,344	£20,472	£197,173	£107,668	£34,050	£78,343	£2,958,634
March	£257,387	£616,101	£832,144	£21,805	£207,724	£116,328	£35,794	£84,669	£3,166,123
April	£235,642	£599,921	£772,841	£20,462	£202,046	£111,375	£29,768	£77,588	£3,001,855
May	£217,154	£598,263	£733,502	£19,555	£213,671	£106,760	£34,244	£63,304	£2,933,650
June	£222,324	£569,002	£733,102	£19,317	£215,274	£104,033	£33,369	£60,713	£2,876,248
July	£226,843	£614,943	£766,509	£20,241	£222,115	£108,027	£34,642	£67,343	£3,023,452
August	£226,344	£630,016	£788,459	£19,713	£224,409	£106,139	£33,367	£43,410	£3,036,773
September	£222,010	£582,197	£746,302	£19,027	£218,495	£103,457	£32,048	£47,449	£2,914,169
October	£219,403	£616,334	£760,569	£19,777	£225,807	£103,648	£34,202	£37,087	£2,995,509
November	£224,327	£619,815	£747,332	£18,991	£224,659	£103,334	£32,797	£57,936	£2,990,450
December	£228,057	£655,636	£763,930	£19,165	£237,246	£103,915	£33,648	£64,048	£3,094,164
Total	£2,786,366	£7,289,906	£9,243,402	£240,382	£2,594,591	£1,297,092	£404,602	£766,630	£36,172,542
2021									
January	£221,544	£657,704	£775,706	£19,235	£234,432	£105,897	£33,444	£68,505	£3,099,685
February	£163,094	£585,221	£588,953	£17,815	£208,571	£95,863	£29,898	£62,427	£2,577,173
March	£220,130	£647,681	£772,550	£20,356	£227,218	£106,480	£34,127	£72,986	£3,080,967
April	RE214,334	RE618,509	RE777,007	£19,861	RE229,075	RE102,740	RE32,841	RE69,810	RE3,025,171
May	RE222,423	RE640,431	RE802,950	RE20,294	RE240,983	RE104,625	RE33,521	RE67,817	RE3,130,594
June	£212,928	£623,850	£777,807	£19,526	£234,192	£101,954	£32,185	£68,413	£3,030,951
2021 6-Month YTD	£1,254,455	£3,773,395	£4,494,973	£117,087	£1,374,471	£617,559	£196,017	£409,957	£17,944,541
2020 6-Month YTD	£1,439,381	£3,570,965	£4,670,301	£123,469	£1,241,860	£668,570	£203,898	£449,356	£18,118,025
2019 6-Month YTD	1,560,327	3,363,634	4,436,579	136,957	1,009,381	726,827	229,973	515,496	17,666,373

^E Estimated data.^{RE} Revised estimated data.

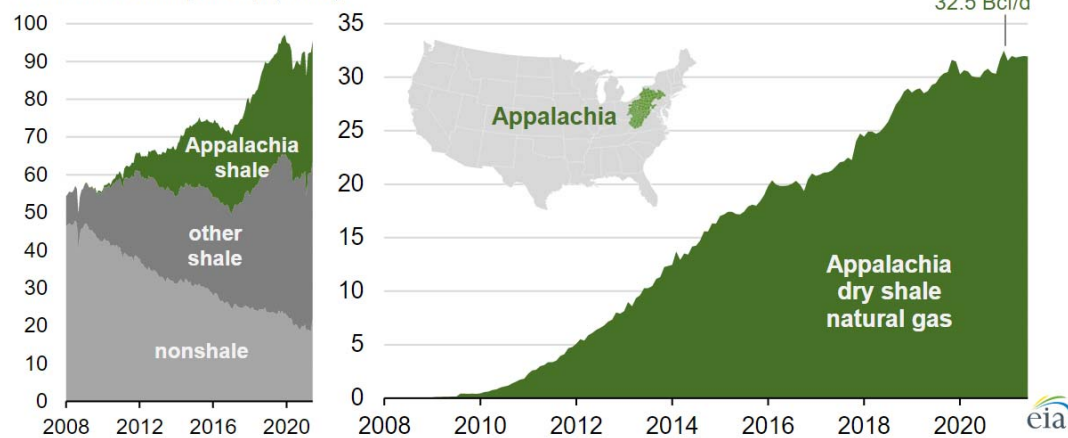
Notes: For 2020 forward, state monthly marketed production is estimated from gross withdrawals using historical relationships between the two. Data for Arkansas, California, Colorado, Kansas, Louisiana, Montana, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Texas, Utah, West Virginia, Wyoming, and Federal Offshore Gulf of Mexico are individually collected on the EIA-914 report. The "Other States" category comprises states/areas not individually collected on the EIA-914 report (Alabama, Arizona, Federal Offshore Pacific, Florida, Idaho, Illinois, Indiana, Kentucky, Maryland, Michigan, Mississippi, Missouri, Nebraska, Nevada, New York, Oregon, South Dakota, Tennessee, and Virginia). Before 2020, Federal Offshore Pacific is included in California. All data for Alaska are obtained directly from the state. Monthly preliminary state-level data for all states not collected individually on the EIA-914 report are available after the final annual reports for these series are collected and processed. Final annual data are generally available in the third quarter of the following year. The sum of individual states may not equal total U.S. volumes due to independent rounding.

Sources: 2016-2019: U.S. Energy Information Administration (EIA), *Natural Gas Annual 2019*, Bureau of Safety and Environmental Enforcement (BSEE), IHS Markit, Enverus, and BENTEK Energy. January 2020 through current month: Form EIA-914, *Monthly Crude Oil and Lease Condensate, and Natural Gas Production Report*; and EIA computations.

Shale natural gas production in the Appalachian Basin sets records in first half of 2021

Monthly U.S. dry shale natural gas production (Jan 2008–Jun 2021)

billion cubic feet per day (Bcf/d)

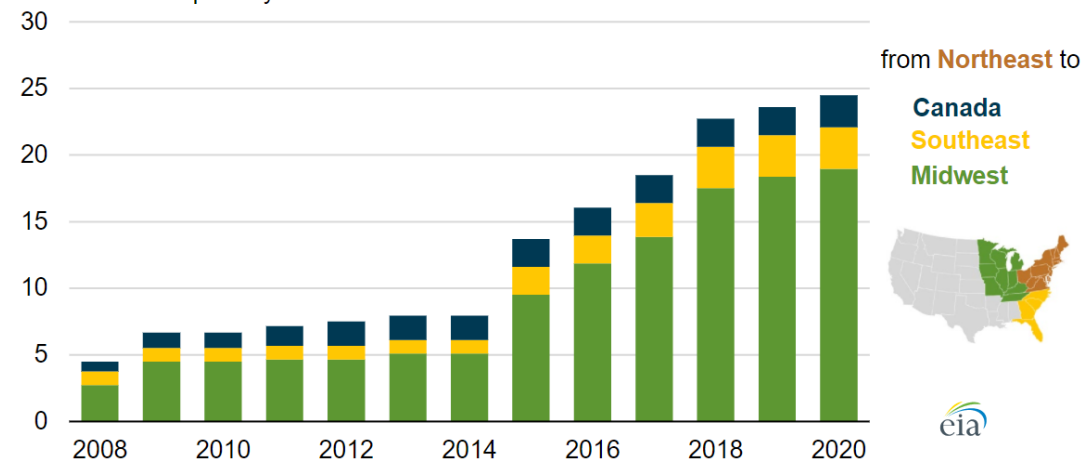


Source: Graph by U.S. Energy Information Administration, based on state administrative data collected by Enverus Drillinginfo Inc.

Dry natural gas production from shale formations in the Appalachian Basin that spans Pennsylvania, West Virginia, and Ohio has been growing since 2008, and monthly production has recently set new record highs. Production in the region reached 32.5 billion cubic feet per day (Bcf/d) in December 2020, and it averaged 31.9 Bcf/d during the first half of 2021, the highest average for a six-month period since production began in 2008. The Appalachian Basin contains two shale formations, Marcellus and Utica, which accounted for 34% of all U.S. dry natural gas production in the first half of 2021. **On its own, the Appalachian Basin would have been the third-largest natural gas producer in the world the first half of 2021, behind Russia and the rest of the United States.**

Annual natural gas pipeline takeaway capacity out of the U.S. Northeast (2008–2020)

billion cubic feet per day



Source: U.S. Energy Information Administration, [U.S. state-to-state pipeline capacity](#)

Record-high dry natural gas production in the first half of 2021 was made possible by [growth in pipeline takeaway capacity](#) that allows natural gas produced in the Appalachian Basin to reach other demand markets, especially in the Midwest. From 2008 to 2020, total pipeline takeaway capacity from the Northeast increased from 4.5 Bcf/d to 24.5 Bcf/d, [alleviating some congestion](#) and supporting higher wholesale natural gas prices in the region. Most of the increase in takeaway capacity happened between 2014 and 2020, when pipeline capacity increased by 16.5 Bcf/d, much of which was directed to the Midwest.

Pipeline takeaway capacity from Appalachia to [Canada](#) and to the [Southeast has also increased](#). Recent expansions of pipeline capacity in the Southeast are supporting growth in exports of U.S. liquefied natural gas.

Although natural gas pipeline capacity out of the Northeast has grown every year since 2014, the rate of increase has slowed and recently has not kept pace with growth in regional production. The [Mountain Valley Pipeline](#) is the largest natural gas pipeline currently being constructed in the region and is targeted to enter service in 2022. The pipeline will move natural gas from northwestern West Virginia to southern Virginia, extending the Equitrans transmission system to the Transcontinental Gas Pipeline Company's Zone 5 compressor station 165 near Gretna, Virginia. It is designed to move 2.0 Bcf/d of natural gas and is intended to further alleviate pipeline congestion. Pipelines tend to be most full in the region during the late summer when consumption of natural gas within the region is typically at its lowest.

Principal contributors: Corrina Ricker, Warren Wilczewski

One Step Ahead - Permian Natural Gas Growth Spurs More Processing Capacity

Sunday, 08/29/2021

Published by: Housley Carr

In the past four years, natural gas production in the Permian Basin has doubled — from 6.6 Bcf/d in August 2017 to 13.4 Bcf/d now. To keep pace, the midstream sector has spent many billions of dollars on new gas gathering systems, processing plants, and takeaway pipelines, with virtually all of that investment backed by long-term commitments from producers and other market players. Thanks to that build-out, the Permian now has sufficient takeaway capacity — at least for another couple of years. But despite the 50-plus processing plants that have come online in the play's Delaware and Midland basins in recent years, still more processing capacity is needed, as evidenced by the expansion projects and new plants that we discuss in today's blog.

The Permian has proven itself to be a remarkably resilient producer of hydrocarbons — something we track in our weekly Crude Oil Permian and NATGAS Permian reports. No doubt, there have been challenges and setbacks along the way, chief among them a devastating pandemic that, in addition to its human toll, slashed demand for crude oil, the commodity that drives drilling and production activity in the Permian. In response, crude oil production there sagged in the spring of 2020 and gas production (see Figure 1) fell by 1.3 Bcf/d to 10.6 Bcf/d from April to May. Then, in February 2021, the Deep Freeze caused Permian gas production to fall 2.2 Bcf/d from the previous month to 10.1 Bcf/d.

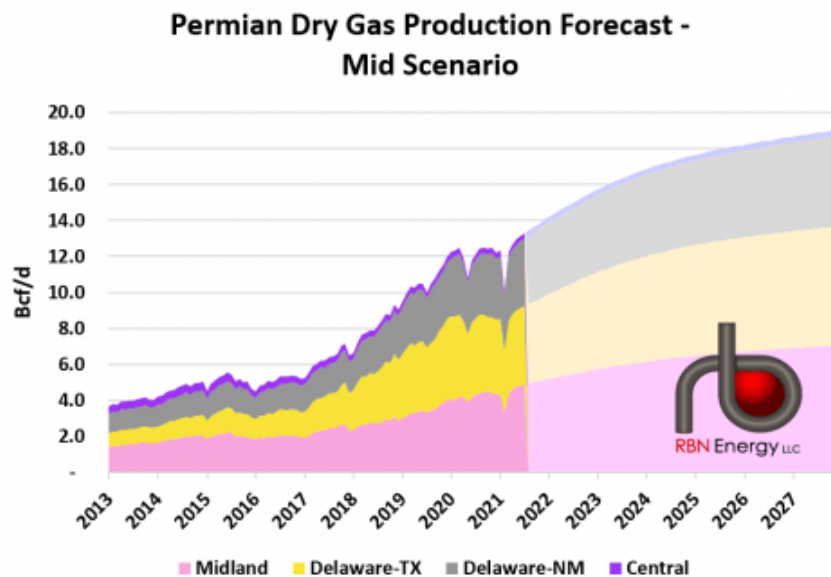


Figure 1. Permian Dry Gas Production Forecast. Source: RBN Mid Scenario

In both cases, however, Permian crude oil and gas production quickly rebounded, and the play's gas output today stands at a record 13.4 Bcf/d (stack of darker shades in Figure 1). And RBN forecasts continued growth in our mid-scenario that assumes over the next five years WTI averages pretty close to the current forward curves. As shown by the lighter shades of pink (Midland), yellow (Delaware–Texas), gray (Delaware–New Mexico), and purple (Central Basin) in Figure 1, we expect Permian residue gas production to increase to 14.1 Bcf/d by the end of this year, 15.6 Bcf/d by December 2022, and 18.1 Bcf/d — 35% higher than the current level — by December 2025.

While the Midland region has been getting a lot of attention in the past year or two for its desirable production profile and strong producer economics, there's also renewed strength in the Delaware portion of the Permian —on both the West Texas and New Mexico sides. In the past four years, Midland gas production (blue layer in Figure 1 graph) has nearly doubled, from 2.5 Bcf/d in August 2017 to 4.9 Bcf/d this month, and we expect the Midland's output to hit 5.7 Bcf/d by December 2022. In the Delaware Basin, where the gas-to-oil ratio (GOR) is generally higher, gas production has increased by 4.5 Bcf/d in the past four years, to 8.2 Bcf/d. Our Mid scenario projects that Delaware production to hit 9.6 Bcf/d by the end of next year.

A few months ago, in our [...Ready for It?](#) blog series, we discussed the January 2021 start-up of both the 2.1-Bcf/d Permian Highway Pipeline (PHP) to the Gulf Coast and a 1.8-Bcf/d expansion of the Agua Blanca pipeline system in the Delaware Basin, as well as the plans by MPLX, WhiteWater Midstream, and a joint venture of Stonepeak Infrastructure Partners and West Texas Gas to begin operating their 2-Bcf/d Whistler Pipeline from the Midland Basin to the Agua Dulce hub in mid-2021. (Whistler came online as planned on July 1.) All of that pipeline capacity helped to relieve the outbound constraints on natural gas that previously had resulted in big basis discounts at West Texas's Waha hub (see [Hey Look Ma, I Made It](#)). But it takes more than just pipeline capacity to handle the liquids-rich natural gas produced in the Permian — natural gas processing plants are required to remove natural gas liquids and other impurities (see our [Good to Be a Gas Processor](#) series) prior to accessing long-haul pipelines.

In Part 1 of the [...Ready for It?](#) series we looked at the latest round of gas processing plants being constructed in the Midland, and in Part 2 we did the same for new processing capacity in the Delaware. Today, we look at the Permian gas processing capacity that has come online so far this year and the plants scheduled to start up later this year or in 2022. Over the past several months, EnLink Midstream has completed three gas-plant expansions in the Midland Basin that added a combined 55 MMcf/d of capacity. These included:

- A 20-MMcf/d expansion at the company's Midmar East plant (dark blue dot in Figure 2) in southwestern Martin County, TX, which increased the plant's capacity to 120 MMcf/d.
- A 15-MMcf/d expansion at EnLink's Midmar West plant (medium blue dot) in southeastern Andrews County, TX, which increased the plant's capacity to 75 MMcf/d.
- A 20-MMcf/d expansion at the Riptide plant (light blue dot) in south-central Martin County, which — with the 55-MMcf/d expansion Enbridge completed at the plant in the second half of 2020 — brings Riptide's capacity to 240 MMcf/d.

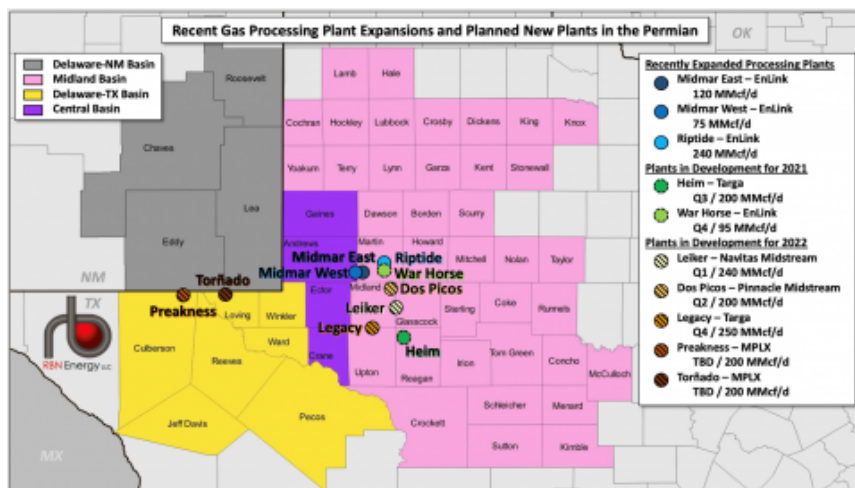


Figure 2. Recent Gas Processing Plant Expansions and Planned New Plants in the Permian. Source: RBN

EnLink is also one of two midstreamers that will be adding processing capacity in the Permian in the last four months of 2021 — not by building new plants, but by relocating existing plants from elsewhere. We'll

get to EnLink's project in a moment. First, we should note that within the next few days, Targa Resources expects to start up its 200-MMcf/d Heim gas processing plant (dark green dashed dot) in Reagan County, TX, which is in the Midland Basin. Previously, the cryogenic processing plant had been called Longhorn and was located in North Texas's Wise County, in the heart of the declining Barnett Shale — the OG of the early-days Shale Revolution. The project increases Targa's processing capacity in the Midland to 2.6 Bcf/d; the company also has 1.3 Bcf/d of processing capacity in the Permian's Delaware Basin.

In the fourth quarter of this year, EnLink plans to begin operation of its newly renamed War Horse plant (light green dashed dot). The plant, previously known as Battle Ridge, is being moved from Payne County, OK, to south-central Martin County (near the Riptide plant) to help EnLink keep pace with increasing gas-processing demand in the Midland. As part of the project, the company is undertaking enhancements that will increase the plant's capacity by 15 MMcf/d to 95 MMcf/d. War Horse will bring EnLink's processing capacity in the Midland Basin to about 670 MMcf/d; it also has 635 MMcf/d of capacity in the Delaware, where it and Western Gas Partners completed their jointly owned, 240-MMcf/d Tiger gas plant in Culberson County, TX, in the third quarter of last year.

A number of new gas processing plants are scheduled to come online in 2022 — some midstream companies have specified which quarter they expect to begin operating their facilities, while others have not.

Navitas Midstream expects its new, 240-MMcf/d Leiker gas processing plant (yellow striped dot) to come online by the end of the first quarter of 2022. Leiker will be the fifth new gas plant at Navitas's Midland Basin Processing Complex, which is located near the Midland-Glasscock county line in the heart of the Midland Basin. The four existing plants there (Newberry 1, Newberry 2, Taylor, and Trident) have a combined capacity of 770 MMcf/d, and the addition of Leiker will increase the complex's capacity to just over 1 Bcf/d. (We'll be discussing Navitas's Permian gas gathering systems and processing plants in detail in Part 2 of this blog series.)

In mid-2022, Pinnacle Midstream II — backed by management and Energy Spectrum Capital, a Dallas-based private equity firm — plans to begin operating its new, 200-MMcf/d Dos Picos processing plant (light orange striped dot) in Midland County. Pinnacle said when it announced the project in July that the new plant — and an associated gas gathering and compression system in Midland, Martin, and Glasscock counties that the company brought online in the second quarter of 2021 — are supported by a 15-year agreement with DoublePoint Energy. (DoublePoint was acquired by Pioneer Natural Resources in May 2021.)

Earlier this month, Targa announced plans to build the 250-MMcf/d Legacy gas processing plant (medium orange striped line) in the Midland Basin and bring it online in the fourth quarter of next year. The plant, which is located near the Midland-Upton county line, will give Targa more than 4.1 Bcf/d of processing capacity in the Permian.

There are a couple more. MPLX plans to start up two new 200-MMcf/d gas processing plants sometime next year: the Preakness plant (dark orange striped dot) in south-central Martin County (TX) in the Midland Basin and a second plant at the company's Torñado processing facility (brown striped dot) in Loving County, TX, in the Delaware Basin.

Finally, it's not a new gas processing plant, but Energy Transfer's recently announced Permian Bridge pipeline project is definitely part of the midstream sector's broader effort to stay — as the title of today's blog suggests — "one step ahead" of processing demand. Under the plan, by the fourth quarter of 2021 Energy Transfer will convert 55 miles of an existing 24-inch-diameter NGL pipeline between the Midland and Delaware basins to rich-gas service. That will allow 115 MMcf/d of associated gas with high NGL content to be transported from the Midland to the Delaware, which currently is less constrained from a gas processing perspective.

All of these moves — the processing plant expansions, the relocation of plants to the Permian, the development of new plants, and Energy Transfer's Permian Bridge — indicate the ongoing scramble by midstream companies to meet what producers expect will be a growing need for associated-gas processing through the early 2020s.

"One Step Ahead" was written by Eddie Snyder and Charles Singleton. It appeared as the A-side of a single for Aretha Franklin that was released by Columbia Records in May 1965. The single went to #18 on the Billboard Hot Rhythm & Blues Singles chart. Since the song never appeared on any of her albums at the time, it remains one of the rarest and collectible of Franklin's singles. Hip-hop producer Ayatollah sampled the chorus from the song and used it in the "Ms. Fat Booty" single for Mos Def.

Aretha Franklin was an American soul singer, songwriter, and pianist. Dubbed "The Queen of Soul," Franklin's professional career started at the age of 18, when she signed with Columbia Records. She has released 38 studio albums, six live albums, 62 compilation albums, and 131 singles. Franklin has won 18 Grammy Awards and received a Grammy Award Living Legend and Lifetime Achievement Award. She has been awarded the National Medal of Arts and the Presidential Medal of Freedom, and is a member of the Rock and Roll Hall of Fame, the Gospel Music Hall of Fame, the UK Music Hall of Fame, and the National Women's Hall of Fame. Franklin passed away at her home in Detroit in August 2018 at the age of 76.

Summary

Overview of Activity for June 2021

- **Top five countries of destination, representing 69.9% of total U.S. LNG exports in June 2021**
 - South Korea (55.9 Bcf), China (42.3 Bcf), Japan (39.8 Bcf), Brazil (32.3 Bcf), and Argentina (19.3 Bcf)
- **271.2 Bcf of exports in June 2021**
 - 13.9% decrease from May 2021
 - 149.0% more than June 2020
- **91 cargos shipped in June 2021**
 - Sabine Pass (28), Freeport (21), Corpus Christi (20), Cameron (13), Cove Point (7), Elba Island (2)
 - 102 cargos in May 2021
 - 34 cargos in June 2020

1a. Table of Exports of Domestically-Produced LNG Delivered by Region (Cumulative from February 2016 through June 2021)

Region	Number of Countries Receiving Per Region	Volume Exported (Bcf)	Percentage Receipts of Total Volume Exported (%)	Number of Cargos*
East Asia and Pacific	7	3,019.9	38.2%	875
Europe and Central Asia	13	2,462.1	31.1%	760
Latin America and the Caribbean**	11	1,568.5	19.8%	545
Middle East and North Africa	5	296.9	3.8%	87
South Asia	3	556.6	7.0%	165
Sub-Saharan Africa	0	0.0	0.0%	0
Total LNG Exports	39	7,904.0	100.0%	2,432

*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 June 2021)

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	347	1,208.7	15.3%
2. Japan*	East Asia and Pacific	254	882.3	11.2%
3. China	East Asia and Pacific	183	630.1	8.0%
4. Mexico*	Latin America and the Caribbean	160	541.2	6.8%
5. Spain*	Europe and Central Asia	148	470.2	5.9%
6. United Kingdom	Europe and Central Asia	129	430.9	5.5%
7. India*	South Asia	124	421.4	5.3%
8. Brazil*	Latin America and the Caribbean	127	348.5	4.4%
9. Chile*	Latin America and the Caribbean	104	332.8	4.2%
10. France*	Europe and Central Asia	98	330.2	4.2%
11. Netherlands*	Europe and Central Asia	85	278.8	3.5%
12. Turkey*	Europe and Central Asia	82	265.3	3.4%
13. Italy	Europe and Central Asia	58	188.3	2.4%
14. Taiwan*	East Asia and Pacific	50	161.1	2.0%
15. Argentina*	Latin America and the Caribbean	65	157.0	2.0%
16. Portugal*	Europe and Central Asia	47	153.0	1.9%
17. Jordan*	Middle East and North Africa	36	124.2	1.6%
18. Poland	Europe and Central Asia	35	113.8	1.4%
19. Pakistan	South Asia	29	93.8	1.2%
20. Dominican Republic*	Latin America and the Caribbean	38	84.9	1.1%
21. Greece*	Europe and Central Asia	28	81.0	1.0%
22. Singapore*	East Asia and Pacific	25	80.8	1.0%
23. Kuwait	Middle East and North Africa	23	79.5	1.0%
24. Belgium	Europe and Central Asia	19	61.4	0.8%
25. Lithuania	Europe and Central Asia	18	58.7	0.7%
26. Thailand	East Asia and Pacific	15	53.2	0.7%
27. United Arab Emirates	Middle East and North Africa	15	51.1	0.6%
28. Jamaica*	Latin America and the Caribbean	21	49.0	0.6%
29. Bangladesh	South Asia	12	41.5	0.5%
30. Panama*	Latin America and the Caribbean	18	35.9	0.5%
31. Israel	Middle East and North Africa	8	25.2	0.3%
32. Croatia	Europe and Central Asia	6	20.6	0.3%
33. Colombia*	Latin America and the Caribbean	12	17.1	0.2%
34. Egypt	Middle East and North Africa	5	16.9	0.2%
35. Malta*	Europe and Central Asia	7	9.8	0.1%
36. Malaysia	East Asia and Pacific	1	3.7	0.0%
Total Exports by Vessel		2,432	7,901.9	
37. Barbados	Latin America and the Caribbean	262	1.0	0.0%
38. Bahamas	Latin America and the Caribbean	380	0.8	0.0%
39. Haiti	Latin America and the Caribbean	78	0.2	0.0%
Jamaica	Latin America and the Caribbean	1	0.0	0.0%
Total Exports by ISO		721	2.1	
Total Exports by Vessel		3,153	7,904.0	

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

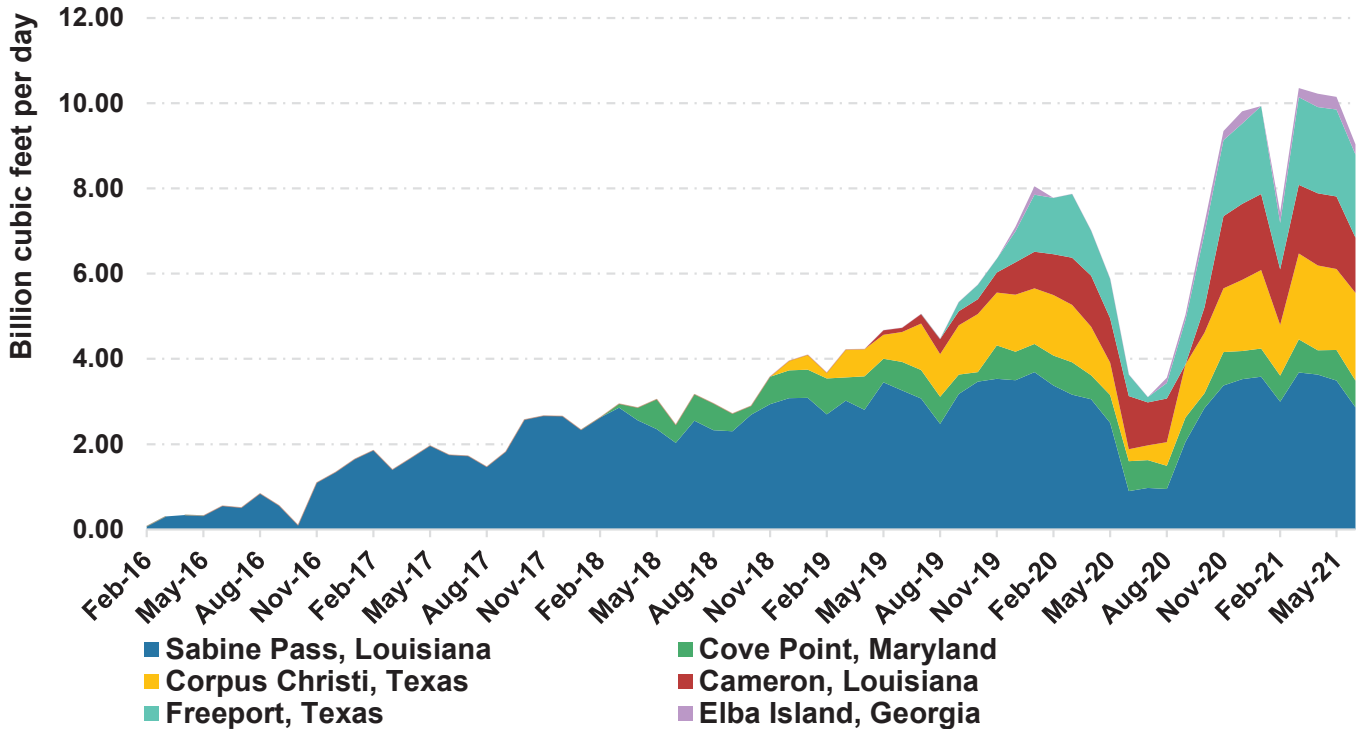
* Split cargoes counted as both individual cargoes and countries.

Vessel = LNG Exports by Vessel and ISO container = LNG Exports by Vessel in ISO Containers.

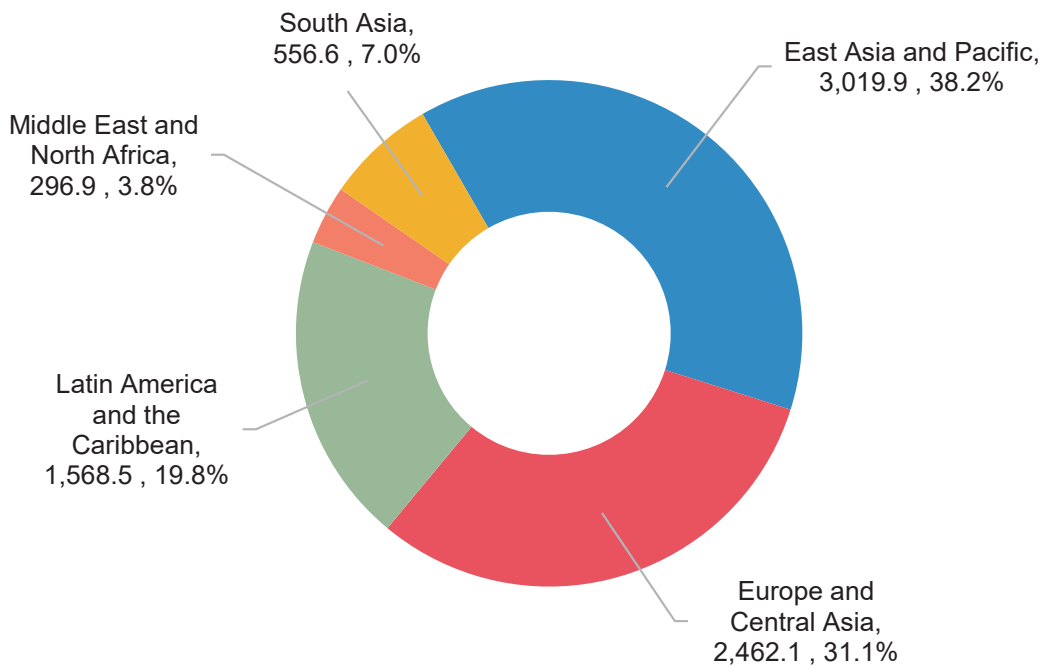
Does not include re-exports of previously-imported LNG. See table 2c for re-exports data.

