Energy Tidbits

January 19, 2025

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Will Trump Put in Motion Multiple Upsides to Oil & Natural Gas i.e. Hitting Iran & Venezuela Oil Exports, Offshore Wind, etc?

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 1998 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. My 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 the review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector. My target is to write on 50 weekends per year and to post by noon MT on Sunday. The Sunday noon timing was because PMs said they didn't have research to read on Sundays and Sundays are a day when they start to think about the investing week ahead.

This week's memo highlights:

1. We think it is overlooked that Trump is expected to put in motion multiple upsides to oil and natural gas tomorrow. [click here]

2. Brutal cold hitting the US will cause interruptions to oil, natural gas, refineries, electricity, rail cargo, etc but can't predict exactly what will be hit. [click here]

3. BC Premier Eby's mandate letters seemed to imply they won't be a holdback item for FID on LNG Canada's 1.8 bcf/d Phase 2. [click here]

4. Overlooked holdback for oil post 2025 is Saudi Arabia and Qatar will be adding >1 mmb/d of condensate & NGLs to export markets that is outside OPEC+ quotas. [click here]

5. Overlooked positive missing item from IEA's OMR release – the IEA didn't go out of its way to negatively message on oil at every opportunity. Rather they let their numbers speak for themselves. [click here]

6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.

7. 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]

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Natural Gas: -258 bcf draw in US gas storage; now -111 bcf YoY

-258 bcf draw in US gas storage

The cold weather brought the first storage draw this winter and there should be another big storage draw next week. For the week ending Jan 10, 2025, the EIA reported a -258 bcf draw [LINK]. Total storage is now 3.115 tcf, representing a deficit of -111 bcf YoY compared to a deficit of only -3 bcf last week. For much of 2024, storage figures exceeded the 5-year range but moved back into the 5-yr range as winter approached and continues to be within the 5-yr range. The week of Jan 10, 2025, saw storage is +77 bcf above the 5-yr average, below last week's +207 bcf surplus to the 5-yr average. Below is the EIA's storage table from its Weekly Natural Gas Storage report and a table showing the US gas storage over the last 8 weeks.

Figure 1: US Natural Gas Storage

	Stocks billion cubic feet (Bcf)				Historical Comparisons: Year ago (01/10/24)		5-year average (2020-24)	
Region	01/10/25	01/03/25	net change	implied flow	Bcf	% change	Bcf	% change
East	669	737	-68	-68	727	-8.0	708	-5.5
Midwest	808	881	-73	-73	888	-9.0	842	-4.0
Mountain	240	255	-15	-15	211	13.7	172	39.5
Pacific	283	293	-10	-10	262	8.0	227	24.7
South Central	1,114	1,207	-93	-93	1,137	-2.0	1,089	2.3
Salt	326	364	-38	-38	332	-1.8	319	2.2
Nonsalt	788	844	-56	-56	805	-2.1	770	2.3
Total	3,115	3,373	-258	-258	3,226	-3.4	3,038	2.5

Source: EIA

Figure 2: Previous US Natural Gas Storage

Previous 8 weeks (Bcf)				
Week Ended	Gas in Storage	Weekly Change	Y/Y Diff	Diff to 5 yr Avg
Nov/22	3,967	-2	134	267
Nov/29	3,937	-30	185	284
Dec/06	3,747	-190	67	165
Dec/13	3,622	-125	20	132
Dec/20	3,529	-93	14	166
Dec/27	3,413	-116	-67	154
Jan/03	3,373	-40	-3	207
Jan/10	3,115	-258	-111	77

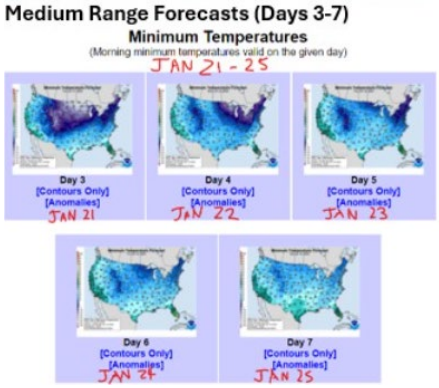
Source: EIA

Natural Gas: NOAA's 3-7, 6-10 & 8-14 day calls for colder than normal temps in Jan

Cold temperatures to continue

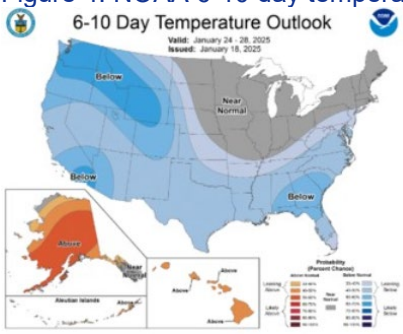
HH ended up down $0.04 WoW to close at a still strong $3.95 on Friday. But that was after HH was +$0.18 on Thursday to $4.26 following the weekly storage draw. We were a little surprised to see HH drop $0.31 on Friday to close at $3.95 given the big freeze was just moving across the Lower 48 this weekend. The big chilling cold is forecast to end in the coming days, but NOAA forecasts a little colder than normal temperatures across the Lower 48 thru the end of January. Yesterday, we posted [LINK] "*Support for HH #NatGas. Bitter cold across Lower 48 may be ending this week, but Lower 48 expected to stay a little colder than normal thru the end of Jan. Today's updated @NOAA 3-7, 6-10 & 8-14 day temperature outlooks. #OOTT.*" Our post included the below NOAA updated temperature maps for 3-7 days, 6-10 days and 8-14 days.

Figure 3: NOAA 3-7 day minimum temperature outlook covering Jan 21-25



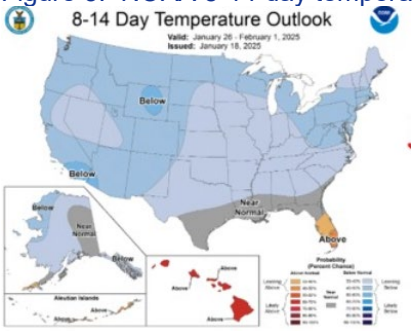
Source: NOAA

Figure 4: NOAA 6-10 day temperature outlook covering Jan 24=28



Source: NOAA

Figure 5: NOAA 8-14 day temperature outlook for Jan 26-Feb 1



Source: NOAA

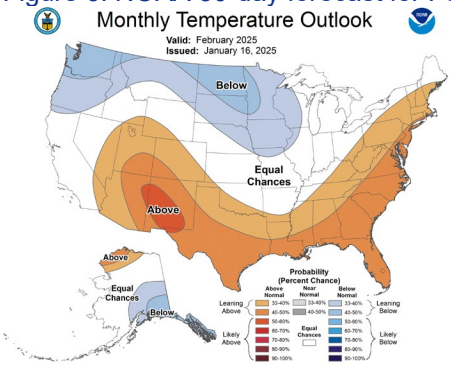
Natural Gas: NOAA expects warmer than normal temps along East and South for Feb

NOAA monthly temp outlook

On Thursday, we posted [LINK] "*HH #NatGas hits $4 with support for the next week or more from the forecast for really cold temperatures across populous east & south of the Lower 48 thru Jan 25. Looking further out, @NOAA's new Feb temperature forecasts is warmer than normal along east & south. #OOTT.*" HH went above $4 early on Thursday and, with the cold

temperatures expected to continue for another week, no one was really caring what Feb would be like. But our post included NOAA"s 30-day forecast for February that had just been posted and the temperature probability calls for warmer than normal temperatures with some colder temperatures emerging in the North for the Lower 48. NOAA forecasts above normal temperatures in the South and populous NE, with the NW expected to have below normal temperatures, and the rest of the lower 48 forecasted to have equal chances of above or below average temperatures. We recognize that weather forecasts are far from 100% accurate, but near-term forecasts tend to have greater accuracy. Below is the NOAA temperature probability outlook forecast for February released on January 16.

Figure 6: NOAA 30-day forecast for Feb



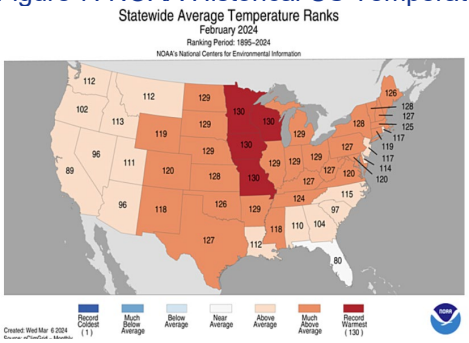
Source: NOAA

NOAA, Feb 2024 was 3rd warmest Feb on record

The reason for the much better YoY storage is that winter 2023/24 was the hottest on record and it included Feb 2024 as the 3rd warmest on record. Here is what we wrote in our March 10, 2024 Energy Tidbits memo. "*NOAA, 3rd warmest Feb on record, warmest winter on record for US. We started warning on the hot winter in Q4/23 with the reminder that it is always tough for natural gas markets to catch up from a warm start to winter. And that the only way that happens is if there is sustained cold weather in Jan and Feb. Unfortunately, the hot weather played out all winter. On Friday, the NOAA released their February recap for statewide average temperatures, which revealed February 2024 was the 3rd warmest the US has seen in the past 130 years. 4 other states saw their hottest February in recorded history as well. This comes after last February (2023) was labelled the 28th hottest since 1895. In a news release [LINK], the NOAA wrote "The average temperature of the contiguous U.S. in February was 41.1°F, 7.2°F above average, ranking third warmest in the 130-year record. February temperatures were above average across most of the contiguous U.S., while record-warm temperatures were observed across much of the Mississippi Valley and in parts of the Great Lakes and southern Plains. Minnesota, Wisconsin, Iowa and Missouri each had their warmest February on record…The meteorological winter (December–February) average temperature for the Lower 48 was 37.6°F, 5.4°F above average, ranking as the warmest winter on record. Temperatures were above average across a vast majority of the contiguous U.S. and near average along parts of the Gulf of Mexico. North Dakota, Minnesota, Iowa, Wisconsin, Michigan,*

New York, Vermont and New Hampshire each had their warmest winter on record." Note that NOAA's definition of winter is Dec-Feb. Below is a picture of statewide average temperature ranks in February."

Figure 7: NOAA Historical US Temperature Ranks by State – February 2024



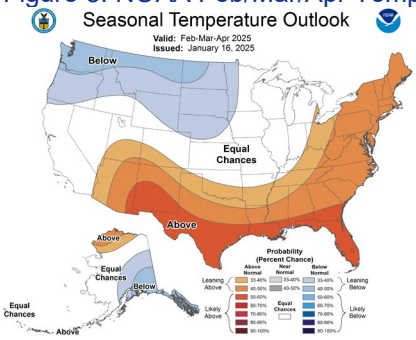
Source: NOAA

Natural Gas: NOAA forecasts warmer than normal temp for Feb/Mar/Apr in East and South

NOAA Feb/Mar/Apr temp forecast

NOAA also forecast a warmer than normal Feb/Mar/Apr with some colder temperatures coming from the North in the Lower 48. We recognize that temperature forecasts are never 100% accurate but a waremer than normal Feb/Mar end to winter would cause some weakness on natural gas prices. As noted above, absent a supply interruption, winter weather temperatures are the most significant factor on LNG and natural gas prices. On Thursday, NOAA posted the updated monthly FMA 2024-25 outlook [LINK]. NOAA continues to see a La Nina/Normal end to winter but turning to a weak La Niña Spring in the Northern Hemisphere. The takeaway from the update is to expect warmer than average temperatures in the populous NE and south of the US, slightly below average temperatures favoured in the Pacific Northwest to the northern High Plains; with the remaining areas being normal temperature. Below are NOAA's temperature forecast maps for Feb/Mar/Apr.

Figure 8: NOAA Feb/Mar/Apr Temperature Probability Forecast



Source: NOAA

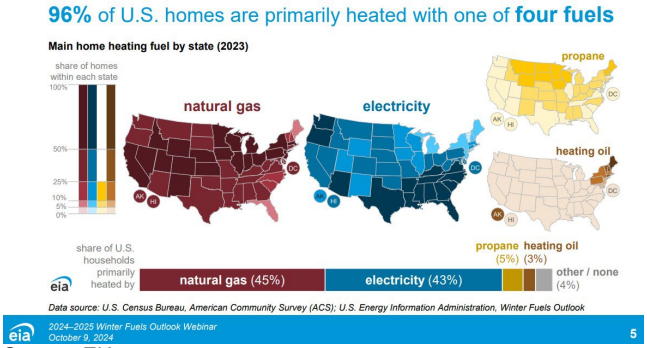
Natural Gas: US home heating by fuel by state

Natural gas home heating

The cold wave is coming in and is basically to cover all of the Lower 48, which should increase natural gas demand for all homes using natural gas for heating and demand for all

fuels heating homes. Our focus is normally how cold it is it in populous regions that use natural gas for winter home heating and that is why we typically focus on how cold is it around the Great Lakes and the NE US. But right now, it is cold everywhere. Below is the EIA's map showing US winter home heating by fuel by state. Natural gas, on average, heats 45% of US homes but a way higher percentage around the Great Lakes and parts of the NE US. Below is the EIA home heating by fuel by state map.

Figure 9: Fuels for winter home heating of US homes



Source: EIA

Natural Gas: EIA, Shale/tight gas production been flat 83-84 bcf/d for last 6 months

Shale/tight gas production

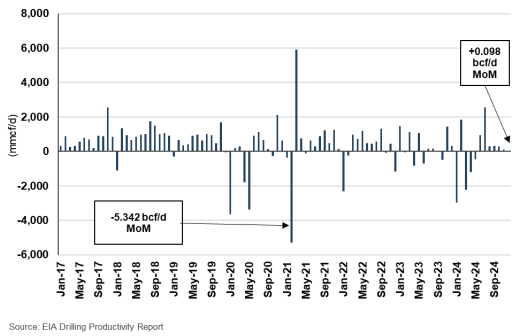
June 2024 marked the first month that the EIA stopped releasing its Drilling Productivity Report and began releasing shale/tight oil and natural gas data with the monthly Short Term Energy Outlook. (i) Please note this came with some major reporting changes, namely there are no longer monthly forecasts for tight gas production by basin. Previously, the EIA would provide an estimate of the current month tight/shale production (in this case December) and a forecast for the next month (in this case January). But now, the EIA only provides estimates for the just finished month for tight/shale. So, in the case of the new January report, there is only shale/tight for the just finished month, i.e., Dec. (ii) On Tuesday, the EIA released its monthly STEO for Jan 2025 [LINK]. (iii) The key takeaway is that US shale/tight natural gas has been steady the last three months above 84.00 bcf/d. Aug was 83.59 bcf/d, Sept was 83.64 bcf/d, Oct was 84.31 bcf/d, Nov was 84.62 bcf/d, and now Dec was 84.72. (iv) Dec at 84.72 bcf/d is back to Feb 2024 level of 84.78 bcf/d but down YoY vs Dec 2023 of 85.890 bcf/d. (v) Note that the EIA revised their data for shale/tight gas production back to 2021 from Nov's STEO, and we have adjusted our table to reflect the updated data. For the last 12 months Dec 2023 thru Nov 2024, the EIA revises production figures each month, and the average revision for during the Dec STEO is +1.29 bcf/d. The two areas with the most revisions are Marcellus and Utica. Our Supplemental Documents package includes excerpts from the EIA STEO.