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

1c. Domestically-Produced LNG Exported by Terminal (February 2016 through June 2021)

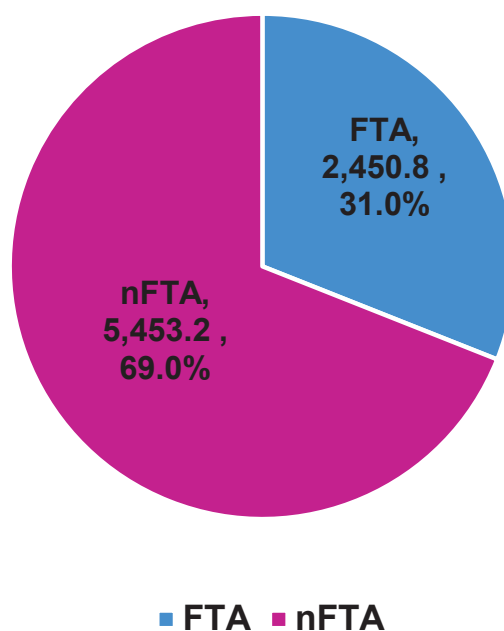


1d. Domestically-Produced LNG Exported by Region (Cumulative from February 2016 through June 2021) (Bcf, %)



1e. Volumes and Percentages of FTA and nFTA Shipments of Domestically-Produced LNG Delivered (Cumulative from February 2016 through June 2021)

	Volume (Bcf)	Percentage of Total Volume	Number of Countries
FTA	2,450.8	31.0%	9
nFTA	5,453.2	69.0%	30
Total LNG Exports	7,904.0	100.0%	39



Spot cargos total 470.3 Bcf - or 6.0 percent - of the 7,904.0 Bcf total volume of shipments.

These totals are cumulative starting from February 2016 through June 2021 - a cumulative listing of cargos and regions in Table 1b and a cumulative list of FTAs and nFTAs in Table 1h.

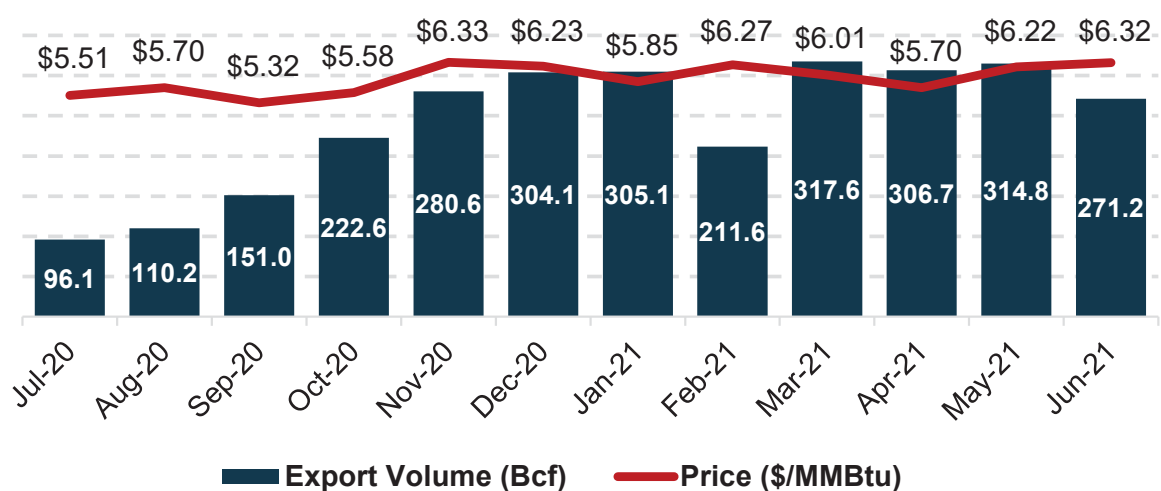
FTA Countries that Require National Treatment for Trade in Natural Gas -As of October 31, 2012, the United States has FTAs that require national treatment for trade in natural gas with Australia, Bahrain, Canada, Chile, Colombia, Dominican Republic, El Salvador, Guatemala, Honduras, Jordan, Mexico, Morocco, 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-and-or-export-natural-gas-and-lng>

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

1f. Domestically-Produced LNG Delivered – Volume (Bcf) and Weighted Average price (\$/MMBtu) by Export Terminal per month

	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Total
Sabine Pass, LA	30.2	29.3	61.7	88.3	101.4	109.4	111.1	83.8	114.1	108.9	108.2	85.8	1,032.2
	\$4.63	\$4.89	\$5.32	\$5.05	\$5.96	\$5.79	\$5.42	\$5.66	\$5.77	\$5.32	\$6.01	\$5.98	\$5.59
Cove Point, MD	20.2	17.0	17.1	10.6	23.4	20.4	20.4	17.2	24.0	17.1	22.4	19.1	229.0
	\$6.09	\$6.17	\$6.66	\$6.25	\$6.65	\$7.11	\$6.82	6.81	\$7.09	\$6.88	\$6.89	\$6.76	\$6.71
Corpus Christi, TX	10.6	17.1	37.5	44.1	45.0	51.8	57.2	33.3	62.6	59.9	58.8	61.5	539.4
	\$5.33	\$3.73	4.43	\$5.08	\$6.38	\$6.18	\$6.27	\$5.81	\$5.60	\$5.58	\$6.03	\$6.30	\$5.74
Cameron, LA	31.3	31.8	-	18.3	50.6	55.1	55.3	36.5	49.9	50.9	52.8	39.0	471.4
	\$6.15	\$6.88	-	\$9.40	\$6.87	\$6.60	\$5.93	\$7.86	\$6.25	\$5.86	\$6.60	\$6.92	\$6.66
Freeport, TX	3.7	11.3	31.0	53.8	53.7	58.5	61.1	30.5	63.6	60.6	63.2	58.5	549.7
	\$4.68	\$5.86	\$5.58	\$5.45	\$6.38	\$6.44	\$5.84	\$6.08	\$6.28	\$6.00	\$6.26	\$6.38	\$6.08
Elba Island, GA	-	3.7	3.7	7.4	6.5	8.9	-	10.3	3.3	9.4	9.4	7.2	69.8
	-	\$8.40	\$6.08	\$5.36	\$5.98	\$6.27	-	\$6.78	\$5.90	\$5.84	\$5.74	\$5.76	\$6.12
Total	96.1	110.2	151.0	222.6	280.6	304.1	305.1	211.6	317.6	306.7	314.8	271.2	2,891.5
	\$5.51	\$5.70	\$5.32	\$5.58	\$6.33	\$6.23	\$5.85	\$6.27	\$6.01	\$5.70	\$6.22	\$6.32	\$5.99



Notes:

*Beginning with July 2019 data, with the exception of some commissioning cargos as indicated in Table 2(a), all average export cargo prices include liquefaction fees.

From January to June 2019, some cargos at Sabine Pass and Corpus Christi do not include liquefaction fees. For further details, please see Tables 2a(i) and 2a(iii).

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.

You Can Make It If You Try - New Contracts Inch North American LNG Projects Closer To FID

PLAY THIS BLOGCAST

Wednesday, 08/25/2021 Published by: [Lindsay Schneider](#)

U.S. LNG is in the midst of a record-breaking year. Total LNG feedgas has averaged nearly 10 Bcf/d so far in 2021 and the country is on track to export somewhere around 1,000 cargoes this year, 40% more than last year. Although pipeline maintenance and flow constraints have knocked feedgas off the all-time highs seen earlier this year, feedgas and exports are likely to hit new record levels to close out the year as Sabine Pass Train 6 and Calcasieu Pass prepare to start service in early 2022. The strength in U.S. LNG export demand this year is underpinned by an incredibly bullish global gas market, which has led prices in both Europe and Asia to hit all-time highs. This has not only benefited the existing fleet of terminals, but the prolonged bullish global gas market has accelerated commercial activity for future LNG projects. Since May, more than 12 MMtpa of capacity from LNG terminals or liquefaction trains under development has been sold, pushing several prospective LNG projects closer to a final investment decision (FID). RBN covers all of the latest in our LNG Voyager Quarterly report, but in today's blog, we take a look at some of the highlights from the report, focusing on the biggest changes in LNG development this summer.

In our [LNG Voyager Quarterly supplement](#), we track the 10 LNG terminals that have already taken FID and the still-standing (some albeit only barely) pre-FID projects (shown on the map in Figure 1). We categorize them into the following groups: operational (in green on the map), those that have already reached FID and are under construction (blue), those that are pre-FID but "probable" to reach FID in the next year (dark orange), and ones that are "possible" to be greenlighted in the next year. Within the "possible" bucket, we further group them into Tier 1 (light orange), Tier 2 (dark yellow), and Tier 3 (cream), based on the likelihood that they will achieve FID in the next 1-3 years.



Figure 1. Map of Proposed and Operational LNG Terminals. Source: [RBN LNG Voyager](#)

When we published our first quarterly report of this year in early March, there were 29 projects on our pre-FID probable and possible list. Now, that number is down to just 18. No projects have achieved a positive FID this year, and that reduction is all from projects being paused, canceled, rejected, or losing investors to the point that they can't reasonably be included in even our most generous definition of "possible" that currently applies to our Tier 3 projects. There are a handful of projects in Tier 3 that look promising in the long run, but most of them will never be built. Our list is likely to keep shrinking as interest continues to coalesce around a smaller subset of projects, and the market continuously reevaluates the economics of North American LNG in the context of global demand growth.

For the ones that fizzled out, you can get the breakdown of what went wrong and where exactly each project on the list stands in our [LNG Voyager Quarterly report](#). It's not all bad news, however, and today, we'll focus on what's going right, particularly the 12.1 MMtpa (1.6 Bcf/d) of new LNG contracts signed this summer for capacity at the pre-FID projects. The specifics of each deal are outlined in Figure 2 below, including the relevant pre-FID terminal, the capacity holder/offtaker, term length, and any deal structure and pricing information that has been announced.

Pre-FID Liquefaction Primary Capacity-Holders/ LNG Offtakers							
Project	Developer	Capacity Holder/ Offtaker	Volume MMtpa	Date Announced	Term Length	Deal Structure	Price Index
Corpus Christi Stage III	Cheniere	Tourmaline	0.85	7/20/2021	15-year	IPM	JKM
Driftwood LNG	Tellurian	Gunvor	3	5/27/2021	10-year	FOB	JKM, TTF
Driftwood LNG	Tellurian	Vitol	3	6/4/2021	10-year	FOB	JKM, TTF
Driftwood LNG	Tellurian	Shell	3	6/29/2021	10-year	FOB	JKM, TTF
Plaquemines LNG	Venture Global	PGNiG	1.5	7/29/2021	20-year	FOB	Not Disclosed
Woodfibre LNG	Pacific Oil and Gas	BP	0.75	5/6/2021	15-year	FOB	Not Disclosed
Total			12.10				

Figure 2. Pre-FID Liquefaction Capacity Sales. Source: [RBN LNG Voyager](#)

The majority of those sales — 9 MMtpa (~1.2 Bcf/d) — came from one project: **Tellurian’s Driftwood LNG**. Driftwood LNG was originally proposed as a facility with five plants and four “mini” trains each for a total capacity of 27.6 MMtpa (~3.7 Bcf/d) in Louisiana. Back then, Tellurian’s plans included taking on equity investors for 60% of the terminal’s capacity and marketing 40% of the capacity on its own or through traditional long-term sales and purchase agreements (SPAs). However, only one such agreement — with TotalEnergies for 1.5 MMtpa marketed by Tellurian and an additional equity stake equivalent to 1 MMtpa — was ever signed, and that deal expired in June. Since then, however, Tellurian has abandoned the equity stake model and focused on sales around a two-train, 11-MMtpa phase 1 of the project. It’ll defer additional plants for down the line, if there is more appetite and assuming it is able to get the first two liquefaction trains to FID, which is looking increasingly more likely given the 9 MMtpa of sales that have transpired in just the past few months.

Although the TotalEnergies deal expired, Tellurian has closed three 3-MMtpa (0.4 Bcf/d) SPAs this summer, one each with Gunvor, Vitol and Shell. These deals all have similar terms and are all 10-year SPAs at a price indexed to a blend of JKM and TTF. Tellurian’s successful commercial strategy pivot set the project up for a remarkable comeback, after it experienced a number of setbacks last year. With more than 80% of the planned capacity now secured, that’s enough for the project to achieve FID. That said, the project still needs to secure financing, which may prove more difficult because of its shorter-term SPAs, rather than the 20-year contracts that were used to underpin the first wave of LNG projects. The company has said it hoped to secure financing this year and take FID in the first quarter of 2022. Tellurian reiterated its plan to produce all of the feedgas supply for the terminal, which is essential to the value proposition of Driftwood LNG and these latest sales. The company has said it would not officially take FID on the project until it had secured the necessary upstream reserves. Although Tellurian has increased its Haynesville acreage position and drilling program, it still needs about 1.5 Bcf/d more to achieve that goal. With its excellent forward momentum, Driftwood looks extremely likely to go ahead next year.

Although Driftwood has been the most active in dealmaking this summer, particularly on the Gulf Coast, there is one North American project that still ranks above it in terms of being closest to FID, and that’s Woodfibre LNG. Woodfibre LNG is a single train, 2.1-MMtpa (0.3 Bcf/d) LNG terminal in British Columbia. Woodfibre signed its second SPA with BP for 0.75 MMtpa in May, taking BP’s total secured volume from the terminal to 1.5 MMtpa. No pricing information for the deals was released, but both are 15-year contracts. BP now holds more than 70% of the total capacity and that is enough contracted volumes for the project to move forward. It’s currently the only project realistically close enough to FID this year, and the company said in May when the BP deal was announced that it was targeting FID in the third quarter.

Turning back to Gulf Coast projects, in mid-July, Cheniere signed its third integrated production management (IPM) deal in support of **Corpus Christi Stage III** with Canadian gas producer Tourmaline Oil Corp. Under the agreement, which is similar to the two other IPMs Cheniere has with Apache and EOG for the project, an affiliate of Tourmaline will supply 140 MMcf/d of feedgas to the terminal, for which Cheniere will pay a JKM-linked price after subtracting liquefaction and shipping charges. Then, Cheniere’s marketing arm, CMI, will market 0.85 MMtpa of LNG for Tourmaline. CMI has also had a very busy year. It sold 12 MMtpa (1.6 Bcf/d) of LNG in short- and mid-term deals from Cheniere’s portfolio. These deals are not tied to any specific train or terminal, but are mostly sourced from the Cheniere terminals, Sabine Pass and Corpus Christi. With the additional sales this year, the Cheniere portfolio is now 90% contracted, a level the company would like to maintain. With that in mind, Stage III has 2.6 MMtpa of its planned 9.5-MMtpa capacity secured in IPM deals, and Cheniere has said that it must sell another 4 MMtpa of Corpus Christi Stage III capacity before the project takes FID to maintain the company’s targeted contracted level. It hopes to achieve this in the next year in order to take FID.

Finally, at the end of July, PGNiG announced that it would purchase an additional 2 MMtpa (0.3 Bcf/d) from Venture Global, 1.5 MMtpa of that from the planned Plaquemines LNG and 0.5 MMtpa from the soon-to-be operational

Calcasieu Pass terminal. This deal was part of a series of moves PGNiG made related to the delaying of another pre-FID project, Sempra's Port Arthur LNG. The company previously held 2 MMtpa at Port Arthur, but that contract has now been canceled. Venture Global and PGNiG are amending their existing sales contracts rather than inking new ones. With the new terms, PGNiG will hold SPAs for 5.5 MMtpa total from Venture Global and 4 MMtpa specifically from Plaquemines LNG. With this deal and the 1-MMtpa SPA with EDF from February 2020, the Plaquemines project now has half of its phase 1 capacity (5 MMtpa out of the 10 MMtpa total) secured in 20-year contracts.

This summer has seen a flurry of commercial activity for new North American LNG and interest still seems to be growing. Several LNG developers have indicated they are in late stages of contract negotiations and have been vocal about the renewed interest in contracts that has been created by the incredible bull run of global gas prices. The only question is, how long might it last? But that's a blog for another day.

With more than 12 MMtpa of new deals already done, it seems like a matter of time before the next North American LNG project takes FID. That said, there is a very fine line between undersupplied and oversupplied. Offtakers are shopping cautiously — and they have plenty of projects to choose from. You can keep up with all the latest in LNG development with our [LNG Voyager report](#).

By Ann Koh and Stephen Stapczynski

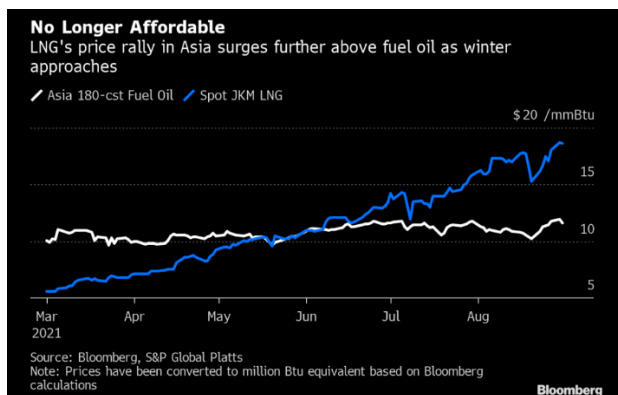
(Bloomberg) -- **Pakistan and Bangladesh are among developing nations in Asia that can no longer afford to pay surging** liquefied natural gas prices, raising the risk of power rationing or the burning of dirtier alternatives this winter.

Bangladesh's state-run Petrobangla plans to stop buying spot LNG cargoes for the rest of the year after a quadrupling of prices over the past year to a seasonal high. Pakistan has repeatedly canceled and reissued LNG purchase tenders in an effort to get better offer prices, without avail.

The evolution marks a stark turnaround after developing Asia helped drive a surge in trading of the super-chilled fuel and built LNG import strategies on the premise that spot shipments would be abundant and cheap. **Unlike richer counterparts** in the region that can pass on this year's historic price rally to end-users, some governments may need to rethink LNG procurement strategies and reduce exposure to the volatile spot market, switch to dirtier fuels such as coal or oil or even curb electricity production.

"With spot prices so high and with relatively low development, these countries may not be able to afford the current sky-high prices for gas on the global market," said Ron Smith, senior oil and gas analyst at BCS Global Markets. A return of power rationing this winter "seems quite possible" for Bangladesh and Pakistan.

Nations in South Asia have the most potential to take advantage of cheaper fuel oil to offset the rise in spot LNG prices through this winter, said Felix Booth, head of LNG at energy-intelligence company Vortexa.



On an energy-content basis, fuel oil prices in Asia were about \$11.60 a million British thermal units on Aug. 31, according to data compiled by Bloomberg. That's about \$7 below spot LNG prices.

The main difficulty is that "gas tariffs are regulated in these markets" and importers can't pass through all supply costs to consumers, said Abhishek Rohatgi, an analyst at BloombergNEF.

"Hence they will try to minimize their procurement costs by switching to fuel oil."

While cash-strapped nations are shunning spot LNG purchases, that is unlikely to have a serious impact on suppliers, which tend to deliver most of their shipments via long-term contracts. Meanwhile, utilities in countries such as South Korea and Japan are continuing to snatch up spot shipments despite the price jump, passing on the costs to their more affluent customers.

In India, companies have considerably reduced spot buying but still continue to procure some shipments for industrial sectors that are willing to pay the higher rates. Even China, which has been driving LNG demand this year and is set to overtake Japan as the biggest market, curbed spot buying over the summer, with some of the nation's biggest companies choosing to procure cheaper pipeline gas.

And Asian buyers are already shifting back to term contracts. China's ENN Energy Group will seek more new LNG supply from long-term contracts to offset volatility risks from purchasing spot cargoes. Earlier this year, Pakistan signed a new long-term contract with Qatar, which starts in 2022 and will lower exposure to the spot market.

Meanwhile, the natural gas supply crunch is poised to worsen this winter, when demand for heating in the northern hemisphere peaks. Traders and analysts see spot LNG prices rising to all-time records -- making the fuel even more unattainable for the developing world.

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

Posted 11am on July 14, 2021

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

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

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

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

One of the reasons why it went under the radar is that major LNG suppliers played stupid on the Mozambique impact. It makes it harder for markets to see a big deal when the major LNG suppliers weren't making a big deal of Mozambique or playing stupid in the case of Cheniere in their May 4 Q1 call. In our May 9, 2021 Energy Tidbits memo, we said we had to chuckle when we saw Cheniere's response in the Q&A to its Q1 call on May 4 that they only know what we know from reading the Total releases on Mozambique and its impact on LNG markets. It's why we tweeted [\[LINK\]](#) "*Hmm! \$LNG says only know what we read on #LNG market impact from \$TOT \$XOM MZ LNG delays. Surely #TohokuElectric & other offtake buyers are reaching out to #Cheniere. MZ LNG delays is a game changer to LNG in 2020s, see SAF Group blog. Thx @olymp_e_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 Dec's a day of US NAT gas from almost a 100 different producers on 26 different pipelines and deliver it to our facilities. So we take care of a lot of what the customer needs*".

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

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

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

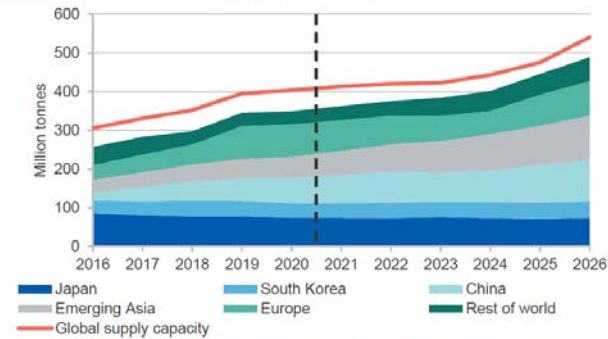
But we still see major LNG suppliers like Australia hinting but not outright saying that LNG supply gap is coming sooner. We have to believe Australia will be unveiling a sooner LNG supply gap in their September forecast. On June 28, we tweeted [\[LINK\]](#) on Australia's Resources and Energy Quarterly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

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

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

March 2021 LNG Outlook

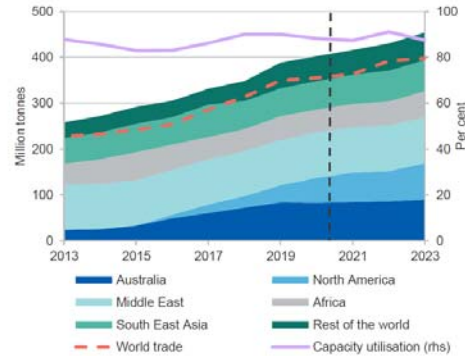
Figure 7.1: LNG demand and world supply capacity



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

June 2021 LNG Outlook

Figure 7.1: LNG demand and world supply capacity



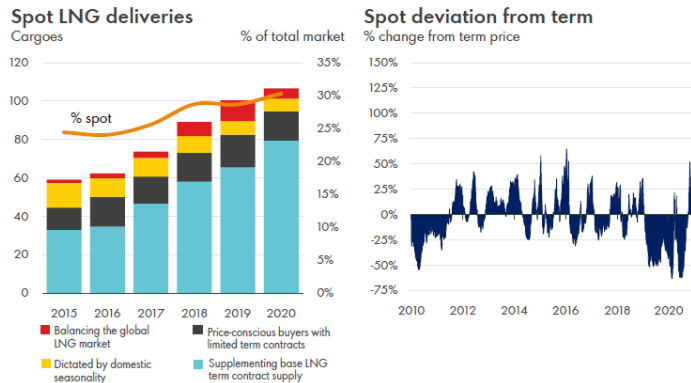
Source: Nexant (2021) World Gas Model; Department of Industry, Science, Energy and Resources (2021)

Source: Australia Resources and Energy Quarterly

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

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

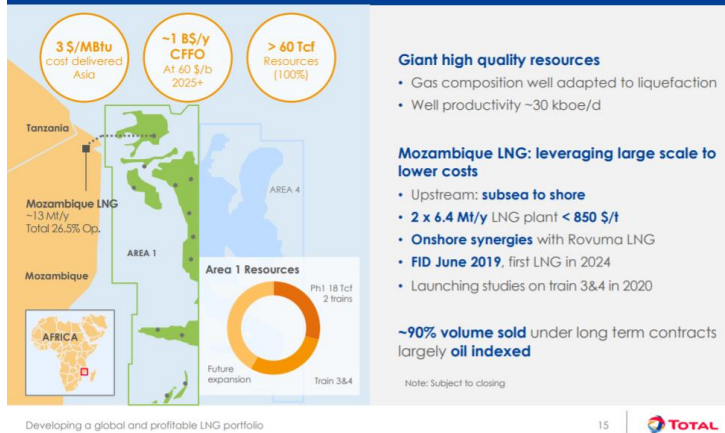
Posted Wednesday April 28, 2021. 9:00 MT

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

Mozambique LNG: unlocking world-class gas resources



Source: Total Investor Day September 24, 2019

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

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

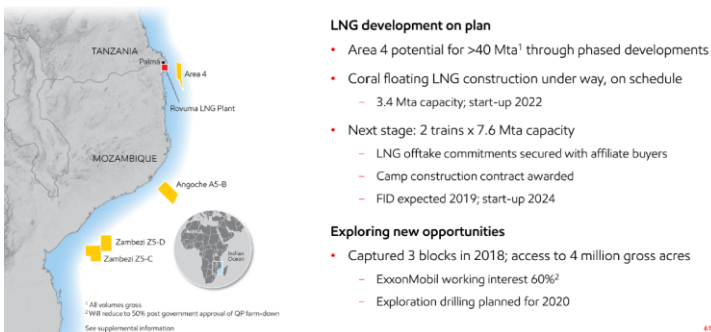
Mozambique's security issues pushes back 5.0 bcf/d of new LNG supply at least a couple years. The global LNG issue is that 5 bcf/d of new Mozambique LNG supply (apart from the Eni Coral FLNG of 0.45 bcf/d) won't start up in 2024 and

continuing thru the 2020s. And we believe all LNG forecasts included this 5.0 bcf/d to be in service in the 2020s as Mozambique had been considered the best positioned LNG supply to access Asia after Australia and Papua New Guinea. (i) Eni Coral Sul (Rovuma Basin) FLNG of 0.45 bcf/d planned in service in 2022. [\[LINK\]](#) This is an offshore floating LNG vessel that is still expected to be in service in 2022. (ii) Total Phase 1 to add 1.7 bcf/d with an in service originally planned for 2024. We expect the in service data to be pushed back to at least 2026 assuming Total gives a development restart approval in Dec 2021. In theory, this would only be a 1 year loss of time. However, Total has let services go, the project will be idle for 9 months, it isn't clear if the need to get people out quickly let them do a complete put the project on hold, and how many people will be on site maintaining the status of the development during the force majeure. Also what new procedures and safety will be put in place for a restart. These all mean there will be added time needed to get the project back to where it was when force majeure was declared ie. why we think a 12 month time delay will be more like an 18 month project delay. (iii) Exxon's Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was expected to be in service in 2025. We believe the delays related to security and safety at Total are also going to impact Exxon. We find it highly unlikely the Exxon board would take a different security and safety decision than Total. Pre-pandemic, Exxon's March 6, 2019 Investor Day noted their operated Mozambique Rovuma LNG Phase 1 was to be 2 trains each with 1.0 bcf/d capacity for total initial capacity of 2.0 bcf/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 timeline) 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

UPSTREAM MOZAMBIQUE

Five outstanding developments



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

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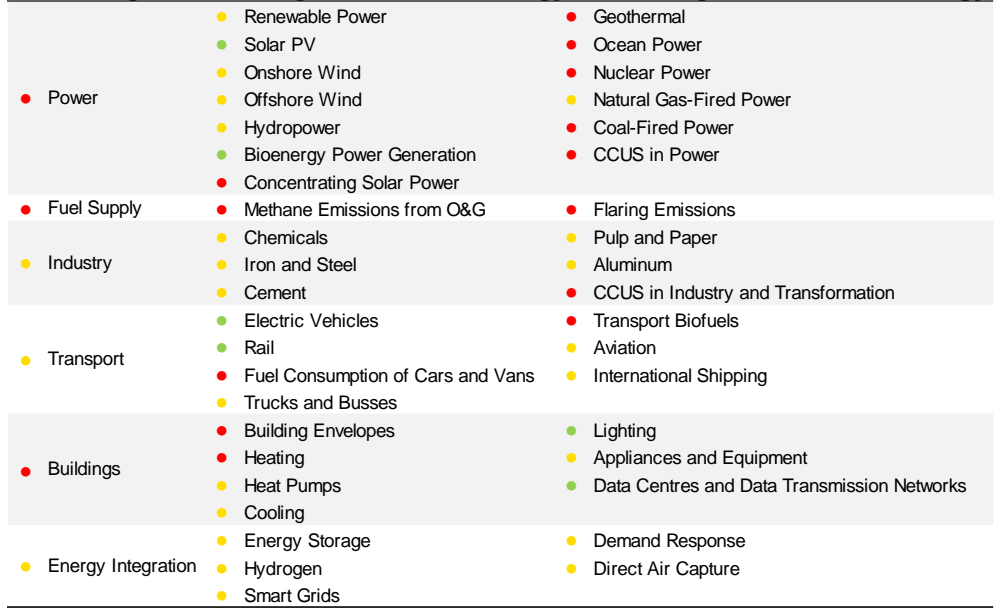
[\[LINK\]](#) lines up with his campaign platform including to put the US “on the path to achieving 100 percent carbon-free electricity by 2035.” Our July 28, 2020 blog noted that it would require replacing ~60% of US electricity generation with more renewable and it could eliminate ~40% (33.5 bcf/d) 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 will 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



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

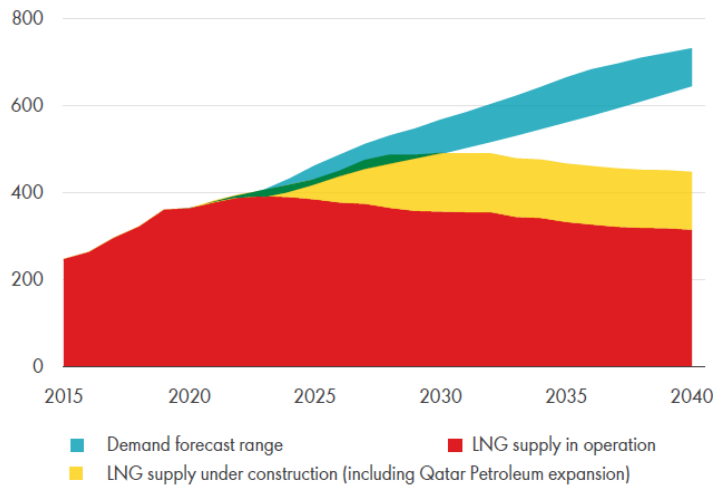
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would have reflected some delay, perhaps 1 year, at Mozambique but would be surprised if they put a 2-3 year delay in for the 5 bcf/d from Total Phase 1 +2 and Exxon Rozuma Phase 1. Compared to their LNG Outlook 2020, it looks like there was no change 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

Emerging LNG supply-demand gap

MTPA



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

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

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

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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.

• COAL | ELECTRIC POWER | LNG | NATURAL GAS | OIL | METALS

• 02 Sep 2021 | 08:41 UTC

Analysis: High LNG prices trigger gas demand destruction in China's downstream sectors

HIGHLIGHTS

Some second-tier gas importers cancel LNG terminal import slots

Ceramics factories, heavy-duty LNG trucking shut or lower operating rates

Domestic LNG prices surge 79%-85% over March-August

- Author
- Staff and Shermaine Ang

High LNG prices in recent months have curbed natural gas consumption in some of China's downstream sectors like heavy-duty trucking and forced energy-intensive businesses like ceramics to either slash output or suspend operations as fuel costs continue to surge.

The demand destruction in industrial and transportation sectors comes amid China's recovery from pandemic-related economic deceleration, and some downstream businesses shutting completely due to fuel costs could impact third quarter gas consumption and fourth quarter LNG procurement.

China's natural gas demand comes mainly from four sectors -- industrial, city gas, power generation and chemicals. The industrial and city gas sectors each accounted for 37%-38% of total gas demand in 2020, power generation 16% and chemicals 9%, National Energy Administration data showed.

The power sector's gas consumption is capped by regulated electricity prices that prevent utilities from passing on higher fuel costs to consumers. The bulk of industrial gas demand comes from ceramics and other sub-sectors including glass, cement, steel, paper, textile, food and pharmaceuticals that use kilns or boilers for heating purposes.

Many of these factories, which typically use coal-fired kilns or boilers, were asked to switch to using gas-fired kilns or boilers last year under the government's coal-to-gas initiative, and the surge in gas prices heavily squeezes their profits. Some regions have also clamped down on gas usage or diverted fuels to residential use and industries deemed essential like power generation when shortages emerged.

The S&P Global Platts JKM, the benchmark for Asian spot LNG prices, was assessed at \$19.66/MMBtu Sept. 1, rebounding from an August low of \$15.30/MMBtu. At this time in 2020, LNG prices were in the mid-single digits.

Average trucked LNG prices in the Pearl River Delta jumped 79% to around Yuan 6,000/mt (\$16.24/MMBtu) in mid-August from around Yuan 3,350/mt in mid-March, according to data provider Haoqi net.