Figure 10: EIA Major Shale/Tight Natural Gas Production

mcf/d	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Dec MoM%	Dec YoY%
Permian	17,239	17,449	16,862	17,553	17,743	18,044	17,830	18,322	18,702	18,965	19,236	19,401	19,526	19,595	0.4%	12.3%
Haynesville	14,320	13,856	13,774	13,967	13,316	12,458	11,974	12,029	12,058	12,534	12,205	12,620	12,702	12,634	-0.5%	-8.8%
Marcellus	27,666	27,821	27,262	27,067	25,378	25,492	25,291	26,069	27,068	26,273	26,367	26,460	26,555	26,649	0.4%	-4.2%
Utica	6,552	6,680	6,399	6,536	6,526	6,464	6,605	6,664	6,664	6,663	6,663	6,663	6,663	6,662	0.0%	-0.3%
Eagle Ford	4,432	4,417	4,306	4,342	4,362	4,222	4,411	4,429	4,295	4,176	4,174	4,173	4,172	4,171	0.0%	-5.6%
Bakken	2,614	2,662	2,265	2,542	2,558	2,619	2,647	2,635	2,614	2,663	2,687	2,699	2,711	2,723	0.4%	2.3%
Barnett	1,785	1,766	1,681	1,717	1,704	1,681	1,667	1,695	1,696	1,686	1,676	1,667	1,657	1,648	-0.5%	-6.7%
Fayetteville	872	862	774	846	844	777	825	814	815	816	817	819	820	821	0.1%	-4.8%
Mississippian	2,383	2,456	2,379	2,504	2,354	2,371	2,351	2,300	2,290	2,289	2,288	2,287	2,286	2,285	0.0%	-7.0%
Niobrara-Codell	2,773	2,804	2,664	2,818	2,857	2,779	2,785	2,755	2,770	2,766	2,777	2,789	2,800	2,811	0.4%	0.2%
Woodford	2,651	2,683	2,497	2,635	2,560	2,587	2,645	2,490	2,593	2,590	2,588	2,585	2,583	2,580	-0.1%	-3.8%
Rest of U.S.	2,296	2,341	2,188	2,257	2,183	2,096	2,162	2,163	2,170	2,173	2,160	2,150	2,144	2,138	-0.3%	-8.7%
Total	85,583	85,797	83,051	84,784	82,385	81,590	81,193	82,365	83,735	83,594	83,638	84,313	84,619	84,717	0.1%	-1.3%

Source: EIA

Figure 11: MoM Change – Major Shale/Tight Natural Gas Production



Source: EIA

Natural Gas: EIA STEO increases 2025 gas production forecast

EIA US natural gas production forecast

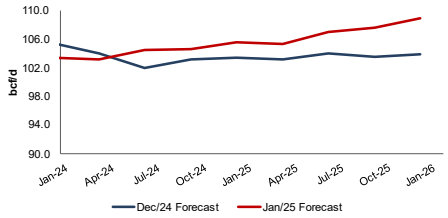
On Tuesday, the EIA released its monthly Short Term Energy Outlook for January 2025 [LINK]. (i) The EIA made an immaterial decrease to its 2024 US natural gas production estimate by -0.1 bcf/d to 103.1 bcf/d, which, on a full year average basis, now gives a YoY decline of -0.7 bcf/d from 2023. The key reason for the YoY decline was the decision by a number of major natural gas producers such as EQT to shut-in natural gas last summer due to low prices. (ii) The EIA kept its 2024 HH price forecast flat at $2.28/mcf and increased their 2025 forecast +$0.20/mcf to $3.26/mcf (from $3.06/mcf). The EIA wrote "*In our forecast, the annual U.S. benchmark Henry Hub spot price averages $3.10 per million British thermal units (MMBtu) in 2025 and rises to almost $4.00/MMBtu in 2026. Our expectation that natural gas inventories remain at or below previous five-year averages during the forecast period puts upward pressure on natural gas prices. The monthly Henry Hub spot price in our forecast remains between $2.50/MMBtu and $3.90/MMBtu in 2025 and between $3.50/MMBtu and $4.40/MMBtu in 2026 as LNG exports increase.*" (iii) The quarterly changes in Natural Gas production are as follows: Q1/24 flat at 104.0 bcf/d, Q2/24 flat at 102.0 bcf/d, Q3/24 -0.1 bcf/d to 103.1 bcf/d, and Q4/24 -0.1 bcf/d to 103.4 bcf/d. (iv) The EIA increased its 2025 forecast +0.8 bcf/d to 104.5 bcf/d, which, on a full year average basis, would be up +1.4 bcf/d YoY. The quarterly changes to 2025 are as follows: Q1/25 flat at 103.3 bcf/d, Q2/25 +0.5 bcf/d to 104.5 bcf/d, Q3/25 +1.0 bcf/d at 104.6 bcf/d, and Q4/25 +1.8 bcf/d 105.6 bcf/d.

Figure 12: EIA STEO Dry Natural Gas Production Forecasts

bcf/d	Q1/24	Q2/24	Q3/24	Q4/24	2024	Q1/25	Q2/25	Q3/25	Q4/25	2025	Q1/26	Q2/26	Q3/26	Q4/26	2026
Jan-25	104.0	102.0	103.1	103.4	103.1	103.2	104.5	104.6	105.6	104.5	105.3	107.0	107.6	108.9	107.2
Dec-24	104.0	102.0	103.2	103.5	103.2	103.2	104.0	103.6	103.9	103.7					
Nov-24	104.0	102.0	103.5	103.8	103.4	104.2	104.7	104.3	104.7	104.5					
Oct-24	104.1	102.0	103.9	104.0	103.5	104.2	104.8	104.5	105.0	104.6					
Sep-24	104.1	102.1	103.3	104.0	103.4	103.8	104.5	104.8	105.9	104.7					
Aug-24	104.0	101.7	103.6	103.8	103.3	103.5	104.4	104.8	105.9	104.6					
July-24	104.1	102.4	103.4	104.1	103.5	104.0	104.7	105.3	106.7	105.2					
June-24	103.9	100.4	101.4	102.5	102.1	102.9	104.3	104.7	105.7	104.4					
May-24	104.0	102.3	102.4	103.3	103.0	103.8	104.9	105.0	105.5	104.8					
Apr-24	103.9	103.0	103.4	104.0	103.6	103.9	105.0	105.0	105.7	104.9					
Mar-24	103.2	103.8	103.3	103.2	103.4	103.5	104.7	104.5	104.9	104.4					
Feb-24	103.5	105.0	104.4	104.7	104.4	105.5	106.7	106.5	107.2	106.5					
Jan-24	105.1	105.0	104.6	105.5	105.0	106.6	106.7	106.1	106.2	106.4					
Dec-23	104.8	104.8	104.7	105.3	104.9										
Nov-23	105.1	104.8	104.7	105.9	105.1										
Oct-23	104.7	104.8	104.8	106.1	105.1										
Sep-23	104.3	104.7	104.9	105.9	104.9										
Aug-23	104.0	103.9	104.0	104.6	104.1										
July-23	101.8	101.5	102.5	103.7	102.4										
June-23	102.8	102.8	103.0	103.6	103.0										
May-23	100.7	101.1	101.4	101.8	101.2										
Apr-23	101.2	101.5	101.8	101.8	101.6										
Mar-23	101.4	101.4	102.0	102.0	101.7										
Feb-23	101.2	101.6	102.0	101.9	101.7										
Jan-23	101.1	101.8	102.7	103.6	102.3										

Source: EIA, STEO

Figure 13: EIA STEO Natural Gas Production Forecasts by Month



Source: EIA, STEO

Natural Gas: EIA STEO forecasts storage -411 bcf YoY at 2.151 tcf to end winter 24/25

EIA January STEO storage forecast

The EIA STEO also includes its forecast for US gas storage. (i) We typically note that our bias is to not pay much attention to gas storage forecasts past the start of winter 2024-25 until we get into Dec, and since we are now in the period, there is some greater near-term certainty to the start of winter temperatures. This is important because winter temperatures are the primary driving force for natural gas demand. (ii) EIA estimates US gas storage ended winter 2023/24 at 2.562 tcf for April 1, 2024, which was up +0.446 tcf YoY. (iii) As noted earlier, we remind that US gas storage would be a lot worse if producers like EQT hadn't shut-in natural gas production in response to low prices. The EIA reports that gas storage to start winter 2024/25, came in at 3.941 tcf for Nov 1, 2024, which is an increase of +198.8 bcf YoY. The January STEO is down vs the December STEO forecast of storage at 3.958 tcf for Nov 1, 2024. (iv) Ultimately winter temperatures will determine if storage coming out of winter is high or low. And as noted earlier in the memo, the cold temperatures across the US right now have led to HH going over $4 on Thursday. But, for now, the EIA forecasts gas storage to end winter 2024/25 in April at 2.151 tcf, which would be -410.9 bcf lower YoY. The key reason for less storage to end winter is that the EIA is assuming this winter is colder than last year's hot winter. The EIA assumes heating degree days will be +6% higher YoY during the upcoming winter. (v) There is even more uncertainty as you look out to winter 2025/26. The December STEO forecasts winter 2025/26 storage to be 3.656 tcf for Nov 1, 2025, which would be a little lower than its forecast for Nov 1, 2024, at 3.941 tcf. Below is a table tracking the working gas inventory forecasts and actuals since 2017.

Figure 14: EIA STEO US Natural Gas in Storage (2017-2026)

US Working Natural Gas in Storage (billion cubic feet)

		Storage	2017-2026				
		Level	Low	High	Range	Average	Deviation
Mar 2017	4/1/2017	2,062.5	1,184.9	2,562.5	1,377.6	1,873.7	10.1%
Oct 2017	11/1/2017	3,816.5	3,236.3	4,012.7	776.4	3,624.5	5.3%
Mar 2018	4/1/2018	1,184.9	1,184.9	2,029.4	844.5	1,653.4	(28.3%)
Oct 2018	11/1/2018	3,236.3	3,236.3	4,012.7	776.4	3,624.5	(10.7%)
Mar 2019	4/1/2019	1,559.4	1,559.4	2,332.5	773.1	1,919.0	(18.7%)
Oct 2019	11/1/2019	3,610.0	3,501.1	3,931.6	430.6	3,663.5	(1.5%)
Mar 2020	4/1/2020	2,332.5	1,611.8	2,562.5	950.7	2,119.6	10.0%
Oct 2020	11/1/2020	3,931.6	3,501.1	3,941.0	440.0	3,729.7	5.4%
Mar 2021	4/1/2021	1,975.0	1,611.8	2,562.5	950.7	2,119.6	(6.8%)
Oct 2021	11/1/2021	3,532.8	3,501.1	3,941.0	440.0	3,729.7	(5.3%)
Mar 2022	4/1/2022	1,611.8	1,611.8	2,562.5	950.7	2,119.6	(24.0%)
Oct 2022	11/1/2022	3,501.1	3,501.1	3,941.0	440.0	3,729.7	(6.1%)
Mar 2023	4/1/2023	2,116.5	1,611.8	2,562.5	950.7	2,119.6	(0.2%)
Oct 2023	11/1/2023	3,742.2	3,501.1	3,941.0	440.0	3,729.7	0.3%
Mar 2024	4/1/2024	2,562.5	1,611.8	2,562.5	950.7	2,119.6	20.9%
Oct 2024	11/1/2024	3,941.0	3,501.1	3,941.0	440.0	3,729.7	5.7%
Mar 2025	4/1/2025	2,151.6	1,611.8	2,562.5	950.7	2,119.6	1.5%
Oct 2025	11/1/2025	3,655.9	3,501.1	3,941.0	440.0	3,729.7	(2.0%)
Mar 2026	4/1/2026	1,987.2	1,611.8	2,562.5	950.7	2,119.6	(6.3%)
Oct 2026	11/1/2026	3,510.1	3,501.1	3,941.0	440.0	3,729.7	(5.9%)

Source: EIA, STEO

Natural Gas: Seems BC won't hold up any Shell FID for LNG Canada 1.8 bcf/d Phase 2

BC Premier mandate letters

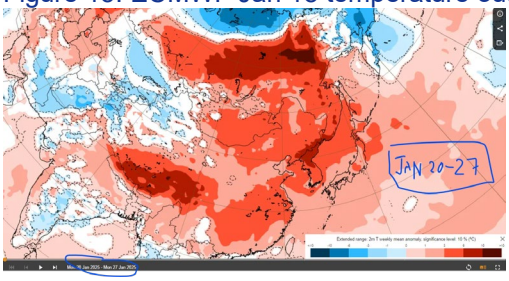
We recognize that BC Premier Eby didn't specifically use the word LNG in his mandate letters to the ministers of his new cabinet but he certainly seemed to signal BC won't be a hold up to Shell making a FID on its LNG Canada 1.8 bcf/d Phase 2. Earlier this morning, we posted [LINK] "*Seems BC won't be a holdup to Shell FID for LNG Canada 1.8 bcfd Phase 2? @Dave_Eby Mandate letters. Environment: "..develop specific measures that will expedite authorizations & permitting for major projects". Energy: "help grow the profitability & success of our clean and low-carbon energy sectors..." "with particular focus on: .... expanding global markets for our products to diversify and reduce trade risk". Reminder low carbon = #NatGas. #OOTT #NatGas."* The lead-in to all of his minister mandate letters was they need to brind down costs to BC citizens and promote growth as priorities. He tells the Environment Minister "*Direct the Environmental Assessment Office to work with key permitting ministries to develop specific measures that will expedite authorizations and permitting for major projects*". Eby didn't name the major projects but clearly LNG Canada 1.8 bcf/d Phae 2 is in this category. No surprise, Eby took some heat from environmental groups that he wants the environment ministry to help expedite major projects. Eby uses the term "low-carbon", which everyone knows means natural gas and LNG. Eby directs the energy minister to "*Help grow the profitability and success of our clean and low-carbon energy sectors by ensuring engagement and collaboration between business stakeholders and government policy makers, with particular focus on: Advocating against proposed tariffs from the United States and ensuring continued expansion of our energy export programs for the mutual success of British Columbians and our trading partners; Expanding global markets for our products to diversify and reduce trade risk; and, Preparing contingency plans for direct and indirect support of energy exporters, including BC Hydro, in the event the tariffs are imposed.. • Work with relevant ministries, First Nations, other governments, project proponents, and key stakeholders to dramatically accelerate permit approval for clean and low-carbon energy infrastructure across the province while preserving our world-leading environmental standards."* Have to believe this mandate includes LNG Canada Phase 2. Our Supplemental Documents package includes the mandate letters.

Natural Gas: ECMWF forecast warmer than normal in Asia for balance of Jan

Warm in Asia

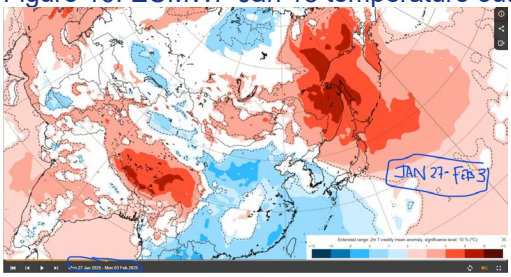
It's January, which means it's what should be peak natural gas demand season. So warmer than normal temperatures in January are never a positive for natural gas or LNG. Yesterday, we posted [LINK] "*Negative for #LNG and Europe #NatGas prices. @ECMWF updated outlook for next two weeks calls for much warmer than normal temperatures in Europe and China/Japan. Jan is supposed to be peak #NatGas demand period. #OOTT.* Our post included the ECMWF (European Centre for Medium-Term Weather Forecasts) Saturday updated temperature outlooks for Asia for the Jan 20-27 and Jan 27-Feb 3 weeks. ECMWF calls for it to be warmer than normal for most of Asia for Jan 20-27 and for warmer than normal most of China and Japan for Jan 27-Feb 3 weeks.

Figure 15: ECMWF Jan 18 temperature outlook for Asia for Jan 20-27



Source: ECMWF

Figure 16: ECMWF Jan 18 temperature outlook for Asia for Jan 27-Feb 3



Source: ECMWF

Natural Gas: India December natural gas production down -0.2% MoM, down -2.1% YoY

India natural gas production down MoM, down YoY

India domestic natural gas production peaked in 2010 at 4.60 bcf/d, and then ultimately declined to average 2.80 bcf/d in 2020-2021. India returned to modest growth in 2021/2022, which was followed by several months of relatively flat production, but modest production growth returned in 2023. Recently it has been back from flat to modestly down in 2024. On Thursday, India's Petroleum Planning and Analysis Cell (PPAC) released their monthly report for December's natural gas and oil statistics [LINK]. India's domestic natural gas production for December was 3.49 bcf/d, which was slightly down -0.2% MoM from 3.50 bcf/d in November. On a YoY basis, natural gas production was down -2.1% from 3.57 bcf/d in December 2023. Our Supplemental Documents package includes excerpts from the PPAC monthly.

Natural Gas: India LNG imports down -0.6% MoM to 3.44 bcf/d in Dec, up +26.3% YoY

India LNG imports down MoM, up YoY

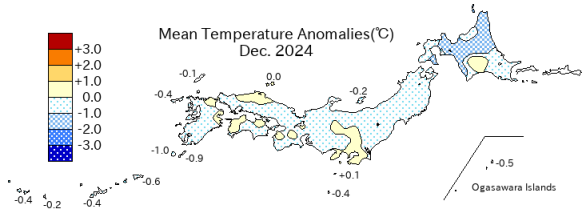
For the past several years, India has increased LNG imports to meet increasing natural gas consumption as domestic natural gas production has been mostly flat or decreased. But the overriding factor for India tends to be price; if price is high, India pulls back on LNG imports and will normally turn to coal. If prices are low, like was seen in 2024 for the most part, then India tends to pick up spot cargoes. India is an opportunistic LNG spot buyer. On Thursday, India's Petroleum Planning and Analysis Cell (PPAC) released their monthly report for December's natural gas and oil statistics [LINK]. Over the past 3 years, India's LNG imports have declined from a 2020-2021 peak of 3.84 bcf/d in Oct 2020 to just 2.85 bcf/d in Jan 2021 and lower in 2022. December's 2024 LNG imports were 3.44 bcf/d, which is down -0.6% MoM from 3.46 bcf/d in November. LNG imports are now up +26.3% YoY from 2.73 bcf/d in December 2023. Our Supplemental Documents package includes excerpts from the PPAC monthly.

Natural Gas: Japan saw slightly below normal temperatures in December

Japan slightly below normal in Dec

On Thursday, the Japan Meteorological Agency posted its climate recap for December [LINK]. The JMA reported that temperatures for the most part of Japan were slightly below normal with some small pockets of slightly above normal temperatures. Slightly below normal temperatures is positive but generally not a huge driver for electricity demand. The JMA wrote "*Monthly mean temperatures were below normal in northern Japan, because the region was affected by cold-air inflow.".* Below is a temperature map of Japan for December.

Figure 17: JMA Mean Temperature Anomalies December 2024



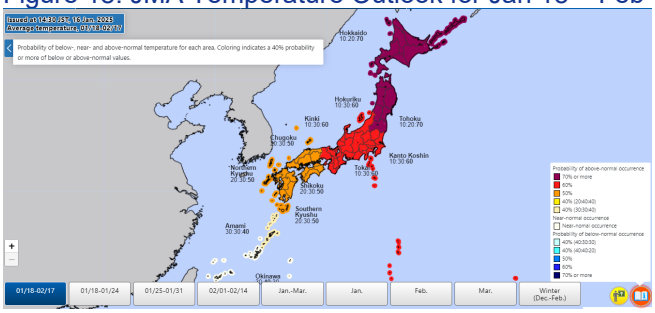
Source: Japan Meteorological Agency

Natural Gas: JMA forecasts is for warmer than normal for next 30 days

JMA temperature forecast for next 30 days

The JMA next 30-day temperature forecast continues what was seen last week - the cold across most of Japan to start the year has turned to warmer than normal temperatures. On Thursday, the Japan Meteorological Agency updated its temperature forecast for the next 30 days, Jan 18 – Feb 17, in Japan [LINK]. There is no JMA commentary on the forecast. JMA is calling for a 60% or more chance of warmer than normal temperatures in the mid-to-northern prefectures. The southern prefectures are now calling for warmer temperatures as well at 40-50% probability, while the southern islands are likely to have a near-normal occurrence of temperature. We checked AccuWeather for Tokyo and for the period there are forecasted daily highs in the ~11C range and overnight lows around ~3C. This has the potential to drive a little bit of electricity heating demand during the day, and more during the nights. Below is the JMA temperature forecast for Jan 18 – Feb 17.

Figure 18: JMA Temperature Outlook for Jan 18 – Feb 17



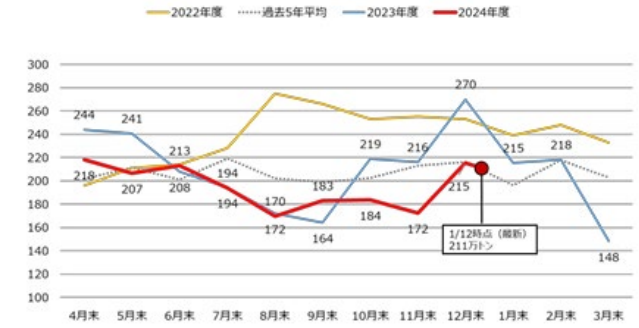
Source: Japan Meteorological Agency

Natural Gas: Japan LNG stocks up WoW and down YoY; up against to 5-yr avg

Japan LNG stocks up WoW

Japan's LNG stocks are up WoW, down YoY, and are up when compared to the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on January 12 were 101.3 bcf, up +12.8% WoW from 89.8 bcf on January 5, and down -1.9% from 103.3 bcf from a year ago. Stocks are down compared to the 5-year average of 94.1 bcf. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 19: Japan LNG Stocks



Source: METI

Natural Gas: China natural gas production 24.83 bcf/d in December, up +3.6% YoY

China natural gas production

Well before Covid, our concern in 2019 has been that China's LNG imports were going to change from strong YoY growth in LNG imports to a period of zero to very low growth at best in China LNG imports. The reason was primarily the startup of the big Power of Siberia natural gas pipeline from Russia but also a return in the 2020s to modest growth in China domestic natural gas production. And since LNG is the most expensive natural gas, it would be and is the marginal natural gas/LNG supply. That concern has played out over the past few years and increasing domestic natural gas production and increasing cheaper natural gas pipeline imports from Russia squeezed out LNG imports in 2022 and 2023. On Thursday, Bloomberg's CHENNGAS Index (using data from the National Bureau of Statistics) showed that China natural gas production in December was 24.83 bcf/d, up +2.1% MoM at 24.33 bcf/d in November and +3.6% YoY from 23.76 bcf/d in December 2023. Recall the Chinese government website [LINK] also noted that over 2023, China's average natural gas

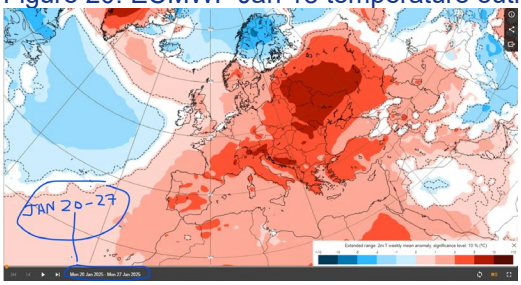
production was 22.30 bcf/d, up +1.00 bcf/d from 2022, which is the 7th annual YoY increase.

Warm in Europe

Natural Gas: ECMWF forecast much warmer than normal in Europe for balance of Jan

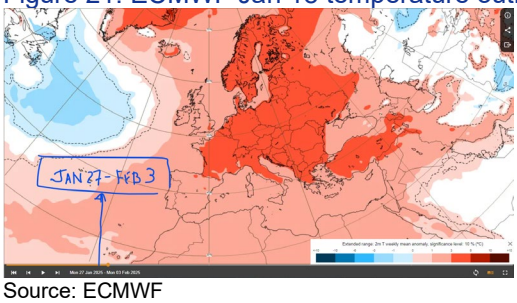
It's January, which means it's what should be peak natural gas demand season. So warmer than normal temperatures in January are never a positive for natural gas or LNG. Yesterday, we posted [LINK] "*Negative for #LNG and Europe #NatGas prices. @ECMWF updated outlook for next two weeks calls for much warmer than normal temperatures in Europe and China/Japan. Jan is supposed to be peak #NatGas demand period. #OOTT.* Our post included the ECMWF (European Centre for Medium-Term Weather Forecasts) Saturday updated temperature outlooks for Europe for the Jan 20-27 and Jan 27-Feb 3 weeks. ECMWF calls for it to be much warmer than normal for all of Europe for the next two weeks..

Figure 20: ECMWF Jan 18 temperature outlook for Europe for Jan 20-27



Source: ECMWF

Figure 21: ECMWF Jan 18 temperature outlook for Europe for Jan 27-Feb 3



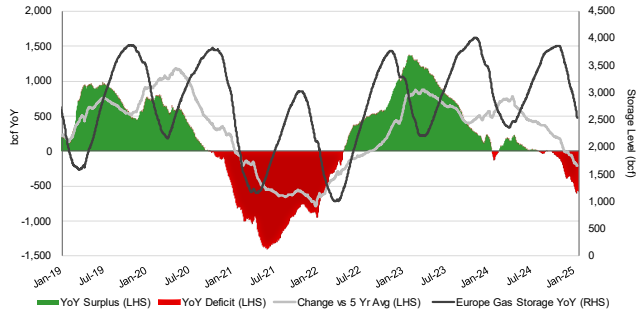
Source: ECMWF

Europe gas storage

Natural Gas: Europe storage down -5.1% WoW to 62.6% full, down -15.0% YoY

There have been gas storage draws in Europe with the recent normal to colder than normal temperatures and the very low wind generation. And as a reminder, the YoY comparison is to a hot Jan 2024 in Europe. The good news for Europe was that storage was fairly full to start the winter. It would have been full if Europe hadn't cut back on LNG imports in Q2 and Q3 for fear of being full early. But with some colder temperatures and low wind in Dec, storage draws picked up. This week, on Jan 16, Europe storage was down -5.1% WoW to 62.6% vs 67.3% on Jan 9. Recall that winter 2023/24 was one of the hottest winters in Europe. Storage is now down -15.0% from last year's levels of 77.6% on Jan 16, 2024, and down against the 5-year average of 69.5%. Below is our graph of European Gas Storage Level.

Figure 22: European Gas Storage Level



Source: Bloomberg, SAF

Ukraine storage is currently ~6% of total Europe gas storage volume

We have been breaking out Ukraine gas storage levels since the Mar/Apr Russian bombing of the Ukraine natural gas storage, which only impacted some above ground natural gas infrastructure. But it also reminded of the risk to Europe gas storage from Russia attacks. We broke out the Ukraine storage data from the above Europe data we monitor weekly from the GIE AGSI website [LINK], and, on January 16, 2025, natural gas in Ukraine storage was at 14.0% of its total capacity, down compared to 15.0% of its total capacity on January 9, 2025. Last winter, Ukraine storage as of Nov 1, 2023, was at 39.4%. Right now, Ukraine makes up ~6% of Europe's natural gas in storage and, at the beginning of winter 2023/24, it was ~10% of Europe's natural gas in storage. Below is a map of Ukraine's major gas storage facilities.

Figure 23: Ukraine Gas Storage Facilities as of June 2023

Source: Bloomberg

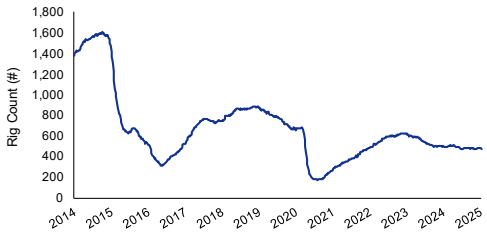
Oil: U.S. oil rigs down -2 rigs, very cold temps pointing to more reductions

US oil rigs down WoW

On Friday, Baker Hughes released its weekly North American drilling rig data. (i) Note Baker Hughes no longer breaks out the basin changes by oil vs gas rig type. (ii) Total U.S. oil rigs

were down -2 rigs WoW as of Jan 17, 2025. We expected to see a WoW decline with the cold and snow moving into the southern U.S. Total U.S. oil rigs are now down -19 oil rigs YoY to 478 rigs, which is slightly above the recent lows in July 2024. (iii) Note we can see the basin changes but not by type of rig; the WoW changes at the major basins were as follows: Williston -4 rigs WoW, Haynesville -2 rigs WoW, Cana Woodford -2 rigs WoW, Arkoma Woodford -1 rig WoW, Mississippian -1 rig WoW, Eagle Ford +1 rig WoW, Granite Wash +1 rig WoW. There must have been a few rigs added elsewhere because we did not have a proportionate number of gains within the major basins. (iv) The overlooked U.S. rig theme is the YoY declines, which have begun to taper as Q4 2023 saw activity leveling off, however, it is still important to note the YoY change. Total U.S. gas and oil rigs are down -41 rigs YoY to 576 rigs including US oil rigs -19 oil rigs YoY to 478 oil rigs. And for the key basins, the Permian is down -3 rigs YoY, Haynesville is down -13 rigs YoY, DJ-Niobrara is down -6 rigs YoY, Marcellus is down -6 rigs YoY, Williston is up -1 rig YoY, Granite Wash is up +7 rigs YoY, Eagle Ford is down -11 rigs YoY, Barnett is up +1 rig YoY, Ardmore Woodford is down -2 rigs YoY, Arkoma Woodford is down -1 rig YoY, Cana Woodford is down -3 YoY, Mississippian is down -2 rigs YoY, and Utica is down -2 rigs YoY. (v) U.S. gas rigs were down this week at 98 gas rigs. We believe U.S. gas rigs will need to increase over the next several months as more U.S. LNG capacity comes onstream in 2025. Lastly, U.S. miscellaneous rigs are flat at 4 rigs WoW and up +1 rigs YoY. (vi) We expect to see the very cold weather hitting the US now, so this should lead to some more temporary reductions in rigs in the next week or two.

Figure 24: Baker Hughes Total US Oil Rigs



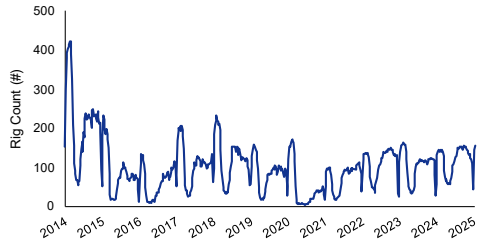
Source: Baker Hughes

Oil: Total Cdn oil rigs up +12 WoW on Friday, with gas rigs up +1 rigs WoW

Cdn oil rigs up +12 WoW

On Friday, Baker Hughes released its weekly North American drilling rig data. This week's total oil and gas rig count was up +13 rigs WoW to 229 rigs on Jan 17, and are up +6 rigs YoY. We expect to see Cdn rigs to keep increasing in Jan, as we move into peak winter drilling conditions. Oil rigs are up +12 rigs WoW at 156, and up +16 rigs YoY. Gas rigs are up +1 rigs WoW to 73 rigs and are down -10 rigs YoY, and miscellaneous rigs are flat WoW and flat YoY at 0 rigs total. As a reminder Baker Hughes changed their reporting format which does not allow us to see the provincial breakouts.

Figure 25: Baker Hughes Total Cdn Oil Rigs



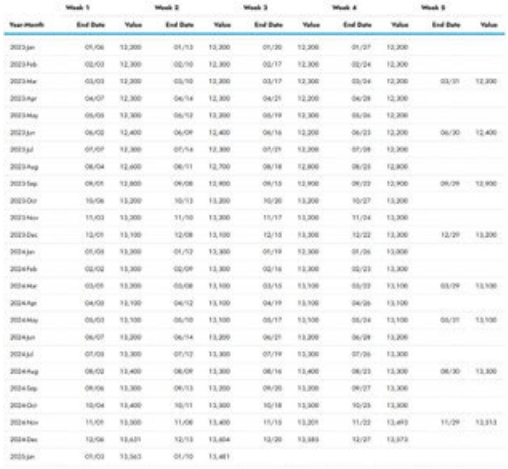
Source: Baker Hughes

US weekly oil production

Oil: US weekly oil production down -0.082 mmb/d WoW to 13.481 mmb/d, up YoY

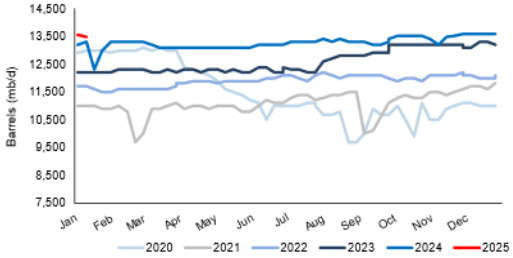
We don't place as much emphasis on the EIA weekly oil supply estimates as others do because we recognize the near impossibility for anyone to post an accurate estimate on a Wednesday for the totality of US oil production for the week ended the prior Friday [LINK]. We have to give the EIA credit for putting out weekly oil supply estimates for the prior week, that can't be easy so no one should be surprised that the EIA weekly oil supply estimates, based on the Form 914 actuals, will regularly require re-benchmarking; sometimes the re-benchmarking can be significant and other times, it is relatively small. The EIA does not provide any commentary but we weren't surprised to see this week's estimate came in down -0.082 mmb/d WoW to 13.481 mmb/d for the week ending Jan 10. We have warned that the very cold temperatures (and even some snow) in the areas like Oklahoma and Texas was likely to temporarily impact production. This is up +0.181 mmb/d YoY from 13.300 mmb/d for the week ended Jan 12, 2024. As mentioned, the January STEO forecast was posted this week on Jan 14 and slightly decreased its US crude expectations for 2024 by -0.020 mmb/d to 13.210 mmb/d which will exceed the Q4/19 peak of 12.880 mmb/d, with all quarters in 2024 expected to exceed 13.200 mmb/d, other than Q1/24 at 12.940 mmb/d. 2025 estimates were revised upwards to 13.540 mmb/d, with all quarters exceeding 13.400 mmb/d and reaching a peak of 13.670 mmb/d in Q4/25. The EIA is no longer releasing a DPR, so we no longer have MoM expectations. This week, the EIA's production estimates were down -0.082 mmb/d WoW to 13.481 mmb/d for the week ended Jan 10. Alaska production figures were up +0.005 mmb/d WoW to 0.452 mmb/d, compared to 0.447 mmb/d last week. Below is a table of the EIA's weekly oil production estimates.

Figure 26: EIA's Estimated Weekly US Field Oil Production (mb/d)



Source: EIA

Figure 27: EIA's Estimated Weekly US Oil Production



Source: EIA

Oil: North Dakota Nov oil production up MoM to 1.221 mmb/d

North Dakota oil production

On Friday, the North Dakota Industrial Commission posted its monthly Director's Cut, which includes November's oil and natural gas production data as well as other data such as well completions, DUCs, number of producing wells, etc. [LINK]. North Dakota's oil production in Nov was up MoM +0.043 mmb/d to 1.221 mmb/d from 1.178 mmb/d in Oct and is down -4.5% YoY against 1.279 mmb/d in Nov 2023. The MoM increase was expected as Oct production had been temporarily hurt by wildfires. Here is what we wrote in our Oct 20, 2024 Energy Tidbits memo on the wildfires impact from the NDIC Oct 17, 2024 webcast on the wildfires. "*On the call, North Dakota was asked if they had any estimate of the impact on production from the October wildfires. North Dakota's update was that there was a 100,000 b/d impact at the peak, but it was down to 50,000 to 80,000 b/d in about a week for an estimated total impact of approx. 500,000 b/d, which would work out to 16,000 b/d over the month of October ie. a very small impact."* Nov preliminary well completions were up to 98 compared to Oct's 95 wells completed. Our Supplemental Documents package includes excerpts from the NDIC Director's Cut.