Procurement curbs

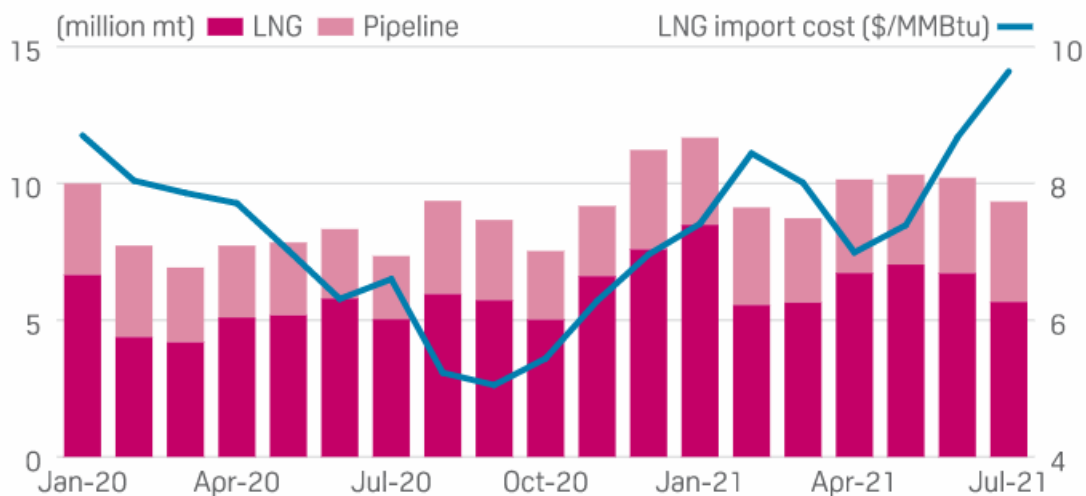
The downstream demand destruction resulted in trucked LNG sales slowing in some cities. Trucked LNG prices in southern China eased from Yuan 6,000/mt to Yuan 5,600-5,700/mt in late August as more ceramics factories shut in Guangdong and Shandong provinces, a source in south China said.

Trucked LNG prices rebounded to around Yuan 6,000-6,200/mt in the Pearl River Delta Sept. 1, equating to around \$16-\$17/MMBtu, in line with the surge in Asian spot LNG prices, a second source with one of China's major city gas distributors in Shenzhen said.

The source said the distributor's gas sales fell by 10% in August due to the record high summer gas prices, indicating some consumers cannot afford such high fuel costs. A third national oil source said the situation has made some Chinese LNG buyers hesitant to procure cargoes for Q4.

One gas distributor in southern China said the company had cancelled a couple of terminal slots acquired from infrastructure company PipeChina due to high prices and the steady erosion of downstream demand in the past year.

CHINA'S NATURAL GAS IMPORTS AND PRICES



Source: China's General Administration of Customs

More than 200 ceramics production lines in 19 Chinese provinces including Jiangxi, Shandong, Sichuan, Fujian and Henan have suspended operations since June due to a combination of surging fuel costs, power rationing and environmental protection initiatives, Ceramics Information or CI, a Foshan government-backed information provider, reported Aug. 4.

"They [ceramics factories] had to suspend or lower operating rates to cope with the surging fuel prices," an official with Foshan Ceramic Industry Association said on state media CCTV July 30.

Natural gas offered to ceramics factories was priced as high as Yuan 4.50/cu m and Yuan 4.28/cu m in Guangdong and Jiangxi provinces, two of China's top three ceramic production centers recently, an 85% increase from the first half of 2021, Ceramics Information data showed.

The soaring fuel prices have not only discouraged demand, but also disrupted gas supply from some upstream companies.

City gas distributors in Fujian's Nan'an and Jinjiang cities have cut daily natural gas supply to industrial users including ceramics factories by 18% from Aug. 9 and Aug. 13, respectively, due to lower gas supply, CI reported Aug. 3.

Almost 30% of natural gas in China is used in the building and sanitary ceramics industry, the China Building and Sanitary Ceramics Association said in a report July 30, which equates to around 71 Bcm of China's total natural gas demand of 238 Bcm in 2020.

Heavy-duty truck impact

Skyrocketing LNG prices have also forced LNG-fueled heavy-duty trucks to suspend operations and discouraged sales of new LNG heavy-duty trucks in recent months, market sources and analysts said.

The LNG price at filling stations in northwest China was estimated at Yuan 6,000/mt in late August, up 85% from Yuan 3,250/mt in early March, data from Haoqi net showed. In contrast, prices of another major trucking fuel, zero-vapor gasoil, rose around 7.5% in northern China over the same period, Haoqi net data showed.

Sales of heavy-duty LNG trucks fell 45% year on year to around 40,000 units in H1, with sales in May and June plunging 71.3% and 69.7%, respectively, according to domestic information provider Find.

China had 582,000 LNG heavy-duty trucks operating in 2020, up 26% year on year, which consumed 25.5 Bcm of natural gas, data from state-owned China Automotive Information Net showed. This accounted for 7.8% of the country's total natural gas consumption.

China's northwest is its main coal-producing region and has the most LNG filling stations to fuel to heavy-duty LNG trucks transporting coal.

Bloomberg @TheTerminal

Energy Minister Says Russia to Fill Gas Storages in 2 Months (1)

2021-09-02 09:54:12.14 GMT

By Dina Khrennikova, Olga Tanas and Elena Mazneva

(Bloomberg) -- Russia will refill its depleted gas storage sites within two months, a move that could leave Europe scrambling to get the extra supplies it needs before the winter.

Data from Gazprom PJSC indicates that storage facilities will be full by November as planned, said Energy Minister Nikolay Shulginov. That would mean almost doubling stockpiles from levels at the end of June, according to Bloomberg calculations based on data from the Russia gas giant.

Russia is facing a gas crunch of its own, with Gazprom saying it's overwhelmed with record demand at home and abroad.

That could make it harder for Europe's top supplier to provide the additional fuel the continent needs to boost its own reserves -- already at the lowest in more than a decade for this time of year -- before the start of the heating season.

"Based on data from Gazprom, we see the reinjections as planned by November," Shulginov told reporters at the Eastern Economic Forum in Vladivostok.

Gazprom aims to have a record 72.6 billion cubic meters of gas in storages by Nov. 1. That's up from about 37 billion cubic meters at the end of June, according to Bloomberg calculations and data from Gazprom, which discloses storage figures only sporadically.

Europe is scrambling to get more gas to fill its own storage sites before the winter. Russian supplies have been limited, while cargoes of liquefied natural gas are being redirected to Asia to meet soaring demand there. Declining production and outages in the North Sea mean Europe can't count on its own output either. All of that has pushed European gas prices up to a record this week.

Russia faced higher demand from power producers at home due to heat waves this summer. That has now abated as chillier weather in the western part of the country has reduced demand from the summer peaks, Shulginov said.

"There have been some issues amid high electricity consumption, with supplies to utilities above contract levels, but Gazprom has coped with them without halting the reinjections," he said.

Gazprom withdrew almost 61 billion cubic meters from its Russian storages during the recent heating season, a record for the country. That's 36% more than in 2018-19, before the global pandemic hurt demand, and 25% more than in 2017-18, company data compiled by Bloomberg show.

Officials at the Russian gas giant said this task of refilling Russian storages will be met. Gazprom also acknowledged in a statement that Europe may not be able to refill 25% of gas inventories used up last winter before the start of the heating season.

"We are doing fine," Gazprom Deputy Chief Executive Officer Vitaly Markelov told reporters at the Eastern Economic Forum, when asked how the reinjection campaign is going.

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<https://www.facebook.com/399702506777349/posts/4244511448963083/?d=n>

Gazprom

20 hrs ·

August has become another “winter” month in the gas market.

According to preliminary data, **Gazprom produced 316.5 billion cubic meters of gas over the first seven and a half months of 2021, which is 18.1% (or 48.6 billion cubic meters) more than in the same period of 2020.** In absolute terms, this is like one more winter month (for instance, our gas production for January 2021 stood at 47 billion cubic meters).

Gazprom ramped up its domestic supplies from the gas transmission system by 14.7% (or by 19.6 billion cubic meters) over said period of 2021.

The Company increased its gas exports to the countries beyond the FSU to 123 billion cubic meters. Thus, Gazprom is maintaining the amounts of its gas supplies near the all-time high level (125 billion cubic meters for the same period of 2018). This is higher than the figure for the same period of 2020 by 21.5% (or by 21.8 billion cubic meters). As a point of comparison, this increase exceeds the overall amount of gas supplied by us last year to Italy, one of Europe’s key gas consumers.

Specifically, in the period from January to August 15, 2021, Gazprom increased gas supplies to Turkey (+188.5%), Germany (+41.5%), Italy (+15.9%), Romania (+332.4%), Serbia (+121.5%), Poland (+13.8%), Bulgaria (+48.9%), Greece (+17.5%), and Finland (+27.9%). Notably, the amount of gas supplied by Gazprom to Germany and Poland in the first half of August is significantly bigger than that observed in the same periods of 2020 and 2019.

Gas supplies to China via the Power of Siberia gas pipeline continue growing as well. In August, the aggregate amount of Russian gas that has been delivered to Chinese consumers since the beginning of the pipeline supplies exceeded 10 billion cubic meters.

According to Gas Infrastructure Europe, the level of reserves in the underground gas storage facilities of the EU and Ukraine remained the lowest in many years as of August 14, 2021. In Ukraine’s UGS facilities, the negative difference between the amounts of gas injected in 2021 and 2020 keeps growing and has now hit 6.2 billion cubic meters. In Europe’s UGS facilities, only 31.9 billion cubic meters of gas were replenished out of the 66 billion cubic meters that had been withdrawn in the last season.

In response to the question of what comes next, the prices of day-ahead contracts set a new record on the market, rising from USD 500 to over USD 550.

As we analyze the volumes of supplies within Russia and to the countries beyond the FSU observed in August, we see that the consumption of gas in this month has lately reached a new peak level. For instance, the average daily figure for Russia recorded in 2021 is 53 (!) million cubic meters (or by 9%) higher than the average gas supply volume observed over the previous eight years. Our gas exports increased by 9.4%, which makes the average daily supply volumes of August comparable with those of the winter months.

The “green winter” of August that has occurred in the gas market means an increased load on the gas supply system in the period when scheduled preventive maintenance & repairs and preparations for the autumn/winter period – the activities that cannot be put on hold – are traditionally performed. As can be seen from the practice that has established itself over the last several years both in Russia and Europe, the winter period now includes the spring month of March. That is why now, in summer, the priority is on injecting gas into underground storage facilities, so as to ensure that by March, i.e. by the end of the withdrawal season at UGS facilities, their available reserves will stay at a high level, which is essential for a confident performance during the abovementioned difficult period. And our colleagues from Europe are well aware of this as well.

Gazprom Pulls Some Gas Offers in Another Blow to Europe's Supply
2021-08-27 14:58:51.401 GMT

By Isis Almeida

(Bloomberg) -- A unit of Gazprom PJSC withdrew **some** of its natural gas sales offers, according to people familiar with the situation, adding to market worries that new supplies from Russia may come too late for this winter.

Gazprom Export LLC stopped offering gas for delivery in the first quarter and for the whole of 2022 in its Electronic Sales Platform on Wednesday, said the people, who asked not to be identified because the information is private. The change came about an hour after a court ruled against the owner of the controversial Nord Stream 2 pipeline linking Russia to Germany. Two Gazprom officials say those two things aren't connected, but Europe's traders are on edge, with the continent running out of time to refill its depleted gas storages before the start of the winter, when demand for heating surges. A spokesperson for Gazprom Export declined to comment on the offers.

European gas futures have been volatile, with prices that reached a record this month tumbling on any sign of more Russian supplies or surging on forecasts for tighter markets. Futures went haywire last week after the German gas grid posted erroneous data suggesting flows via Nord Stream 2.

Gazprom had planned to sell gas for the first quarter, the whole of 2022 and 2023 this week, according to a schedule on its website. While it followed the schedule on Monday and Tuesday, it only offered new supplies for delivery in winter 2022-23 and the whole of 2023 starting on Wednesday, the people said. Gazprom said earlier this month that the Nord Stream 2 link can ship 5.6 billion cubic meters of fuel to Europe this year. But the Dusseldorf Higher Regional Court ruled that the pipeline can't sidestep European Union regulations requiring gas producers to be legally separate from entities that transport the fuel, a decision that threatens to delay operations.

Some traders speculate the withdrawal of offers could be a way to put pressure on Europe to remove hurdles for the pipeline, while others say it could signal the link won't be operational as early as previously thought.

But there may also be other reasons for the move. Gazprom said **last week it was overwhelmed with record demand both abroad and in Russia, where it needs to refill storage sites depleted way beyond normal during the past winter.**

Nord Stream 2, which is slated to double the capacity of the existing undersea route from Russian gas fields to Europe, has been a major source of friction in trans-Atlantic relations for several years.

--With assistance from Elena Mazneva and Anna Shiryayevskaya.

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Isis Almeida, Andrew Reiersen

Update: September 2021 Capacity Announcement for the Trans Mountain Pipeline System

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Sep 2, 2021

Total system nominations for the Trans Mountain Pipeline system are apportioned by 16 per cent for September 2021. The pipeline will be running full at its maximum capacity.

What is pipeline ‘apportionment’ and why is it important?

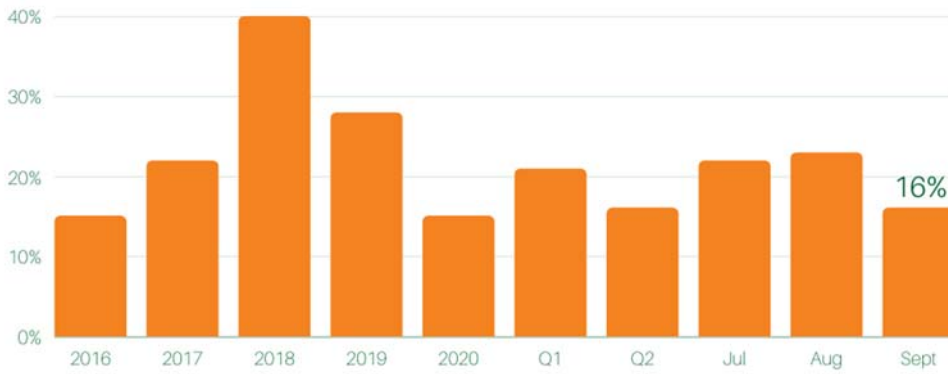
The energy sector around the world works on a monthly cycle. The Trans Mountain Pipeline is part of that cycle. Apportionment describes the amount of demand shippers place on the pipeline in excess of its available capacity. Here’s a step-by-step guide to the apportionment determination that’s carried out every month for the existing Trans Mountain Pipeline system.

- Each month our shippers submit requests for how much petroleum (crude oil and refined products) they want to ship through the pipeline to service their customers. These requests are called ‘nominations’.
- Based on shippers’ nominations, we then determine the ‘capacity’ available on the pipeline for the month. Determining pipeline capacity is complex. Capacity is affected by, among other things, the types of products that have been nominated, any pipeline system maintenance activities that will reduce flows that month and carry-over volumes that haven’t completed their transit of the pipeline by month’s end.
- Based on available pipeline capacity and the volume of shipper nominations we received, we calculate apportionment using a method accepted by the Canada Energy Regulator and forming part of our tariff. A tariff includes the terms and conditions under which the service of a pipeline is offered or provided, including the tolls, the rules and regulations, and the practices relating to specific services.
- If shipper nominations are less than pipeline capacity, the apportionment percentage to that destination is “zero” and all the product volumes nominated by shippers are accepted to be transported that month.
- If shipper nominations exceed pipeline capacity, the apportionment is a percentage greater than zero.

Trans Mountain Pipeline apportionment by the numbers

Apportionment of the Trans Mountain Pipeline system has been a regular monthly occurrence for the past decade. The chart below shows the apportionment for 2016, 2017, 2018, 2019, 2020 and apportionment to date for 2021.

Trans Mountain Pipeline Apportionment



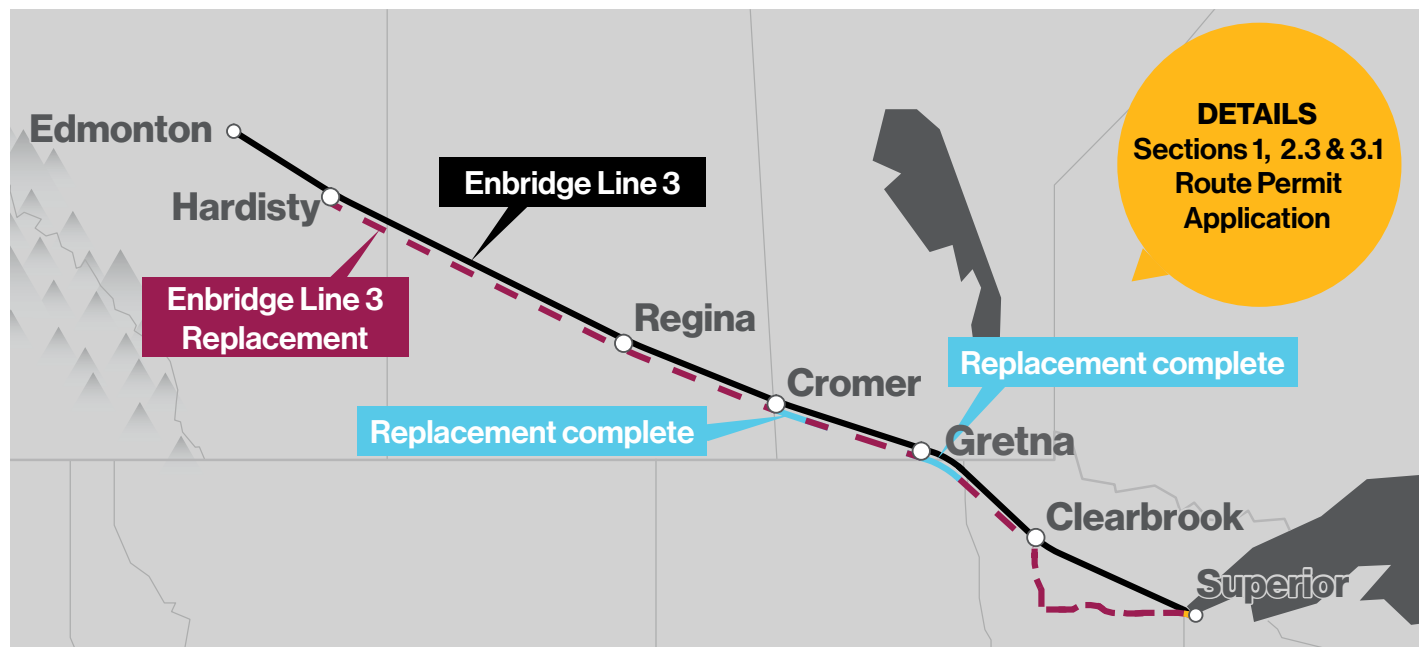
When a pipeline experiences significant and prolonged apportionment like in the case of the existing Trans Mountain Pipeline, it's one signal that more capacity is needed. Apportionment can bring with it a discounting of prices as producers compete to sell what they can through the pipeline before having to use another pipeline or other modes of transport to another, less profitable market. It can also mean the buyers at the end of the pipeline are forced to source their shortfall of supply from alternate, less desirable sources.

Business case for expansion is strong

There is a strong and clear business case supporting the Trans Mountain Expansion Project. Our shippers have made long-term contract commitments ranging from 15 to 20 years that will underpin the cost of construction and the operating costs. The additional capacity offered by the expansion will be used to supply more crude oil and refined products markets in British Columbia and Washington State and to offshore markets in the Asia Pacific. Pipeline design and operations, including emergency response and preparedness for tanker movements are world-class, providing a safe and reliable supply of petroleum products to the markets served by the Trans Mountain Pipeline.



Line 3 Replacement Program Background



Enbridge Energy, Limited Partnership’s (“Enbridge”) maintenance driven Line 3 replacement will reduce future maintenance activities and resulting disruptions to landowners and the environment, as well as restore the historical operating capabilities of Line 3. A new 36-inch diameter pipeline will replace the existing 34-inch diameter pipeline along most of the Line 3 route.

Purpose and Need

Safe and reliable operations have always been the foundation of Enbridge’s business, and maintaining pipeline integrity is essential to continued safe and reliable operations.

As part of our maintenance program, Enbridge has gathered extensive integrity data on Line 3. The data has been analyzed, resulting in the need for a substantial number of integrity digs and repairs. Since 2008, Enbridge has safely operated and maintained Line 3 by implementing voluntary pressure restrictions reducing the average annual capacity of deliveries from 760,000 barrels per day (bpd) to 390,000 bpd.

As a result of the integrity maintenance program, Enbridge concluded that replacement is the optimal

alternative to the required ongoing and increasing maintenance activities.

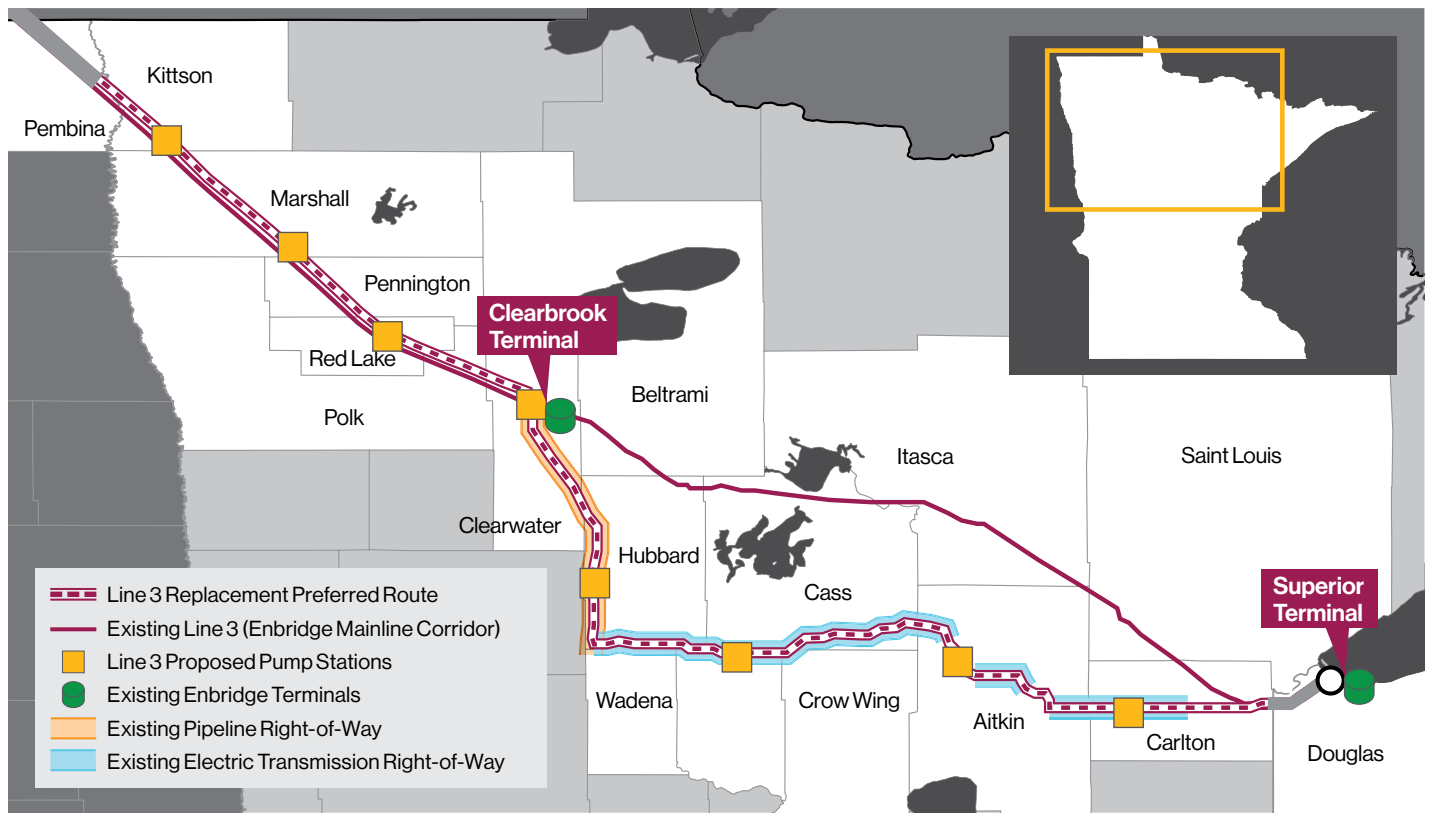
Line 3 Replacement: Background

- Line 3 is a 1,097-mile crude oil pipeline extending from Edmonton, Alberta to Superior, Wisconsin, and is an integral part of Enbridge’s Mainline System. Line 3 was installed in the 1960’s.
- Line 3 Replacement Program consists of 1,031 miles of 36-inch diameter pipeline that begins in Hardisty, Alberta and ends in Superior, Wisconsin.
- The U.S. portion includes about 13 miles in North Dakota, 337 miles in Minnesota, and 14 Miles in Wisconsin.
- The Program is an approximate \$7.5 billion private investment (\$2.6 billion for the U.S. portion), making it one of North America’s largest infrastructure programs, which supports North American energy independence.

This is an integrity and maintenance driven Program.



Line 3 Replacement Project



The U.S. portion of the Program Enbridge is proposing in this Application is the Line 3 Replacement Project.

- The Application will be reviewed by the Minnesota Public Utilities Commission (MPUC). Upon receipt of all applicable approvals, construction will begin

Project Description in Minnesota

- 36-inch diameter pipe in Minnesota.
- 337 miles in Minnesota to replace existing 282 miles of 34-inch diameter pipeline
- Construction of eight pump stations
- Restore historical operating capabilities and move 760,000 barrels per day (bpd)
- Includes 27 strategically placed valves
- \$2.1 billion for the Minnesota portion of the design, permit and construction of Line 3
- In Minnesota, the replacement pipeline will follow existing utility corridors for more than 98 percent of the route west of Clearbrook and 75 percent east of Clearbrook

Anticipated Project Timeline in Minnesota (pending regulatory approval)

2016	Construction begins
Late 2017	The replacement pipeline is placed into service in late fall or winter
2018	The existing pipeline is taken out of service and restoration of land disturbed during construction continues

DETAILS
 Section 4: Project Description
 Route Permit Application

PEMEX restores production of 421 thousand barrels per day of oil on the E-Ku-A2 platform

08/30/2021 | 197

- **125 wells that were closed by the incident have been rehabilitated**
- **Activities to resume production were carried out without incident to personnel, or damage to facilities or the environment**

Petróleos Mexicanos (PEMEX) reports that, with respect to the incident on the E-Ku-A2 platform of the Ku-A process center of the Ku – Maloob – Zaap Production Asset, which occurred on August 22, the production of 421 thousand barrels of oil per day (Mbd) and the 125 wells that were closed have been rehabilitated. Due to this event, there was a deferred production of 1.6 million barrels (MMbd).

The activities to resume oil production in this complex of the Campeche Sound were carried out in compliance with and compliance with the policy and principles of Safety, Health and Environmental Protection (SSPA), without accidents that affected personnel, or incidents in the facilities or damage to the environment.

It is important to mention that the activities carried out to restore production in this asset were carried out through the combined efforts of PEMEX's operating personnel, in conjunction with its service providers.

Mentions of Pemex may refer to Petróleos Mexicanos or any of its Subsidiary Productive Companies.

Last modified 08/30/2021 12:30 **PM** Pemex **#PEMEX**

Pemex Uses Nitrogen in Haste to Restore Oil Output After Blast
2021-08-27 00:00:09.476 GMT

By Amy Stillman and Lucia Kassai

(Bloomberg) -- Petroleos Mexicanos is resorting to nitrogen injections into offshore oil wells to quickly restore output following a major platform fire, a measure that could create complications down the line.

Under pressure to meet an ambitious goal of restoring full production by Monday, the company is using nitrogen to push oil out of wells because natural gas output was knocked offline after the blast, according to people with knowledge of the situation, who asked not to be named because they're not allowed to speak for the company.

The problem with the short-term fix is that nitrogen also disperses oil inside the reservoirs into several pockets, making exploration not only more difficult but also more expensive in the long term, one person said. Natural gas is usually used instead to create enough pressure to allow oil to flow out of wells.

A Pemex representative didn't immediately respond to a request for comment.

The beleaguered Mexican state driller lost a quarter of its output on Sunday due to the explosion, putting at risk a government goal of reversing a decade and a half of oil production declines.

Mexican President Andres Manuel Lopez Obrador said Thursday that the country will accomplish its crude output plans and end 2021 with a daily average production of 1.8 million barrels a day. Pemex's Chief Executive Officer Octavio Romero Oropeza also announced on Tuesday evening that the company had restored a sixth of the lost volume.

Pemex lost 421,000 barrels of crude a day on Sunday due to a deadly explosion at its E-Ku-A2 offshore platform -- part of a gas processing center connecting to Ku-Maloob-Zaap, one of Pemex's biggest oil field clusters in the Gulf of Mexico. The Ku-Maloob-Zaap field cluster also produces about 16% of the country's natural gas.

In the early 2000s, Pemex used nitrogen injection to aggressively boost output at Cantarell, and some blame the megafield's rapid decline partially on that process.

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Carlos Caminada

China's Top Oil Producer Prepares to Revive Venezuela Operations

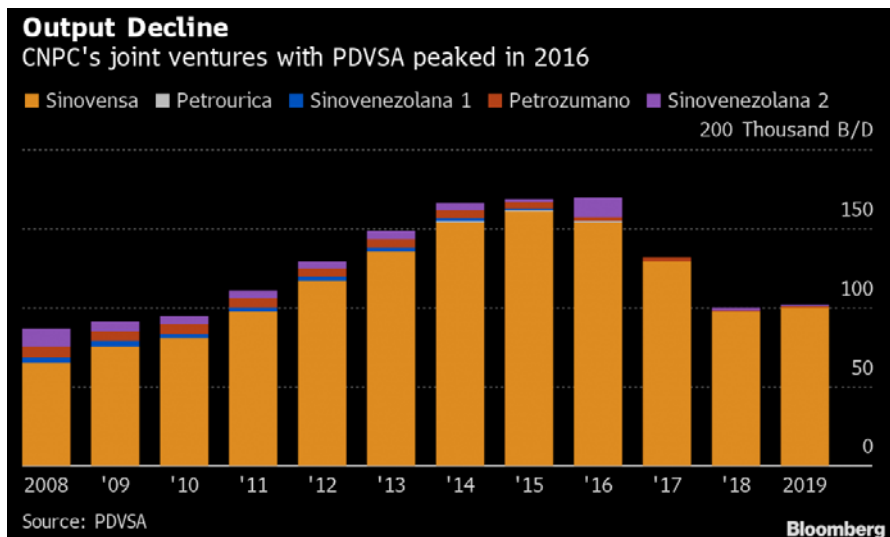
2021-09-01 16:44:11.192 GMT

By Fabiola Zerpa

(Bloomberg) -- China's top oil producer is laying the groundwork to revive output in Venezuela as President Nicolas Maduro finalizes legislation to attract more international investment.

Once a major investor in the OPEC nation, China National Petroleum Corp. is sending engineers and commercial staff there and vetting local companies for maintenance work at an oil-blending facility it operates with Petroleos de Venezuela SA, according to people with direct knowledge of the firm's actions, who asked not to be named because the information isn't public. CNPC is also contacting local service providers to potentially boost crude output at five other ventures with the Venezuelan state producer, the people said.

Tighter U.S. sanctions against Maduro's regime and oil-market turmoil in the past few years have left Venezuela isolated and without much-needed foreign investment to sustain production. The country is now trying to recover with legislation that would give international partners more control over operations.



CNPC and PDVSA officials didn't respond to messages seeking comment.

While CNPC's moves are still preliminary, they are the first signs that one of Venezuela's most important international partners is considering returning to the country in earnest after two years of scant investment. The Chinese producer has yet to take key steps, such as signing procurement or service contracts with local firms.

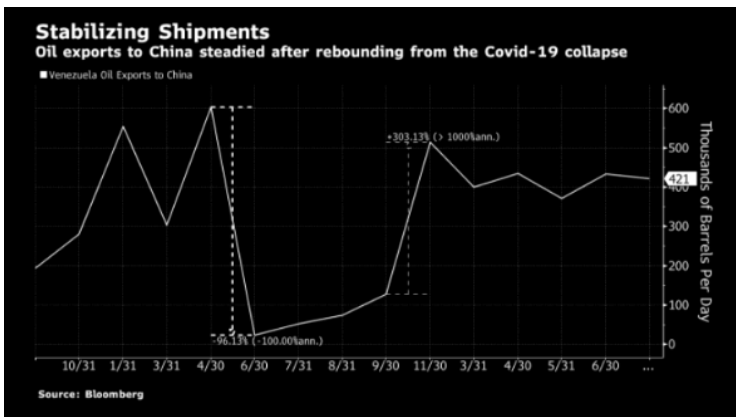
U.S. sanctions may be a deterrent. While Maduro's

government is hopeful U.S. President Joe Biden may be softer on Venezuela than his predecessor, it's unclear if the White House will ease policies that ban most business with PDVSA. Biden's administration has so far been reluctant to engage with the authoritarian leader.

For Maduro, CNPC would be an important investor as he seeks to triple the country's crude production by the end of this year. Venezuela, which holds the world's largest oil reserves, saw production plunge as international partners left. Current output of about 500,000 barrels a day is about a sixth of peak production in 2008.

CNPC was one of the largest foreign players in the country as recently as 2016, when it was producing about 170,000 barrels a day, according to PDVSA data. Its output had tumbled 75% as of July, after U.S. sanctions made it harder to do business in the country and PDVSA's financing dried up.

In 2019, one of CNPC's units halted work to expand the blending facility's capacity, citing "the extremely difficult situation" of the project. Months before, Maduro had pledged to produce 1 million barrels "only for China," after a visit to the country.