Figure 28: North Dakota Oil Production by Month

(b/d)	2018	2019	2020	2021	2022	2023	2024	YoY%
Jan	1,179,564	1,403,808	1,430,511	1,147,377	1,088,613	1,060,708	1,102,976	*4.0%*
Feb	1,175,316	1,335,591	1,451,681	1,083,554	1,089,091	1,158,837	1,252,102	*8.0%*
Mar	1,162,134	1,391,760	1,430,107	1,108,906	1,122,640	1,122,693	1,229,536	*9.5%*
Apr	1,225,391	1,392,485	1,221,019	1,123,166	900,597	1,133,435	1,243,678	*9.7%*
May	1,246,355	1,394,648	859,362	1,128,042	1,059,060	1,135,009	1,198,086	*5.6%*
June	1,227,320	1,425,230	893,591	1,133,498	1,096,783	1,166,604	1,186,394	*1.7%*
July	1,269,290	1,445,934	1,042,081	1,076,594	1,072,632	1,180,611	1,169,499	*-0.9%*
Aug	1,292,505	1,480,475	1,165,371	1,107,359	1,075,307	1,223,617	1,179,728	*-3.6%*
Sept	1,359,282	1,443,980	1,223,107	1,114,020	1,121,063	1,280,052	1,199,764	*-6.3%*
Oct	1,392,369	1,517,936	1,231,048	1,111,910	1,121,754	1,254,475	1,177,992	*-6.1%*
Nov	1,375,803	1,519,037	1,227,138	1,158,622	1,098,389	1,278,909	1,221,073	*-4.5%*
Dec	1,402,741	1,476,777	1,191,429	1,144,999	957,864	1,274,869		

Source: NDIC, NDPA

Nothing to highlight from the NDIC Director's Cut webcast

We listened to the 25-min January 2025 Director's Cut monthly webcast on the North Dakota NDIC Director's Cut and NDPA Monthly report. Normally, we get some good look ahead insights on production or insights on new drilling trends. But it was one of the few times that we didn't have any special insights to pass along with the monthly webcast that was held on Friday afternoon.

Oil: North Dakota crude by rail down MoM to 135,034 b/d in November

North Dakota CBR down MoM in November

On Friday, the North Dakota Pipeline Authority posted its Monthly Update "*January 2025 Production & Transportation"* [LINK] containing November's data. Please note that we always go to the backup excel sheets from the North Dakota Pipeline Authority that provide low and high estimates for Williston crude by rail exports. While the NDPA's chart shows a high and low estimate by month, we always take the midpoint when summarizing the update. In the backup excel, the NDPA estimates crude by rail in November from a low of 120,034 b/d and a high of 150,034 b/d for an average of 135,034 b/d. There was an upward revision to October figures which previously had an average of 141,917 b/d, but is now 146,229 b/d. The NDPA did not comment on the MoM changes. Below is a chart showing the crude by rail volumes since 2014. Our Supplemental Documents package includes excerpts from the NDPA Monthly Update.

Figure 29: Estimated North Dakota Rail Export Volumes

Source: NDPA

Oil: US shale/tight oil production relatively flat for the last 11 months

Shale/tight oil production

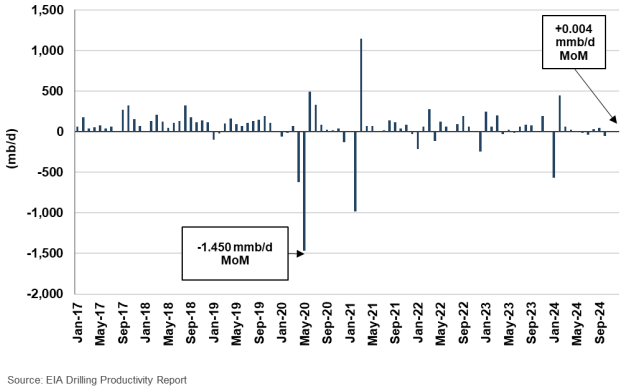
As mentioned earlier, the EIA combined its prior shale/tight oil information with its STEO, which was released on Tuesday, January 14, 2025 [LINK]. (i) The EIA stopped forecasting future oil production by region and has updated their data for oil production from the major shale/tight oil and gas plays up to December. (ii) Note that the EIA revises their data for shale/tight oil production back to 2021 from December's STEO, and we have adjusted our table to reflect the updated data. However, the revisions for the last 12 months were mostly small increases with the average revision for the past 12 months being up +0.027 mmb/d. (iii) Shale/tight oil production in December was 8.893 mmb/d, basically flat MoM from November and flat YoY. December marks the 11th consecutive month of shale/tight oil in between 8.700 to 8.900 mmb/d. Note that shale/tight oil is approx. ~70% of total US production, so whatever the trends are for shale/tight oil are normally the trends for US oil in total. Below is our table of running STEO estimates of shale/tight oil production and our graph of MoM changes in major shale/tight oil production.

Figure 30: US Major Shale/Tight Oil Production

Thousand b/d	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Dec MoM%	Dec YoY%
Austin Chalk + Eagle Ford	1,096	1,054	1,008	1,058	1,077	1,117	1,141	1,135	1,101	1,106	1,104	1,100	1,097	1,094	-0.3%	3.8%
Bakken	1,293	1,288	1,116	1,270	1,249	1,262	1,219	1,206	1,189	1,205	1,225	1,224	1,222	1,221	-0.1%	-5.2%
Mississippian + Woodford	226	223	199	213	208	212	206	198	195	198	197	195	193	192	-0.5%	-13.9%
Niobrara	479	491	447	471	474	455	459	446	441	436	436	436	436	436	0.0%	-11.2%
Permian	5,466	5,501	5,236	5,438	5,506	5,490	5,481	5,511	5,514	5,573	5,580	5,594	5,607	5,615	0.1%	2.1%
Rest of US L48	340	336	312	314	315	317	332	332	327	340	336	333	334	335	0.3%	-0.3%
Total	8,900	8,893	8,318	8,764	8,829	8,853	8,838	8,828	8,767	8,858	8,878	8,882	8,889	8,893	0.0%	0.0%

Source: EIA, SAF

Figure 31: MoM Changes in US Major Shale/Tight Oil Production



Source: EIA Drilling Productivity Report

Source: EIA, SAF

Oil: EIA DUCs flat MoM in December, DUCs down -10% YoY

DUCs flat MoM in December

We recognize that there are more longer, more productive wells being drilled but we still see a key risk to how much US oil production can sustainably grow in 2024 and 2025 is the need to increase rig counts (not have less frac spreads) to replenish the inventory of drilled uncompleted wells at higher levels and the challenge for oilfield services to add capacity to increase frac spreads and completions. The EIA's STEO [LINK] now contains the estimate of drilled uncompleted wells. (i) The EIA estimates DUCs were flat MoM, and down -10% YoY in

December at 5,238 DUCs. Note that the EIA may revise their data for DUC wells back to 2021 in each STEO, and each month we adjust our table to reflect any updated data. (ii) To put the DUC figures in perspective, there were 9,757 DUCs in the height of the Covid slowdown in June 2020 when US production was approx. 10.6 mmb/d, 6,409 DUCs in December 2021 when US production was approx. 11.8 mmb/d, 6,200 DUCs in December 2022 when US production was approx. 12.2 mmb/d, 5,825 in December 2023 when US production was approx. 13.3 mmb/d, and now 5,238 DUCs in December 2024 with US production approx. 13.5 mmb/d. (iv) The largest YoY December DUCs declines are the Eagle Ford, down -45% YoY, and Bakken -21% YoY. (v) Note that shale/tight oil is approx. ~70% of total US production, so whatever the trends are for shale/tight oil are normally the trends for US oil in total. Below is our table of running DUC Wells.

Figure 32: Estimated Drilled Uncomplete Wells in 2023/24

DUCs	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Dec MoM%	Dec YoY%
Appalachia region	805	833	842	837	833	829	827	820	805	798	787	776	768	761	-0.9%	-8.6%
Bakken region	391	392	414	410	411	398	371	361	352	343	334	325	317	310	-2.2%	-20.9%
Eagle Ford region	506	533	501	465	434	405	381	367	339	325	307	301	296	290	-2.0%	-45.6%
Haynesville region	738	748	753	753	751	739	733	733	739	737	736	737	738	741	0.4%	-0.9%
Permian region	906	938	933	900	915	859	852	875	843	845	859	869	879	891	1.4%	-5.0%
Rest of Lower 48 States, excluding GOM	2,362	2,381	2,398	2,394	2,388	2,386	2,377	2,339	2,311	2,285	2,270	2,262	2,252	2,245	-0.3%	-5.7%
Total	5,708	5,825	5,841	5,759	5,732	5,616	5,541	5,495	5,389	5,333	5,293	5,270	5,250	5,238	-0.2%	-10.1%

Source: EIA, SAF

EIA STEO US oil production

Oil: EIA Jan STEO had immaterial changes to 2024 and 2025 US oil production forecast

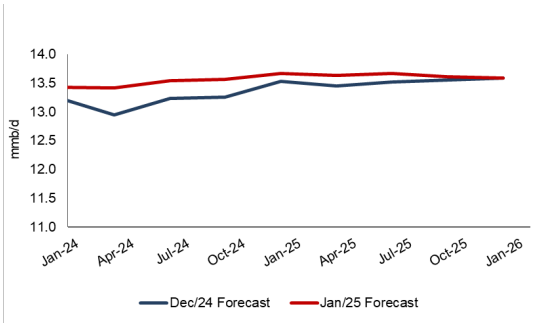
On Tuesday, the EIA released its Short-Term Energy Outlook for January 2025 [LINK], which included an immaterial decrease to its 2024 and an immaterial increase to its 2025 oil production forecasts. (i) The January STEO forecasts for 2024 were slightly decreased and slightly increased for 2025 US oil production estimates vs the December STEO which was immaterially changed from November. (ii) The January STEO forecast for 2024 immaterially decreased at -0.02 mmb/d to 13.21 mmb/d from the December STEO of 13.23 mmb/d. There were some small revisions by quarter: Q1/24 flat at 12.94 mmb/d, Q2/24 flat at 13.23 mmb/d, Q3/24 flat at 13.25 mmb/d, and Q4/24 up -0.10 mmb/d to 13.43 mmb/d. (iii) The EIA forecasts US oil production of 13.54 mmb/d for 2025, which is an immaterial increase at +0.02 mmb/d from the December STEO. The revisions by quarter were Q1/25 down -0.03 mmb/d to 13.41 mmb/d, Q2/25 up +0.03 mmb/d to 13.54 mmb/d, Q3/25 up +0.01 mmb/d to 13.56 mmb/d, and Q4/25 +0.09 mmb/d to 13.67 mmb/d. Below is our EIA STEO forecast comparison by month.

Figure 33: EIA STEO Oil Production Forecasts by Month

(million b/d)	Q1/24	Q2/24	Q3/24	Q4/24	2024	Q1/25	Q2/25	Q3/25	Q4/25	2025	Q1/26	Q2/26	Q3/26	Q4/26	2026
Jan-25	12.94	13.23	13.25	13.43	13.21	13.41	13.54	13.56	13.67	13.54	13.63	13.67	13.61	13.59	13.62
Dec-24	12.94	13.23	13.25	13.53	13.23	13.44	13.51	13.55	13.58	13.52					
Nov-24	12.94	13.23	13.27	13.47	13.23	13.46	13.53	13.54	13.60	13.53					
Oct-24	12.94	13.23	13.27	13.45	13.22	13.46	13.53	13.54	13.64	13.54					
Sep-24	12.94	13.22	13.38	13.47	13.25	13.45	13.60	13.73	13.89	13.67					
Aug-24	12.94	13.20	13.33	13.44	13.23	13.46	13.66	13.76	13.90	13.69					
July-24	12.94	13.21	13.32	13.10	13.25	13.52	13.72	13.84	13.98	13.77					
June-24	12.94	13.17	13.33	13.50	13.24	13.51	13.68	13.76	13.88	13.71					
May-24	12.96	13.10	13.25	13.50	13.20	13.55	13.73	13.76	13.87	13.73					
Apr-24	12.84	13.13	13.32	13.54	13.21	13.56	13.72	13.74	13.86	13.72					
Mar-24	12.91	13.13	13.25	13.47	13.19	13.49	13.66	13.68	13.78	13.65					
Feb-24	13.03	13.12	13.06	13.18	13.10	13.37	13.46	13.50	13.64	13.49					
Jan-24	13.27	13.22	13.15	13.21	13.21	13.36	13.44	13.43	13.53	13.44					
Dec-23	13.09	13.07	13.07	13.23	13.11										
Nov-23	13.06	13.08	13.11	13.35	13.15										
Oct-23	13.07	13.02	13.07	13.31	13.12										
Sep-23	13.03	13.09	13.15	13.36	13.16										
Aug-23	12.98	13.01	13.08	13.27	13.09										
Jul-23	12.67	12.71	12.88	13.13	12.85										
Jun-23	12.69	12.63	12.76	13.00	12.77										
May-23	12.63	12.58	12.68	12.85	12.69										
Apr-23	12.69	12.71	12.77	12.83	12.75										
Mar-23	12.58	12.58	12.64	12.71	12.63										
Feb-23	12.63	12.62	12.65	12.70	12.65										
Jan-23	12.63	12.72	12.86	13.03	12.81										

Source: EIA STEO

Figure 34: Estimated US Crude Oil Productions by Forecast Month



Source: EIA STEO

US SPR reserves

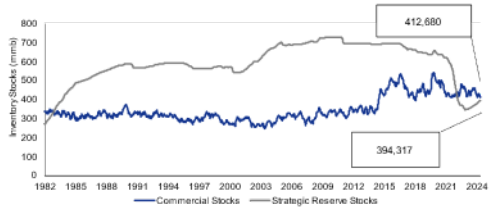
Oil: US SPR less commercial reserve deficit narrows, now -18.363 mmb

The US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sep 16, 2022, week. This week, we saw a build on the SPR side and a draw on the commercial side. The EIA's weekly oil data for Jan 10, [LINK] saw the SPR reserves increase +0.500 mmb WoW to 394.317 mmb, while commercial crude oil reserves decreased -1.962 mmb to 412.680 mmb. There is now a -18.363 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles, along with the weekly changes to SPR stockpiles.

Figure 35: Strategic Petroleum Reserve Stocks and SPR WoW Change

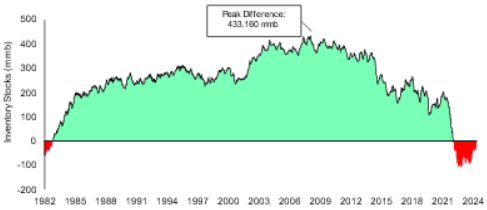
Source: EIA

Figure 36: US Oil Inventories: Commercial & SPR



Source: EIA

Figure 37: US Oil Inventories: SPR Less Commercial



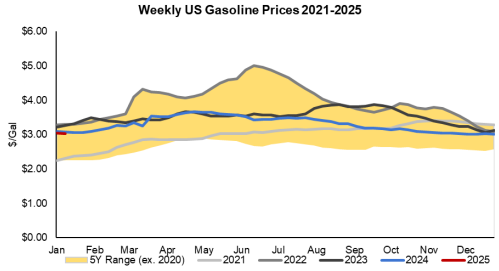
Source: EIA

Oil: AAA reports US national average gasoline prices +$0.06 WoW to $3.12 on Jan 18

US gasoline prices

Yesterday, we posted [LINK] "*Higher #Oil prices = higher gasoline prices. AAA National average gasoline prices +$0.06 WoW to $3.12 on Jan 18,+$0.09 MoM & +$0.03 YoY. California average prices +$0.06 WoW to $4.44, -$0.12 MoM & -$0.09 YoY Thx @AAAnews #OOTT."* Yesterday, AAA reported that US national average prices were $3.12 on Jan 18, which was +$0.06 WoW, +$0.09 MoM and +$0.03 YoY. Yesterday, AAA also reported California average gasoline prices were $4.44 on Jan 18, which was +$0.06 WoW, +$0.12 MoM and -$0.09 YoY. Below is our graph of Bloomberg's National Average weekly gasoline prices.