Aiming to lure investment, Venezuela's government-controlled National Assembly is drafting an energy law that would allow foreign companies to own a controlling stake in joint ventures they operate with PDVSA. The proposal has been met with some resistance, and it's unclear when the bill will come up for a vote in the legislature.

New rules, coupled with higher oil prices, could make Venezuela a "profitable place to restart works," said Francisco Monaldi, an expert on Venezuela's oil industry at Rice University. "It will not be the beginning of a gigantic production stage, but rather CNPC returning to a production level of more than 100,000 barrels" a day, which would help PDVSA repay debt, he said.

Nearly all of CNPC's production is likely to be exported

back to China, helping pay for Venezuela's debt with the Asian nation. Since 2008, Beijing has lent the country about \$60 billion to be repaid in part with crude oil shipments. The debt has been restructured as Venezuela's finances deteriorated, and it now stands at about \$19 billion, according to Ecoanalitica, a consultancy in Caracas.

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To view this story in Bloomberg click here:

<https://blinks.bloomberg.com/news/stories/QYIPA1DWX2PT>

Russia's August Oil Output Falls After Fire at Gazprom Plant (1)

2021-09-02 10:24:52.281 GMT

By Olga Tanas and Dina Khrennikova

(Bloomberg) -- Russia's August oil output fell after a fire at a Gazprom PJSC processing plant in West Siberia forced the company to cap condensate production in the area.

The nation pumped 44.09 million tons of crude oil and condensate last month, according to data from the Energy Ministry's CDU-TEK unit. That equals 10.426 million barrels a day, based on a 7.33 barrel-per-ton conversion ratio, which is 0.5% below the revised figure for July.

The unplanned drop came after the Organization of Petroleum Exporting Countries and its allies, including Russia, agreed to start a new round of crude production hikes from August. The alliance seeks to add 400,000 barrels a day to the market each month until all of its halted production comes back online.

Russia's share in the monthly increases is some 100,000 barrels a day. The CDU-TEK statistics do not give a breakdown between crude and a light oil called condensate, making it difficult to pinpoint which variety is responsible for the August decline.

On August 5 to 6, Gazprom's processing facility near Novy Urengoy was damaged by a fire. This is the company's largest condensate-treatment plant in the area and a temporary halt of some processing lines required the producer to cap its regional output of petroleum liquids and natural gas, sending reverberations across the European market.

The nation's top oil producers, which include Rosneft PJSC, Lukoil PJSC and Surgutneftegas PJSC, actually increased their liquids output by 1.23% compared to July, according to Bloomberg calculations. The only exception was Gazprom Neft PJSC, which has been running maintenance at its Arctic Prirazlomnoye field since mid-August with its liquids production falling 4.22%.

While Russia "takes its commitment with the OPEC+ deal responsibly," according to Deputy Prime Minister Alexander Novak, its producers have enough capacity to hike output even "faster and higher" than the quota allows, Interfax reported Wednesday, citing the official.

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To view this story in Bloomberg click here:

<https://tass.ru/ekonomika/12290253>

SEP 2, 17:44

Ministry of Energy: production of half of oil reserves in Russia is unprofitable at a price of \$ 50 per barrel

Deputy head of the department Pavel Sorokin considers the range of \$ 55-60 per barrel as a balanced oil price for 2022

Read TASS in

[Yandex.News](#) [Yandex Zen](#) [Google News](#)

MOSCOW, September 3. / TASS /. The production of about half of the oil reserves in the Russian Federation at a price of \$ 50 per barrel is unprofitable. It is worth focusing on working with the current resource base, Deputy Energy Minister Pavel Sorokin said in an interview with the *Izvestia* newspaper published on Friday.

“Even in our current structure of reserves, a significant part of it is unprofitable at a price of \$ 50 - about half there. There is a very large layer of opportunities for working with the current resource base: with small fields, with depleted, with tailing assets, with deeper and more difficult layers. what you need to concentrate on,” Sorokin said.

The Deputy Minister considers the range of \$ 55-60 per barrel to be a balanced oil price for next year, but only after the completion of the recovery in the world of production under the OPEC + deal, which under the current terms of the agreement should take place in May 2022.

"In general, after everyone has restored their production to the pre-pandemic level, all other things being equal (and if there are no shocks), the equilibrium price, we think, is in the range of \$ 55-60," he said.

Google Translate of TASS Russian story “В Минэнерго сообщили, что рентабельными в России являются только 36% запасов нефти” <https://tass.ru/ekonomika/10559021>

27 JAN, 04:40

The Ministry of Energy said that only 36% of oil reserves in Russia are profitable

Deputy head of the department Pavel Sorokin noted that the development of deep horizons of Western Siberia will require investments comparable to the cost of drilling in the Arctic

MOSCOW, January 27. / TASS /. Only 36% of 30 billion tons of oil reserves in Russia are profitable, which is associated with the deterioration of development conditions and a drop in the quality of reserves, writes the Deputy Minister of Energy of the Russian Federation Pavel Sorokin in an article for the Energy Policy magazine.

"According to the data of the inventory of the economics of field development, carried out on behalf of the Russian government, out of 30 billion tons of recoverable oil reserves in Russia, only 36% is profitable in the current macroeconomic conditions. This is due to the deterioration of development opportunities: an increase in water cut, the need to permeability and compartmentalization of reservoirs, withdrawal into marginal zones and strata with small thicknesses, and so on, "Sorokin explained.

"All this not only increases the cost of production, but also increases the risks of not confirming the planned development indicators due to the complexity of modeling processes and errors during drilling, for example, the exit from the productive formation during horizontal drilling. As a result, for some assets, the actual profitability of drilling may differ significantly from plans, and reserves are not confirmed, "the deputy minister stressed.

According to him, the quality of reproduction of the resource base is also deteriorating. The average size of new field discoveries in 2015-2019 amounted to 9-14 million tons (excluding several large ones on the shelf and the Payakhskoye field). The increase in reserves in recent years is provided by additional exploration in the operating regions of production, as well as by revaluation of reserves. Basically, in traditional regions, the growth is due to the search for missed deposits or drilling into deep horizons. At the same time, the technological complexity of geological exploration increases significantly.

"It is important to understand that the omission of promising formations when using traditional methods of data interpretation is associated with their small size and complexity. Therefore, it is necessary to apply completely new technologies for exploration and modeling of assets," Sorokin said.

Thus, the question of the future of the Russian oil industry is associated with advanced technological development and increased efficiency. "Only this will allow maintaining the position of one of the lowest producers in terms of cost on the world oil supply curve," the deputy minister sums up.

Investments in the further development of Western Siberia

The development of the deep horizons of Western Siberia will require investments comparable to the costs of drilling in the Arctic, which are traditionally very high, Sorokin also noted.

"The development of deep horizons requires increased investment. For example, for the pre-Jurassic complex of Western Siberia, capital expenditures for exploratory drilling are comparable to the Arctic - from 500 million rubles or more per well. In terms of major discoveries, the most promising region is the Arctic and the shelf. Here Several major discoveries have already been made in recent years - Neptune, Triton, Payakha with total reserves of more than 1.3 billion tons of oil However, these basins are poorly studied and, given the high cost of exploratory drilling, it is necessary to use completely new modeling technologies for effective localization hydrocarbon deposits, "Sorokin noted.

"Thus, the question of the future of the Russian oil industry is associated with advanced technological development and efficiency gains. Only this will allow us to maintain the position of one of the lowest producers in terms of cost on the world oil supply curve," the deputy minister added.

According to him, the oil and gas industry is currently facing a number of problems that reduce its competitiveness in the world market.

A common problem is the gradual depletion of reserves in developed fields and a drop in oil production in traditional oil-producing regions. The highest rates are observed in the key oil-producing region of Russia - Western Siberia, where production has decreased by 10% over the past ten years - to 288 million tons, Sorokin concludes.

TASS English Posted Story <https://tass.com/economy/1249505>

27 JAN, 04:26

Only 36% of oil reserves profitable in Russia, energy minister says

This is related to worsening of development opportunities, according to the minister

MOSCOW, January 27. /TASS/. Just 36% of 30 bln tonnes of oil reserves are profitable, Deputy Energy Minister of Russia Pavel Sorokin wrote in his article for the Energy Policy magazine.

"According to data of fields' development economics inventory completed on the instruction of the Russian government, just 36% out of 30 bln tonnes of recoverable reserves of Russian oil are profitable in current macroeconomic environment. This is related to worsening of development opportunities: growing water cut, the need to build costly wells of complex design, low permeability and compartmentalization of reservoirs, the move to marginal areas and beds with low thickness, and so on," the official said.

"All that does not merely increase the lifting costs but also moves upward risks of failure to confirm target development figures because of the complexity of processes modeling and drilling errors, for example, leaving the pay bed in horizontal drilling. The result is the actual profitability of drilling may considerably differ from plans for certain assets and reserves will not be confirmed," Sorokin said.

Russia Says Its a Price Taker at \$45 in 2021, May Be the New Strategy Needed For OPEC+ To Fix Post-Covid Oil Prices For the 2020s

Posted Tuesday December 29, 2020. 4:00pm MT

OPEC+ Jan 4 decision for Feb production is the market focus. However, we believe markets should look at Russia's last week of messaging on oil markets and realize that its not just to negotiate with OPEC+ for the Jan 4 meeting. Covid and now a view that peak oil demand is coming sooner means that OPEC+ strategy needs to be changed. Its been 4 years and it still hasn't accomplished its goals. It looks like Russia is coming to the table with a needed new strategy because they seem to truly believe peak oil demand will be sooner. A needed new strategy on how to achieve its key oil objectives – return to full production and maximize the value of its oil reserves. Russia is clearly saying they want to restore its production ahead of non OPEC+ countries (ie. US shale) and oil prices have to be lower (ie. \$45 Brent) to ensure that happens. And by warning oil producers and their capital providers of their preparedness for lower oil prices to keep other oil supply down, it sets up continued oil underinvestment and less post Covid oil supply capacity. It may not impact the OPEC+ Jan 4 decision, but by warning all oil producers they will be a price taker at lower oil prices, they set up continued oil industry underinvestment and therefore a better post Covid oil outlook for the 2020s. On top of that, any bumps in the road or delays to Energy Transition will add the potential for short term price spikes in the post Covid oil outlook.

Here is what Russia has recently said in the last week – it's really signals a change in strategy to fix oil markets. This is why we wrote this blog, in particular the monetization comment that is the clearest signal that Russia believes peak oil demand is coming sooner than expected. Russia's messaging is that Net Zero is impacting peak oil demand, it won't happen by 2050, its priority is to restore its production even if oil prices go lower to \$45 (they normally refer to Brent), and don't want others to restore production ahead of them. Russia's specific comments on oil are often overlooked because most reporting doesn't go back to the original source reporting. Thanks to Google Translate, it is easy to go TASS Russian news site and search on новак (Novak in English) and find stories. If you compare stories, TASS reports in Russian first, and then normally does a shortened version for their English site. And in some cases, like the critical second story below on monetization, TASS won't put up an English version. This story was overlooked. We try to go to original reporting where possible and not just write an western news recap of the TASS English story that is a recap of the TASS Russian story.

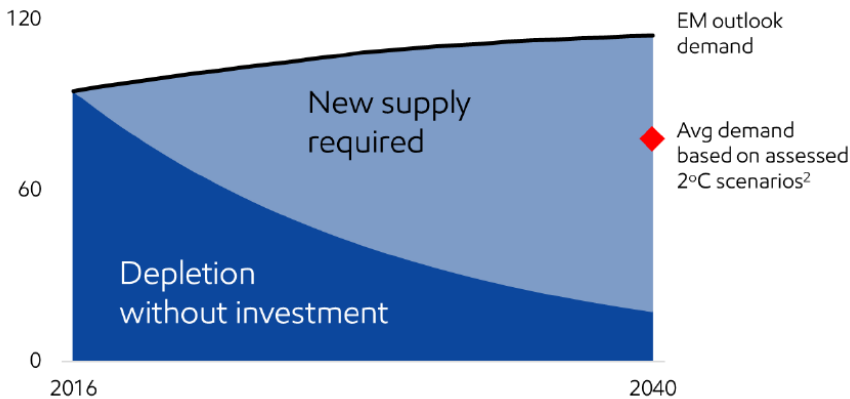
- Dec 21. Near term reduction in demand from the new UK variant and oil demand recovery to take 2-3 yrs. TASS reporting [\[LINK\]](#) quoting Novak *"Over these two days, the situation, in my opinion, has changed, it is changing quite actively. Serious lockdowns have now been introduced regarding travel to the UK. A new strain of coronavirus has appeared, and this has influenced, among other things, the fact that we are we see a significant correction in oil prices. Two days ago we did not see this yet." "The market recovery will be slower than initially expected. And therefore our forecasts for the market are changing. Many experts say that it could take about two years. Two or three years, perhaps." "Of course, today's levels of reduction are unprecedented. If four years ago we cut by 1.2 million b / d, and now by almost 10 million b / d, naturally, we are determined to quickly restore this production. we will not upset the market balance or create surpluses in the oil markets."*
- Dec 21. Russia needs to focus on monetization of oil and gas reserves, Net Zero won't happen by 2050. Separate TASS reporting that did not appear on TASS English news site. TASS reporting [\[LINK\]](#) *"In the coming decades, Russia needs to pay special attention to the monetization of energy resources: oil, gas and coal, as demand in developed countries may decrease. This opinion was expressed by Deputy Prime Minister Alexander Novak at the session of the "Russia and the World" project. "My opinion is that in the coming decades [Russia] needs to pay more attention to the monetization of existing reserves," he said. At the same time, Novak stressed that the global economy will not be able to achieve carbon neutrality, that is, the abandonment of oil, gas and coal by 2050, this can only happen in developed countries. "If you look at the scale of the entire planet, then in 2050, obviously, we will not achieve carbon neutrality. This will happen, God forbid, in developed countries that have announced such goals," he said. "When we talk about the energy transition, then (you need to look who makes - approx. TASS) statements on achieving carbon neutrality by 2050. We have heard about 2060 in China, few talk about 2040, set themselves such ambitious goals. developed countries and this is not the entire population of the planet. After all, we have a population of seven billion people and in the world energy balance another quarter of energy is produced from coal," he said.*

- Dec 22. Net zero impacting peak oil demand, Russia needs to expand its oil/natural gas exports and surplus global supply from technology ie. frac. The Kremlin transcript from the Novak/Putin meeting [\[LINK\]](#) quoting Novak *“Alexander Novak: Thank you, Mr President. May I say a few words about the goals of the fuel and energy complex? Of course, our main goal is to create a proper environment for progress in the fuel and energy complex and to maintain our position on the global market. I see several trends here. In particular, this is about the climate agenda, which concerns putting in certain requirements for a carbon-free economy and carbon-free neutrality. Some countries have already announced their goals and targets up to 2050. This, of course, will significantly affect the demand for conventional energy resources. The second trend is about an excess of resources around the world as a result of technological advances, which will also lower the demand. So, based on the above trends, I believe that we need to concentrate our efforts on two areas: expanding the domestic market, on one hand, and expanding and diversifying our exports, on the other. That includes exports related to added value from processing hydrocarbons and innovative energy.”*
- Dec 25. Prepared for lower oil prices to stop others from restoring oil production. TASS reporting [\[LINK\]](#) quoting Novak *“To restore our production, which we have greatly dropped, the price range of \$ 45-55 per barrel is the most optimal, otherwise we will never restore production, others will restore, and we will be at our level all the time.”*
- Dec 29. Net Zero impacting peak oil demand and mid/long term oil price cap of \$50. TASS reporting [\[LINK\]](#) quotes Russia Finance Minister Siluanov *“it is clear that the demand for hydrocarbons is in a risk zone. After all, these are green technologies, all these carbon taxes, the transition to electricity instead of gasoline in automobiles. All this suggests that it is probably unlikely that prices will remain at the level of \$ 50 and above in the long term.”*

The most important, and overlooked, oil fundamental post Covid is global oil declines. The primary reason we are more bullish on post Covid oil has been, and continues to be, global oil decline rates especially in the face of lower global oil and gas investment. On Nov 25, the WSJ story [WSJ story “Exxon Documents Reveal More Pessimistic Outlook for Oil Prices” \[LINK\]](#) said *“As part of an internal financial-planning process conducted this fall, Exxon cut its expectations for future oil prices for each of the next seven years by 11% to 17%, according to the documents”*. The WSJ story reminded of the Exxon CEO Oct letter that talked about industry underinvestment and the implications to future oil supply. The WSJ story didn't mention it, but the Exxon CEO Oct letter also highlighted global oil decline rates were >7%. This is the major reason to be bullish for mid term oil. While we don't know the WSJ seen document assumptions, the reality is that its most likely one of four major assumptions that lead to a big drop in mid term oil prices – global oil E&P capital investment is significantly more than expected, near term global oil development has significantly more growth potential at \$50 to \$55 Brent, global decline rates are less than expected, or global demand is being hit harder for longer. We would assume the biggest change is global oil demand expectations. And that it is unlikely Exxon changed their view on global oil decline rates from Oct to Nov. Our Oct 25, 2020 Energy Tidbits memo [\[LINK\]](#) highlighted Exxon CEO's Oct 21 email to staff. The headlines were on layoffs and also how Exxon still believes in fossil fuels. But the overlooked point is something for everyone to think about for their perspective on mid term oil – Exxon's est that the decline rate in global oil is >7%. We believe that whether its 7% or lower at 6% or 5%, its bullish for post Covid oil even if you believe oil demand only gets back to 2019 levels ie. around 100 mmb/d. The Exxon CEO email said *“Our outlook projects oil demand to grow at 0.6 percent a year and gas demand to grow by 1.3 percent. With depletion rates, new oil production needs to increase by nearly 8 percent per year and natural gas by 6 percent. Under any demand scenario, depletion supports the need for significant investments.”* The implied decline rate in oil is 7.4%. So even if demand doesn't grow, the world needs to add ~7 mmb/d of new oil supply (either additions or use of spare capacity) to meet oil demand. The OPEC cuts make up a year or so of depletion. Iran and Venezuela return makes up another ½ year or so. To make up for the annual decline is only going to be harder with the lower investment in oil and gas. Even if you believe global oil decline is lower ie. 5%, then OPEC+ surplus, Iran and Venezuela make up about 2 years of depletion. The impact isn't being felt because the lower capex and declines is masked by the need for OPEC quotas and the demand crash of 20% in 2020. But the point is that once the world recovers to whatever levels post Covid for oil demand (call it 2 or 3 mmb/d), the decline rates and lack

of investment will show up in tighter oil markets post 2022. We believe that if the annual decline rate for global oil production is >5%, it is bullish for mid term oil even if oil demand doesn't grow in the 2020s. Below is the Exxon June 2019 graph that had a similar >7% global oil decline assumption.

Exxon Oil Supply/Demand (mboed)



Source: Exxon US Sellside Presentation June 18, 2019

We have been wondering if some OPEC+ members will tire of waiting for the light at the end of the tunnel. Our Dec 6, 2020 Energy Tidbits memo [\[LINK\]](#) noted this concern. Covid has meant a big delay to OPEC+ meeting their goals. OPEC's Nov 30, 2020 "Opening remarks to the 180th Meeting of the OPEC Conference" [\[LINK\]](#) said "In this regard, OPEC continues to support the global oil market, in cooperation with its partner countries of the Declaration of Cooperation, which is now in its fourth year. When it has been signed in December 2016, no one would have imagined that DoC will last for 4 years." One of our concerns has been that the OPEC+ partners are just getting tired of cutting and it hasn't delivered what they all expected – the ability to return production to higher levels and for higher oil prices. And that we would start to see cracks in the OPEC+ group. Power to Saudi Arabia who appears to have done an amazing job of keeping the group united so far. But we believe Russia's comments are a clear acknowledgement that there isn't visibility for OPEC+ to reach those goals in the near term under their current strategy. At least the part of the goal to return to full production. We don't think the outcome is a breakup of OPEC+ working together. Rather we think that before that happened, we think OPEC would first look to change strategy and we believe Russia's comments in the last week are a warning that they want to have a change in strategy, maybe not at Jan 4 meeting, but in 2021. Russia has clearly said they don't want to have others (read US shale) restore oil production before they do and they will take lower oil prices to do so.

The world's anxiousness to accelerate the Energy Transition is reducing capital from oil and gas to renewable in a bid to catch up ie. less future oil supply capacity. In a lesser oil demand outlook, it means that Russia needs to see a clear path that future oil supply will be definitely be less. The easy way to do that would have been for Russia to cause OPEC+ to split by cranking oil production to full levels, hammer oil prices back to the \$20's and deal a fatal blow to many oil producers around the world. We have always thought this was low probability. But we believe Russia is also signaling they see a more measured near term path (ie. Brent \$45) that allows them to get to full production post Covid. And they see this more measured path in part because of the world's, including many supermajor's, anxiousness to jump on the accelerated energy transition movement and already move to shift significant capital away from traditional oil and natural gas to new and/or increasing Energy Transition initiatives. Part of Russia's solution is already being taken care of by supermajors. At the same time, supermajors are also under pressure to keep a lid on overall capex and to sell assets to reduce debt. So its not incremental dollars to Energy Transition, its taking dollars away from future oil and gas production capacity additions. And Russia, like everyone else noted, Shell CEO van Buerden's Oct 29 comments on the call with the media following the Q3 results "Do we believe that we can grow our [upstream] business? In terms of cash, we have

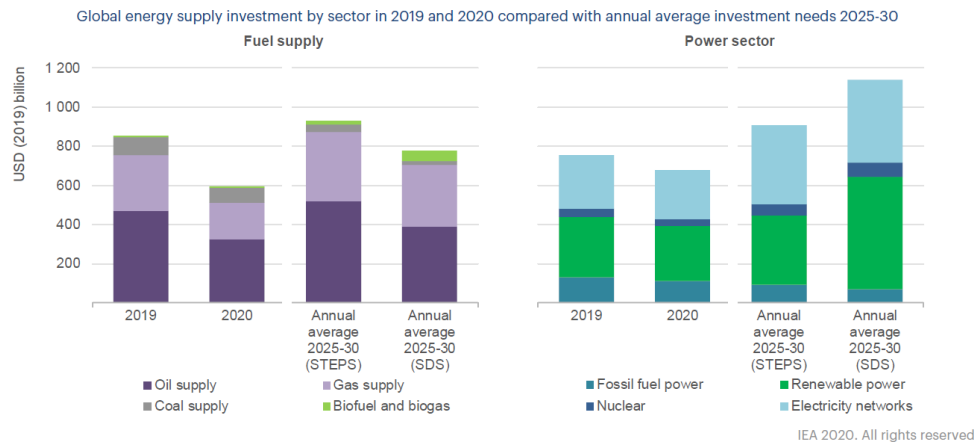
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always said that it is value over volume. We do not have volume targets. But it is probably fair to say that 2019 was the high point when it comes to our oil production."

Global oil and gas investment was already behind what was needed for future oil supply. Oil followers have seen an increasing number of analyst views that global oil investment is too low and there is a supply crunch coming. These increased warnings are not considered a 2021 or 2022 issue given OPEC+ is still >7 mmb/d cut back, Iran is expected to come back under Biden and possibly even Venezuela. This undersupply is not a new item. But the increased reduction of capital to oil and gas from European supermajors will only increase the underinvestment impact on future oil capacity additions. Our 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] highlighted the IEA's "Tracking Clean Energy Progress" update. The headlines were on how the IEA saw underinvestment in renewable was far below levels needed to meet Energy Transition timing and therefore overlooked the IEA also highlighting global oil and gas supply was also far below levels needed to meet future oil supply. Below is the IEA graph from the update.

IEA's Estimated 2019 and 2020 Invested Vs Future Required Investment

Even before 2020, investment trends were poorly aligned with the world's projected needs



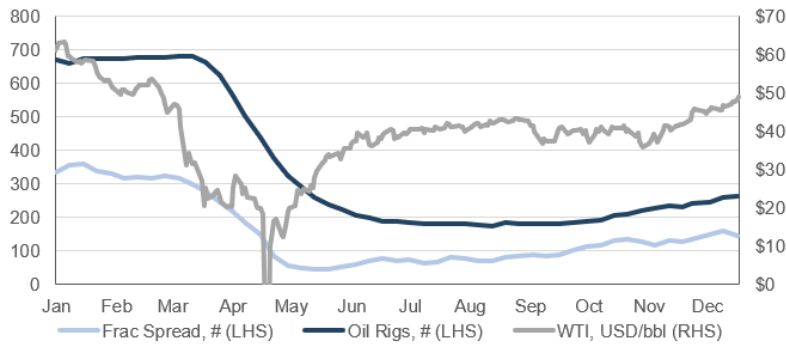
Notes: STEPS = Stated Policies Scenario; SDS = Sustainable Development Scenario. Electricity networks include also battery storage investment. Projected investment levels are from the World Energy Outlook 2019; the point of comparison is the period from 2025-30 in order to provide an indicative post-recovery benchmark for spending levels.

Source: IEA Tracking Clean Energy Progress, June 2020

Russia's reminder that they are price takers at \$45 Brent seems focused on US shale/tight oil and, more importantly, capital providers thereto. There can't be any doubt that Russia wants to make sure US shale/tight oil production doesn't come back before Russia and that is why they will manage oil lower to \$45 Brent in 2021/2022. As noted above, Novak said "The second trend is about an excess of resources around the world as a result of technological advances, which will also lower the demand. So, based on the above trends, I believe that we need to concentrate our efforts on two areas: expanding the domestic market, on one hand, and expanding and diversifying our exports, on the other." If we look at frac technology, there is more than the US (ie. also Argentina, Canada, maybe Saudi?) but the reality it's the US. And we think particular to capital providers. We have to believe Russia picked \$45 Brent bottom end as the price level (ie. low \$40s WTI) that isn't high enough for US producers and capital providers to move to a sustained big increase in drilling new US shale/tight oil wells ie. not just completing DUCs that have lower half cycle break even oil prices.

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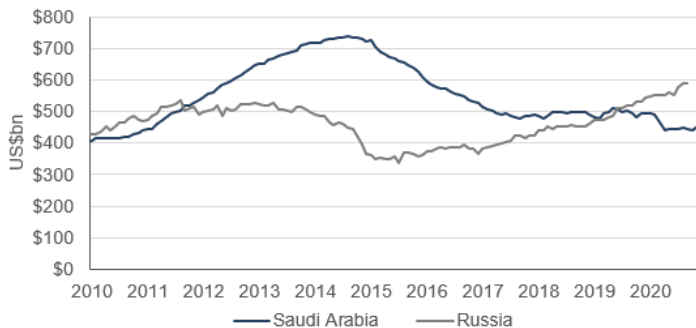
YTD US Frac Spread and Oil Rig Count vs WTI Price



Source: Primary Vision, Baker Hughes, Bloomberg

Russia has a financial advantage to withstand lower oil prices ie. Brent \$45. Novak’s comment \$45 Brent works for them as it helps them accomplish their goal of restoring production while others can’t is a reminder that Russia is less dependent on oil. There are a lot of estimates that OPEC producers need oil prices way higher (generally above \$70 to \$80) to cover social programs, etc in government budgets. So OPEC countries generally want higher oil prices. Our Dec 25, 2020 tweet [LINK](#) reminded that Russia has a financial advantage in withstanding lower oil prices for the short and mid term. We tweeted “Remember RUS has a much lower #Oil price comfort level than #OPEC+ partners. See below excerpt SAF Group Dec 20 Energy Tidbits <http://safgroup.ca/research/trends-in-the-market/> highlights oil is ~30% of RUS revenues and its net foreign assets keep increasing”, The tweet was based on two items. Our Dec 18, 2020 tweet [LINK](#) on Putin’s Dec 18 press conference and Russia vs Saudi Arabia net foreign assets “ICYMI. RUS advantage Vs KSA in how it approaches #Oil markets/strategy - low #Oil price doesn't impact as much. Putin reminded #Oil is ~30% of RUS revenues. KSA is ~55% in 2020 and normally much higher. KSA net foreign assets down ~\$300b in 5 yrs, vs RUS up ~\$150b.” Earlier today, there was an update to Saudi Arabia net foreign assets. Our graph below reflects the new data. But Saudi Arabia net foreign assets peaked in Aug 2014 at \$737.0b, ended 2019 at \$493.8b, hit bottom of \$442.2b at April 30, was basically flat for 3 months before an increase of \$5.3b to \$448.6b at Aug 31. Net foreign assets fell once again in Oct, falling \$0.9b to \$441.9b but increased in Nov to \$452.1b. This means Saudi Arabia has burned thru approx. \$285 billion in the past 6 years or approx. \$50 billion per year on average. Whereas Russia’s net foreign assets continue to modestly increase. We only have Russia data to Sept 30, but during this time foreign assets increased from \$443.7b in Aug 2014 to \$545.8b to end 2019, and are now up to \$591.1b at Sept 30. This means Russia’s net foreign assets have steadily increased by an average of ~\$25b per year over the past 6 years.

Russia Vs Saudi Arabia Net Foreign Assets (US\$b)



Source: Bloomberg

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If Russia says it's a price taker at \$45 Brent for 2021/2022, it gives visibility to a return to higher oil prices post Covid. We believe its important to look at Russia's messaging and its impact from both a short and long term perspective that can, on the surface seem different, but in reality are linked. In our tweet this morning [\[LINK\]](#) we highlighted Russia plays a long game. Most importantly we see the logic to this strategy and that it gives them the best visibility to what they want – get production back to full capacity and maximize the value of its oil reserves in a world of lower future oil demand.

- Doesn't mean Russia won't agree to no increase at OPEC + Jan 4 meeting. We understand that a part of Russia's comments are negotiating with its OPEC+ partners either for Jan 4 meeting or setting the stage for the next monthly meeting. Russia is clearing warning his OPEC+ partners that they want to increase production and importantly, why? They worry that higher prices will allow the US and others to restore production, and they think lower oil prices ie. \$45 Brent are needed. They really want to manage to price. This in itself is not what OPEC+ ever says they do, they never say they manage for price. They manage for stable markets for consumers and producers. All Russia is clearly stating is that they need to manage to price to avoid others from restoring production before they do. We have to believe Novak is putting this position forward to OPEC+ for next week as a notice to the OPEC+ partners, this is what we need to do for 2021 from Russia's perspective. However, we don't think it precludes them from agreeing to no increase to OPEC+ quotas for Feb. Novak has consistently left himself an out as he says "*If the situation is normal, stable, we will support the increase*" but after the first two days of the UK variant said "*Over these two days, the situation, in my opinion, has changed, it is changing quite actively.*" Whether OPEC+ agrees to increase by 0.5 mmb/d or stay flat next week, we don't think it changes the bigger Russia warning that a change in strategy is needed in 2021.
- Russia's changing view on peak oil demand is driving the apparent big change in oil strategy if it wants to maximize value for its oil and natural gas reserves. No question that there are multiple Russian comments on net zero, energy transition and peak oil demand being a bigger risk ie. moving sooner. But the most telling comment that Russia really believe peak oil demand is happening sooner than expected and has to find a way to hurt post Covid oil supply only appeared in Russian, when TASS reported "*In the coming decades, Russia needs to pay special attention to the monetization of energy resources: oil, gas and coal, as demand in developed countries may decrease. This opinion was expressed by Deputy Prime Minister Alexander Novak at the session of the "Russia and the World" project. "My opinion is that in the coming decades [Russia] needs to pay more attention to the monetization of existing reserves," he said.*" They are focused on how to monetize existing oil reserves.
- So Russia can be a price taker at \$45 Brent in 2021/2022 as it likely sets an effective post Covid floor price for the 2020s. Russia plays the long game and realizes peak oil demand means they have to hurt other oil supply growth. European supermajors are already cutting oil and gas to shift that capital to renewables. That's good timing for Russia. Their warning all other oil producers and their capital providers that it is a price taker at \$45 Brent will help keep capital from flowing into oil and lead to another year or more of continued global oil underinvestment. And it means that post Covid (say post 2022), Russia's \$45 Brent price taking in 2021/2022 effectively becomes the floor price going forward.
- The Energy Transition is going to happen. No one should be surprised given the massive debt and economic crisis from Covid isn't deterring this ambition, rather its leading to an increase desire for an accelerated Energy Transition. As the IEA has been highlighting all year, global investment is far below the needed levels for a timely Energy Transition. This means that it will be bumpy and not timely road to the Energy Transition and these gaps/bumps should lead to short term periods of oil price spikes over an effective \$45 Brent effective floor.
- If Russia is successful and it means oil is a little lower in the near term, it may be hard to see in the next few months, but oil producers with the low cost reserves, financial support, capital provider support and have ability to see the other of side of Covid should hope Russia can be successful in a new strategy.

COMMODITIES NEWS

SEPTEMBER 1, 2021 11:10 AM UPDATED 2 HOURS AGO

OPEC+ raises 2022 oil demand growth forecast

By [Ahmad Ghaddar](#), [Rania El Gamal](#)

2 MIN READ

LONDON/DUBAI (Reuters) - OPEC+ revised up its 2022 oil demand forecast ahead of a meeting of the oil producing group on Wednesday, amid U.S. pressure to raise output more quickly to support the global economy.

FILE PHOTO: The OPEC logo pictured ahead of an informal meeting between members of the Organization of the Petroleum Exporting Countries (OPEC) in Algiers, Algeria, September 28, 2016. REUTERS/Ramzi Boudina

Two OPEC+ sources said the group's experts revised the 2022 oil demand growth forecast to 4.2 million barrels per day (bpd), up from the previous forecast of 3.28 million bpd.

OPEC+ expects global oil demand to grow by 5.95 million bpd in 2021 after a record drop of about 9 million bpd in 2020 because of the COVID-19 pandemic.

The Organization of the Petroleum Exporting Countries and allies led by Russia, a group known as OPEC+, meet on Wednesday at 1500 GMT to set policy.

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Sources told Reuters the meeting was likely to roll over existing policies despite pressure from the United States to pump more oil.

However, the higher demand forecast strengthens the case for a speedier output increases by OPEC+ as benchmark Brent crude traded above \$72 per barrel, close to multi-year highs.

The demand forecast revision came during the OPEC+ joint technical committee (JTC), which on Tuesday presented an updated report on the state of the oil market in 2021-2022.

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On Tuesday, OPEC+ sources said the report, which has not been made public, forecast a 0.9 million bpd deficit this year as global demand recovers.

The report had initially forecast a surplus of 2.5 million bpd in 2022 but this was later revised to a smaller surplus of 1.6 million bpd due to stronger demand, the sources said.

As a result, commercial oil inventories in the OECD, a group of mostly developed countries, would remain below their 2015-2019 average until May 2022 rather than the initial forecast for January 2022, the JTC presentation showed, according to the sources.

Reporting by OPEC team; Writing by Dmitry Zhdannikov; Editing by David Goodman and Edmund Blair
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https://www.opec.org/opec_web/en/press_room/6567.htm

20th OPEC and non-OPEC Ministerial Meeting concludes

No 23/2021 Vienna, Austria 01 Sep 2021

The 20th OPEC and non-OPEC Ministerial Meeting (ONOMM), held via videoconference, concluded on Wednesday, 1 September 2021.

The Meeting noted that, while the effects of the COVID-19 pandemic continue to cast some uncertainty, market fundamentals have strengthened and OECD stocks continue to fall as the recovery accelerates.

The Meeting welcomed the positive performance of Participating Countries in the Declaration of Cooperation (DoC). Overall conformity to the production adjustments was 110% in July including Mexico (109% without Mexico), reinforcing the trend of high conformity by Participating Countries.

In view of current oil market fundamentals and the consensus on its outlook, the Meeting resolved to:

1. Reaffirm the decision of the 10th OPEC and non-OPEC Ministerial meeting on 12 April 2020 and further endorsed in subsequent meetings, including the 19th ONOMM on 18 July 2021.
2. Reconfirm the production adjustment plan and the monthly production adjustment mechanism approved at the 19th ONOMM and the decision to adjust upward the monthly overall production by 0.4 mb/d for the month of October 2021.
3. Extend the compensation period until the end of December 2021 as requested by some underperforming countries and request that underperforming countries submit their compensation plans by 17 September 2021. Compensation plans should be submitted in accordance with the statement of the 15th ONOMM.
4. Reiterate the critical importance of adhering to full conformity and to the compensation mechanism, taking advantage of the extension of the compensation period until the end of December 2021.
5. Hold the 21st OPEC and non-OPEC Ministerial Meeting on 4 October 2021.

https://www.opec.org/opec_web/en/press_room/6512.htm

19th OPEC and non-OPEC Ministerial Meeting concludes

No 21/2021 Vienna, Austria 18 Jul 2021

The 19th OPEC and non-OPEC Ministerial Meeting (ONOMM), held via videoconference, concluded on Sunday 18 July 2021.

The Meeting noted the ongoing strengthening of market fundamentals, with oil demand showing clear signs of improvement and OECD stocks falling, as the economic recovery continued in most parts of the world with the help of accelerating vaccination programmes.

The Meeting welcomed the positive performance of Participating Countries in the Declaration of Cooperation (DoC). Overall conformity to the production adjustments was 113% in June (including Mexico), reinforcing the trend of high conformity by Participating Countries.

In view of current oil market fundamentals and the consensus on its outlook, the Meeting resolved to:

Reaffirm the Framework of the Declaration of Cooperation, signed on 10 December 2016 and further endorsed in subsequent meetings, including on 12 April 2020.

Extend the decision of the 10th OPEC and non-OPEC Ministerial Meeting (April 2020) until the 31st of December 2022.

Adjust upward their overall production by 0.4 mb/d on a monthly basis starting August 2021 until phasing out the 5.8 mb/d production adjustment, and in December 2021 assess market developments and Participating Countries' performance.

Continue to adhere to the mechanism to hold monthly OPEC and non-OPEC Ministerial Meetings for the entire duration of the Declaration of Cooperation, to assess market conditions and decide on production level adjustments for the following month, endeavoring to end production adjustments by the end of September 2022, subject to market conditions.

Adjust, effective 1st of May 2022, the baseline for the calculations of the production adjustments according to the attached table (table 1).

Reiterate the critical importance of adhering to full conformity and taking advantage of the extension of the compensation period until the end of September 2021. Compensation plans should be submitted in accordance with the statement of the 15th OPEC and non-OPEC Ministerial Meeting.

The meeting decided to hold the 20th OPEC and non-OPEC Ministerial Meeting on 1 September 2021.

'Negotiations should have tangible achievements for Iranians'

TEHRAN, Aug. 31 (MNA) – Stating that Iran is not seeking to escape the negotiating table, the Iranian Foreign Minister said that the new administration believes in negotiations that have tangible achievements in the interests of the Iranian people.

"We welcome any meeting with the countries of the region and we are interested in it, but the fact that foreigners want to play a role in the region is not in our interest and in the interest of the countries in the region," said Hossein Amir-Abdollahian on Monday night in a televised interview referring to the Baghdad Summit.

Emphasizing Iran's continued support for Iraq, he said "We do not consider the presence of foreigners and occupiers in the region useful."

He also pointed to the Vienna talks on reviving the JCPOA, saying, "We have clearly stated to the other side that the Islamic Republic of Iran welcomes a logical negotiation, and we certainly do not seek to escape from the negotiating table, but it is a very important point that the 13th administration believes in negotiations that have tangible achievements in the interests of the Iranian people."

"Negotiation is one of the tools of diplomacy, and we hope that good things will happen in this regard and that the other parties will be present at the negotiating table on the basis of wisdom, not non-constructive messages," he added.

Regarding the next round of talks, Amir-Abdollahian said, "The other side understands that it will take two to three months for the new government to take office and plan for any decision."

Elsewhere in his remarks, the Iranian Foreign Minister pointed to the latest developments in Afghanistan, saying, "We support a government in Afghanistan that respects the will of the people of the country in determining their own destiny, and it is important that the inclusive government, with the participation of all Afghan ethnic groups, takes a unique political solution to Afghanistan's problems."

"Americans are behind all the incidents that have happened in Afghanistan," he noted, " adding, "If foreigners give up on Afghanistan, the leaders of all Afghan tribes, parties and groups have the wisdom to decide for themselves the future of their country."

"We support a secure and stable Afghanistan and, of course, an Afghanistan whose people have a say in their destiny," the FM stressed.

"We started talks with some of Afghanistan's neighbors, including Pakistan. We also have plans and consultations with Afghanistan's other neighbors. Our goal is to use the capacity of Afghanistan's neighbors to help achieve the desired situation in this country," Amir-Abdollahian said about Afghanistan neighbors meeting.

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News Code 178031

SAF Group created transcript of Israel PM Bennett comments at Bennett/Biden press conference before the detailed meeting. Aug 27, approx. 10:35am MT.

Items in *italics* are SAF Group created transcript

“Obviously **the main issue we’re going to be talking about today here is Iran’s race to a nuclear weapon.** We talked about inside the room and I was happy to hear your clear words that Iran will never be able to acquire a nuclear weapon. And that you emphasized that you will try the diplomatic route, but there’s other options if that doesn’t work out. So, these very days illustrate what the world would look like if a radical Islamic regime acquired a nuclear weapon. That marriage would be a nuclear nightmare for the entire world. Iran is the world’s number one exporter of terror, instability, and human right violations. And as we sit here right now, the Iranians are spinning their centrifuges at Natanz and Fordow. **We’ve got to stop that and we both agree.**

So we’ve developed a comprehensive strategy that we’re going to be talking about with two goals. The first goal is **to stop Iran on its regional aggression and start rolling it back into the box.** And the second is **to permanently keep Iran away from ever being able to break out to nuclear weapon.** As I told you Mr. President, Israel never have and never will ask America to send troops to defend ourselves. That’s our job. **We will never outsource our security. Its our responsibility to take care of our fate.** But we do thank you for the tools and the back you’ve been giving us and you’re giving us.”

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

• Thu September 2, 2021 |

Sanalla: Oil production has fallen to 1.26 million bpd, sector debt is at 2.5 billion dinars

Alwasat - Cairo 50 minutes

National Oil Corporation (NOC) Chairman, Mustafa Sanalla, said that Libya's oil production fell from 1.3 million barrels per day (bpd), to 1.26, due to leaks in oil transmission lines, especially at Al-Waha Oil Company sites.

The loss of 40,000 barrels per day means a loss equivalent to 3.5 million dinars, he said, adding: "We lost 600 million dollars in sales opportunities due to the absence of maintenance works and large leaks, and the debt has reached 2.5 billion dinars," he noted in video posted to the NOC's Facebook page on Thursday.

He pointed to the "significant problems" Al-Waha is experiencing due to the dilapidated infrastructure and oil pipelines, saying that a new leak had been reported, perhaps the largest in the recent period.

Sanalla attributed the problem to the lack of funding, alerting that some companies will not be able pay their workers "because their budgets have not been adopted." He added: "Although the work continues, I thank the workers in the sector, but the lack of budgets has led to massive problems, we have contracts with foreign companies, and we need to pay their dues."

He appealed to the House of Representatives to expedite the adoption of the general budget, or "to relieve the oil sector of this difficult situation," warning that one of the contracted service companies has receivables worth about \$160 million and has accumulated similar debts.

COMMODITIES NEWS

AUGUST 29, 2021 11:09 AM UPDATED 9 HOURS AGO

Libya oil minister says he suspends NOC chief

By Reuters Staff

2 MIN READ

FILE PHOTO: The oil minister in Libya's new Government of National Unity Mohamed Oun, speaks during an interview with Reuters, in Tripoli April 29, 2021. REUTERS/Hazem Ahmed

TRIPOLI (Reuters) - Libya's oil minister said on Sunday that he was suspending the head of the state oil company, escalating a dispute between the two - but with a move that he may struggle to enforce.

Oil Minister Mohamed Oun said in a letter, confirmed by ministry sources, that National Oil Corp head Mustafa Sanallah was under investigation and had been suspended.

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Oun last week said Sanallah could not act as NOC head while he was travelling overseas. He appointed Jadallah al-Awkali to run the company during Sanallah's absence.

Sanallah rejected that decision, saying there was no law that allowed Oun, who was appointed as part of the Government of National Unity (GNU) that took office in March, to appoint an acting NOC chief.

The role is regarded in Libya as a sovereign position whose appointment could require agreement by other political entities such as the parliament.

NOC officials were not immediately available to comment, but the company put out a statement on an internal meeting Sanallah had held "working in a team spirit" that did not directly refer to Oun's letter.

NOC is Libya's most important economic asset, providing most public revenue even during a decade of violence and chaos that has challenged the orderly control of almost all state institutions.

Reporting by Ayman al-Warfali in Benghazi and Ahmed Elumami in Tripoli, writing by Angus McDowall; Editing by Hugh Lawson

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• Thu September 2, 2021 |

Sanalla describes Oil Minister Oun as an 'agent of destruction' says judges labeled his legal maneuvers a 'disgrace'

Alwasat - Cairo 48 minutes



National Oil Corporation (NOC) Chairman Mustafa Sanalla responded to an interview by Oil and Gas Minister Mohamed Oun in which he considered the formation of the NOC Board of directors to be "contrary to the law," saying that Oun used the same words in lawsuits filed with the Administrative Court "and lost all of them.. The judges responded that his words are a disgrace."

Sanalla responding to Oun directly in a video posted on the NOC's Facebook page on Thursday, said: "You were an employee of Mellitah Oil and Gas Company and you were excluded in 2011 due to the circumstances of the revolution but there was no personal animosity towards you and colleagues in a similar situation accepted it."

In his call for Prime Minister Abdulhamid Dabaiba to reshuffle the NOC's board of directors, Oun stated that the board was commissioned by the undersecretary of the oil ministry 2014, not by the minister or by the "council of ministers authorized to appoint the board of directors" according to the law.


Sanalla accused Oun of launching an unjustified media campaign against the oil sector, adding that he had become an "agent of destruction for the only institution that was able to operate in extremely difficult conditions.. Are you attacking the oil sector knowing that the board of directors of the NOC is legitimate and strong?"

He added; "You want to shake the financial and legal position of the oil corporation, instead of thanking it as you were a worker in it... But we will preserve it.. As for the oil ministry, how long has it existed—a year or six months? Are there pressures on you from hostile parties, or do you have personal hostility because of your forced retirement in 2011?"

Sanalla recalled a meeting after Oun assumed his position as oil minister, saying: "I sat with you for three hours, we welcomed you greatly, and we spoke with you in order to go through the difficult transitional phase, but you turned into a stumbling block, you have no answers for the problems that we talked about."

https://twitter.com/NOC_Libya/status/1433342226495574018



National Oil Corporation المؤسسة الوطنية للنفط 
@NOC_Libya

...

تصريح السيد رئيس مجلس الادارة حول الشائعات المغرضة
لزعزعة استقرار قطاع النفط

Translated from Arabic by 

The statement of the Chairman of the Board of
Directors about the malicious rumors to destabilize the
oil sector



المؤسسة الوطنية للنفط National Oil Corporation - تصريح السيد رئيس...
تصريح السيد رئيس مجلس الادارة حول الشائعات المغرضة لزعزعة استقرار قطاع النفط - 1
سبتمبر 2021

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Dan Tsubouchi

PMI

Caixin China
General Manufacturing
PMI Press Release

2021.08



Caixin China General Manufacturing PMI™

Business conditions deteriorate slightly in August

Chinese manufacturers signalled a slight deterioration in business conditions in August, driven by a renewed drop in output and a further fall in new work. Panellists often stated that the resurgence of the COVID-19 virus at home and abroad had weighed on the sector's performance. Restrictions to contain the virus also impacted supplier performance, which deteriorated solidly, while shortages led to steeper rises in cost burdens and prices charged. At the same time, subdued market demand led firms to trim their purchasing activity and payroll numbers slightly.

The headline seasonally adjusted *Purchasing Managers' Index™ (PMI™)* – a composite indicator designed to provide a single-figure snapshot of operating conditions in the manufacturing economy – posted below the neutral 50.0 level at 49.2 in August, down from 50.3 in July, to signal a deterioration in the health of the sector. Though only marginal, it was the first time that business conditions had worsened since April 2020, with the index dipping to its lowest level for a year-and-a-half.

Chinese goods producers recorded the first fall in output since February 2020 in August. Survey respondents frequently mentioned that the recent uptick in COVID-19 cases and subsequent restrictions had impacted production, dampened demand and led to greater difficulties sourcing inputs.

Total new work fell for the second month in a row and, though only mild, the reduction was the fastest seen since April 2020. Panellists commented on relatively muted demand both at home and overseas amid a resurgence of the COVID-19 pandemic. New export orders declined for the first time since February, albeit modestly.

Companies registered a fractional fall in employment during August, after payrolls were broadly unchanged in July. Some firms mentioned reducing their staff numbers due to reduced output requirements. Consequently, backlogs of work increased again, and at the fastest rate since May.

Lower production requirements led to a renewed fall in purchasing activity in August. That said, the rate of decline was only marginal. At the same time, stocks of purchased items fell for the second month in a row. Inventories of finished goods meanwhile rose for the first time in six months, albeit only slightly, as some firms cited difficulties in shipping goods to clients and muted sales.

Supplier performance deteriorated again in August. Lead times increased to the greatest extent since February and solidly overall, as firms reported logistical delays due to the pandemic and relatively low stock levels at vendors.

Higher raw material prices and greater transportation costs drove a further marked rise in overall input prices. The rate of cost inflation picked up for the first time in three months and was sharp overall. At the same time, factory gate prices rose only modestly, despite the rate of increase picking up since July.

Business confidence remained strong overall, albeit with the overall degree of optimism unchanged from July's 15-month low. Concerns over how long the pandemic will take to be brought under control globally weighed on overall sentiment.

China General Manufacturing PMI

sa, >50 = improvement since previous month

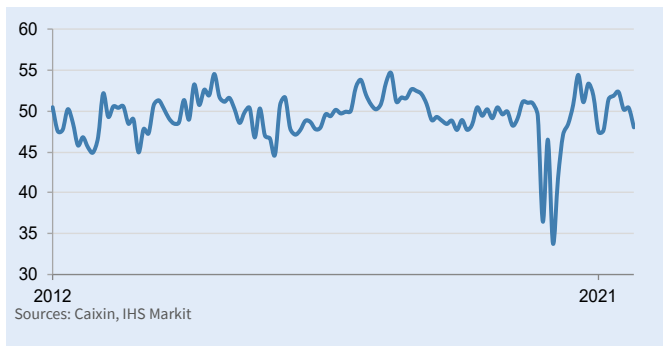


Key findings:

- Output and new orders both decline modestly
- Supply chain delays worsen amid uptick in COVID-19 cases
- Companies trim purchasing activity and staffing levels

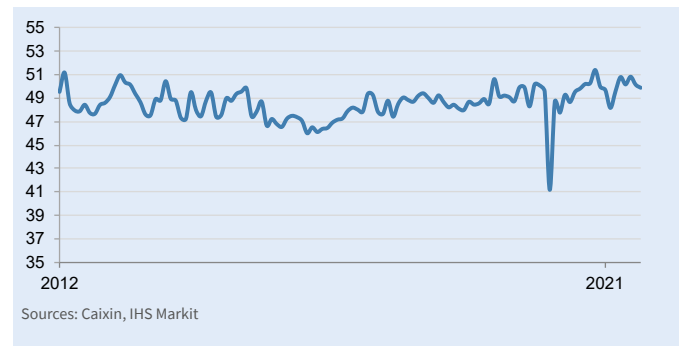
New Export Orders Index

sa, >50 = growth since previous month



Employment Index

sa, >50 = growth since previous month



Commenting on the China General Manufacturing PMI™ data, Dr. Wang Zhe, Senior Economist at Caixin Insight Group said:

"The Caixin China General Manufacturing PMI came in at 49.2 in August, down from 50.3 the previous month and falling into contractionary territory for the first time since April 2020. The reappearance of Covid-19 clusters in several regions beginning in late July has dealt a blow to manufacturing activity.

"Both supply and demand in the manufacturing sector shrank as the Covid-19 outbreaks disrupted production. The gauges for output, total new orders and new export orders all dropped into negative territory. Output shrank for the first time since February 2020. Demand for intermediary products and investment goods also dropped, while that for consumer goods was relatively stable. Exports fell amid logistics disruptions and as the pandemic continued overseas.

"The job market shrank slightly amid the Covid-19 pressure. The subindex for employment fell into contractionary territory for the first time in five months, leading to a rise in backlogs of work.

"Inflationary pressure remained high. Input costs rose for the 15th month in a row and the growth rate accelerated in August after slowing for two consecutive months. Transportation costs rose and raw material prices remained high. The gauge for output prices stayed in expansionary territory, but growth was moderate. Some surveyed manufacturers said demand was sluggish due to the pandemic and their ability to pass rising costs onto clients was limited.

"Suppliers' delivery times continued rising as measures to contain the Covid-19 outbreaks disrupted logistics and some suppliers experienced raw material shortages. The gauge for delivery times hit the lowest point since February. The quantity of purchases dropped amid the sluggish market,

and stocks of finished goods rose slightly.

"The latest Covid-19 resurgence has posed a severe challenge to the economic normalization that began in the second quarter of last year. Manufacturing shrank in August as both supply and demand weakened. Meanwhile, overseas demand also dropped. The job market weakened slightly, though it managed to maintain overall stability. Manufacturers cut purchases, leading to a rise in stocks of finished goods.

"Meanwhile, raw material prices remained high along with inflationary pressure. Surveyed manufacturers remained optimistic about the business outlook, but the gauge for future output expectations stayed below the long-term average.

"Official economic indicators for July were worse than the market expected, indicating mounting downward pressure on economic growth. Authorities need to take a holistic view and balance containing Covid-19, stabilizing the job market, and maintaining stability in supply and prices."



Survey methodology

The Caixin China General Manufacturing PMI™ is compiled by IHS Markit from responses to questionnaires sent to purchasing managers in a panel of around 500 private and state-owned manufacturers. The panel is stratified by detailed sector and company workforce size, based on contributions to GDP. For the purposes of this report, China is defined as mainland China, excluding Hong Kong SAR, Macao SAR and Taiwan.

Survey responses are collected in the second half of each month and indicate the direction of change compared to the previous month. A diffusion index is calculated for each survey variable. The index is the sum of the percentage of 'higher' responses and half the percentage of 'unchanged' responses. The indices vary between 0 and 100, with a reading above 50 indicating an overall increase compared to the previous month, and below 50 an overall decrease. The indices are then seasonally adjusted.

The headline figure is the Purchasing Managers' Index™ (PMI). The PMI is a weighted average of the following five indices: New Orders (30%), Output (25%), Employment (20%), Suppliers' Delivery Times (15%) and Stocks of Purchases (10%). For the PMI calculation the Suppliers' Delivery Times Index is inverted so that it moves in a comparable direction to the other indices.

Underlying survey data are not revised after publication, but seasonal adjustment factors may be revised from time to time as appropriate which will affect the seasonally adjusted data series.

For more information on the survey methodology, please contact: economics@ihsmarkit.com.

Survey dates and history

Data were collected 12-20 August 2021.

Data were first collected April 2004.

About PMI

Purchasing Managers' Index™ (PMI™) surveys are now available for over 40 countries and also for key regions including the eurozone. They are the most closely watched business surveys in the world, favoured by central banks, financial markets and business decision makers for their ability to provide up-to-date, accurate and often unique monthly indicators of economic trends.

<https://ihsmarkit.com/products/pmi.html>

About Caixin

Caixin is an all-in-one media group dedicated to providing financial and business news, data and information. Its multiple platforms cover quality news in both Chinese and English. Caixin Insight Group is a high-end financial research, data and service platform. It aims to be the builder of China's financial infrastructure in the new economic era.

Read more: <https://www.caixinglobal.com/index/>

For more information, please visit

www.caixin.com

www.caixinglobal.com

About IHS Markit

IHS Markit (NYSE: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 business and government customers, including 80 percent of the Fortune Global 500 and the world's leading financial institutions.

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• 03 Sep 2021 | 19:26 UTC

Mars spot crude prices jump on shortage as offshore output slowly returns from Ida

Refiners begin restarts

Louisiana refiners have started to return operations, although the return has been slowed by a lack of power in the eastern portion of the state.

Marathon spokesperson Joe Gannon said Sept. 3 the company's Garyville plant is now receiving reliable electric power and is in the initial stages of restarting.

"Our terminal facility in Garyville continues to provide fuel to customers, business partners and local emergency responders," Gannon said. "We are leveraging the MPC network of pipelines, terminals, marine and truck transportation assets to move fuel to where it is needed most. We appreciate the efforts of our utility provider and state and local officials to quickly restore electricity."

ExxonMobil's Baton Rouge refinery is also in the process of restarting.

Marathon's Garyville plant, Shell's Norco refinery and Valero's Norco refinery are in the harder-hit St. Charles and St. John parishes.

PBF Energy's Chalmette refinery and Valero's Meraux refinery are in areas that utility company Entergy said Sept. 3 should have power restored by Sept. 7.

Phillips 66 has said its Alliance Refinery sustained some damage and will take longer to return.

Louisiana refiners slowly restarting following Hurricane Ida

Owner	Location	Capacity (b/d)	Status
Citgo	Lake Charles	418,000	operating
ExxonMobil	Baton Rouge	517,700	restart in progress
Marathon	Garyville	578,000	restart in progress
Phillips 66	Westlake	260,000	operating
Phillips 66	Belle Chasse	255,600	no power/damage assessment
PBF Energy	Chalmette	190,000	power expected by Sept. 7
Shell	Norco	227,400	no power/damage assessment
Valero	Meraux	125,000	power expected by Sept. 7
Valero	Norco	215,000	no power/damage assessment

SHELL U.S. STORM UPDATES

View current storm updates and archived updates for previous storm seasons.

2021 Storm Season

- Updated : Sep 03, 2021 20:00

Hurricane Ida- Update #11

Shell Louisiana

(Issued at 8:00 PM): Shell continues to actively monitor the impact of Hurricane Ida on our assets in the Gulf of Mexico and in the communities where we operate.

We continue assessing the results of our initial flyover of assets. In that initial flyover, we observed [damage to our West Delta-143 \(WD-143\) offshore facility](#). We are working to understand the full extent of the damage and the degree to which our production in the Gulf of Mexico will be impacted.

The WD-143 facilities serve as the transfer station for all production from our assets in the Mars corridor in the Mississippi Canyon area of the Gulf of Mexico to onshore crude terminals.

Our Perdido asset in the southwestern Gulf of Mexico was never disrupted by the hurricane and our floating production, storage and offloading vessel, the Turrutella (also known as Stones) is currently back on line. All of our other offshore assets remain shut in and remain fully evacuated at this time. Approximately 80% of Shell-operated production is currently offline.

In our initial flyover, we did not observe any visible structural damage to the rest of our offshore assets. We are currently working through a process to conduct a more detailed damage assessment at those assets and work to restore production as soon as possible.

A temporary crew-change heliport is in the process of being established, because our primary crew change heliport in Houma, LA sustained significant damage in the storm. Crew changes to and from assets will not occur until the temporary heliport has been fully set up. However, some limited flights have taken place to move non-essential personnel to shore.

Our Norco and Geismar manufacturing facilities were shut down proactively in advance of the storm with only essential personnel at the sites. Our Norco site lost power, and there is evidence of some building damage. Geismar did not lose power. Damage assessments are underway at both facilities. At this time, we cannot confirm a schedule for when Norco and Geismar will resume full operations and production.

Our Port Allen Catalyst Plant has safely restored operations after being shut down proactively for Hurricane Ida.

The Shell team in Louisiana is responding in many ways, to help colleagues and neighbors in need. We have a range of support in place for employees who were in the path of the storm, including temporary housing to remediation for storm damage. At Norco, we set up a base camp to house and feed crews that are working around the clock to bring power back to hard-hit communities.

We will continue to monitor weather reports and conditions on the ground across southeast Louisiana and respond accordingly. As always, Shell's top priority is the safety of our people, the environment and our assets.

To find out more about our hurricane preparedness, please visit the Shell Hurricane Center: www.shell.us/stormcenter.

[Hurricane Ida- Update #11](#)

- Updated : Sep 02, 2021 21:00

Hurricane Ida- Update #10

Shell Louisiana

(ISSUED at 9:00 PM CST): Shell continues to actively monitor the impact of Hurricane Ida on our assets in the Gulf of Mexico and in the communities where we operate.

We continue assessing the results of our initial flyover of assets. In that initial flyover, we observed [damage to our West Delta-143 \(WD-143\) offshore facility](#). We continued damage assessment at WD-143 today and are working to understand the full extent of the damage and the degree to which our production in the Gulf of Mexico will be impacted.

The WD-143 facilities serve as the transfer station for all production from our assets in the Mars corridor in the Mississippi Canyon area of the Gulf of Mexico to onshore crude terminals.

Our Perdido asset in the southwestern Gulf of Mexico was never disrupted by the hurricane and our floating production, storage and offloading vessel, the Turritlella (also known as Stones) is currently back on line. All of our other offshore assets remain shut in and remain fully evacuated at this time. Approximately 80% of Shell-operated production is currently offline.

In our initial flyover, we did not observe any visible structural damage to the rest of our offshore assets. We are currently working through a process to conduct a more detailed damage assessment at those assets and work to restore production as soon as possible.

A temporary crew-change heliport is in the process of being established, because our primary crew change heliport in Houma, LA sustained significant damage in the storm. Crew changes to and from assets will not occur until the temporary heliport has been fully set up. However, some limited flights have taken place to move non-essential personnel to shore.

Our Norco and Geismar manufacturing facilities were shut down proactively in advance of the storm with only essential personnel at the sites. Our Norco site lost power, and there is evidence of some building damage. Geismar did not lose power. Damage assessments are underway at both facilities. At this time, we cannot confirm a schedule for when Norco and Geismar will resume full operations and production

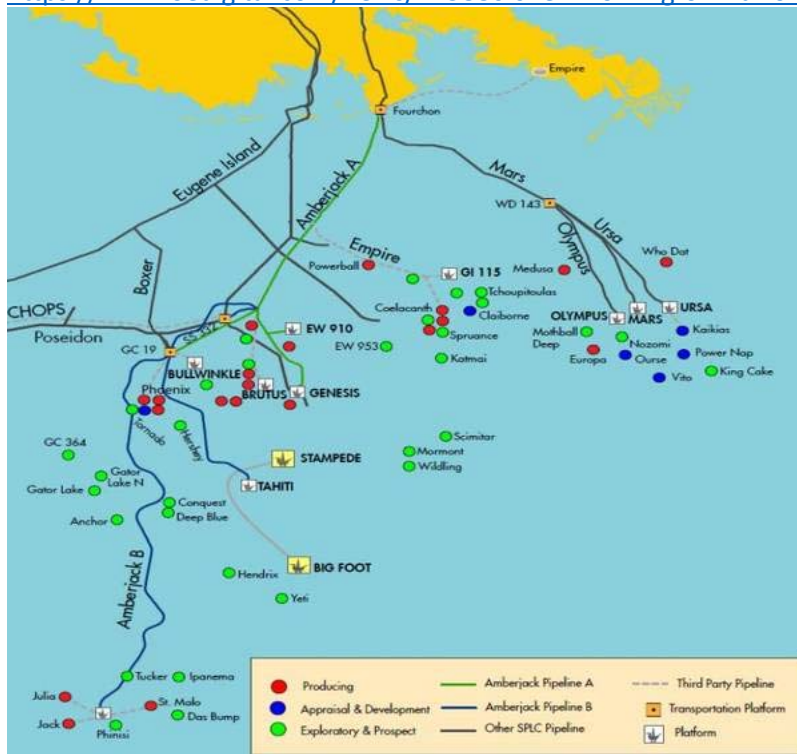
We are continuing to use multiple tools to check in on all employees who were in the path of the storm, and are providing various offerings of support to our impacted employees.

We will continue to monitor weather reports and conditions on the ground across southeast Louisiana and respond accordingly. As always, Shell's top priority is the safety of our people, the environment and our assets.

To find out more about our hurricane preparedness, please visit the Shell Hurricane Center: www.shell.us/stormcenter.

[Hurricane Ida- Update #10](#)

<https://www.oedigital.com/news/475886-shell-working-on-fid-for-mars-pipeline-system-expansion>



Source: Offshore Engineer, Shell

<https://www.newswire.ca/news-releases/shell-identifies-damage-to-wd-143-from-hurricane-ida-in-the-gulf-of-mexico-875376576.html>

Shell Identifies Damage to WD-143 from Hurricane Ida in the Gulf of Mexico

Shell Offshore Inc. Sep 02, 2021, 16:30 ET

HOUSTON, Sept. 2, 2021 /CNW/ -- Shell Offshore Inc. (Shell), a subsidiary of Royal Dutch Shell plc, conducted an initial flyover of our assets in the path of Hurricane Ida. During this initial flight, we observed damage to our West Delta-143 (WD-143) offshore facilities. When it is safe to do so, we will send personnel offshore to provide a closer inspection of these facilities to understand the full extent of the damage and the degree to which our production in the Gulf of Mexico will likely be impacted.

The WD-143 facilities serve as the transfer station for all production from our assets in the Mars corridor in the Mississippi Canyon area of the Gulf of Mexico to onshore crude terminals.

Our Perdido asset in the southwestern Gulf of Mexico was never disrupted by the hurricane, and our floating production, storage and offloading vessel, the Turritella (also known as Stones) is currently back on line. All of our other offshore assets remain shut in and remain fully evacuated at this time. At the early phase of assessment and recovery, approximately 80% of Shell-operated production in the Gulf of Mexico remains off line.

In our initial flyover, we did not observe any visible structural damage to the rest of our offshore assets. When we are able to safely deploy personnel offshore to these assets, we will conduct additional inspections and work to restore production as soon as possible.

As we assess the impact of Hurricane Ida on our Upstream and Downstream businesses, our top priorities continue to be the protection and recovery of our people and assets, the community and the environment

Beijing 'will follow own climate change road map, not US'

2021-09-03 20:06:55.299 GMT

Sep. 4 (South China Morning Post) --

Beijing has rebuffed American calls to make more public pledges before a UN climate summit in November, insisting it should follow its own plan rather than bowing to US pressure, according to a person familiar with the two countries' negotiations.

During talks with Chinese leaders in Tianjin, United States climate envoy John Kerry presented a list of proposals for Beijing to accelerate its climate efforts.

They included a public commitment to the 1.5 degrees Celsius limit of global warming targeted in the 2015 Paris Agreement, a definite time frame for carbon emissions to peak before 2030, and a moratorium on financing overseas coal-fired projects.