Figure 38: AAA National Average Gasoline Prices



Source: AAA

Oil: Crack spreads +$1.47 WoW to $17.94 on Jan 17, WTI +$1.31 to $77.88

Crack spreads closed at $17.94

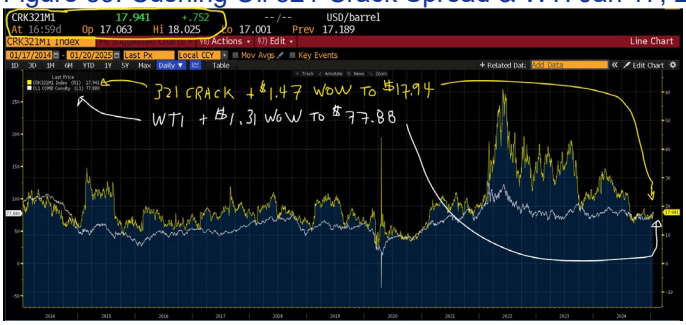
On Friday, we posted [LINK] "*321 crack spreads +$1.47 WoW to $17.94 on Jan 17. WTI +$1.31 WoW to $77.88. Reminder the Texas big freeze in Feb 2021 took spreads from*

$14.45 to $12.25, WTI was basically unchanged. Thx @business #OOTT." Crack spreads were +$1.47 WoW to $17.94 on Jan 17 and WTI was +$1.31 WoW to $77.88 on Jan 17. It was a solid week for WTI despite the Israel/Hamas deal and the tone seemed better with the IEA not being as negative on its messaging on oil. For the past several months, for the most part WTI has been driven more by global factors and not crack spreads. Crack spreads at 17.94 are now above the mid-point of the typical pre-Covid $15-$20 range but aren't high enough to incentivize refineries to take any more crude than necessary. Crack spreads of $17.94 on Jan 17 followed $16.47 on Jan 10, $16.48 on Jan 3, $16.05 on Dec 27, $16.44 on Dec 20, $16.53 on Dec 13, $15.95 on Dec 6, $15.72 on Nov 29, $17.09 on Nov 22, $17.99 on Nov 15, $17.30 on Nov 8, $16.82 on Nov 1, $16.91 on Oct 25, and $16.92 on Oct 18.

Crack spreads normally point to near term oil moves, explaining 321 cracks

It hasn't been normal times for oil markets in the last several months with a wide range of global factors. So for the most part, the last several months are a good example that global oil and market items impact WTI more than crack spreads. But in normal times, broad market factors aside, we have focused on crack spreads for since the 90s as they are an unchanged fundamental of refineries – wide/high crack spreads provide incentives for refineries to buy more crude because there are big profit margins to be made. We track US crack spreads but there is also an influence on global refining capacity on US crack spreads as the increasing global refining capacity has also tended to have downward pressure on US crack spreads especially with demand being less than most expect. So if crack spreads are wide/high, it is normally a positive for the very near term look ahead to WTI. Conversely, if crack spreads are narrow/low, it doesn't give refineries any real incentive to take more crude, which is normally softness for the very near term look ahead to WTI. People often just say "cracks", which refers to the 321 crack spread. This is the spread or margin that refiners make from buying crude at a certain price and then selling the finished petroleum products at their respective prices. The 321 crack spread is meant to represent what a typical US refinery produces. It assumes that for every three barrels of crude oil, the refinery will produce two barrels of gasoline and one barrel of distillates. So the crack spread is based on that formula and worked back to a crack spread per barrel. Below is the current 321 crack spread vs WTI that we put in our tweet where we marked the gaps where the crack spread normally drags up oil prices. 321 Crack spread closed at $17.94 on Friday Jan 17.

Figure 39: Cushing Oil 321 Crack Spread & WTI Jan 17, 2015 to Jan 17, 2025



Source: Bloomberg

Oil: Cdn heavy oil differentials widen +$2.50 WoW to $14.65/b on Jan 17

WCS differential widens

WCS less WTI differentials widened +$2.50/b to close the week at $14.65/b on Jan 17. The differential continues to trade in a narrow range relative to prior years. It looks like TMX worked as hoped, if not better, in keeping WCS less WTI differentials way lower than would be expected in Aug/Sept/Oct/Nov and now thru Dec and into Jan. Sept/Oct/Nov is when we normally see a significant seasonal widening of the WCS less WTI differentials. That didn't happen post TMX. WCS less WTI differentials have remained much lower and has not widened meaningfully in H2/24. But even with the TMX startup, there will always be the unexpected impact on WCS less WTI differentials from other items like refineries up and downs, wildfires, etc. Below is a graph showing WCS-WTI differentials that shows this normal seasonal trend of narrowing WCS-WTI differentials that normally widens into or through October, which it did not, and continue to be much narrower than in prior years. The WCS less WTI differential closed on Jan 17 at $14.65/b, which was a widening of +$2.50/b WoW vs $12.15/ on Jan 10.

TMX impact: WCS less WTI diffs did not seasonally widen as in 2022 & 2023

The start of TMX pipeline in Q2 was the big expected positive for Cdn oil by keeping WCS less WTI differentials a lot narrower than what is normally seen in the normal seasonal widening in Sept/Oct/Nov. WCS less WTI differentials are approx. $5 narrower vs a year ago and approx. $9 narrower than two years ago. That is a big win for cash flows for all Cdn oil producers. For the past several months, we have been saying that the big test for the impact of the start of the 590,000 b/d TMX expansion on WCS less WTI differentials wasn't what happened in the summer months but what would happen in late Aug, Sept, Oct and Nov when differentials normally start to seasonally widen. It is clear increasing tanker exports has worked and differentials did not widen as normally happens. On Friday, we posted [LINK] "*Big continuing win for Cdn #Oil cash flows. Increasing tanker exports post TMX June 2024 start kept WCS-WTI diffs from normal S/O/N widening, and continue to stay narrow. WCS less WTI diffs: 01/17/25: $14.65. 01/17/24: $19.25. 01/17/23: $23.95. Can't recall what caused the 1-day crash in diffs from $23.00 to $2.60 on 01/25/23 and back to $23.75. Thx @garquake @business #OOTT.*" Our post included the below chart that shows how WCS less WTI differential were low in the summer and have stayed fairly flat in Aug/Sept/Oct/Nov/Dec and how differentials were widening in Sept/Oct/Nov in 2022 and 2023.

Figure 40: WCS less WTI differentials to Jan 17, 2025 close

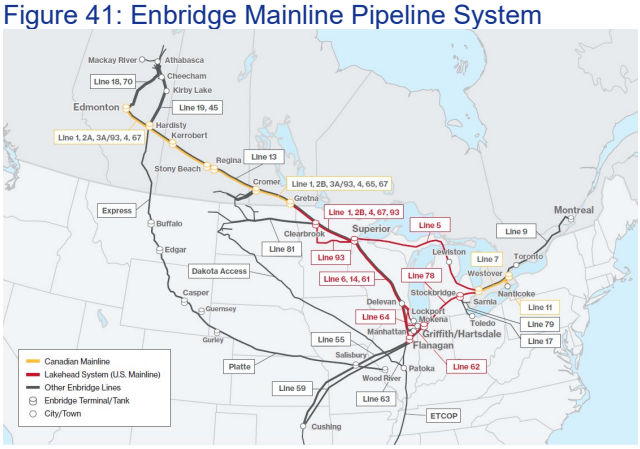
Source: Bloomberg

Oil: Enbridge's Mainline Pipeline System runs thru US before Eastern Canada

Enbridge Mainline Pipeline System

Our view on the threat or risk of Canada shutting off critical to the US of oil via Enbridge's Mainline Pipeline System is a situation of a captive buyer of Cdn oil and a captive sell of Cdn oil. That hasn't changed. But we remind that Enbridge's Mainline Pipeline System route goes thru the northern US before it reconnects in Ontario to supply eastern Cdn markets. So any shutting down of the Mainline will also impact Ontario and Quebec. That also applies to its Line 5 pipeline that supplies needed propane to northern Michigan before connecting in Sarnia, Ontario. Our Supplemental Documents package includes Enbridge's overview of its Mainline Pipeline System.

Figure 41: Enbridge Mainline Pipeline System



Source: Enbridge

Captive buyers/captive sellers for Cdn medium/heavy oil to Midwest refineries

Here is what we wrote in our Dec 22, 2024 Energy Tidbits memo. "*Captive buyers/captive sellers for Cdn medium/heavy oil to Midwest refineries. We have heard how the shippers for the ~3 mmb/d of Cdn medium/heavy oil via pipeline to the Midwest PADD 2 will have to eat any Trump tariff costs as they have no other market for their oil. We agree that they are captive sellers. However, we have reminded that Midwest PADD 2 refineries are captive buyers of Cdn medium/heavy*

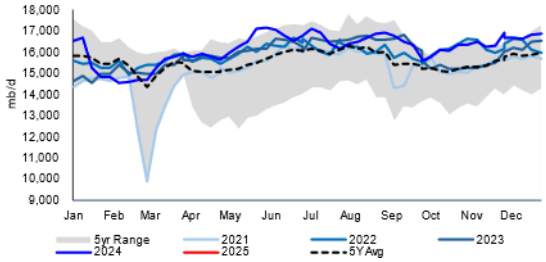
oil as they have no other way to replace ~3 mmb/d of Cdn medium/heavy oil. Sure the refineries could tweak it a little bit to run more US light oil. But that will have limitations. And then there is no logistics that could accommodate an additional 3 mmb/d of imports via tanker and then they have to find a way to get that oil from the Gulf Coast or East Coast or West Coast, without pipelines, to the Midwest refineries. It's why we posted, on Nov 27, [LINK] "Captive buyer and captive seller. Yes, Cdn oil producers have no other replacement market for its ~2.9 mmbd of heavy/medium oil to US Midwest refineries. BUT US Midwest refineries have no other replacement supply for its ~2.9 mmbd of Cdn heavy/medium oil. So Trump 25% tariff should flow thru to regional Midwest prices of gasoline, jet fuel, diesel, etc. #OOTT."

Oil: Refinery Inputs down -0.255 mmb/d WoW to 16.647 mmb/d with turnarounds

Refinery inputs -0.255 mmb/d WoW

There are always unplanned refinery items that impact crude oil inputs into refineries. And there is always different timing for refinery turnarounds; generally late October marks the point when refineries have come out of fall turnarounds and are ramping up crude oil inputs as they change from summer to winter fuel blends. And in Nov/Dec, it is normally ramps up before we start to see refineries move into turnarounds starting in Jan. We have been expecting to see oil inputs into refineries decline in Jan/Feb with normal seasonal timing for refineries moving into turnarounds in Jan. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended January 10 [LINK]. The EIA reported crude inputs to refineries were down -0.255 mmb/d this week to 16.647 mmb/d and are up +1.800 mmb/d YoY. Refinery utilization was down -1.6% WoW to 91.7% and was down -0.9% YoY.

Figure 42: US Refinery Crude Oil Inputs



Source: EIA, SAF

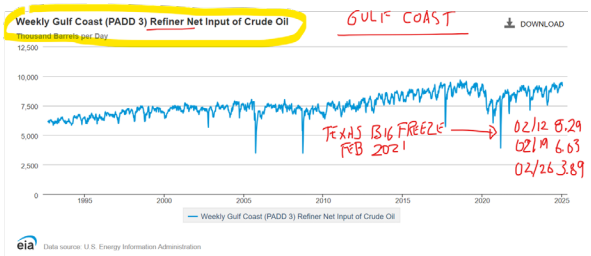
Oil: Big hit from Texas Feb 2021 big freeze was on refineries

Texas Feb 2021 big freeze

It's too early to tell what oil and gas will be impacted by the bitter cold hitting the US. But if we look back to the Texas big freeze in Feb 2021, the biggest hit was to Gulf Coast refineries. On Thursday, we posted [LINK] "*Flashback to Texas Big Freeze Feb 2021. No two big freezes are the same but big hit in Feb 2021 was to Gulf Coast refineries. WTI didn't have big swings down, moved up thru Feb 2021 especially as refineries came back on in late Feb. Thx @EIAgov @business #OOTT.*" Our posted included the historical graphs that showed some of the oil and gas hits during the Feb 2021 big freeze. Gulf Coast (PADD 3) refineries crude oil inputs went from 8.29 mmb/d for the week ended Feb 12, 2021 down to 6.03 mmb/d for the Feb 19 week and then down to 3.89 mmb/d for the Feb 26 week. US oil production went from 11.0 mmb/d for the Feb 5 week down to 10.8 mmb/d for the Feb 12 week, down to 9.7

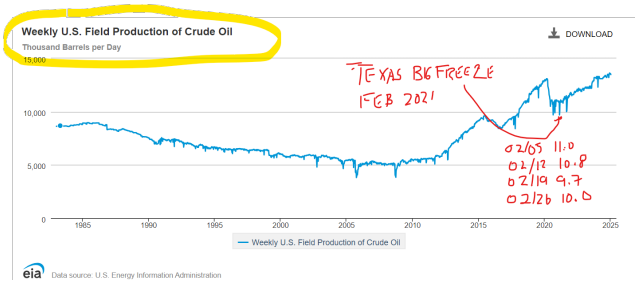
mmb/d for the Feb 19 week and then the recovery started at 10.0 mmb/d the Feb 26 week. 321 crack spreads went from $14.45 on Feb 1 to $12.15 on Feb 12 and then was up to $18.80 at Feb 28. WTI was on a steady increase all month from $53.15 on Feb 1 to $61.50 on Feb 28.

Figure 43: US Gulf Coast PADD 3 Refinery Crude Oil Inputs



Source: EIA,

Figure 44: US weekly field production of crude oil



Source: EIA,

Oil: US net oil imports down -1.304 mmb/d WoW, oil exports were up +1.000 mmb/d

US net imports -1.304 mmb/d WoW

The EIA reported US "NET" imports were down -1.304 mmb/d to 2.046 mmb/d for the week of January 10. US imports were down -0.304 mmb/d to 6.124 mmb/d, while exports increased +1.000 mmb/d to 4.078 mmb/d. Top 10 was down -0.322 mmb/d. Give the EIA credit for putting out weekly oil import estimates, but it's a reminder that we must be careful about using the weekly oil import estimates. Rather we need to make sure we go to the monthly data for oil imports. (i) Canada was down -0.437 mmb/d to 3.985 mmb/d. Weekly imports have been higher for the past five months with the increased Cdn crude coming off TMX and hitting west coast US refineries. (ii) Saudi Arabia was up +0.264 mmb/d to 0.333 mmb/d. (iii) Mexico was down -0.030 mmb/d to 0.362 mmb/d. And, as a general rule, oil imports from Mexico since Q2 have been significantly lower than prior year's levels with the new Olmeca (Dos Bocas) refinery slowing ramping up in 2024 and Pemex's other refineries increasing crude oil processing. (iv) Colombia was up -0.194 mmb/d to 0.266 mmb/d. (v) Iraq was down -0.028 mmb/d to 0.152 mmb/d. (vi) Ecuador was down -0.044 mmb/d to 0.103 mmb/d. (vii) Nigeria was down -0.154 mmb/d to 0.038 mmb/d. (iix) Venezuela was down -0.013 mmb/d to 0.240 mmb/d.

Figure 45: US Weekly Preliminary Imports by Major Country

US Weekly Preliminary Crude Imports By Top 10 Countries (thousand b/d)

	Nov 15/24	Nov 22/24	Nov 29/24	Dec 6/24	Dec 13/24	Dec 20/24	Dec 27/24	Jan 3/25	Jan 10/25	WoW
Canada	3,862	4,081	4,044	3,829	4,339	3,919	3,733	4,422	3,985	-437
Saudi Arabia	220	248	392	175	81	368	87	69	333	264
Venezuela	211	267	173	187	521	120	353	253	240	-13
Mexico	768	151	279	440	526	397	551	392	362	-30
Colombia	414	142	283	125	136	276	289	72	266	194
Iraq	237	277	397	213	209	229	212	180	152	-28
Ecuador	355	118	103	103	69	0	0	147	103	-44
Nigeria	86	146	110	168	56	237	71	192	38	-154
Brazil	498	227	348	251	178	248	280	233	129	-104
Libya	86	0	204	0	32	50	189	56	86	30
Top 10	6,737	5,657	6,333	5,491	6,147	5,844	5,765	6,016	5,694	-322
Others	947	426	957	493	502	627	1,161	412	430	18
Total US	**7,684**	**6,083**	**7,290**	**5,984**	**6,649**	**6,471**	**6,926**	**6,428**	**6,124**	-304

Source: EIA

Source: EIA, SAF

Russian oil refineries

Oil: Russian refineries processing falls to 2-month low before new sanctions

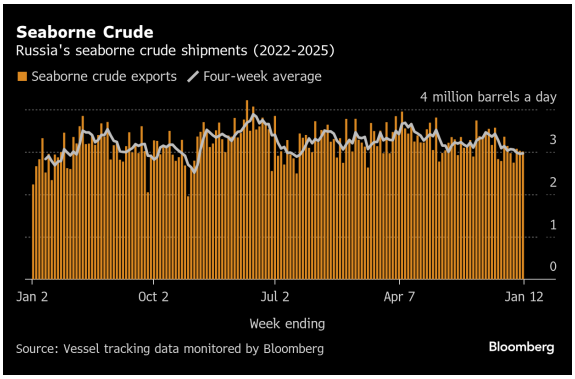
Over the past few weeks, Ukraine has apparently had a number of drones impact Russian refinery/oil storage operations. We have not seen any report of any major refinery processing units hit and put out of commission. But even if a drone hits some non-critical part of a refinery or oil storage, it will inevitably cause some slowdown in refinery processing. During the period of Jan 1-8, Russia's average crude processing rate fell to 5.396 mmb/d, representing a -0.119 mmb/d decrease when compared to Dec 19-25. This marks the lowest weekly processing since mid-Nov. The report noted "*Russia's refineries processed a total of 5.396m b/d of crude on Jan. 1-8, according to a person with knowledge of industry data.… The decline in early January came on the back of lower processing at Gazprom Neft's Omsk refinery in west Siberia and the Afipsky refinery in Russia's south.*" Our Supplemental Documents package includes the Bloomberg report.

Russia's seaborne crude exports

Oil: Russia's crude shipments hold steady before Biden's latest sanctions

On Tuesday, Bloomberg released their weekly Russian Seaborne crude tracker, this week, titled *"Russian Crude Shipments Hold Steady Before Sanctions Onslaught"*. This week, exports were stable ahead of the toughest sanctions imposed on Russia's oil sector since its invasion of Ukraine with the US's latest measures expecting to take a significantly heavy toll on the country's Pacific flows. The daily crude flows slightly edged down by -0.020 mmb/d WoW to 3.010 mmb/d for Jan 12, driven by lower flows from the country's Baltic and Pacific ports offset by increased shipments from the Black Sea. The four-week average volumes also saw little change, down by -0.010 mmb/d for the week of Jan. 12. Bloomberg reported "*The impact of these latest moves will be felt particularly strongly in Russia's Pacific flows. About three-quarters of ESPO cargoes shipped since the start of October were carried on vessels that have now been sanctioned, while the entire fleets of specialized shuttle tankers used by the Sakhalin 1 and Sakhalin 2 oil and gas projects have also been blacklisted*." Our Supplemental Documents package includes the Bloomberg report.

Figure 46: Russia's Seaborne Crude Shipments



Source: Bloomberg

Russia oil exports to China decline with sanctions

As expected, there was a decline in China's oil imports from Russia with the recent reports that China had been clamping down on unloading from sanctioned tankers and that was even ahead of the added Biden Jan 10 sanctions on Russia. Bloomberg's crude oil shipments from Russia to China saw a substantial drop off from its stable level over the previous few weeks. Bloomberg highlighted the four-week average of Russia oil shipments to China were down to 1.080 mmb/d for the week ending January 12 down from last week's 1.320 mmb/d for the week of January 5. Four weeks ago on December 15, shipments were at 1.35 mmb/d. Below is the table from Bloomberg's Russia oil exports report this week.

Figure 47: Russian Crude Exports to Asia

Crude Shipments to Asia
Shipments of Russian crude to Asian buyers in million barrels a day

4 weeks ending	China	India	Other	Unknown Asia	Other Unknown	Total
December 8, 2024	1.26	1.41	0.00	0.00	0.00	2.68
December 15, 2024	1.35	1.41	0.00	0.00	0.00	2.77
December 22, 2024	1.29	1.44	0.00	0.03	0.00	2.76
December 29, 2024	1.34	1.25	0.00	0.16	0.00	2.75
January 5, 2025	1.32	1.20	0.00	0.18	0.00	2.69
January 12, 2025	1.08	1.32	0.00	0.23	0.00	2.64

Source: Vessel tracking data compiled by Bloomberg
Bloomberg

Source: Bloomberg

Biden's new Russia sanctions

Oil: Biden latest sanctioned 160 tankers that shipped 1.6 mmb/d of Russian oil in 2024

Last week's (Jan 12, 2025) Energy Tidbits highlighted the Jan 10 new Biden sanctions on Russia energy sector. This week, the IEA noted the significance of the latest sanctions on Russian tankers. They noted it impacted over 160 tankers that carry oil for Russia, Iran and Venezuela. And that these newly sanctioned tankers shipped over 1.6 mmb/d of Russian oil in 2024, which was ~22% of Russia's seaborne exports. The IEA also noted "*At the same*

time, there is heightened speculation that the incoming US administration will take a tougher stance on Iran's oil exports, compounding the impact of US Treasury sanctions on Tehran. On 19 December, the US expanded sanctions on vessels transporting Iranian crude. The new sanctions on Iran's shadow fleet now cover vessels that transported an average of over 500 kb/d of Iranian crude in 2024, nearly one-third of the country's crude exports. While it is too early to fully quantify the potential impact from these new measures, some operators have reportedly already started to pull back from Iranian and Russian oil."

OPEC Monthly Oil Market Report

Oil: OPEC MOMR again lowers oil demand YoY growth for 2024, no change to 2025

On Wednesday, OPEC released it's Jan Monthly Oil Market Report a few hours after the IEA released its Jan Oil Market Report. Just like the IEA is viewed as too conservative on oil demand and was going to tweak up their oil demand forecast, OPEC is viewed as too optimistic on oil demand and was expected to tweak down its oil demand growth. They both met expectations. On Wednesday morning, we posted [LINK] "*OPEC Jan MOMR. No surprises to #Oil demand growth. 2024 tweaked down. Still big outlier at +1.54 mmb/d YoY vs EIA +0.90 , IEA +0.94. 2025 no change. Still the bull outlier but not so far out like for 2024. OPEC +1.45 YoY vs EIA +1.39, IEA +1.06. Tighter range means less debate on oil demand #OOTT."* Jan MOMR forecast 2024 oil demand to be 1.54 mmb/d YoY to 103.75 mmb/d (was +1.61 mmb/d YoY to 103.82 mmb/d). Jan MOMR forecast 2025 oil demand to be +1.45 mmb/d YoY to 105.20 mmb/d (was +1.45 mmb/d YoY to 105.27 mmb/d). Jan MOMR also introduced 2026 oil demand to be +1.43 mmb/d YoY to 106.63 mmb/d. Our Supplemental Documents package includes excerpts from the OPEC January MOMR.

Jan MOMR forecasts draws on oil stocks in 2025 unless DoC adds barrels

The key table for what does OPEC's forecasts mean for oil markets is its forecast for "DoC supply/demand balance for 2025". This is a summary quarterly table for Jan MOMR's forecast for global oil demand less non-DoC liquids production less DoC NGL and non-conventionals production to give a call on DoC production compared to the current DoC production target. The balance represents either a draw on global oil stocks or how much oil DoC countries can add back to markets to balance. Jan MOMR forecasts the draw on oil stocks/room for DoC to add more barrels at 1.5 mmb/d for 2024, 1.0 mmb/d for Q1/25, 1.1 mmb/d for Q2/25, 2.1 mmb/d for Q3/25, and 2.7 mmb/d for Q4/25 based on DoC crude oil production of 40.8 mmb/d.

Figure 48: DoC supply/demand balance for 2025

Table 10 - 1: DoC supply/demand balance for 2025*, mb/d

	2024	1Q25	2Q25	3Q25	4Q25	2025	Change 2025/24
(a) World oil demand	103.7	104.2	104.3	105.5	106.7	105.2	1.4
Non-DoC liquids production	53.2	54.0	54.0	54.3	54.8	54.3	1.1
DoC NGL and non-conventionals	8.3	8.4	8.4	8.3	8.4	8.4	0.1
(b) Total non-DoC liquids production and DoC NGLs	61.5	62.4	62.5	62.6	63.2	62.7	1.2
Difference (a-b)	42.3	41.8	41.9	42.9	43.5	42.5	0.3
DoC crude oil production	40.8						
Balance	-1.5						

*Note: * 2024 = Estimate and 2025 = Forecast. Totals may not add up due to independent rounding.*

Source: OPEC

OPEC highlights gasoline for road mobility and China oil demand are growing

When we read the Jan MOMR, it seemed like OPEC was trying to make sure they

were positive in their 2026 outlook on the two key (and somewhat linked) oil demand concerns for those who say oil demand has peaked, including in China. In OPEC's first look at 2026, Jan MOMR wrote "*In terms of oil products, transportation fuels are set to drive 2026 oil demand growth, with air travel expected to see further expansion, as both international and domestic traffic continues to increase. Gasoline requirements are also set to see support from steadily rising road mobility in major consuming countries and regions, such as China, the Middle East, India and the US. Both on-road diesel, including trucking, as well as industrial, construction and agricultural activities in non-OECD countries are expected to support diesel demand. Light distillates are projected to be supported by petrochemical capacity additions and margins, mostly in China and the Middle East."* Jan MOMR forecasts China oil demand to be +0.31 mmb/d YoY in 2025 and +0.27 mm/d in 2026.

Oil: IEA Jan OMR, oil demand increased slightly, IEA doesn't message negative on oil

IEA Oil Market Report

On Wednesday, the IEA released its monthly Jan Oil Market Report. (i) We thought the numbers were a net positive as there was a minor increase in oil demand, non-OPEC supply forecast reduced slightly and OECD oil stocks continue at low levels. Early Wed morning, we posted [LINK] "*Another IEA tweak higher in #Oil demand. IEA Jan OMR now knocking on the door of 104 mmb/d for 2025 at 103.956 mmb/d. OMR released at 2am MT, Brent unchanged at $80.01. Thx @business Kristian Siedenburg. OPEC Jan MOMR coming out shortly. #OOTT."* Jan OMR forecasts oil demand +0.94 mmb/d YoY to 102.901 mmb/d in 2024 (was +0.84 mmb/d YoY to 102.807 mmb/d). For 2025, Jan OMR forecasts oil demand +1.06 mmb/d YoY to 103.956 mmb/d (was +1.08 mmb/d YoY to 103.887 mmb/d). (ii) Jan OMR isn't forecasting peak oil demand yet with 2025 oil demand +1.06 mmb/d to 103.956 mmb/d. And this is up big from IEA's pre-Covid oil demand of 100.651 mmb/d in 2019. (iii) OECD stocks at lowest levels since Aug 2022. IEA wrote "*Global observed oil inventories increased by 12.2 mb to 7 655 mb in November, as higher crude oil stocks on land and on water more than offset draws in oil products. OECD industry stocks drew 20.1 mb to 2 749.2 mb, 118.3 mb below their five-year average and the lowest level since August 2022."* (iv) IEA warns crude oil stocks could draw in Q1. Q1 is traditionally the period for global oil stocks to increase as oil demand is always seasonally lower in Q1 every year relative to the preceding Q4. Jan OMR forecasts a stock build BUT the Jan OMR highlighted "*At the same time, there is heightened speculation that the incoming US administration will take a tougher stance on Iran's oil exports, compounding the impact of US Treasury sanctions on Tehran. On 19 December, the US expanded sanctions on vessels transporting Iranian crude. The new sanctions on Iran's shadow fleet now cover vessels that transported an average of over 500 kb/d of Iranian crude in 2024, nearly one-third of the country's crude exports. While it is too early to fully quantify the potential impact from these new measures, some operators have reportedly already started to pull back from Iranian and Russian oil. If decreases in supply from weather impacts, sanctions or other developments become substantial, oil stocks can quickly be drawn to meet operational requirements in the near term."* Our Supplemental Documents package includes the IEA release and Bloomberg reports.

What was missing from the IEA press release – negative messaging on oil

We think one of the big positives from the IEA Jan OMR was that the IEA seemed to have moved away from their traditional negativity on oil. Rather, it seemed like the first time in years that they were letting the numbers speak for themselves and not

just be negative, negative on everything on oil. On Wednesday, we posted [LINK] "*Positive for #Oil.Is it new US boss, Trump designate oilman Chris Wright, or is the IEA less worried about #Oil demand, or some of both? Jan OMR release is missing normal highlighting negative comments on oil demand especially on China. Does this mean IEA won't be negative for the sake of being negative on oil ie. let the numbers speak for themself. Hopefully the release reflects the IEA tone in the paid report. Be positive for Oil tone and also positive for them if they go back to @NeilAtkinson58 days! #OOTT."* We don't have access to the full paid report so could compare the IEA commentary in the press releases. But our post included the Jan, Dec and Nov OMRs commentary and it is pretty clear the IEA has changed their tone. Our Dec 15, 2024 Energy Tidbits highlighted the Dec OMR and we noted "*The IEA messaging for December pivoted to be less extreme, and we think the numbers are fairly neutral when compared to the Nov OMR; we think this may be due to the upcoming Trump presidency. We note that their conclusions are not changed, rather they have toned down the messaging.*" The Jan OMR took it even further. We believe this is due to them having a new US boss, Chris Wright, who has the ability to call out any deliberate political messaging. Our Supplemental Documents package includes the IEA Jan, Dec and Nov commentary that shows this evolution.

Oil: Rubio didn't specifically say US would cut Iran oil exports again

Will Trump hit Iran oil?

Our view has been unchanged since the summer that the biggest impact Trump will have on oil prices is not Drill Baby Drill but what he does on resuming maximum pressure on Iran and Venezuela ie. cut their oil exports like he did in his first term. The Trump officials have been clear, up until Rubio, that they are returning to the first term playbook and cutting off Iran 's oil exports and cash flow. Plus don't forget the tidbits that came out last year on how Iran plotted to assassinate Trump. We have to Trump has forgotten that. But the only official we have seen not be specific on cutting Iran oil exports is Secretary of State nominee Rubio. He implied it but wouldn't say it. At his nomination hearing transcript, various Senators talked about a return to maximum pressure on Iran as was done in Trump's first admin. But Rubio did not specifically talk about using maximum pressure on Iran by hammering their oil exports. Rather he was a little vague about not letting them have the resources to do the bad things. And the implication that they can't have cash flow ie. cutting oil exports. But he was was not specific on cutting Iran oil exports. Rubio said "*What cannot be allowed under any under any circumstances is a nuclear armed Iran. What could not be allowed under any circumstances is an Iran and an Iranian regime that has the resources and the capability to restart and continue their sponsorship of terrorism. And what cannot be allowed under any circumstances is an Iran with the military capability of threatening and destabilizing its neighbors and potentially reaching the Homeland as well both kinetically and directly, and also through their surrogate groups who have long planned contingencies for attacks. And let us not forget that this is a group. These are individuals that have spent the last five years actively and openly plotting the assassination of the president elect, and of multiple members of previous administrations. Think about this for a moment. When is the last time you heard that a foreign government is actively openly and admittedly seeking to assassinate the former Secretary of State, the former and soon to be once again president of the United States, and others, and that people have been arrested for plotting that. This is who we are dealing with. And anything that we do with Iran needs to be clear eyed about who that regime is but also who those -- the people of Iran really are and – because they're not*

their leaders." "And sanctions and the release of sanctions could be a part of that, assuming that the conditions are appropriate. So I do think sanctions also have a role to play in that regard, but I would not dimmish the part about denying resources for governments and countries to carry out nefarious -- denying them the ability to have the resources to carry out these nefarious activities. He talked about being realistic and not letting them be able to rearm."