But the two sides failed to reach agreement, according to the source, who requested anonymity. "China already has its own plans and road map for achieving its climate goals," said the person, adding Beijing would not accept Washington telling it what to do and when.

The US' recent actions targeting the Chinese solar panel industry over forced labour allegations in Xinjiang was a concern brought up by officials during the discussions with Kerry, according to the source. "The US has asked the Chinese government to give up support to the coal plants ... but it has imposed sanctions on China's photovoltaic companies."

Kerry's trip ended yesterday after a series of meetings with China's chief climate affairs negotiator Xie Zhenhua, Vice-Premier Han Zheng, Foreign Minister Wang Yi and top diplomat Yang Jiechi. In the meetings on Thursday, Wang and Yang called on Washington to change its tough policies towards Beijing, with Wang saying climate change cooperation would not be smooth when ties were deteriorating.

After the meetings, Kerry said climate efforts were "not a geostrategic weapon or tool", and called on China to do more.

He said it would be up to US President Joe Biden and Secretary of State Antony Blinken to decide on the sanctions, but added: "I will certainly pass on to them ... the full nature of the message that I received from Chinese leaders.

"On the one hand, we're saying to them, 'You have to do more to help deal with the climate'. And on the other hand, their solar panels are being sanctioned, which makes it harder for them to sell them."

China's environment ministry yesterday said the two countries would continue dialogue and that their discussions were "candid, in-depth and pragmatic" - using diplomatic language that usually indicates there are differences.

It said each side had explained its climate policies, with China saying it was aiming for its carbon emissions to peak before 2030 and to be carbon neutral before 2060, and would work to upgrade industry and reduce coal use.

The US said it would seek further reduction of greenhouse gases by 52 per cent from the 2005 level by 2030, zero greenhouse gases by 2050 and net-zero carbon emissions from the US power sector by 2035.

Asked about the outcome of the talks, foreign ministry spokesman Wang Wenbin

said China was already making a lot of pledges, and that the US should view it and Sino-US relations in an "objective way" to push forward climate change cooperation.

Li Shuo, a senior global policy adviser for Greenpeace East Asia, said the lack of progress during Kerry's trip "does not bode well" for the COP26 summit in Glasgow in November. "The [US-China] relationship is taking its toll on the planet," Li said.

Lu Xiang, a US affairs expert with the Chinese Academy of Social Sciences, said Beijing had "already issued a clear timetable" on climate action, so it would be "very difficult" if Washington had additional requests.

Shi Yinhong, an international relations professor at Renmin University, said: "China is making pledges ... for its own interest and the international community.

"But those pledges are China's self-initiatives, and it does not mean China will act based on US demands."

Additional reporting by Sarah Zheng and Amber Wang

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-0- Sep/03/2021 20:06 GMT

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U.S. SPECIAL PRESIDENTIAL ENVOY FOR CLIMATE JOHN KERRY'S VIRTUAL MEETING

with People's Republic of China Director of the Office of the Foreign Affairs
Commission Yang Jiechi

By **U.S. MISSION CHINA**

3 MINUTE READ

SEPTEMBER 2, 2021

For attribution to a State Department spokesperson:

U.S. Special Presidential Envoy for Climate John Kerry met virtually today from Tianjin, China with People's Republic of China Director of the Office of the Foreign Affairs Commission Yang Jiechi to discuss bilateral and multilateral efforts to address the climate crisis. Secretary Kerry underscored the importance of U.S.-China cooperation to reduce global emissions and raise global climate ambition. He also emphasized the findings of the recent IPCC climate report and the importance of decisive climate action that will allow the world to move forward faster together and avoid the worst consequences of the climate crisis.

Secretary Kerry is on travel to Tianjin, China to continue discussions following meetings in April in Shanghai, China on key aspects of the climate crisis, as outlined in the [U.S.-China Joint Statement Addressing the Climate Crisis](#). Additional information on Secretary Kerry's travel is available in this [Media Note](#).

<https://china.usembassy-china.org.cn/u-s-special-presidential-envoy-for-climate-john-kerrys-virtual-meeting-with-peoples-republic-of-china-vice-premier-han-zheng/>

SEPTEMBER 2, 2021

U.S. Special Presidential Envoy for Climate John Kerry's Virtual Meeting with People's Republic of China Vice Premier Han Zheng

For attribution to a State Department spokesperson:

U.S. Special Presidential Envoy for Climate John Kerry met virtually today from Tianjin, China with People's Republic of China Vice Premier Han Zheng to discuss the importance of U.S.-China cooperation in the global effort to reduce emissions and tackle the climate crisis. Secretary Kerry underscored there is no way for the world to solve the climate crisis without the full engagement and commitment of the PRC, which produces 27 percent of global emissions. Without significant reduction efforts by the PRC, we cannot meet the goal to limit

warming to 1.5 degrees Celsius. Secretary Kerry emphasized the importance of the world taking serious climate actions in this critical decade and strengthening global climate ambition ahead of COP26 in Glasgow, Scotland.

Secretary Kerry is on travel to Tianjin, China to continue discussions following meetings in April in Shanghai, China on key aspects of the climate crisis, as outlined in the [U.S.-China Joint Statement Addressing the Climate Crisis](#). Additional information on Secretary Kerry's travel is available in this [Media Note](#).

<https://china.usembassy-china.org.cn/u-s-special-presidential-envoy-for-climate-john-kerrys-virtual-meeting-with-peoples-republic-of-china-state-councilor-and-foreign-minister-wang-yi/>

SEPTEMBER 2, 2021

U.S. Special Presidential Envoy for Climate John Kerry's Virtual Meeting with People's Republic of China State Councilor and Foreign Minister Wang Yi

For attribution to a State Department spokesperson:

U.S. Special Presidential Envoy for Climate John Kerry met virtually with People's Republic of China State Councilor and Foreign Minister Wang Yi to discuss bilateral and multilateral efforts to raise climate ambition and address the global climate crisis. Secretary Kerry affirmed that the United States remains committed to cooperating with the world to tackle the climate crisis, which must be addressed with the seriousness and urgency that it demands, and encouraged the PRC to take additional steps to reduce emissions.

Secretary Kerry is on travel to Tianjin, China to continue discussions following meetings in April in Shanghai, China on key aspects of the climate crisis, as outlined in the [U.S.-China Joint Statement Addressing the Climate Crisis](#). Additional information on Secretary Kerry's travel is available in this [Media Note](#).

A Cleaner, Greener Future: The Liberal Climate Plan

August 29, 2021

Cambridge, Ontario – A re-elected Liberal government will **move forward to accelerate climate action** for more jobs, cleaner communities, and less pollution.

The Liberal climate plan is a jobs plan. It is building, and will continue to build, a green recovery to create jobs and grow the middle class, while ensuring a cleaner future for our children and grandchildren. Climate change is the greatest long term threat of our time, but it is also our greatest economic opportunity — and Canada has the skilled workforce, innovative spirit, and natural resources at our fingertips to succeed. But we need to keep moving forward.

“A serious plan for the environment is a plan for the economy,” said Justin Trudeau, Leader of the Liberal Party of Canada. “We have done more to fight climate change and protect our environment than any other government in Canadian history, and our plan has created new jobs and growth across the country. But we can’t stop now. We can’t go back to the inaction of the Harper years. **A cleaner and greener future is within our reach.**”

A re-elected Liberal government will accelerate climate action to continue to create more jobs, cleaner communities, and less pollution:

- **More jobs:** We will create new, middle class jobs for Canadians by making Canada a world leader in batteries to power the clean economy, helping industries adopt clean technologies to cut pollution, and supporting all workers to ensure no one is left behind.
- **Cleaner communities:** We will create cleaner communities with cleaner air, by providing \$5,000 toward zero emission vehicle purchases for over half a million Canadians, building 50,000 more zero emission vehicle chargers, **requiring at least half of all passenger vehicles sold in Canada to be zero emission by 2030 and all to be zero emission by 2035, and charting a path toward net-zero buildings across the country,** which will help Canadians save on their energy costs.
- **Less pollution:** **We will build a net-zero electricity grid by 2035, ensure we drive down emissions from oil and gas to meet our shared goal of net-zero emissions by 2050, and continue to phase-out coal by ending thermal coal exports by 2030.**

This builds on the work that the Liberal team has been doing since 2015 to fight climate change and grow the economy, by:

- **Putting a price on pollution** and more money in the pockets of hard working Canadians;
- Making zero emission vehicles more affordable and accessible for Canadians, through rebates of \$5,000 and more charging stations across the country;
- Investing historic amounts in public transit, supporting over 1,300 projects;
- Protecting a historic amount of our nature, including lands 3.5 times the size of Nova Scotia; and
- Advancing a ban on harmful single-use plastics and moving forward with our plan to end plastic waste by 2030.

“Even with wildfires increasing in frequency and severity across western Canada, Erin O’Toole’s Conservatives deny the existence of climate change,” said Mr. Trudeau. “If Erin O’Toole is in charge, it’s no surprise he would take us backward on climate action – and the good jobs that go with it. We can’t

afford to go back to the Harper years that left workers behind and put our future in danger. We need to keep moving Canada forward – for everyone.”

Backgrounder: [More Jobs. Less Pollution. Cleaner Communities.](#)



More Jobs. Less Pollution. Cleaner Communities.

Find A Cleaner, Greener Future here: liberal.ca/climate

Climate change is the greatest long term threat of our time. But it is also our greatest economic opportunity – and Canada has the skilled workforce, innovative spirit, and natural resources at our fingertips to succeed.

Since 2015, Justin Trudeau and the Liberal team have made significant progress to protect the environment and grow the economy. We made sure pollution isn't free anywhere in Canada, while putting more money in the pockets of hard-working Canadians. We provided rebates for Canadians to upgrade their homes and purchase zero emission vehicles, which will help Canadians save on energy costs. And we protected historic amounts of our lands and oceans.

We're just getting started, because we need to continue to take strong climate action to build a cleaner future, create new jobs, and grow the middle class. But we need to keep moving forward to achieve it. We can't go backward to the inaction of the Harper years.

Our kids and grandkids are counting on us.

The Liberal plan will continue to create more jobs, cleaner communities, and less pollution. Here's how we'll get there:

More jobs

Make Canadian industries cleaner

We will ensure that Canadian workers and businesses continue to benefit from Canada's clean industrial advantage so we can grow the middle class and create new jobs, by:

- Utilizing the minerals at our fingertips, along with our manufacturing expertise, to build the batteries needed for zero emission vehicles and other clean energy solutions through measures to attract investment and position Canada as a world leader in this space.

- Advancing emissions reductions across heavy industries through the Net-Zero Accelerator Fund;

- Ensuring Canada continues to be among the leaders in clean technology with measures to attract additional investment, support emerging Canadian companies, and further invest in clean technologies for farmers; and

- Advancing a Buy Clean Strategy to support and prioritize the use of made-in-Canada clean products in infrastructure projects, both public and private.

Leave no one behind

We will ensure no Canadians workers are left behind as we build a cleaner and greener economy and future, by: Investing \$2 billion in a Futures Fund for Alberta, Saskatchewan and Newfoundland and Labrador to partner with local workers and communities to create jobs;

- Introducing Just Transition legislation, guided by consultations and feedback from workers, labour groups, and more;

- Launching a Clean Jobs Training Centre to help workers upgrade or gain new skills to succeed in the net-zero future.

FORWARD. FOR EVERYONE. 

Cleaner communities

Shift to zero-emission vehicles, faster

We will make the air in our communities cleaner and support our workers in Canada's auto manufacturing sector to re-tool to build zero emission vehicles, by:

- Making zero emission vehicles more affordable and accessible for Canadians by extending consumer rebates of up to \$5,000 to half a million Canadians and building 50,000 more charging stations across the country; and
- Requiring that at least half of all passenger vehicles sold in Canada are zero emission by 2030, and all are zero emission by 2035.

Make homes and buildings cleaner

We will create jobs in every community across the country, make the air in our communities cleaner, and help Canadians save on their energy bills, by:

- Helping nearly a million Canadians upgrade their homes and save on energy costs, with retrofit grants of up to \$5,000, interest-free loans of up to \$40,000 for deeper retrofits, and additional supports for Canadians to transition off home heating oil; and
- Launching a national strategy to chart a path to net-zero emissions from buildings by 2050, with ambitious milestones along the way.

Less pollution

Power our communities with clean energy

We will create more jobs for Canadians in the clean energy sector that will also reduce pollution and make our communities cleaner, by:

- Reaching a net-zero electricity grid by 2035 by implementing a Clean Electricity Standard, developing additional investment tax credits for clean energy, and creating a Pan-Canadian Grid Council, in partnership with the provinces and territories, to make Canada the most reliable, cost-effective and carbon-free electricity producer in the world; and
- Ending thermal coal exports from and through Canada no later than 2030. This builds on our work to phase-out coal-fired electricity by 2030.

Reduce emissions from the oil and gas sector

We will reach our shared goal of getting our oil and gas sector to net-zero emissions by 2050, while also supporting Canadian workers and businesses along the way, by:

- Making sure the oil and gas sector reduces emissions from current levels at a pace and scale needed to achieve net-zero by 2050, with 5-year targets starting in 2025.
- Requiring oil and gas companies to reduce methane emissions by at least 75% below 2012 levels by 2030.

SAF Group created transcript of PM Trudeau post G7 press conference June 13, 2021.

At 49:00 min mark of CBC Rosemary Barton Live [\[LINK\]](#)

Question: *“COP-26 coming up as well, the oil sands/tar sands producers, they’ve got a plan to Net Zero by 2050, is that good enough, a lot of it is based on technology, which as of yet is unproven on a mass scale, sequestration as well. Do you Sir, does Canada need to be more ambitious?”*

Trudeau: *“Canada has put in place one of the strongest, broad based prices on pollution in the world. We know putting a price on pollution is one of the strongest ways not just to move forward on fighting climate change, but to incentivize business to make investments that decarbonize the workings of our economy. We also at the same time know that transforming our energy mix is going to be extremely important. that’s why the energy expertise by workers across this country are going to be put forward in initiatives like a recent agreement we signed on hydrogen for example. Investing in critical minerals that will be essential for zero emissions vehicles of the future. when we talk of critical minerals, we know that china is right now a strong provider to the world of critical minerals. But Canada is a place where we have strong and stable supplies of that as well that could be of use in a reliable supply chain to the world. There are many many conversations we have on strengthening our environment and creating good jobs in the future and that involves being ambitious as we have been in setting not just ambitious targets for 2030 but showing a very clear plan on how we are going to reach those targets as well as being deeply committed to being net Zero by 2050, which is something actually we are working very hard to pass in the House of Commons in Canada right now. Hopefully we will see the necessary progressive parties come together to support that Net Zero legislation so Canada can continue to demonstrate real leadership in fighting climate change”.*

<https://www.newswire.ca/news-releases/canada-s-largest-oil-sands-producers-announce-unprecedented-alliance-to-achieve-net-zero-greenhouse-gas-emissions-866303015.html>

Canada's largest oil sands producers announce unprecedented alliance to achieve net zero greenhouse gas emissions



NEWS PROVIDED BY **MEG Energy Corp.**
Jun 09, 2021, 06:45 ET

CALGARY, AB, June 9, 2021 /CNW/ - Canadian Natural Resources, Cenovus Energy, Imperial, MEG Energy and Suncor Energy formally announced today the Oil Sands Pathways to Net Zero initiative. These companies operate approximately 90% of Canada's oil sands production. The goal of this unique alliance, working collectively with the federal and Alberta governments, is to achieve net zero greenhouse gas (GHG) emissions from oil sands operations by 2050 to help Canada meet its climate goals, including its Paris Agreement commitments and 2050 net zero aspirations.

Canada's largest oil sands producers announce unprecedented alliance to achieve net zero greenhouse gas emissions (CNW Group/MEG Energy Corp.)

- This collaborative effort follows welcome announcements from the Government of Canada and the Government of Alberta of important support programs for emissions-reduction projects and infrastructure. **Collaboration between industry and government will be critical** to progressing the Oil Sands Pathways to Net Zero vision and achieving Canada's climate goals.
- The Pathways vision is anchored by a major Carbon Capture, Utilization and Storage (CCUS) trunkline connected to a carbon sequestration hub to enable multi-sector 'tie-in' projects for expanded emissions reductions. The proposed CCUS system is similar to the multi-billion dollar Longship/Northern Lights project in Norway as well as other CCUS projects in the Netherlands, U.K. and U.S., all of which involve significant collaboration between industry and government.
- The Pathways initiative is ambitious and will require significant investment on the part of both industry and government to advance the research and development of new and emerging technologies.
- The companies involved look forward to continuing to work with the federal and Alberta governments, and to engaging with local Indigenous communities in northern Alberta to make this ambitious, major emissions-reduction vision a reality so those communities can continue to benefit from Canadian resource development.

As proud Canadian companies, members of the Pathways alliance share the aspiration of Canadians to find realistic and workable solutions to the challenge of climate change. The oil sands industry is a significant source of GHG emissions and the initiative will develop an actionable approach to address those emissions, while also preserving the more than \$3 trillion in estimated oil sands contribution to Canada's gross domestic product (GDP) over the next 30 years. The initiative will create jobs, accelerate development of the clean tech sector, provide benefits for multiple other sectors and help maintain Canadians' quality of life. The members of the Pathways alliance will do their part by making the economic investments needed to ensure that our companies successfully make the transition to a net zero world, and hence, deliver long-term value to shareholders.

Because there is no single solution to achieving net zero emissions, the initiative incorporates a number of parallel pathways to address GHG emissions, including:

- **A core Alberta infrastructure corridor linking oil sands facilities in the Fort McMurray and Cold Lake regions to a carbon sequestration hub near Cold Lake via a CO₂ trunkline. The trunkline would also be available to other industries in the region interested in capturing and sequestering CO₂. There is also potential to link the infrastructure corridor to the Edmonton region.**
- Deploying existing and emerging GHG reduction technologies at oil sands operations along the corridor, including CCUS technology, clean hydrogen, process improvements, energy efficiency, fuel switching and electrification.
- Evaluating, piloting and accelerating application of potential emerging emissions-reducing technologies including direct air capture, next-generation recovery technologies and small modular nuclear reactors.

In addition to collaborating and investing together with industry, it is essential for governments to develop enabling policies, fiscal programs and regulations to provide certainty for this type of long-term, large-scale investment. This includes dependable access to carbon sequestration rights, emissions reduction credits and ongoing investment tax

credits. We look forward to continued collaboration with both the federal and Alberta governments to create the regulatory and policy certainty and fiscal framework needed to ensure the economic viability of this initiative.

Canada is uniquely positioned to be a global leader in responsible oil production. The country has the world's third-largest oil reserves, some of the most stringent regulations and standards governing energy projects anywhere in the world, a strong track record for technology development and an established reputation of industry working together with Indigenous communities and municipalities. Members of the Pathways initiative believe the most effective way to address climate change is by developing and advancing new technologies and that this unprecedented challenge can and will be solved by Canadian ingenuity, leadership and collaboration.

While alternative energy sources will play an increasingly important role in the decades ahead, all internationally recognized forecasts indicate fossil fuels will continue to be an essential requirement through 2050 and beyond as part of a diversified energy mix, including as a feedstock for carbon fibres, asphalt, plastics and other important products. That's why it's critical to take action now to ensure Canada takes its place as a leading supplier of responsibly produced oil to meet the world's demand for energy well into the future.

QUOTES:

Government of Alberta

"The Oil Sands Pathways to Net Zero initiative is an industry driven, made-in-Alberta solution which will strengthen our position as global ESG leaders," said Sonya Savage, Alberta's Minister of Energy. "Every credible energy forecast indicates that oil will be a major contributor to the energy mix in the decades ahead and even beyond 2050. Alberta is uniquely positioned and ready to meet that demand. This initiative will also pave the way for continued technological advancements, ultimately leading to the production of net zero barrels of oil."

Canadian Natural Resources Limited

"Canada has an opportunity to lead on climate change by delivering meaningful emissions reductions as well as balancing sustainable economic development," said Tim McKay, Canadian Natural President. "Canadian ingenuity has enabled oil sands development and with continued innovation, positions Canada to be the ESG-leading barrel to meet global energy demand. We are committed to working together with industry partners and governments to help meet Canada's climate objectives while providing sustainable long-term economic and social benefits for Canadians from the oil sands."

Cenovus Energy

"This collaborative effort amongst oil sands peers shows our serious commitment to global climate leadership," said Alex Pourbaix, Cenovus President and CEO. "We are doing more than just talking about the need to play a role – we are taking bold action to address our emissions challenge and earn our spot as the supplier of choice to meet the world's growing demand for energy."

Imperial

"Canada has what it takes to be the responsible energy provider to the world," said Brad Corson, Imperial Chairman, President and Chief Executive Officer. "Canada's long-term success in achieving its climate goals lies in a collective commitment to innovation, global competitiveness, supportive public policy and open and ongoing dialogue on constructive solutions. Imperial is collaborating with others in industry and governments to develop and commercialize the breakthrough technologies that will reduce emissions and support society's net zero ambitions."

MEG Energy

"We are pleased to be part of this collaborative effort committed to the critical measures needed to achieve net zero green house gas emissions in the oil sands," said Derek Evans, President and Chief Executive Officer of MEG Energy. "Bold action today demonstrates our commitment to tackling climate change and global climate leadership. This alliance working collectively with the federal and Alberta governments and all stakeholders will ensure that Canada continues to be a leading supplier to the world of responsibly produced oil."

Suncor Energy

"Collaboration among companies, innovators and governments is critical to achieving ambitious goals. That's how we built a budding oil sands resource into one of the world's most reliable and ESG-leading oil basins in the world," said Mark Little, Suncor President and Chief Executive Officer. "Canada - as one of the few jurisdictions with industrial-scale commercial CCUS projects in operation -- coupled with Alberta's abundant natural gas resources, geology and relevant technological expertise - is well positioned to lead in this area."

About the Pathways initiative member companies

Canadian Natural Resources Limited

Canadian Natural Resources Limited (Canadian Natural) is a senior oil and natural gas production company, with continuing operations in its core areas located in Western Canada, the U.K. portion of the North Sea and Offshore Africa. Canadian Natural shares trade under the symbol CNQ on the Toronto and New York stock exchanges. Refer to the Company's website for complete forward-looking statements at www.cnrl.com

Cenovus Energy Inc.

Cenovus Energy Inc. is an integrated energy company with oil and natural gas production operations in Canada and the Asia Pacific region, and upgrading, refining and marketing operations in Canada and the United States. The company is focused on managing its assets in a safe, innovative and cost-efficient manner, integrating environmental, social and governance considerations into its business plans. Cenovus common shares and warrants are listed on

the Toronto and New York stock exchanges, and the company's preferred shares are listed on the Toronto Stock Exchange under the symbol CVE. For more information, visit cenovus.com.

Imperial

After more than a century, Imperial continues to be an industry leader in applying technology and innovation to responsibly develop Canada's energy resources. As Canada's largest petroleum refiner, a major producer of crude oil, a key petrochemical producer and a leading fuels marketer from coast to coast, our company remains committed to high standards across all areas of our business.

MEG Energy

MEG is an energy company focused on sustainable [in situ](#) thermal oil production in the southern Athabasca oil region of Alberta, Canada. MEG is actively developing innovative enhanced oil recovery projects that utilize steam-assisted gravity drainage ("[SAGD](#)") extraction methods to improve the responsible economic recovery of oil as well as lower carbon emissions. MEG transports and sells its thermal oil ([AWB](#)) to customers throughout North America and internationally.

Suncor Energy

Suncor Energy is Canada's leading integrated energy company, with a global team of over 30,000 people. Suncor's operations include oil sands development, production and upgrading, offshore oil and gas, petroleum refining in Canada and the US, and our national Petro-Canada retail distribution network (now including our Electric Highway network of fast-charging EV stations). A member of Dow Jones Sustainability indexes, FTSE4Good and CDP, Suncor is responsibly developing petroleum resources, while profitably growing a renewable energy portfolio and advancing the transition to a low-emissions future. Suncor is listed on the UN Global Compact 100 stock index. Suncor's common shares (symbol: SU) are listed on the Toronto and New York stock exchanges.

Gas crunch threatens industry in UK and Europe

Cold winter could push prices higher and force some companies to cut back production

Natural gas has been in high demand globally in 2021 and a prolonged winter in Europe and Asia drained storage levels
© Clynt Garnham/Alamy

David Sheppard and Jim Pickard in London AN HOUR AGO

Centrica, owner of British Gas, has warned of soaring prices caused by a global supply crunch that could raise household bills and force energy-intensive businesses in the UK and Europe to curb activity this winter.

Natural gas prices are already at record levels for the time of year, trading at around five times their level of two years ago. There are fears that European countries could face supply issues this winter when demand is strongest because gas providers have been unable to fill storage during the summer.

Cassim Mangerah, who runs energy trading at Centrica, told the Financial Times that a prolonged or particularly cold winter was likely to spur prices higher, leaving some energy-intensive companies little option but to curb production.

"We haven't seen a price situation like this before. If you can't attract supply the only alternative is to cut demand to balance the market," Mangerah said.

"If we do see a supply crunch this winter the other way to balance the market is through economic activity. If prices are really high then some gas-dependent businesses in the UK and Europe may simply decide not to produce."

The warning raises the prospect of a fraught winter if high prices force industries to restrict production or close factories against a backdrop of a lingering pandemic and fears of a renewed surge of coronavirus cases this winter.

Tom Marzec-Manser, an analyst at energy consultancy ICIS, said the supply situation had got "worse rather than better" for the UK and Europe over the summer.

"That is why prices keep surging," he said. "Industrials turning down production within the UK and European Union is not inconceivable, though if it happens it may only be for a short time right at the peak of winter demand."

The Department of Business, Energy and Industrial Strategy said that the UK has "highly diverse sources of gas supply" but added that the country's "exposure to volatile global gas prices underscores the importance of our plan to build a robust domestic renewable energy sector".

It has encouraged consumers to "shop around" for cheaper tariffs and plans to trial automatic switching for households who have defaulted to higher tariffs.

Natural gas, which is widely used in electricity generation as well as heating and industrial uses, has been in high demand globally in 2021. A prolonged winter in both Europe and Asia drained storage levels, while countries are increasingly prioritising the use of gas over coal due to its lower carbon emissions when burnt.

Asian countries including Japan, South Korea and China have been increasing imports of liquefied natural gas (LNG), which can be moved on tankers and has helped globalise a market that previously more heavily relied on pipelines and links to oil for pricing.

"If there is a long cold winter, based on where we are today, then we could have a problem" Cassim Mangerah

But strong demand has continued through the summer thanks to high temperatures in Asia boosting air conditioning demand and with more countries under environmental pressure to reduce reliance on coal.

“Europe and the UK have enough gas at the moment to satisfy daily demand but we don’t have enough to fill storage,” Mangerah said.

“If there is a long cold winter, based on where we are today, then we could have a problem. We would have to attract LNG almost regardless of the price to make sure demand can be met.”

A milder or shorter winter could bring down gas prices but there are longer-term supply concerns.

Russia, the largest gas exporter to Europe, has been criticised for sending lower supplies this year, ahead of the start-up of the Nord Stream 2 pipeline to Germany. Gazprom, Russia’s state-backed monopoly pipeline supplier, indicated this week that the start-up of Nord Stream 2 later this year would not immediately increase planned supplies to Europe.

In the UK and Europe, a surge in carbon prices, which raise the cost for utilities and industry of using polluting fuels, has also at times boosted demand for gas. Carbon prices in the EU are double the level of before the pandemic and the UK’s similar post-Brexit carbon contract is at similar levels.

“In the past we used to see more fuel switching — if gas prices are too high then utilities will switch to coal,” said Mangerah at Centrica. “But that is not really an option these days given the high carbon price and the phaseout of coal generation in the UK.”

British households had a rise in the cost of living in August when the gas regulator announced that maximum gas prices for 11m families on variable contracts would increase by £139 to £1,277 a year.

Under a “price cap” system launched by former prime minister Theresa May in 2019, Ofgem can block gas suppliers from charging more than a central price calculated from various inputs.

The next review will take place in February and — if wholesale gas prices keep rising — would mean another spike in household bills in April. Ofgem estimates that wholesale prices make up more than a third of the average household gas and electricity bill.

National Grid ESO, the electricity system operator, said in its preliminary winter outlook earlier this summer that it was “confident there’ll be enough electricity to keep Britain’s lights on”. National Grid is due to publish its winter gas outlook later this year. It said LNG made up almost a fifth of UK gas supplies last winter, with imports from the EU making up about 10 per cent.

Large manufacturers have been concerned about what one executive called a “massive increase” in energy prices in recent months.

Frank Aaskov, energy and climate change policy manager at UK Steel, said rising fuel costs were becoming a huge concern for energy-intensive sectors such as steel, though he stopped short of saying the industry may need to restrict production.

“The steel sector already faces uncompetitive electricity prices compared to their competitors in the EU . . . and the recent energy price increases have massively exacerbated this situation,” he said.

“A buoyant market and healthy material prices have cushioned this impact until now, but as we start to see steel prices soften in the months ahead, it could become a major issue.”

Will green electricity get even more expensive, Mr. Bruch?

Siemens Energy builds wind turbines, gas-fired power plants and power grids. CEO Christian Bruch on the future of the energy supply and anger in his own company.

Siemens Energy wants to benefit from the energy transition: Onshore wind turbines are currently losing money for the company.

Mr. Bruch, renewable energies are the future, but your Siemens Gamesa wind division is delivering catastrophic results. What's wrong? Siemens Gamesa is at the forefront of the wind and participates in growth. The picture is only very mixed: the offshore and service sectors are doing very well, even better than planned. About two handfuls of projects in the onshore sector are not going well. Very annoying.

What exactly is so difficult about setting up wind turbines on land? It's not that management doesn't know how to install wind turbines on land. Currently, there are only three problems that can be solved, but cause additional costs: the introduction of a new product, the X.5 turbines, projects in Brazil under difficult conditions - keyword Covid - **and the extreme price increase for the raw material, above all Steel and copper that affects the entire industry. The raw material consumption in the construction of wind turbines is high.**

You criticize the lack of transparency in your wind division, which is based in Spain. Does Siemens in Munich and Berlin only notice problems when the child is in the well? We need to recognize such problems sooner. The conditions are clear: Siemens Gamesa is an independently listed company, we are represented on the supervisory board by three people.

Then they should have sounded the alarm earlier? You always have to see: there is the supervisory board and the operational management of a separate company, Siemens Gamesa, and they have to be clearly separated. Of course, I am not satisfied if we are surprised there with an ad hoc announcement of higher losses. Something like that is always unpleasant.

How much patience do you have with the new Gamesa boss, who has only been in office for a year? This is the wrong discussion. The new management around Andreas Nauen is working off old mistakes that it found. The CEO has replaced the executives in all areas, that now takes some time. The important thing for me now is: I want to understand the problems and see progress.

Will you join the Gamesa supervisory board yourself to show that the wind is now a top priority! No, that wouldn't change anything. Wind is already a matter for the boss. I absolutely believe in the future of wind energy; in the medium term, it offers us extremely good growth opportunities.

How much dry spell has to be survived beforehand? The turnaround in the onshore sector has been delayed, but it has to come. And again: In the other areas, the company earns money with wind, even more than expected.

The trouble in Spain has accompanied Siemens since joining Gamesa. Wouldn't it be time to take the company off the stock market to gain full access? The solution to the current problems has nothing to do with the size of our shares. Ownership is a strategic question: Can we generate more business and also more value if we hold more than 67 percent of Siemens Gamesa? Would 100 percent be better? First of all, operational performance has priority. In general, we stick to it: Siemens Energy wants to be the driver of the energy transition, wind is one of the pillars for this, but we also need transmission technology and gas-fired power plants as a transition technology. We work in all of these three fields.

Solar energy is not an issue? **But. Simply because solar will play a major role in the future energy world. We just have to decide: In which position can we earn money with it? Certainly not as a manufacturer of solar modules, that's in Asian hands. But for example when integrating solar parks into the entire energy system. We are currently testing this with pilot projects.**

Can solar energy play a key role for Siemens Energy alongside wind? Yes. The market is only just developing, there is still a lot of music in it.

That means: Are you looking for takeover targets? We look around, of course, but don't look for anything larger at first, at most smaller things. My motto is: first we want to stabilize Siemens Energy, then make it profitable - and then grow.

Do we need our own production facility for solar modules in Germany? Comparable to the battery production for e-mobility, which is now being set up by the car manufacturers? You have to at least think about how you want to achieve the expansion targets for solar energy. Especially when you look at the supply chains. It would be naive to believe that the procurement market will remain as it is. All states are pursuing their own interests, especially China.