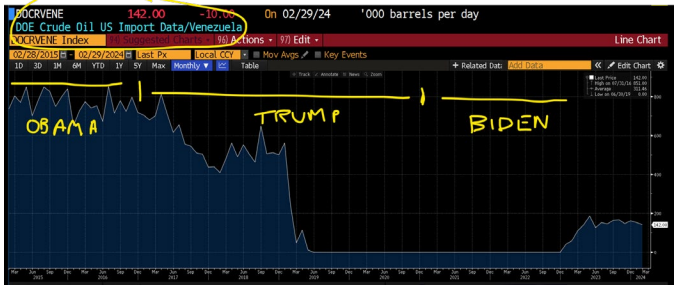
Trump's big impact on oil will be from what he does on Iran and Venezuela

We have consistently believed that Trump's big impact on oil will be if he goes back to his first term playback of cutting back Iran and Venezuela oil. Please note that both Iran and Venezuela have increased oil production since we wrote the following comments. Even in the summer, we wrote on Trump on Iran and Venezuela in our July 21, 2024 Energy Tidbits memo. "*We recognize that the market is focused on Trump's big impact on oil being his "drill, baby, drill" for the US oil industry that he said twice in his acceptance speech on Thursday. Trump was clear that he says unleashing oil drilling in the US will lead to lower oil prices. We continue to believe that Trump's big impact on oil will be from what he does on Iran and Venezuela, and if he will go back to what he did in enforcing sanctions and bringing their oil exports down to almost nothing. Trump did not address Venezuela oil in his acceptance speech but did highlight how he was forcing Iran to run out of money by enforcing the sanctions. Here is what Trump said on Thursday night "Iran was broke. Iran had no money. Now Iran has $250 billion. They made it over the last two-and-a-half years. They were broke. I watched the other day on a show called De-Face the Nation. Has anyone seen it? And they had a congressman who is a Democrat say, well, whether you like them or not, Iran was broke dealing with Trump. I told China and other countries, if you buy from Iran, we will not let you do any business in this country and we will put tariffs on every product you do send in or 100 percent or more. And they said to me, well, I think that's about it, they weren't going to buy any oil. And they were ready to make a deal, Iran was going to make a deal with us. And then we had that horrible, horrible result that we'll never let happen again, the election result. We're never going to let that happen again. They used COVID to cheat. We're never going to let it happen again. And they took off all the sanctions and they did everything possible for Iran. And now Iran is very close to having a nuclear weapon, which would have never happened. This is a shame what -- what this administration -- the damage that this administration has done." Whether you like Trump or not, he was responsible for cutting Iran's oil exports down to effectively zero and squeezing Iran's cash. Here is what we wrote in our May 19, 2024 Energy Tidbits memo. "There were a number of comments on Trump reportedly promising to work with the oil industry, but we believe the bigger impact that Trump will have on oil prices is he moves back to enforcing sanctions on Iran and Venezuela sanctions If he goes back to what he did, he will be knocking a million b/d or Ifan oil exports off global oil markets and likely at least 150,000 b/d of Venezuela oil out of US oil imports."*

Figure 49: Iran oil exports (as of July 2024)

Source: Bloomberg

Figure 50: US oil imports from Venezuela (as of July 2024)



Source: Bloomberg

Oil: Saudi & Qatar to increase condensate/NGLs exports by >1 mmb/d post 2025

Saudi/Qatar adding big condensate & NGLs exports

It seems like we aren't the only ones that haven't focused on how Saudi Arabia and Qatar will be adding >1 mmb/d of condensate and NGLs post 2025. These volumes are not subject any OPEC+ quotas that are on crude oil production. Saudi Arabia will be adding >500,000 b/d of associated condensate and NGLs with its Jafurah unconventional gas development. Qatar will be adding 500,000 b/d of associated condensate and NGLs from the natural gas supply being developed for its LNG expansion projects. On Tuesday, we posted [LINK] "*Holdback to #Oil post 2025. ~1 mmb/d of new condensate & NGLs supply start to come from Saudi Arabia & Qatar post 2025 that isn't covered by OPEC+ cuts. Plus Condensate & NGLs "tallies quite nicely" with China liquids demand growth. @Jamie__Ingram on @gulf_intel. See my 👇transcript. #OOTT.*" We listened to the replay of comments Jamie Ingram (Senior Editor, Middle East Economic Survey) on Gulf Intelligence's Global Energy Outlook Forum on Jan 9, 2025 [LINK]. Here is the transcript we made of his comments. *At 16:30 min mark, Ingram "I think on the supply side in the Gulf, one of the most interesting developments that we're going to see towards the end of this year will be the start up in Saudi Arabia' o the Jafurah Basin unconventional gas development. It gets spoken about as a gas development but it has vast quantities of liquids that are going to be produced on the sides of that – ethane, NGLs, condensate. And these are not going to subject to OPEC's production cuts. So that is a big volume that can be produced irrespective of what OPEC+ does. It will just be small amounts at the end of tis year, ramping up by the end of the decade to something like 400,000 b/d of condensate, more than 500,000 b/d of condensate and NGLs I think, and 400 million cfd of ethane. And what this does is, it actually tallies quite*

nicely with the way you see the demand growth in China, within China. Yes, perhaps overall oil demand in China has peaked, is going to peak soon or is going to plateau, but it's petchems that we're going to see driving forward any more growth and offsetting demands from gasoline and road transport fuels. So that's where the liquids that come from Jafurah Basin, projects like that re going to be very valuable. We're also seeing Aramco start to pick up assets in Chinese refineries with the, integrating petrochemical facilities into. So they're really trying to tie together the whole supply chain as they were plan new expansion parts are going to come on line, possibly near the end of this year, the first train. But more likely 2026, 2027 project timeline. And we're going to see another 500,000 b/d of condensate coming out of those prospects. So a lot of light barrels are going to come on the market from those two."

Saudi Aramco expects Jafurah to produce 630,000 b/d of cosdensate & NGLS

It's not a big deal but we checked Saudi Aramco's website for the page "*Jafurah: the jewel of our unconventional gas program. The story of discovering the Kingdom's largest non-associated gas field."* [LINK] Note Saudi Aramco highlights it's a "*non-associated gas field*", which means that this is not natural gas that is associated with oil production like seen in the Permian and Bakken. Rather this is natural gas field and not an oil field that produces associated natural gas Our comments call the condensate and NGLs as associated with the natural gas ie. it's not dry natural gas that doesn't have liquids that are stripped out of the natural gas. What has to happen is that the liquids within (associated) with the natural gas have to be stripped out so the natural gas is dry enough to meet the specs for the LNG. On their Jafurah page, Saudi Aramco says "*Expected production of NGLs and condensate of 630,000 b/d and ethane over 420 mmcf/d by 2030".*

Oil: Saudi Aramco Jafurah frees up 500,000 b/d of oil to make products for export

Jafurah frees up 500,000 b/d of oil

We have previously highlighted that Jafurah's natural gas will be used to produce electricity and that can displace ~500,000 b/d of oil that is currently being used to produce electricity. What we haven't highlighted before is that Saudi Aramco will be redirecting that 500,000 b/d to make petroleum products that can be exported. On Tuesday, we posted [LINK] "*Another #Oil holdback from Aramco's Jafurah: Jafurah #NatGas displaces ~500,000 b/d used for power consumption to instead be used to create a range of valuable petroleum products. Thx @Jamie__Ingram for highlighting. #OOTT."* Saudi Aramco's Jafurah page writes "*When Aramco's unconventional gas program reaches peak production, it is expected to generate energy for domestic consumption equivalent to displacing around 500,000 barrels of crude oil, allowing this oil, and other petroleum liquids, to instead be utilized to create a range of valuable products, including ones for use in our own chemicals business*."

Oil: Houthis saying they won't attack US/UK if US et al stop bombing Yemen

Red Sea calm ahead?

We read the Al Masirah and Saba lengthy reporting of the Houthis leader speech and we thought he wasn't specific on the Israel/Hamas ceasefire if he was saying they would be pausing attacks on Israel land, Red Sea shipping or both. Interestingly, the Houthis took a page out of Israel playbook and launched missiles at Israel at the USS Harry Truman yesterday, the day before the ceasefire was starting. But in the Al Masirah reporting of the Houthis attack on Israel, the Houthis spokesman seemed to imply Houthis wouldn't be attacking any Red Sea vessels if US, UK et al stopped attacking Yemen. Unfortunately, it wasn't 100% clear but he seemed to imply don't attack us and we won't attack any hostile

forces. But does that include any vessel?? It's not clear. Al Masiriah reported [LINK] "*The Yemeni Armed Forces warned hostile forces in the Red Sea against any aggression on Yemen during the ceasefire in Gaza. They emphasized that any aggression would be met with exceptional military operations against hostile forces, without limits or red lines."*

Oil: Libya oil production of 1.413 mmb/d is above Aug 1 levels

Libya oil production 1.413 mmb/d

On Friday, the Libya National Oil Corporation posted [LINK] "*Production rates in oil fields Libya's crude oil production today reached 1,413,372 barrels per day, and condensate production reached 51,790 barrels"* for total liquids production of 1,465,162 b/d. This is above the Aug 1 level of 1.279 mmb/d for oil + condensate before the interruptions started. Note that the NOC updates now give a split of oil vs condensate, after three months of combining the production items. The NOC also reported natural gas production, on a boe/d basis, was 210,586 boe/d for total oil, condensate & natural gas production of 1,675,748 boe/d.

Oil: Libya targets 1.6 mmb/d in 2025 and 2 mmb/d by 2028

Libya oil production growth targets

We have been big believes for decades that there is big oil production growth potential in Libya if there is peace and access to foreign capital. So when we see the NOC saying they can get to 2 mmb/d in three years, we believe that is attainable as longer there is peace and access to capital. Yesterday, Libya held its Libyan Energy and Economy Conference 2025 in Tripoli. Yesterday, the NOC posted [LINK] "*And moving forward to achieve the main goal of reaching a production of 2 million barrels per day within the next three years, if sufficient funding is available to achieve this*." Amena Bakr (Senior Research Analyst at Energy Intelligence) X/Twitter post [LINK] gave further color. "*Under the current plan Libya hopes to boost its capacity to 1.6 million bpd by the end of this year, and 2 million bpd by 2028".* It isn't clear if this is oil or oil + condensate, but condensate, if included would likely be under 100,000 b/d in total of the 2 mmb/d.

Oil: More signals that Trump won't be as hard as feared on China

How hard will Trump be on China?

One of the big economy and oil wildcards with Trump is what will he do on China. No one but Trump knows. Chinese stock markets were up on Tuesday and stable this week with what seemed to be signals that Trump wouldn't be as hard on China as feared. On Tuesday, we posted [LINK] "*Here's why China stocks up big. 👇@jendeben @SalehaMohsin Trump team looking at gradual tariff ramp on China to boost negotiating leverage & avoid inflation spike. Makes sense. Like Trump or not, his basic negotiating style tends to produce wins for him. Threaten actions that look a lose/BIG LOSE deal ie. some negative blowback to him. Then back off to a Win/Lose deal. #OOTT [LINK]."* Markets liked this report as it seemed to clearly signal Trump was not going to come in and hit China with big tariffs on day 1. Rather he was looking a some sort of gradual tariffs to use as the start of negotiating some sort of win for the US. Later in the week, there were other signs Trump didn't want to hit China hard. Trump wanting to make sure he had time to step in on TikTok. Reports, even from the China side, of a positive Trump/Xi call and the reports that Trump want to go meet with Xi in China in his first 100 days. We have trouble believing Trump will want to do this in the midst of a major trade war. Rather it could be to seal a deal..

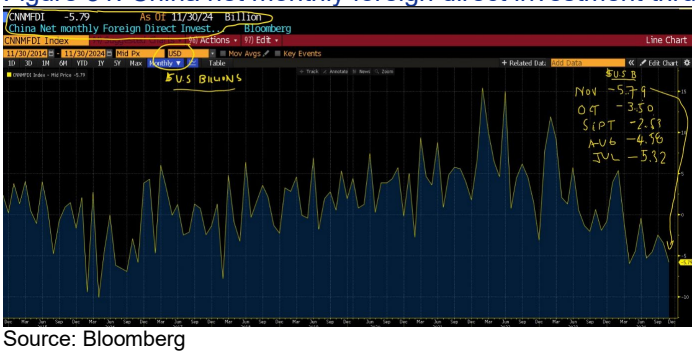
Oil: November sees 9th consecutive negative net monthly FDI into China

Negative net monthly FDI into China

Las Sunday night, Bloomberg posted the China Net Foreign Direct Investment ("FDI") data

for November and we posted [LINK] "*Continued negative indicator for China recovery. 9th consecutive month of negative net monthly foreign direct investment flows despite Sept stimulus. Expected Nov hit as Trump win added risk to investing in China. US $ B. Nov -5.79. Oct: -3.50 Sept: -2.53 Aug: -4.58 July: -5.32 June: -0.44 May: -4.50 Apr: -5.99 Mar: -0.9 Feb: 5.3 Jan: 3.9 Dec: -0.8 Nov: -2.0 Thx @business #OOTT".* Nov net FDI came in at negative $5.79b, which was more than Oct at -$3.50b. And we have to believe capital flows are likely to continue negative until it is clear what Trump will do or not do on China. Since last Nov, we have highlighted a major negative indicator for the China economy – China went from years of net monthly foreign direct investment inflows to the recent months of net monthly foreign direct investment outflows. China needs more foreign investment capital, not less foreign investment capital. This week, we saw this negative indicator for China's recovery – Net monthly foreign direct investment in China was negative for the 9th consecutive month and now for 11 of the last 13 months. Foreign direct investment has been a huge driver of China over the decades and that is no longer a strength, at least for now. Our post included the below Bloomberg graph and note it is in US$b.

Figure 51: China net monthly foreign direct investment thru Nov 2024



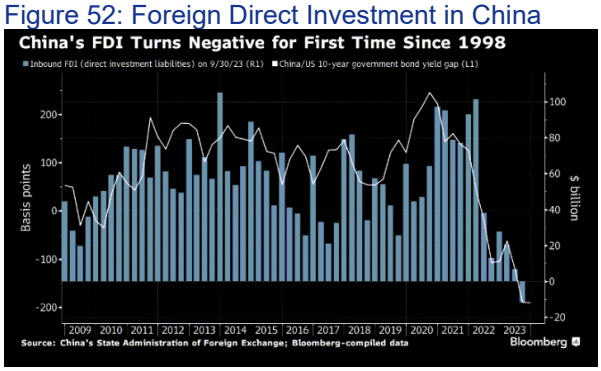
Source: Bloomberg

11/08/23: Q3/23 was 1st net outflow of net foreign direct investment in China

It was big shift in foreign investment when China saw its 1st net outflow of net foreign direct investment in China. Here is what we wrote in our Nov 12, 2023 Energy Tidbits memo. "*There is a big negative to the China recovery that we haven't been tracking – the net inflow or outflow of foreign direct investment in China. And likely because it never got much attention because there has always been a net inflow. FDI is significant as foreign companies disproportionately contribute to trade, generated more tax revenue and urban employment. But this week, we saw the first ever net outflow of FDI since records have been kept in 1998. On Wednesday, we tweeted [LINK] "Here's why China recovery is slow. Huge exodus in foreign direct investment in China & more FDI flowing out for 1st time. Q3/23 saw $11.8b outflow, vs recent $101b in Q1/22. Foreign co's drive disproportionate trade, tax revenue & urban employment. Thx @business #OOTT." Bloomberg wrote "China is struggling in its attempt to lure foreigners back as data shows more direct investment flowing out of the country than coming in, suggesting companies may be diversifying their supply chains to reduce risks. Direct investment liabilities in the country's balance of payments have been slowing in the last two years. After hitting a near-peak value of more than $101 billion in the first quarter of 2022, the gauge has weakened nearly*

every quarter since. It fell $11.8 billion in the July-to-September period, marking the first contraction since records started in 1998."

Figure 52: Foreign Direct Investment in China



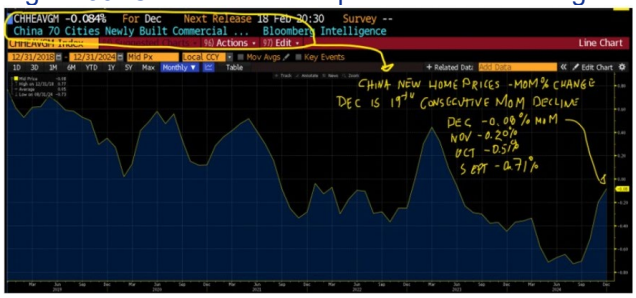
Source: Bloomberg

Oil: China home prices continue to lower in value, 19 mths for new & 20 mths for old

China home prices continue fall

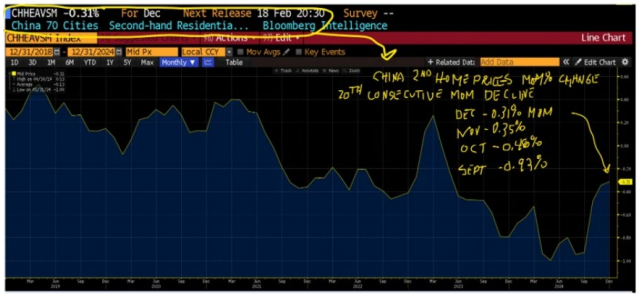
One of the most important priorities for China when announcing their stimulus was to stop home values from declining and increase consumer sentiment. And there is the wildcard of how Chinese consumers sentiment will be impacted by what Trump does or does not do on China and how that will impact Chinese consumer sentiment for home buying as Trump starts to formally unveil policies on Jan 20. But at least for now, the indicators for Dec new and used home prices were still negative MoM but improving with a lower MoM decline than seen in Nov. On Thursday, we posted [LINK] "*Negative, but improving, China consumer indicator. Chinese consumer's most important asset, their home values keep going lower even post Sept stimulus. New home prices: 19th straight MoM % drop. Dec -0.08%. Nov -0.20%, Oct -0.51%. Sept -0.71%. 2nd hand home prices: 20th straight MoM % drop. Dec =0.31%. Nov -0.35%, Oct -0.48%. Sept -0.93%. Smallest MoM % decline but still a decline. Thx @business #OOTT".* China home prices continue to lose value – new home prices had a MoM % drop for the 19th straight month, and second-hand home prices fell for the 20th straight month. The MoM% drop was the lowest in several months, which seems to point to an improving China housing market. Nonetheless, prices are still falling. One of the most significant drivers of negative sentiment among Chinese consumers has, to date, been they keep losing value in their homes, which meant their biggest asset value keeps decreasing month after month. Just like in North America, the home is the most important asset for most Chinese people, and they have seen the value of their homes decline month after month with no end in sight. In December, Chinese new home and 2nd home prices were down MoM vs November. China new home prices were down -0.08% MoM and that is the 19th consecutive month of MoM declines. China second hand home -0.31% MoM and that is the 20th consecutive MoM decline in prices. It seems like China home prices got a lift post China Sept stimulus and fell far less than previous months. But, as noted above, the qualifier will be how the Trump administration is viewed by Chinese consumers. Below are the Bloomberg graphs with the Dec home prices that were included with our post.