Does China use the solar modules for power-political goals? Most of the modules come from Chinese suppliers. And as much as solar energy is to be expanded, in China and around the world, the question arises: How will the demand be met? Where are the modules delivered first? **At the moment the prices for goods from China are rising massively, which will have consequences for the prices for solar power. Under these circumstances, it will not be possible to maintain the current low prices. It is similar with the wind. If raw material prices continue to rise, electricity prices will have to rise there too. We have to face that. So far the attitude has been: Renewable energies are getting cheaper and cheaper. It was the same in the past few years.**

And not more in the future? **If the underlying material cost continues to rise, that won't be possible. Society then has to decide: How will the energy transition continue under these conditions? What are renewables worth to us? Just setting goals will not be enough. To believe that we can quickly expand renewable energies and that electricity is becoming cheaper and cheaper, that doesn't go together. The energy transition will cost money.**

So the energy transition will be even more expensive, even though we are already paying the highest electricity prices in Germany? **The CO₂-free energy generation is not available for free. The energy source that has grown the fastest worldwide in 2020 and 2021 is coal. You have to see that clearly. And there is a reason for this: Energy from coal is the cheapest, especially in emerging countries with corresponding coal resources. If we want to change our energy supply - and we have to - then we have to talk about the basic rules in this market.**

They advocate the construction of new gas-fired power plants. Isn't that just self-interest because you want to keep selling your fossil fuel power plants? **The demand for electricity in Germany will grow considerably, by 30, 40 or even 100 percent, as some say. The federal government recently increased its demand forecast, but I also think the new forecast is too low. If we are really serious about the change in mobility, industry and heating, then we will need a lot more electricity. Renewable energies form the backbone. But we will also need gas-fired power plants as a bridging technology for a transition phase. Not only for weather conditions with little wind and sun, but because otherwise we simply cannot meet the demand. The only alternative to this is to continue operating coal-fired power plants. And that is clearly worse. If you replace an old coal-fired power plant with a new gas-fired power plant, you reduce CO₂ emissions by around two thirds. In Germany, with the phase out of nuclear and coal, almost 40 percent of electricity generation capacity will be lost. We need a replacement quickly for this.**

But do new gas-fired power plants pay off economically? They are only intended for a transitional period and would have to be scrapped prematurely if Germany is to become climate neutral by 2045. **Not necessarily. Gas turbines can already be operated with a share of 30 to 60 percent climate-neutral hydrogen. We are working to ensure that full hydrogen operation will also be possible in two years. So at least they will not become "stranded assets" that have to be written off prematurely.**

The biggest problem with climate protection, however, is not the German power plants, but those in China and other emerging countries. Clear. China still has a 70 percent share of coal-fired electricity. In South Africa, a new coal-fired power plant with an output of 4800 megawatts went online this year. **If we do not replace coal with gas in the emerging countries, we can forget about global climate protection goals. That is a question that must be discussed at the world climate summit in Glasgow in November. In the Paris climate protection agreement it is said that the rich countries support the other states in the energy transition. So far, this has not been done sufficiently. If we don't like the fact that emerging countries that have coal use it to generate electricity, then we have to be ready for financial transfers.**

Do you seriously believe that developed countries will fund the shutdown of coal-fired power plants in China? At least a discussion between the two sides will be needed on how economic development and sustainability can be reconciled. **If you are not ready for that, then I wonder why it was written into the Paris Agreement at the time.** The fact is: there will be no solution to the CO2 problem without an intensive discussion with China.

Siemens Energy's coal phase-out was criticized as half-hearted. When will you consistently draw a line? **We stopped building coal-fired power plants in November 2020. It was painful because it was a profitable business for us. However, we are maintaining maintenance and service because we are reducing emissions with our highly efficient technology. The power plants are up, so the aim is to reduce their emissions.**

When will Siemens Energy book the last euro from the coal-fired power plant business? I cannot give you an appointment for this.

Siemens, on the other hand, withdrew from nuclear energy a long time ago. Will nuclear power become more important again because of climate change? Internationally, **nuclear energy as a CO2-neutral power source is again being discussed more intensively. France is already betting very strongly on this. There is talk of small modular nuclear power plants in Canada and the United States.** In Germany, however, the issue has been dealt with. You can't get out of such technologies and get back on again. Germany is facing completely different challenges that we urgently need to talk about.

Go ahead. What do you mean? **The energy transition will fail without a much faster expansion of wind power, solar energy and power grids. If we want to prevent that, we need a new set of rules that will allow us to move faster. It will be a huge process for society. We have to discuss this intensively.**

What exactly has to be faster? All. We have to talk about fundamental things. We have a federal system in Germany, there are lengthy objection procedures. **The construction of a power line currently takes up to 13 years. But if I want an important energy project to be through in twelve months and not in five years, then I have to do it differently than before. Whoever provides the new federal government will have to deal with this challenge.**

Does that mean a restriction of the rule of law? No, that's a normal legislative process. Sometimes you just have to take something old away when you want to build something new. That's change, but it's important. Politicians must be ready to hold this fundamental discussion.

Chinese planning law is difficult to enforce in Germany. It's not that black and white. "Business as usual" does not work. As Albert Einstein said: It is madness to do the same thing over and over again and expect different results. This also applies to the energy transition. **I find the narrative that sustainability shouldn't cost anything is extremely difficult. The energy transformation will cost a lot of money.** And of course we also have to think about how Germany can secure its prosperity at the same time. But if there is always an outcry of indignation that stifles any debate, then we will not be able to change anything.

Politicians have to be elected. That is why the question of who bears the costs is relevant. Yes absolutely. But we have to create a culture of discussion that enables such a debate. It is not just politics that is challenged, but society as a whole. The media too. What use is a politician to me who says: I cannot look into the future for more than one term? It must be clear to everyone: We are not just talking about a new technology here. **We are talking about a fundamental restructuring of the system. The IPCC climate report speaks a clear language.**

In your opinion, which party has the most convincing concept for this before the federal election? It is not my job to evaluate the individual party programs. What is important, however, is that all parties involved in government in the autumn must be aware of the size of this task. That is why I very much hope that we will quickly get a federal government capable of acting. The worst would be a long hang-out until a government is formed.

Your supervisory board boss Joe Kaeser is clear for the Green Annalena Baerbock. Then you can say that too, right? My supervisory board boss can speak for himself. In the end, the decision is in the hands of the voters.

The interview was conducted by Georg Meck and Marcus Theurer

Energy transition is "daunting": Petronas chief executive

Malaysian national oil companies' projects already have analysis on their carbon impact

28 July 2021 11:13 GMT

31 August 2021 0:47 GMT *UPDATED* 31 August 2021 0:47 GMT

By [Amanda Battersby](#)

in **London**

Upstream players are having to contend with the “daunting” energy transition, according to Tengku Muhammad Taufik Tengku Aziz, chief executive of Malaysia’s national oil company Petronas.

“The energy transition that the entire oil and gas industry has accepted and embraced is no longer imminent. It's here before us,” he said.

“We can't escape the fabric of ESG (environmental, social and governance) concerns... partners, authorities and customers, all these [share]holders are really pressing the industry to respond.

“But the response cannot just be by industry. It needs a whole of society. This one, this [energy transition] conversation is now not only taking centre stage. It is almost a primary concern to the extent that our investments have... analysis on their carbon impact,” Tengku Muhammad Taufik told media after announcing the company’s half-year results.

“[However], the ask cannot just be of industry because host governments need also to map out clear coherent and consistent policies to respond to this.”

However, he cautioned that the world does not move at one speed and, because of the different economies, there will not be the same constant velocity on the energy transition path.

“We know that post-2015 in the Paris Agreement, many countries have made commitments. But as we approach November 2021 where everyone converges in Glasgow and sets new ambitions, we are going to have to find a pathway that everybody can embrace and everybody can execute.”

According to the latest Intergovernmental Panel on Climate Change (IPCC) report, global temperature increases are poised to reach or even exceed 1.5 degrees Celsius over the next two decades.

Limiting this temperature increase means capping all future carbon emissions to 300 gigatonnes, a drastic change to the total emission levels of 2020 which was only set at 32 gigatonnes, he noted.

There is uncertainty over whether the current economic rebound is sustainable, and oil and gas players are therefore having to contend with the increasing pace of the energy transition and “a daunting decarbonisation”, he said.

Petronas said it would remain resolute in delivering cost-effective solutions **with a lower carbon footprint** and would remain resolute in executing its three-pronged growth strategy.

The company is continuing to maximise its cash generators by protecting its assets, whether they be located domestically or overseas - the efficiency and profitability of those assets provides a solid base and produces the required monetary resources to fund its growth.

“With the challenge of energy transition staring us in the face, Petronas must build a resilient portfolio that is aligned to our three-pronged growth strategy. This means attaining a superior performing and high-value portfolio... that is sustainable in the long run **while positively contributing to society,**” said Tengku Muhammad Taufik.

“We have seen progress towards achieving this, we continue to expand our renewable energy business and solar - actively pursuing plans to diversify into innovative solutions such as energy storage, hybrid solutions and advanced analytics in energy [and] monitoring technologies.”

These are all part of the efforts to future-proof Petronas in the energy transition. The Malaysian company is also building a portfolio of low-carbon energy sources by creating greater access to gas and liquefied natural gas as low-carbon options.

Petronas is also making early headways into hydrogen by leveraging on its proximity to key hydrogen demand centres.

“Our venture into hydrogen will be built upon partnerships leveraging on our existing capabilities in extracting blue hydrogen from our facilities as well as our considerable track record as a reliable energy supplier on this front,” said Tengku Muhammad Taufik.

He said that Petronas had initiated “concerted efforts” to determine how to scale up green hydrogen production and solve the technological challenges of safely and economically transporting hydrogen and storing it.

However, the chief executive cautioned that this is not the only challenge because you need to make sure that when you deliver hydrogen, the entire ecosystem responds with it.

“it’s a huge technical challenge to deliver this.”

Petronas has already grown its solar capacity under operation and development to more than one gigawatt, which includes 180 megawatts in Malaysia and 976 megawatts in India.

Not pleasant reading

Tengku Muhammad Taufik described the latest IPCC report as “not pleasant reading for human beings, let alone a CEO of a Fortune 500 company”.

“I think why I say it [the energy transition] is daunting, is because no one party can really make that, everyone has to do it together.”

Petronas last November announced its aspiration to achieve net zero carbon emissions by 2050 as part of its holistic approach to sustainability that balances ESG considerations that are aligned to its statement of purpose - namely to be a ‘progressive energy and solutions partner enriching lives for a sustainable future’.

With the target set for 2050, the company will continue to intensify its efforts toward reducing scope 1 and scope 2 greenhouse gas emissions from its assets.

Exploration not dead

However, one thing is certain, Petronas will not be turning its back on upstream ventures in the foreseeable future despite the energy transition gaining momentum.

“Exploration is not dead,” said Tengku Muhammad Taufik.

“A decarbonised future is not an immediate future without hydrocarbons. A decarbonised future is not a future completely absent of hydrocarbons. Any expectations that we have with regards to shifting the energy mix in any scenario, including those produced by the IEA (International Energy Agency), still see oil and gas being a prominent part in the energy mix worldwide.

“Yes, there is talk of oil demand peaking in the next decade but natural gas, conversely, still shows demand growth year-on-year.”

Petronas believes there are oil and gas assets that can still be exploited to provide positive cash flow, while also allowing the company to decarbonise and reduce its GHG emissions.

Petronas’ board already takes this into consideration when approving investments, as it does the company’s expected oil price of between US\$55 and \$60 per barrel for the next five years.[\(Copyright\)](#)

[Read more](#)

BMW Group accelerates CO2 reduction and focuses consistently on a circular economy with the Neue Klasse

02.09.2021 Press Release



The BMW Group is increasing the pace of its efforts to combat climate change. Looking ahead to the introduction of the **Neue Klasse**, the company is further strengthening its self-defined objectives, announced in summer last year, to significantly reduce CO2 emissions, whilst also committing itself to a clear course that supports the 1.5 degree target for the limitation of global warming.

- Zipse: “We are committed to a clear course to achieve the 1.5 degree target”
- 50% reduction in global CO2 use-phase emissions by 2030
- Over 40% reduction in CO2 emissions during life cycle
- Ten million all-electric vehicles within ten years
- Secondary first: Up to 50% use of secondary material planned – initiatives to develop the market are required
- Cooperation with BASF and ALBA on plastic recycling
- Resource scarcity and social responsibility: BMW Group focussed on circular economy for sustainable materials
- RE:BMW – circular economy at the IAA Mobility in Munich

Munich. The BMW Group is increasing the pace of its efforts to combat climate change. Looking ahead to the introduction of the Neue Klasse, the company is further strengthening its self-defined objectives, announced in summer last year, to significantly **reduce CO2 emissions**, whilst also committing itself to a clear course that supports the **1.5 degree target** for the limitation of global warming. The Neue Klasse will also see the BMW Group hugely increase its use of **secondary materials** with a firm focus on the principles of the **circular economy**, whilst also promoting better framework conditions for establishing a market for secondary materials.

To achieve a further **reduction in CO2 emissions**, the focus is on the **utilisation phase** of vehicles, which account for 70% of the BMW Group's CO2 footprint. **By 2030, the CO2 emissions per vehicle and kilometre driven will be at least halved from 2019 levels.** The commitment of all manufacturers when it comes to combatting climate change can best be compared when looking at the **entire life cycle** of a vehicle, including production and upstream supply chain. **Here, the BMW Group is planning a reduction of CO2 emission per vehicle of at least 40%.**

“How companies are dealing with CO2 emissions has become a major factor when it comes to judging corporate action. The decisive factor in the fight against global warming is how strongly we can improve the carbon footprint of vehicles over their entire life span. This is why we are setting ourselves transparent and ambitious goals for the substantial reduction of CO2 emissions; these are validated by the Science Based Targets Initiative and will deliver an effective and measurable contribution,” said **Oliver Zipse**, Chairman of the Board of Management of BMW AG, in Munich on Thursday. “With the Neue Klasse we are significantly sharpening our commitment and also committing ourselves to a clear course for achieving the 1.5 degree target.”

The BMW Group is the first German carmaker to join the Business Ambition for 1.5°C of the Science Based Targets Initiative and is committed to the goal of full climate neutrality over the entire value-added chain by 2050 at the latest. This means that the company is also part of the **international Race to Zero Initiative**. The company is convinced that this can be achieved using innovation, rather than any overall ban on individual technologies.

The most powerful driver on this path to climate neutrality is electric mobility, with the BMW Group's Neue Klasse set to provide significant further momentum to the market. During the next ten years or so, the company will be putting around **ten million all-electric vehicles on the road**. As early as **2030, at least half** of global BMW Group sales will be **all-electric vehicles**, with the **MINI** brand offering **exclusively all-electric vehicles** from 2030.

The BMW Group continues to comply with the **stringent criteria** of the Science Based Targets Initiative, when it comes to measuring the reduction of worldwide CO2 emissions of the company's vehicles whilst they are being driven on the roads. **For example, emissions from the production of fuel or electricity are included in the calculation and consumption is based on the WLTP cycle plus ten percent.** With its current product and electrification strategy, the company is on track to meet the EU fleet target for 2030.

Beyond green electricity: Stronger focus on use of resources in future

BMW Group is clear that simply increasing the number of electric vehicles on the road does not automatically lead to climate-friendly mobility. The company understands that it is also crucial to reduce the use of primary material and the related environmentally harmful **exploitation of resources** and their often CO2-intensive processing – especially when it comes to car manufacturing, one of the most resource-intensive industries.

“2017 was the first time the world's population consumed more than 100 billion tons of resources within a single year - a trend which we in the automotive industry must also counteract,” **Zipse** demanded. “This is a strategic issue, concerning not only ecological but also economic sustainability; the current development of commodity prices demonstrates the impact an industry that is dependent on limited resources must expect.”

With the number of battery-powered vehicles growing, there is **increasing demand for many commodities such as cobalt, nickel and aluminium**, which are required for the vehicles' high-voltage batteries. However there is great potential for the reuse of materials in the sense of a circular economy and together with specialist partners, the BMW Group has already demonstrated that it's technological feasible to achieve a recycling efficiency of over 90 percent.

The amount of **secondary nickel** used for the high-voltage battery in the **BMW iX** is already as high as 50 percent, with the battery housing containing up to 30 percent **secondary aluminium**. The BMW Group aims to improve these figures even further for future product generations.

In addition to the increasingly scarce availability of primary materials and resulting commodity price increases, there are many **sustainability reasons** to use more secondary materials and move towards a circular economy.

The **supply** of secondary materials is considerably **less CO2-intensive** than is the case with primary materials and can significantly improve the CO2 footprint, especially within the supply chain. In the case of secondary aluminium, the CO2 saving compared with primary material constitutes a factor of approximately 4 to 6, whilst steel and thermoplastics lie between around 2 and 5.

The extraction of resources for primary materials – **particularly through mining** – has a significant impact on the basic **regenerative capacity of ecosystems**. This impact can be greatly reduced by increasing the use of secondary materials.

The mining and trading of **conflict materials** carries the possible risk of associated **infringements of environmental and social standards**. The BMW Group has established numerous measures to counteract this risk, including membership of the Responsible Minerals Initiative. However, the most efficient strategy for avoiding risks is to **minimise the mining of such primary materials**.

‘Secondary First’: Crucial vehicle materials with high secondary content

As part of its holistic approach to sustainability, the BMW Group aims to increase significantly the percentage of secondary materials in its vehicles. **On average, current vehicles are manufactured using almost 30 percent recycled and reusable materials. With the ‘Secondary First’ approach, BMW Group plans to successively raise this figure to 50 percent.**

Of course it’s crucial that the quality, safety and reliability of the materials comply with the same high standards as those existing for primary materials – and so it’s essential that the market availability of such high-quality materials increases considerably. In order to achieve this, cross-industry approaches and political initiatives are necessary.

Based on the four principles **Re:think, Re:duce, Re:use, Re:cycle**, the BMW Group is boosting its activities in the field of circular economy, an area where it’s carrying out pioneering work. For instance, vehicle production now involves the increased separation and recycling of crucial material groups, so these can be reused by the industry within the framework of ‘closed loops’.

Cooperation with BASF and the ALBA Group

Within the supply chain and depending on market availability, secondary materials are increasingly being used in BMW Group vehicles. Moreover, together with its partners, the company is providing important impetus when it comes to developing secondary materials. **One example is the company’s pilot project with BASF and the ALBA Group for the increased recycling of plastics used in cars.**

The aim of the project is to reduce the use of primary plastics by means of a comprehensive **recycling system**. To this end, the ALBA Group analyses end-of-life BMW Group vehicles to establish whether a car-to-car reuse of the plastic is possible. In a second step, BASF assesses whether **chemical recycling** of the pre-sorted waste can be used in order to obtain pyrolysis oil. This can be then used as a basis for new products made of plastic. In the future, a new door trim or other components could be manufactured from a used instrument panel, for example.

Closed loop rather than downcycling: ‘Circular Design’ as the basis of a circular economy

In order to achieve **higher recycling rates** and whilst also guaranteeing the **high quality of secondary materials**, **the materials must be extracted in their purest form as early as possible during the recycling process**. **For example, the onboard wiring systems must be easy to remove, in order to avoid mixing steel with copper from the cable harnesses in the vehicles. If this mixing does take place, the secondary steel loses its essential material properties and therefore no longer meets the high safety requirements of the automotive industry**. To support this early and easy extraction of materials, the interior of a car **must increasingly be made of monomaterials, so that at the end of the car’s lifecycle, as much as possible can be transferred back into the usable material cycle**. Basically, reducing the number of materials can help to improve the quality of recycled materials. Currently, vehicles consist of about 8,000 to 10,000 different materials.

To achieve this, the BMW Group is now focusing on a **‘Circular Design’** concept, which is designed to guarantee the **economical dismantling capacity** of vehicles. It is essential that disassembly of the vehicle and its individual components is fast and cost-efficient to ensure that prices of **secondary materials** are competitive. It all starts with the **construction of the vehicle**, which must be done in such a way that allows materials to be removed at the end of the vehicle’s service life without different types of material being mixed with each other.

RE:BMW at the IAA Mobility – a visionary outlook on circular economy

The BMW Group is putting circular economy at the centre of its presence at the IAA Mobility 2021 in Munich, where the company will offer a visionary outlook on the potentials of a circular economy and sustainable mobility. The **BMW i Vision Circular** embodies the company's ambitious claim to be the most sustainable manufacturer for individual premium mobility.

This visionary vehicle, designed according to the four principles of the circular economy Re:think, Re:duce, Re:use, Re:cycle, shows how individual, sustainable and luxurious urban mobility could look in 2040. The BMW i Vision Circular is manufactured from 100 percent secondary materials or renewable raw materials, and is 100 percent recyclable.

This car demonstrates that climate protection and individual mobility do not necessarily contradict each other. On the contrary, it shows that using new technologies and innovation, the BMW Group can fulfill the planet's requirements for greater sustainability without customers having to forgo individual mobility.

In case of queries please refer to:

Corporate Communcations

<https://www.freep.com/story/money/cars/general-motors/2021/08/30/gm-lg-chem-bolt-batteries/5652862001/>

GM 'not confident' LG Chem will build defect-free Bolt batteries

Jamie L. LaReau

Detroit Free Press

General Motors will keep its Orion Assembly plant idled and not start repairs on the nearly 141,000 recalled Chevrolet Bolts EVs and EUVs until it is confident its supplier can make a defect-free EV battery that does not pose a potential fire risk.

And right now, GM does not believe its battery-maker, LG Chem, can do that.

GM and LG Chem have "hundreds of people" working around the clock, seven days a week, to find the cause of the defective battery modules connected to some Bolts catching fire without impact, said GM spokesman Dan Flores.

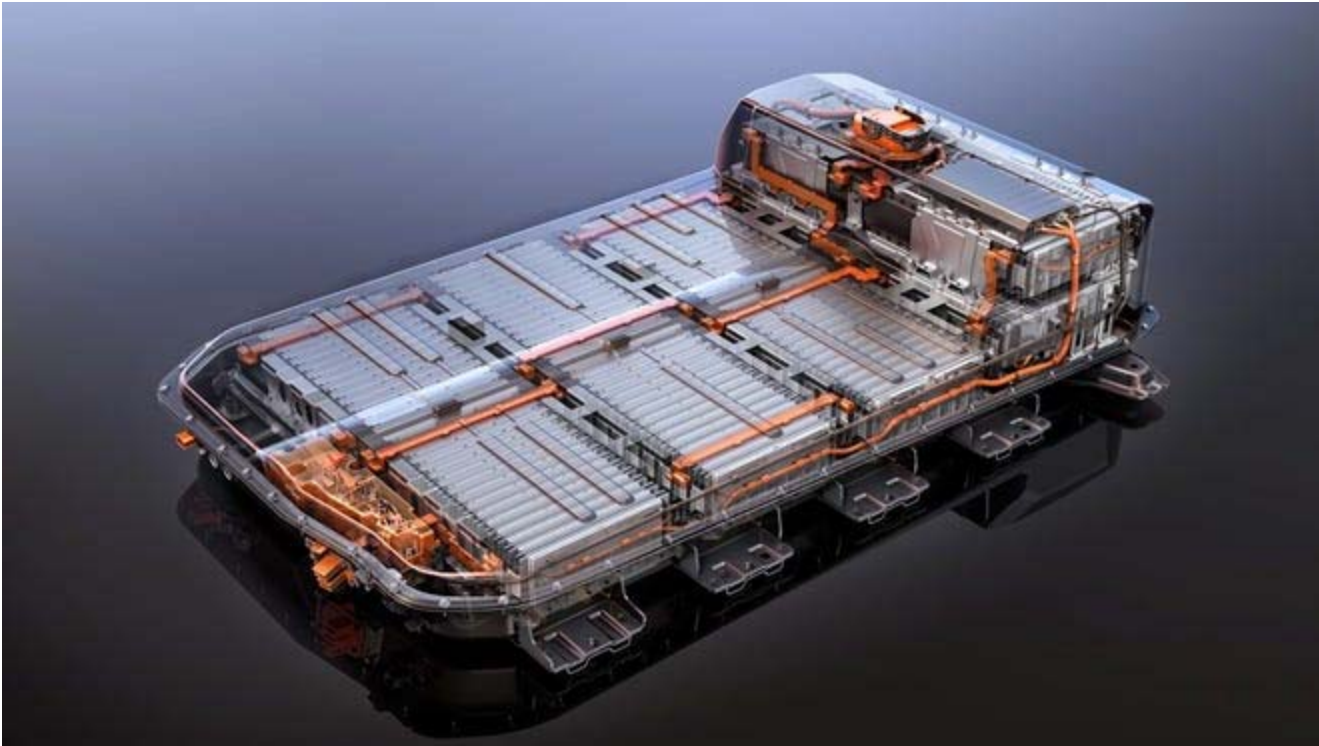


"If we took the battery stock that's in the field right now or at a warehouse, we're not confident that it is defect-free," Flores said. "Because we are not confident that LG has the capability to build defect-free products, we've put the repairs on hold and we are not building new Bolts. We're not going to start recall repairs or start building new Bolts until we're confident LG will build defect-free products."

LG did not respond immediately to a request for comment.

GM's investigation of LG

LG builds the battery cells at its LG Energy Solution Michigan, Inc., facility in Holland, Michigan, Flores said. GM's engineers are studying LG's manufacturing process there as well as tearing down battery packs, inspecting cells and even monitoring how LG packs the cells into the modules, then into a battery pack at LG Electronics, a packing facility in Hazel Park, in an effort to help find the cause of the defects, he said.



LG is cooperating and providing GM the data it requests, Flores said, noting LG is as eager as GM to fix the problem.

"It's in everybody's best interest if we speed the repairs along as best as we can," Flores said. "Both LG and GM understand the significance in what we're doing here and we're committed to doing the right thing for our customers."

GM and LG know the defects are a torn anode tab and a folded separator in the modules. The presence of those two defects in the same battery cell increases the risk of a fire, Flores said. But GM and LG do not know what is causing those defects in the manufacturing process. They also do not know if the defects are in every Bolt that is recalled, or just a few.

GM is also working to develop a software technology that will enable a dealership's service technician to identify whether a specific module is defective and just replace that defective module, Flores said.

"But short of that, we're going to replace all the five modules in all the vehicles," Flores said.

That's once GM is assured that LG Chem is making the new modules without any defects. Then, and only then, will GM contact all the Bolt owners to let them know a remedy is available and dealerships will start repairs, Flores said.

Flores could not provide a specific timeline on how long Bolt owners might have to wait for a repair at a dealership. But, he said, besides searching for the cause of the defect, GM has assigned a team to work with LG's production team on increasing, "their capability to build battery packs because we're going to need a lot and it will take time to build up inventory, to build it, ship it and build product for Orion."

'A lot of pressure'

On Aug. 20, GM expanded its second recall of 2017-19 Bolts to include 2020 and 2021 model years. GM said it will provide the Bolt owners with an eight-year warranty or 100,000 miles on the new battery modules once that repair is done.



In July, GM recalled 68,600 of the model year 2017-19 Bolts for the second time in less than a year because of a potential fire risk. GM has confirmed at least one of the Bolt fires was battery-related and happened despite the owner getting the fix from GM's first recall on the cars last November. No serious injuries or deaths have been attributed to the handful of fires.

GM is in discussions with LG Chem about reimbursement of the \$1.8 billion GM has said it expects the recall to cost, but Flores declined to reveal the status of those talks.

"We are not publicly talking about that issue," Flores said. "Those discussions are being handled by the appropriate leaders at both companies."

Last week, GM idled Orion Assembly, the plant where it assembles the Bolt EVs and EUVs. It will remain idle through the week of Sept. 6 as a result of the battery problem related to the Bolt recall.

Nearly 1,000 hourly workers are laid off, after being off for a week earlier in the month because of a global shortage of semiconductor chips used in a variety of car parts. Flores

said it is costly to have a factory not running, but assembly line workers were warned that the shutdown could extend beyond next week.

"Are we going to resume production at Orion two weeks from Monday? We certainly hope so, but we're not at that point to proclaim that," Flores said. "We have an assembly plant idled because our supplier is not building a defect-free product so there is a lot of pressure to work quickly, but to get it right."

During a media roundtable Thursday, UAW President Ray Curry was asked about the recall's role in shutting down the plant and what it will mean for union members.

"That's a discussion that is just really getting started and ongoing at this point," Curry said, adding that because it is a national recall he cannot elaborate on any discussions between the union and GM.

Also last week, GM CEO Mary Barra told Bloomberg Television that GM will continue its relationship with LG, noting the battery defects are limited to the Bolt and GM's upcoming EVs will be on its new proprietary Ultium battery platform, which it developed jointly with LG Energy Solution.

Until Bolt customers in the new recall population receive replacement modules, they should:

- Set their car at a 90% state of charge limitation using Target Charge Level mode or have their dealer do it.
- Charge their vehicle more frequently and avoid depleting their battery below 70 miles of remaining range.
- Park their vehicles outside immediately after charging and do not leave their vehicles charging indoors overnight.

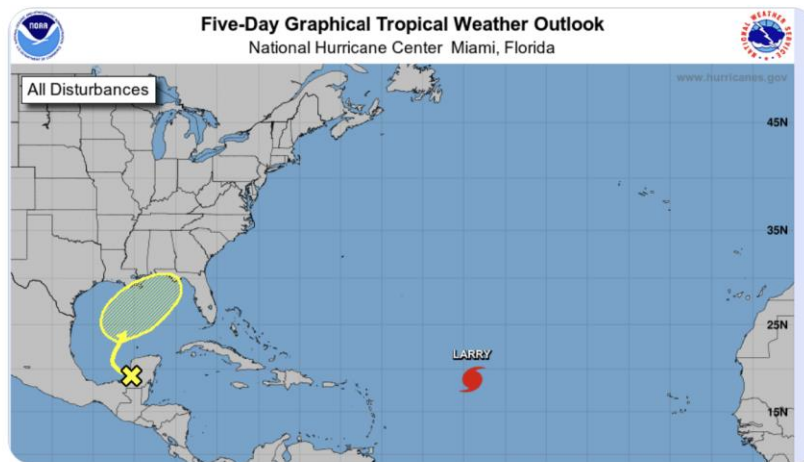
Any Bolt owners with additional questions or concerns should go to www.chevy.com/boltevrecall. They can also call the Chevrolet EV Concierge 833-EVCHEVY, which is available 8 a.m.-12 a.m. Monday-Friday; noon-9 p.m. Saturday and Sunday. Or call their dealer.



Dan Tsubouchi @Energy_Tidbits · 3h

...

Watch this disturbance over next few days after it leaves Yucatan Peninsula & enters GoM. @NHC_Atlantic still sees 30% (low) probability to develop to storm strength. Let's hope it doesn't & importantly doesn't dump too much rain in Louisiana. #OOTT #NatGas #LNG



2 2



Dan Tsubouchi @Energy_Tidbits · 3h

...

#SaudiAramco cuts #Oil OSP prices by more than expected for Asia buyers post #OPEC+ continuing with +400,000 b/d increase in Oct. But no price cuts for Europe & US. Thx @TheTerminal for updated OSP table & @sarahchen @iamsharoncho @A_DiPaola17 for the report. #OOTT

GRADE	CHANGE	OCT 2021
SAUDI ARABIA		
Asia (vs Oman/Dubai)		
Arab Super Light	-1.30	3.15
Arab Extra Light	-1.20	2.00
Arab Light	-1.30	1.70
Arab Medium	-1.00	1.45
Arab Heavy	-1.00	0.40
vs Arab Extra Light	0.20	-1.60
vs Arab Light	0.30	-1.30
U.S. (vs ASCI)		
Arab Extra Light	0.00	2.40
Arab Light	0.00	1.35
Arab Medium	0.00	0.65
Arab Heavy	0.00	0.20
Northwestern Europe (vs ICE Brent Marker)		
Arab Extra Light	0.00	-0.80
Arab Light	0.00	-1.70
Arab Medium	0.00	-2.30
Arab Heavy	0.00	-3.20
Mediterranean (vs ICE Brent Marker, FOB Ras Tanura)		
Arab Extra Light	-0.10	-0.80
Arab Light	-0.10	-1.80
Arab Medium	-0.10	-2.50
Arab Heavy	-0.10	-3.20
FOB Sidi Kattir (vs ICE Brent Marker)		
Arab Extra Light	-0.85	
Arab Light	-0.95	
Arab Medium	-0.85	
Arab Heavy	-0.65	

Saudis Cut Oil Pricing for October as OPEC+ Adds Crude Supply
2021-09-05 10:34:22.98 GMT

By Sarah Chen, Sharon Cho and Anthony Di Paola (Bloomberg) – Saudi Arabia cut oil prices by more than expected for buyers in Asia, its biggest market, for October after OPEC+ agreed to raise production. Saudi Aramco is lowering pricing for Arab Light crude by \$1.30 a barrel to a premium of \$1.70 more than the regional benchmark, according to pricing statements seen by Bloomberg. The state producer had been expected to reduce the price of the grade by around 60 cents a barrel, according to a survey of six traders and refiners in Asia last week. OPEC+ producers this month decided to continue rolling back supply cuts implemented last year to support prices as the coronavirus slashed demand. Led by Saudi Arabia and Russia, OPEC+ has moved cautiously to get oil back onto the market amid continued flare ups of the virus that are slowing economic recovery.

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To view this story in Bloomberg click here:
<https://blinks.bloomberg.com/news/stories/QYYISEDWLUGH>

3 1



Dan Tsubouchi @Energy_Tidbits · 17h

Increased #OPEC+ #Oil since June not being fully absorbed by market. Vortexa floating crude storage est 09/03 at 95.92 mmb, -1.05 mmb vs revised 08/27 95.97 mmb (original est 91.37). 09/03 is +17.17 mmb vs recent 06/25 trough of 78.75 mmb. Thx @Vortexa @TheTerminal #OOTT



4 6



Dan Tsubouchi @Energy_Tidbits · 19h

Confirmation of a ballistic missile launched towards heart of Saudi Arabia oil infrastructure. Says "intercepted", but will want to see if any impact on oil infra. Dhahran is in the blue circle on the @EIAgov oil and gas infra map. hope everyone is safe. #Oil #OOTT



Source: GoogleMaps, SAF

Figure 36: Saudi Arabia Major Oil and Natural Gas Infrastructure



Al Arabiya English @AlArabiya_Eng · 20h

The Arab Coalition has intercepted a ballistic missile launched from #Yemen by the Iran-backed Houthis towards the eastern region of #SaudiArabia.



english.alarabiya.net/News/gulf/2021...

5 1

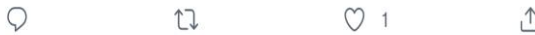


Dan Tsubouchi @Energy_Tidbits · 21h

#HurricaneIda. Shut-in #Oil #NatGas production has only come back at a slow rate so far. Still shut in 1.68 mmbd & 1.92 bcfd. Updated @BSEEGov survey of 36 companies as of 10:30am MT. #OOTT

Date	Platforms Evacuated		Rigs Evacuated		Oil - Shut-In (b/d)		Gas - Shut-In (mmcf/d)	
	Total	% of GOM	Total	% of GOM	Total	% of GOM	Total	% of GOM
2021-08-27	89	15.89%	1	9.09%	1,064,849	58.51%	1,088.0	48.79%
2021-08-28	279	49.82%	11	100.00%	1,653,335	90.84%	1,892.7	84.87%
2021-08-29	288	51.43%	11	100.00%	1,740,850	95.65%	2,090.7	93.75%
2021-08-30	288	51.43%	11	100.00%	1,721,809	94.60%	2,087.0	93.57%
2021-08-31	278	49.64%	9	81.82%	1,705,095	93.69%	2,107.0	94.47%
2021-09-01	249	44.46%	9	81.82%	1,455,279	79.96%	1,877.7	83.21%
2021-09-02	177	31.61%	6	54.55%	1,702,566	93.55%	2,035.0	91.29%
2021-09-03	133	23.75%	6	54.55%	1,698,557	93.33%	1,990.2	89.25%
2021-09-04	119	21.25%	6	54.55%	1,683,604	92.51%	1,915.4	85.89%

Source BSEE



Dan Tsubouchi @Energy_Tidbits · Sep 2

Only half of Russia's #Oil reserves are profitable at \$50 says Deputy Energy Minister Sorokin. Fits Jan 27 linked tweet. Bullish for mid/long term oil prices. Detailed comment in SAF Group Jan 27, 2021 Energy Tidbits memo safgroup.ca/news-insights/ #OOTT

on of half of oil reserves in Russia is unprofita

el Sorokin considers the range of \$ 55-60 per barrel as a

le News

roduction of about half of the oil reserves in the Russian Fed. It is worth focusing on working with the current resource base in interview with the Izvestia newspaper published on Friday.

es, a significant part of it is unprofitable at a price of \$ 50 - abo

ortunities for working with the current resource base; with smal

deeper and more difficult layers. what you need to concentrate c

re of \$ 55-60 per barrel to be a balanced oil price for next year, l

the world of production under the OPEC + deal, which under th

ce in May 2022.

their production to the pre-pandemic level, all other things beir

tium price, we think, is in the range of \$ 55-60," he said.

SAF GROUP

Energy Tidbits

January 31, 2021

Prepared by Dan Tsubouchi

Russia Says Increasing Water Cut, Deteriorating Development, Etc Mean Only 36% of Its Oil Reserves are Profitable

Welcome to our Energy Tidbits memo readers! We are continuing to add new readers to our Energy Tidbits memo, energy blogs and tweets. The focus and content for the memo was and is 100% with global headlines, the news changing or relevant, both general and regional items that impact our clients' investment thesis in the energy space, and not just focusing on daily trading. Our priority was and still is to not just report on events, but also to be thoughtful and add our perspective. We had especially in our review of financial data, conditions and earnings calls focusing on sector developments that are relevant to the sector and not just a specific company result. Our target is to write an 80-100 word memo per year and to post to your newsletter on a Friday.

This week's memo highlights:

1. Surprising comments from Russia that deteriorating development, increasing water cut, etc mean that only 36% of its oil reserves are currently profitable. [\(LINK\)](#)
2. Rigfest estimates -80% of Dec 5, 2020 DUCs are really just DUCs waiting to be abandoned; won't be completed. [\(LINK\)](#)
3. A Jan 2021 E&P report credits to likely as large global energy companies move to Net Zero and make CO2 a must for LNG projects. [\(LINK\)](#)
4. Larry Fink's annual letter reminds ESG is accelerating in importance for capital markets. [\(LINK\)](#)
5. Another week of Biden trying to get the US on an irreversible path to Net Zero. [\(LINK\)](#)
6. We didn't have enough time to write up many O&G takeaways. [\(LINK\)](#)
7. Please follow us on Twitter at @Energy_Tidbits for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Friday noon MT.
8. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK](#).

Dan Tsubouchi @Energy_Tidbits · Jan 27

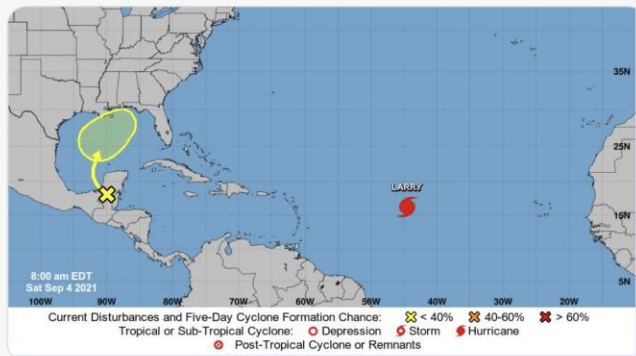
1/2. must read, bullish for oil @tass_agency story "only 36% of oil reserves in Russia are profitable". multiple indicators of maturing oil supply ie. deeper, smaller pools, etc. Effectively says RUS has more or less reached peak oil supply unless #Oil prices are higher ... [Show this thread](#)





Dan Tsubouchi @Energy_Tidbits · Sep 4

Next couple days will be key to see what happens as this disturbance emerges from Yucatan Peninsula into the GoM. Right now, @NHC_Atlantic sees <40% probability for development into tropical storm strength. Let's hope it doesn't. #OOTT #NatGas #LNG



Dan Tsubouchi @Energy_Tidbits · Sep 4

great sunrise in #Canmore looking at the Rockies over the Bow River. should be pretty crowded in town today with the long weekend



0:14 325 views



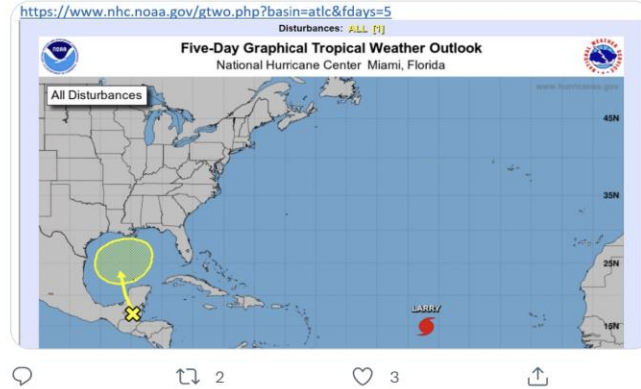


Dan Tsubouchi @Energy_Tidbits · Sep 3

...

Let's hope the @NHC_Atlantic <40% probability for development turns out to be high and this doesn't emerge in the GoM as a potential storm. #OOTT #NatGas #LNG

nhc.noaa.gov/gtwo.php?basin...



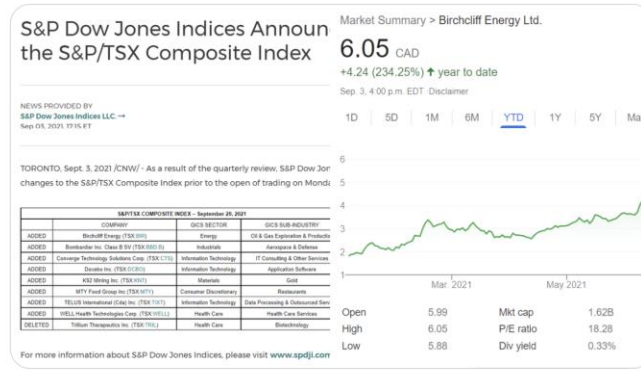
2 3



Dan Tsubouchi @Energy_Tidbits · Sep 3

...

Shout out to \$BIR for being added to TSX Composite index in quarterly index rebalancing. Shares may be +234% YTD, but #NatGas outlook looks strong going into the winter with storage -579 bcf YoY and EU needs US #LNG to rebuild their storage for winter.



3 11



Dan Tsubouchi @Energy_Tidbits · Sep 3



don't normally see one lone elk on the field by the Bow River in #Canmore. going to be a great day in the Cdn Rockies



0:21 254 views



4



Dan Tsubouchi @Energy_Tidbits · Sep 2



Note the @BSEEGov shut in GoM data makes sense given #Shell's press release that critical WD-143 transfer station is damaged preventing ~310,000 b/d #Oil #NatGas from Mars, Olympus, Ursa getting to terminals. See linked tweet #OOTT twitter.com/Energy_Tidbits...



Dan Tsubouchi @Energy_Tidbits · Sep 2

Something looks off in @BSEEGov shut in GoM data today. Doesn't make sense for evacuated platforms to be ~29% vs yesterday, but shut-in GoM #Oil +247 kbd and #NatGas +0.39 bcf/d. #OOTT [bsee.gov/newsroom/latest-news/](https://www.bsee.gov/newsroom/latest-news/)

BSEE sept 2 update <https://www.bsee.gov/newsroom/latest-news/statements-and-releases/press-releases/bsee-monitors-gulf-of-mexico-oil-and-5>

Date	Platforms Evacuated		Rigs Evacuated		Oil - Shut-In (b/d)		Gas - Shut-In (mmcf/d)	
	Total	% of OCM	Total	% of OCM	Total	% of OCM	Total	% of OCM
2021-08-27	69	15.89%	1	9.09%	1,864,849	58.51%	1,068.0	48.79%
2021-08-28	279	49.82%	11	100.00%	1,653,335	60.84%	1,892.7	84.87%
2021-08-29	288	51.43%	11	100.00%	1,740,850	65.65%	2,090.7	93.75%
2021-08-30	293	51.43%	11	100.00%	1,721,806	64.60%	2,087.0	93.57%
2021-08-31	278	49.84%	9	81.82%	1,705,095	63.69%	2,107.0	94.47%
2021-09-01	248	44.46%	9	81.82%	1,455,299	79.96%	1,877.9	83.21%
2021-09-02	177	31.61%	6	54.55%	1,702,966	63.55%	2,035.0	91.29%

Source BSEE

Sept 1, update

	Total	Percentage of OCM
Platforms Evacuated	143	44.8%
Rigs Evacuated	9	81.8%
DP Rigs Moved off	4	36.4%

Sept 2 update

	Total	Percentage of OCM
Platforms Evacuated	177	31.6%
Rigs Evacuated	6	54.5%
DP Rigs Moved off	4	36.4%

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1





Dan Tsubouchi @Energy_Tidbits · Sep 2



Shut down to #Shell WD-143 critical transfer station looks like 310,000 boed impact incl Mars 60,000 boed, Olympus 100,000 boed & Ursa 150,000 boed. Thanks to @josyanajoshua @DavidWethe for data in their recap today. #Oil #NatGas #OOTT

SAF — Dan Tsubouchi @Energy_Tidbits · Sep 2

#Shell says no est on time & production impact yet from #Ida damage to WD-143 facilities, critical transfer station to onshore crude terminals for deepwater GoM production from all assets in Mars corridor ie. #Oil #NatGas can't flow to terminals. Note @OEdigital map. #OOTT

Source: Offshore Engineer, Shell

<https://www.newswire.ca/news-releases/shell-identifies-damage-to-wd-143-from-hurricane-ida-in-the-gulf-of-mexico-875376576.html>

Shell Identifies Damage to WD-143 from Hurricane Ida in the Gulf of Mexico

Shell Offshore Inc. Sep 02, 2021, 16:30 ET

HOUSTON, Sept. 2, 2021 /CNW/ — Shell Offshore Inc. (Shell), a subsidiary of Royal Dutch Shell plc, conducted an initial flyover of our assets in the path of Hurricane Ida. During this initial flight, we observed damage to our West Delta-143 (WD-143) offshore facilities. When it is safe to do so, we will send personnel offshore to provide a closer inspection of these facilities to understand the full extent of the damage and the degree to which our production in the Gulf of Mexico will likely be impacted.

The WD-143 facilities serve as the transfer station for all production from our assets in the Mars corridor in the Mississippi Canyon area of the Gulf of Mexico to onshore crude terminals.

Our Perdido asset in the southwestern Gulf of Mexico was never disrupted by the hurricane, and our floating production, storage and offloading vessel, the Turrillita (also known as Stones) is currently back on line. All of our other offshore assets remain shut in and remain fully evacuated at this time. At the early phase of assessment and recovery, approximately 80% of Shell-operated production in the Gulf of Mexico remains off line.

In our initial flyover, we did not observe any visible structural damage to the rest of our offshore assets. When we are able to safely deploy personnel offshore to these assets, we will conduct additional inspections and work to restore production as soon as possible.

As we assess the impact of Hurricane Ida on our Upstream and Downstream businesses, our top priorities continue to be the protection and recovery of our people and assets, the community and the environment.

4 6



Dan Tsubouchi @Energy_Tidbits · Sep 2



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2 7



Dan Tsubouchi @Energy_Tidbits · Sep 2

Something looks off in @BSEEGov shut in GoM data today. Doesn't make sense for evacuated platforms to be -29% vs yesterday, but shut-in GoM #Oil +247 kbd and #NatGas +0.39 bcfd. #OOTT [bsee.gov/newsroom/lates...](https://www.bsee.gov/newsroom/latest-news/statements-and-releases/press-releases/bsee-monitors-gulf-of-mexico-oil-and-gas-operations)

BSEE Sept 2 update <https://www.bsee.gov/newsroom/latest-news/statements-and-releases/press-releases/bsee-monitors-gulf-of-mexico-oil-and-gas-operations>

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2021-08-29	268	51.43%	11	100.00%	1,740,850	95.65%	2,090.7	93.75%
2021-08-30	288	51.43%	11	100.00%	1,721,809	94.60%	2,087.0	93.57%
2021-08-31	278	49.64%	9	81.82%	1,705,095	93.69%	2,107.0	94.47%
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Source BSEE

	Total	Percentage of GOM
Platforms Evacuated	100	44.00%
Rigs Evacuated	9	81.82%
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DP Rigs Moved off	4	36.36%

1 2 4



Dan Tsubouchi @Energy_Tidbits · Sep 2

Positive for #LNG, Europe #NatGas prices and more EU pull for US LNG exports. Shulginov reminds priority is to fill Russia's gas storage before winter, not provide additional volumes to EU. #Gazprom warned on Aug 17 below. Great report @d_khrennikova @olyatanas @MaznevaElena

Bloomberg @TheTerminal
Energy Minister Says Russia to Fill Gas Storages in 2 Months (1)
2021-09-02 09:54:12.14 GMT

By Dina Khrennikova, Olga Tanas and Elena Mazneva
(Bloomberg) — Russia will refill its depleted gas storage sites within two months, a move that could leave Europe scrambling to get the extra supplies it needs before the winter.
Data from Gazprom PJSC indicates that storage facilities will be full by November as planned, said Energy Minister Nikolay Shulginov. That would mean almost doubling stockpiles from levels at the end of June, according to Bloomberg calculations based on data from the Russia gas giant.
Russia is facing a gas crunch of its own, with Gazprom saying it's overwhelmed with record demand at home and abroad. That could make it harder for Europe's top supplier to provide the additional fuel the continent needs to boost its own reserves — already at the lowest in more than a decade for this time of year — before the start of the heating season. "Based on data from Gazprom, we see the reinjections as planned by Nov. 1. That's up from about 37 billion cubic meters at the end of June, according to Bloomberg calculations and data from Gazprom, which discloses storage figures only sporadically.
Europe is scrambling to get more gas to fill its own storage sites before the winter. Russian supplies have been limited, while cargoes of liquefied natural gas are being redirected to Asia to meet soaring demand there. Declining production and outages in the North Sea mean Europe can't count on its own output either. All of that has pushed European gas prices up to a record this week.
Russia faced higher demand from power producers at home due to heat waves this summer. That has now abated as

SAF Dan Tsubouchi @Energy_Tidbits · Aug 17

Positive for #LNG & Europe #NatGas price, #Gazprom won't be normal help rebuilding low EU storage. Its production & exports up, but can't do more as domestic consumption at new peak levels and domestic gas storage is low & needs to be rebuilt for ...

1 14 23



Dan Tsubouchi @Energy_Tidbits · Sep 1



Wish #OPEC+ drafting was precise. #OPEC+ says reconfirm the production adjustment plan approved at 19th (infers the +0.4 mmbd on a monthly basis starting Aug 2021 until phasing out the 5.8 mmbd production adjustment), but only specifically notes +0.4 mmbd for Oct #OOTT #Oil

The Meeting noted the ongoing strengthening of market fundamentals, with oil demand showing clear signs of improvement and OECD stocks falling, as the economic recovery continued in most parts of the world with the help of accelerating vaccination programmes.

The Meeting welcomed the positive performance of Participating Countries in the Declaration of Cooperation (DoC). Overall conformity to the production adjustments was 113% in June (including Mexico), reinforcing the trend of high conformity by Participating Countries.

In view of current oil market fundamentals and the consensus on its outlook, the Meeting resolved to:

Reaffirm the Framework of the Declaration of Cooperation, signed on 10 December 2016 and further endorsed in subsequent meetings, including on 12 April 2020.

Extend the decision of the 10th OPEC and non-OPEC Ministerial Meeting (April 2020) until the 31st of December 2022.

Adjust upward their overall production by 0.4 mmbd on a monthly basis starting August 2021 until phasing out the 5.8 mmbd production adjustment, and in December 2021 assess market developments and Participating Countries' performance.

Continue to adhere to the mechanism to hold monthly OPEC and non-OPEC Ministerial Meetings for the entire duration of the Declaration of Cooperation, to assess market conditions and decide on production level adjustments for the following month, endeavoring to end production adjustments by the end of September 2022, subject to market conditions.

Adjust, effective 1st of May 2022, the baseline for the calculations of the production adjustments according to the attached table (table 1).

Reiterate the critical importance of adhering to full conformity and taking advantage of the extension of the compensation period until the end of September 2021. Compensation plans should be submitted in accordance with the statement of the 15th OPEC and non-OPEC Ministerial Meeting.

The meeting decided to hold the 20th OPEC and non-OPEC Ministerial Meeting on 1 September 2021.



Dan Tsubouchi @Energy_Tidbits · Sep 1



Reminds of 2 energy themes. More Asian #LNG #NatGas buyers want long term contracts supports financing to liquefaction FID. #COP26 challenge - outside wealthy countries, cost of energy drives near term fuel choice, not #ClimateChange aspiration. Thx @MessageAnnKoh @SStapczynski

Emerging Asia Faces Power Curbs, More Pollution on Gas Rally (1)
2021-09-01 07:23:31.714 GMT

By Ann Koh and Stephen Stapczynski

(Bloomberg) – Pakistan and Bangladesh are among developing nations in Asia that can no longer afford to pay surging liquefied natural gas prices, raising the risk of power rationing or the burning of dirtier alternatives this winter. Bangladesh's state-run Petrobangla plans to stop buying spot LNG cargoes for the rest of the year after a quadrupling of prices over the past year to a seasonal high. Pakistan has repeatedly canceled and reissued LNG purchase tenders in an effort to get better offer prices, without avail.

The evolution marks a stark turnaround after developing Asia helped drive a surge in trading of the super-chilled fuel and built LNG import strategies on the premise that spot shipments would be abundant and cheap. Unlike richer counterparts in the region that can pass on this year's historic price rally to end-users, some governments may need to rethink LNG procurement strategies and reduce exposure to the volatile spot market, switch to dirtier fuels such as coal or oil or even curb electricity production.

"With spot prices so high and with relatively low development, these countries may not be able to afford the current sky-high prices for gas on the global market," said Ron Smith, senior oil and gas analyst at BCS Global Markets. A return of power rationing this winter "seems quite possible" for Bangladesh and Pakistan.

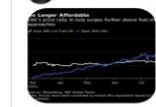
Nations in South Asia have the most potential to take advantage of cheaper fuel oil to offset the rise in spot LNG prices through this winter, said Felix Booth, head of LNG at energy-intelligence company Vortex.



Ann Koh @MessageAnnKoh · Sep 1

It is not economical for Bangladesh or Pakistan to buy spot LNG if they can do without it. Fuel oil prices in Asia were about \$11.60 a million British thermal units on Aug. 31, according to data compiled by Bloomberg. That's about \$7 below spot ...

Show this thread





Dan Tsubouchi @Energy_Tidbits · Sep 1

#OPEC+ revised 2022 #Oil demand forecast +0.92 mmb/d to +4.2 mmb/d YoY (was +3.28 mmb/d) & OECD commercial oil stocks <2015-2019 ave until May 2022. supports continued OPEC+ increases. Thx @aghadhar @RaniaElGamal2 #OOTT



reuters.com

OPEC+ raises 2022 oil demand growth forecast

The OPEC+ group of oil producers has made an upward revision to its 2022 oil demand forecast ahead of a meeting on Wednesday as the ...



Dan Tsubouchi @Energy_Tidbits · Aug 31

what a game. down 2-0 and come back with overtime winner by @pou29 what a team of champions. congrats @HC_Women 🇨🇦



Hockey Canada @HockeyCanada · Aug 31

THE GOLDEN GOAL! 🏒

#WomensWorlds | #OurGamelsBack | @pou29





Dan Tsubouchi @Energy_Tidbits · Aug 31

#Caixin China PMI out at 7:45pm MT. Aug 49.2 vs est 50.2 and vs 50.3 July. 1st contraction since April 2020. reappearance of Covid-19 clusters in several regions "has dealt a blow to manufacturing activity" Thanks @IHSMarkeitPMI #OOTT

Caixin China General Manufacturing PMI™
Business conditions deteriorate slightly in August

China General Manufacturing PMI

New Export Orders Index

Employment Index

Key findings: Export and orders both decline modestly. Supply chain delays worsen and global COVID-19 cases complicate manufacturing activity and staffing levels.

1



Dan Tsubouchi @Energy_Tidbits · Aug 31

winter 2021-2022 forecast, @almanac says "prepare for a season for a season of shivers". If correct, this would be very bullish for HH #NatGas prices with US gas storage -563 bcf YoY & EU storage 66% full vs 5 yr ave 82% wanting to pull US #LNG exports.

Old Farmer's Almanac @almanac · Aug 31

Good morning, Almanac fans! It's Debut Day! The 2022 Old Farmer's Almanac is now available EVERYWHERE! America's #1 Almanac may be small, but it lasts all year long--and we hope it brings a much needed smile to your face every day! For the winter forecast: Almanac.com/winter

THE 2022 OLD FARMER'S ALMANAC
PREPARE FOR A
SEASON OF SHIVERS

2021-2022 WINTER FORECAST

Map labels: MILD, SNOWY; COLD, DRY; COLD, WET.

11 13

SAF

Dan Tsubouchi @Energy_Tidbits · Aug 31

Wildcard for #Oil. #JCPOA, Iran FM says 2-3 mths for new #Raisi admin to plan for any decision/talks. Positive for #Oil as full return of Iran is likely Q1/22 at earliest. Wildcard, Israel's view to a few more mths for Iran to get closer to break out to nuclear? #OOT

<https://en.mehrnews.com/news/178031/Negotiations-should-have-tangible-achievements-for-Iranians>

'Negotiations should have tangible achievements for Iranians'

TEHRAN, Aug. 31 (MNA) – Stating that Iran is not seeking to escape the negotiating table, the Iranian Foreign Minister said that the new administration believes in negotiations that have tangible achievements in the interests of the Iranian people.

"We welcome any meeting with the countries of the region and we are interested in it, but the fact that foreigners want to play a role in the region is not in our interest and in the interest of the countries in the region," said Hossein Amir-Abdollahian on Monday night in a televised interview referring to the Baghdad Summit.

Emphasizing Iran's continued support for Iraq, he said "We do not consider the presence of foreigners and occupiers in the region useful."

He also pointed to the Vienna talks on reviving the JCPOA, saying, "We have clearly stated to the other side that the Islamic Republic of Iran welcomes a logical negotiation, and we certainly do not seek to escape from the negotiating table, but it is a very important point that the 13th administration believes in negotiations that have tangible achievements in the interests of the Iranian people."

"Negotiation is one of the tools of diplomacy, and we hope that good things will happen in this regard and that the other parties will be present at the negotiating table on the basis of wisdom, not non-constructive messages," he added.

Regarding the next round of talks, Amir-Abdollahian said, "The other side understands that it will take two to three months for the new government to take office and plan for any decision."

Meanwhile in his remarks, the Iranian Foreign Minister referred to the latest developments in Afghanistan, saying, "We support a

Dan Tsubouchi @Energy_Tidbits · Aug 27

Risk premium to #Oil? is #JCPOA enough to stop Israel independent action? #Bennett "permanently keep Iran away from ever being able to break out to nuclear weapon" "never outsource our security, its our responsibility to take care of our fate". what will ...

1 6

SAF

Dan Tsubouchi @Energy_Tidbits · Aug 30

have to admit, was surprised to see #Pemex announce it restored all 421,000 b/d of shut in oil after the Aug 22 fire. #OOT

[pemex.com/saladeprensa/b...](https://www.pemex.com/saladeprensa/b...)

https://www.pemex.com/saladeprensa/boletines_nacionales/Paginas/2021-197_nacional.aspx

PEMEX restores production of 421 thousand barrels per day of oil on the E-Ku-A2 platform

08/30/2021 | 197

• 125 wells that were closed by the incident have been rehabilitated

• Activities to resume production were carried out without incident to personnel, or damage to facilities or the environment

Petróleos Mexicanos (PEMEX) reports that, with respect to the incident on the E-Ku-A2 platform of the Ku-A process center of the Ku - Maloob - Zaap Production Asset, which occurred on August 22, the production of 421 thousand barrels of oil per day (Mbd) and the 125 wells that were closed have been rehabilitated. Due to this event, there was a deferred production of 1.6 million barrels (MMbd).

The activities to resume oil production in this complex of the Campeche Sound were carried out in compliance with and compliance with the policy and principles of Safety, Health and Environmental Protection (SSPA), without accidents that affected personnel, or incidents in the facilities or damage to the environment.

It is important to mention that the activities carried out to restore production in this asset were carried out through the combined efforts of PEMEX's operating personnel, in conjunction with its service providers.

Mentions of Pemex may refer to Petróleos Mexicanos or any of its Subsidiary Productive Companies.

Last modified 08/30/2021 12:30 PM Pemex #PEMEX

1




Dan Tsubouchi @Energy_Tidbits · Aug 30

...

no surprise, #HurricaneIda only passed thru 24 hrs ago so no real change in GoM shut in #Oil 1.72 mmb/d, #NatGas 2.09 bcf/d. expect to see platforms coming back on over the coming days. #OOTT [bsee.gov/newsroom/lates...](https://www.bsee.gov/newsroom/lates...)

BSEE Monitors Gulf of Mexico Oil and Gas Activities in Response to Hurricane Ida



NEW ORLEANS — Bureau of Safety and Environmental Enforcement (BSEE) has activated its Hurricane Response Team as Hurricane Ida made its way through the Gulf. The Hurricane Response Team is monitoring offshore oil and gas operators in the Gulf as they evacuate platforms and rigs in response to the storm. The team works with offshore operators and other state and federal agencies until operations return to normal and the storm is no longer a threat to Gulf of Mexico oil and gas activities.

Based on data from offshore operator reports submitted as of 11:30 CDT today, personnel have been evacuated from a total of 208 production platforms, 31.43 percent of the 662 licensed platforms in the Gulf of Mexico. Production platforms are the structures located offshore from which oil and gas are produced. Other drilling rigs, which typically move from location to location, production facilities remain in the same location throughout a project's duration.

Personnel have been evacuated from 11 rigs (non-dynamically positioned), equivalent to 100 percent of the 11 rigs of this type currently operating in the Gulf. Rigs can include several types of offshore drilling facilities including jackup rigs, platform rigs, all substructures and moored semi-submersibles.

A total of 7 dynamically positioned rigs have moved off location out of the storm's projected path as a precaution. This number represents 62 percent of the 11 DP rigs currently operating in the Gulf. Dynamically positioned rigs maintain their station while monitoring well conditions to avert blowouts and production. These rigs are not required to the surface; therefore, they can move off location in a relatively short time frame. Personnel remain on-board and return to the location once the storm has passed.

As part of the evacuation process, personnel activate the applicable shut-in procedure, which can frequently be accomplished from a remote location. This involves closing the sub-surface safety

environmental systems.

From operator reports, it is estimated that approximately 94.4 percent of the current oil production in the Gulf of Mexico has been shut in. BSEE estimates that approximately 93.27 percent of the gas production in the Gulf of Mexico has been shut in. The production percentages are calculated using information submitted by offshore operators in daily reports. Shut-in production information included in these reports is based on the amount of oil and gas the operator expected to produce that day. The shut-in production figures therefore are estimates, which BSEE compares to historical production reports to ensure the estimates follow a logical pattern.

After the storm has passed, facilities will be inspected. Once all standard checks have been completed, production from unharmed facilities will be brought back online immediately. Facilities sustaining damage may take longer to bring back online.

	Total	Percentage of GOM
Platforms Evacuated	208	31.43%
Rigs Evacuated	11	100%
DP Rigs Moved Off	7	63.6%
	Total	Percentage of GOM Production
Oil BOPD Shuts In	1,721,000	94.40%
Gas BCFPD Shuts In	2,097	93.27%

BSEE will continue to update the evacuation and shut-in statistics at 1:00 p.m. CDT each day as appropriate. This survey is reflective of 23 computer reports as of 11:30 CDT today.

BSEE

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Dan Tsubouchi @Energy_Tidbits · Aug 30

...

Continued positive for #LNG prices & US LNG exports until #NordStream2 gets full go ahead, Notwithstanding #Gazprom saying no linkage to German court ruling against NS2, but Gazprom clearly not doing anything to help relieve #TTF gas prices. Thx @isiscarol14 #NatGas

but the US 11th Circuit Court ruled that the pipeline can't sidestep European Union regulations requiring gas producers to be legally separate from entities that transport the fuel, a decision that threatens to delay operations.

Some traders speculate the withdrawal of offers could be a way to put pressure on Europe to remove hurdles for the pipeline, while others say it could signal the link won't be operational as early as previously thought.

But there may also be other reasons for the move. Gazprom said last week it was overwhelmed with record demand both abroad and in Russia, where it needs to refill storage sites depleted way beyond normal during the past winter.

Nord Stream 2, which is slated to double the capacity of the existing undersea route from Russian gas fields to Europe, has been a major source of friction in trans-Atlantic relations for several years.

--With assistance from Elena Mazneva and Anna Shiryaevskaya.
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Dan Tsubouchi @Energy_Tidbits · Aug 29

Big hit still to be revealed vs Cdn #Oil #NatGas #Oilsands whenever #Trudeau gives details of goal to get O&G sector to #NetZero emissions by 2050 & what is the 1st target emissions reduction level in 2025 "making sure" industry is on track. #OOTT

More Jobs. Less Pollution. Cleaner Communities.

Climate change is the greatest long-term threat of our time. But it is also our greatest economic opportunity – and Canada has the skilled workforce, innovative spirit, and natural resources at our fingertips to succeed.

Since 2015, Justin Trudeau and the Liberal government have made significant progress towards the environment – and given the economy. We made more pollution-free investments in Canada, added pollution-free resources to the pipeline of clean energy jobs, and improved the lives of Canadians by cutting their taxes and putting more money in their pockets, which will help Canadians secure energy costs. And we've invested billions of dollars in our clean energy future.

More jobs

We will ensure that Canadian workers and businesses benefit from the growth of the clean energy sector and create new jobs in the middle class and create new jobs for:

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Cleaner communities

We will ensure that all in our communities (cleaner and safer) for workers in Canada also manufacturing sector to meet health and environmental needs for:

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Less pollution

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Dan Tsubouchi @Energy_Tidbits · Aug 29

Our weekly SAF Aug 29, 2021 Energy Tidbits memo was just posted to our SAF Group website. This 40-pg energy research piece expands upon and covers many more items than tweeted this week. See the research section of the SAF website #Oil #OOTT #LNG #NatGas safgroup.ca/news-insights/

SAF GROUP

Energy Tidbits Aug 29, 2021

Produced by: Dan Tsubouchi

Hurricane Ida About to Hit as Cat 4 at New Orleans, Impact To People, Property, Power, Oil, Etc Will Be The Monday Story

Welcome to new Energy Tidbits memo readers. We are continuing to add new readers to our Energy Tidbits memo, energy blogs and tweets. The focus and concept for the memo was set in 1999 with input from PMs, who were looking for research (both positive and negative items) that helped them shape their investment thesis to the energy space, and not just focusing on daily trading. Our priority was and still is to not just report on events, but also try to interpret and point out implications therefrom. The best example is our review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector and not just a specific company results.

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