Figure 53: China new home prices MoM % change incl Dec 2024



Source: Bloomberg, National Bureau of Statistics

Figure 54: China 2nd hand home prices MoM % change incl Dec 2024



Source: Bloomberg, National Bureau of Statistics

Oil: China retail sales still only modestly up at +3.7% YoY in Dec

China retail sales

On Thursday night, Bloomberg reported on the China retail sales data in Dec. China had its big Sept stimulus and Oct was the best YoY % increase in retail sales in 2024 at +4.8% YoY. Oct was the only month in 2024 with YoY% increase >4%. No surprise, the YoY % increase pulled back in Nov and Dec post the Trump election. In Dec, China retail sales were up +3.7% YoY, which beats expectations of +3.6% YoY growth, but both Nov and Dec were below Oct's level that was jumped up with the Sept stimulus. On Thursday, we posted [LINK] "*Trump factor? Nov/Dec both below Oct that jumped up with Sept stimulus. Retail sales YoY % Dec +3.7% YoY vs est 3.6% Nov +3.0% Oct +4.8% Sep +3.2% Aug +2.1% July +2.7% Jun +2.0% May +3.7% Apr +2.3% Mar +3.1% No Jan/Feb data 2023 Dec +7.4% Nov +10.1% Nowhere near pre-Covid steady +8-11%. #OOTT Thx @business".* Even Oct at +4.8% YoY for retail sales is well below where they were pre Covid which saw +8-11% YoY retail sales growth. Below is the Bloomberg graph we included with our post.

Figure 55: China Retail Sales YoY%

Source: Bloomberg

China big city consumers are not spending

Here is what we wrote in our Jan 5, 2025 Energy Tidbits memo. "*China big city consumers are not spending. We have been highlighting how the Chinese consumer has been holding back on spending and it appears that is being driven more so by Chinese big city consumers. China retail sales have been disappointing and far below the pre-Covid retail sales YoY growth rates. But it looks like within the disappointing retail sales growth, the laggards are Chinese big city consumers. Earlier this morning, we posted [LINK] "China big city consumers are not spending. Within weak national retail sales (see 👇 11/15 post), China's big city consumers are underperforming. "Consumption in China's county-level cities and rural areas is growing faster than that in the bigger first- and second-tier municipalities ...." @yicaichina." Yicai reported "Consumption in China's county-level cities and rural areas is growing faster than that in the bigger first- and second-tier municipalities thanks to an expanding middle class with more spending power, according to the latest data. Only six out of China's 31 provincial-level regions logged more than 5 percent growth in the retail sales of consumer goods in the first three quarters from a year earlier, according to the National Bureau of Statistics. These were Xizang Autonomous Region, Henan province, Hunan province, Shandong province, Jiangxi province and Hubei province, and most of them are in the less-developed central and western parts of the country with lower urbanization rates. This far outstripped the national average of 3.3 percent growth in the first nine months to CNY35.3 trillion (USD4.9 trillion), according to NBS' figures." Our Supplemental Documents package includes the Yicai report."*

Oil: Reminder Chinese New Year and spring festival is early this year

Chinese New Year is Jan 29

As a reminder, Chinese New Year is early in 2025 on January 29, whereas last year it was on Feb 10, 2024. This means all the normal city/economic activity slows down in January as opposed to the beginning of Feb. The Chinese New Year is also known as Lunar New Year or Spring Festival and normally includes at least a week of holidays starting with Jan 27 or 28 i.e. the Shanghai stock market starts its weeklong New Year holiday days on Mon Jan 27. Spring Festival is the major holiday so many seem to take much more than a week of holidays.

Oil: China 40-day Spring Festival travel rush started on Tuesday

Spring Festival travel rush

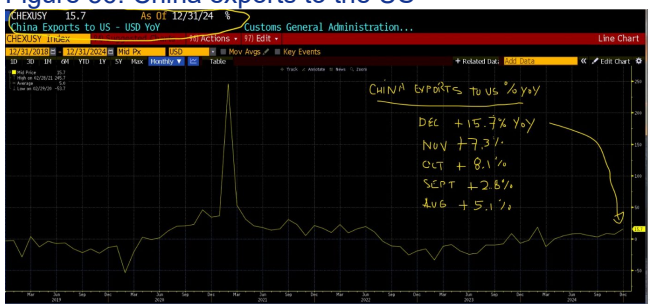
On Tuesday, we posted [LINK] "*Chunyun, 40-day Spring Festival travel started today, thru Feb 22. World's largest annual human migration. - 9 b inter-regional trips - 7.2 b road trips - 510 mm rail trips, 12.75 mm/d, +5.5% YoY - 90 mm air trips, 18,500 flights/day, +8.4% YoY. Also, won't be separate Jan economic data for many items, combined with Feb. #OOTT".* China's 40-day Spring Festival travel rush started on Tuesday. Our post included Xinhua's yesterday report [LINK] that noted that the Spring Festival travel is set to begin with a record 9 billion inter-regional trips expected through the 40-day travel period. Xinhua wrote "*Chinese authorities expect an unprecedented 9 billion inter-regional trips during this year's chunyun, or Spring Festival travel rush. The 40-day travel period began on Tuesday and will continue through Feb. 22. More electric car owners and foreign tourists are expected to join the annual travel frenzy, traditionally featuring millions of migrant workers and others living far from their hometowns who head back to reunite with family and celebrate China's most important festival."*

Oil: China Dec exports to the US +15.7% YoY, rush to land in US ahead of Trump

China exports to the US up

On Monday night, we posted [LINK] "*ICYMI. Last night's China exports to US in Dec were +15.7% YoY as US buyers rush to get Chinese products before Trump takes office on Jan 20. Thx @business #OOTT."* We have been reporting on the increasing international air cargo to North America, North American orders for Chinese goods and other indicators that pointed to US firms rushing to get goods from China prior to Trump taking over. The export data supported those indicators with China exports to the US in Dec +15.7% YOY, which compares to Nov +7.3% YoY, Oct +8.1% YoY, Sept +2.8% YoY and Aug +5.1% YoY>

Figure 56: China exports to the US



Source: Bloomberg

Oil: China oil production up +1.4% YoY in December to 4.23 mmb/d

China Oil Production

We have also been highlighting how China has been increasing its domestic oil production and that therefore reduces its oil import requirements. China's oil production increased by ~0.20 mmb from 2021 to 2023 and that has helped reduce some of its oil import needs. What is often overlooked is the fact that China is the 7th largest oil producer just behind Iraq. Last week, Bloomberg's CHENCOIL index (data pulled from National Bureau of Statistics) showed that China crude oil production was up +1.4% YoY in December to 4.23 mmb/d, up +0.06 mmb/d from 4.13 mmb/d in December 2023.

Oil: Less debate on 2025 oil demand as EIA, IEA and OPEC have a tighter range

Tight range of oil demand YoY growth for 2025

Yesterday, we posted [LINK] "*Seems there should be less of a debate on #Oil demand YoY growth forecasts for 2025 vs what happened in 2024. All (incl EIA, IEA, OPEC, Russia, Saudi Aramco): Range from +1.06 to 1.45 mmb/d YoY with average of +1.25 mmb/d YoY. #OOTT.*" In 2024, most ignored the IEA demand forecasts as they were considered way too low and their practice would be a continuous tweak higher. And most also ignored OPEC demand forecasts for the opposite reason – they were way too high and would keep getting tweaked down. With the Jan forecasts now completed, we continue to see a tighter range of oil demand YoY growth forecasts for 2025 and we have to believe this should reduce the debate on demand. It will never go away but the debate should be lessened with a tighter range of forecasts. We were listening to the IEA on Blomberg and they highlighted they had lowered their YoY growth rate in 2025 for oil demand implying a weakening of demand. That isn't a correct conclusion as the IEA increased their YoY oil demand growth for 2024 from +0.84 mmb/d in the Dec OMR to +0.94 mmb/d in the Jan OMR. So even though the Jan OMR had a lower YoY demand growth of +1.06 mmb/d YoY for 2025 vs Dec OMR of +1.08 mmb/d YoY, the IEA Jan OMR forecasts higher oil demand for 2025 of 103.956 mmb/d, up from Dec OMR of 103.887 mmb/d. Below is our table comparing oil demand growth forecasts that was attached to our post.

Figure 57: Comparison of YoY oil demand growth forecasts

Comparison of YoY Oil Demand Growth Forecasts

	YoY Oil Demand Growth Forecast			
million b/d	2024 YoY	2025 YoY	2026 YoY	
EIA Jan STEO	0.90	1.39	1.05	
EIA Dec STEO	0.89	1.29	-	
EIA Nov STEO	0.99	1.22	-	
EIA Oct STEO	0.92	1.29	-	
EIA Sept STEO	0.94	1.52	-	
EIA Aug STEO	1.14	1.61	IEA demand (million b/d)	
			2924	2925
IEA Jan OMR	0.94	1.06	102.901	103.956
IEA Dec OMR	0.84	1.08	102.807	103.887
IEA Nov OMR	0.92	0.99	102.817	103.807
IEA Oct OMR	0.86	1.00	-	
IEA Sept OMR	0.90	0.95	-	
IEA Aug OMR	0.97	0.95	-	
OPEC Jan MOMR	1.54	1.45	1.43	
OPEC Dec MOMR	1.61	1.45	-	
OPEC Nov MOMR	1.82	1.54	-	
OPEC Oct MOMR	1.93	1.64	-	
OPEC Sept MOMR	2.03	1.74	-	
OPEC Aug MOMR	2.11	1.78	-	
Russia (Novak Dec 25)	1.20	1.25	-	
Saudi Aramco Q3	1.10	1.20	-	
Saudi Aramco Q2	1.60	1.40	-	

Source: EIA, IEA, OPEC, Saudi Aramco, Russia via TASS

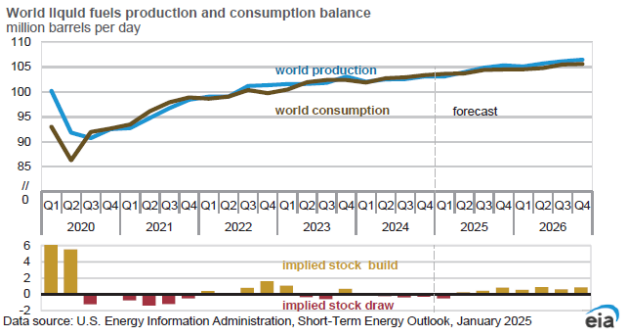
Oil: EIA forecasts global oil stocks will continue to decline thru Q1/25

EIA global oil stock draws thru Q1/25

Similar to OPEC Jan MOMR, the EIA also expects global oil stocks to decline in Q1/25. On Tuesday, the EIA STEO also included their forecast for changes in global oil stocks [LINK]. (i) The EIA forecasts OPEC production in December 2024 at 32.40 mmb/d and for Dec 2025 at 32.99 mmb/d. The EIA has accounted for the extension of voluntary OPEC+ cuts. The EIA forecasts OPEC production is 32.36 mmb/d in Q4/24, this is expected to rise in 2025 by +0.45 mmb/d YoY to 32.81 mmb/d in Q4/25. The EIA forecasts OPEC+ total petroleum and other liquid fuels production is 42.20 mmb/d in Q4/24, in Q4/25 the EIA forecasts an increase of +0.97 mmb/d to 43.17 mmb/d. The EIA said: "*We still expect growth in oil production*

during 2025 to be led by countries outside of OPEC+, increasing by 1.6 million b/d before slowing to growth of less than 0.9 million b/d in 2026. Although production growth outside of OPEC+ is expected to still be driven by the United States, Canada, Brazil, and Guyana in 2025. Except for Brazil, growth slows for all those countries in 2026." (ii) The EIA forecasts continued global stock declines thru Q1/25. The EIA forecasts global oil stocks declined by -0.26 mmb/d in Q4/24 with continued declines in Q1/25 before returning to oil stocks build in H2/25. Below is the EIA STEO global oil inventory chart.

Figure 58: EIA STEO Global oil inventory change



Source: EIA

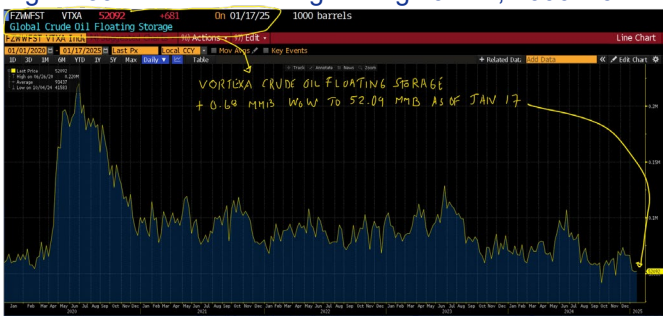
Vortexa floating storage

Oil: Vortexa crude oil floating storage est +0.68 mmb WoW to 52.09 mmb at Jan 17

We are referencing the Vortexa crude oil floating storage data posted on the Bloomberg terminal as of 9am MT yesterday. Note that these estimates get revised over the course of the week and the revisions can go back months. We do not check daily for the revisions, so our comments on the new estimates are compared to the prior week's Vortexa estimates posted on Bloomberg on Jan 11 at 9am MT. (i) Yesterday, we posted [LINK] "*Vortexa crude #Oil floating storage. Total est 52.09 mmb at Jan 17, +0.68 mmb WoW vs revised down Jan 10 of 51.41 mmb. Low 50's is low floating storage. So far, no real increase from new US sanctions but risk is for higher floating storage. Thx @vortexa @business #OOTT."* (ii) As of 9am MT Jan 18, Bloomberg posted Vortexa crude oil floating storage estimate for Jan 17 was 52.09 mmb, which was +0.68 mmb WoW vs revised down Jan 10 of 51.41 mmb. Note Jan 10 was revised down -4.47 mmb vs 55.88 mmb originally posted at 9am on Jan11. (iii) Revisions. Jan 10 was revised -4.47 mmb and Jan 3 was revised -1.96 mmb and the rest of the prior seven weeks were less than +/- 1 mmb in any week. The average revision for the prior seven weeks was -1.19 mmb. Here are the revisions for the prior seven weeks compared to the estimates originally posted on Bloomberg at 9am MT on Jan 11. Jan 10 revised -4.47 mmb. Jan 3 revised -1.96 mmb. Dec 27 revised -0.70 mmb. Dec 20 revised -0.02 mmb. Dec 13 revised -0.71 mmb. Dec 6 revised -0.94 mmb. Nov 29 revised +0.45 mmb. (v) There is a wide range of floating storage estimates for the moving 7-week average, but a simple moving 7-week average to Jan 17 is 61.25 mmb vs last week's then 7-week moving average of 64,43 mmb. (vi) Also remember Vortexa revises these weekly storage estimates on a regular basis. We do not track the revisions through the week. Rather we try to compare the first posted storage estimates on a consistent week over week timing comparison. Normally we download the Vortexa data as of Saturday mornings around 9am

MT. (vii) Note the below graph goes back to Jan 1, 2020 to show the run up to Covid and then how Covid started to impact Covid in March/April 2020. (viii) Jan 17 estimate of 52.09 mmb is -76.44 mmb vs the 2023 peak on June 25, 2023 of 128.53 mmb. Recall Saudi Arabia stepped in on July 1, 2023 with its voluntary cuts. (ix) Jan 17 estimate of 52.09 mmb is -22.82 mmb YoY vs Jan 19, 2024 at 74.91 mmb. Below are the last several weeks of estimates posted on Bloomberg as of 9am on Jan 18, Jan 11 and Jan 4.

Figure 59: Vortexa Floating Storage Jan 1, 2000 – Jan 17, 2025, posted Jan 18 at 9am MT



Source: Bloomberg, Vortexa

Figure 60: Vortexa Estimates Posted 9am MT on Jan 18, Jan 11 and Jan 4

Posted Jan 18, 9amMT

Date	Last Px
Fr 01/17/2025	52092
Fr 01/10/2025	51411
Fr 01/03/2025	52850
Fr 12/27/2024	66154
Fr 12/20/2024	66468
Fr 12/13/2024	66408
Fr 12/06/2024	73373
Fr 11/29/2024	66058
Fr 11/22/2024	69947
Fr 11/15/2024	48395
Fr 11/08/2024	63539
Fr 11/01/2024	61892

Jan 11, 9am MT

Date	Last Px
Fr 01/10/2025	55884
Fr 01/03/2025	54813
Fr 12/27/2024	66846
Fr 12/20/2024	66446
Fr 12/13/2024	67121
Fr 12/06/2024	74314
Fr 11/29/2024	65611
Fr 11/22/2024	69599
Fr 11/15/2024	47538
Fr 11/08/2024	62884
Fr 11/01/2024	61811
Fr 10/25/2024	57575

Jan 4, 9am MT

Date	Last Px
Fr 01/03/2025	48145
Fr 12/27/2024	66961
Fr 12/20/2024	66580
Fr 12/13/2024	67287
Fr 12/06/2024	73164
Fr 11/29/2024	66794
Fr 11/22/2024	71544
Fr 11/15/2024	51267
Fr 11/08/2024	64207
Fr 11/01/2024	64490
Fr 10/25/2024	62721
Fr 10/18/2024	65386

Source: Bloomberg, Vortexa

Source: Bloomberg, Vortexa

Oil: Vortexa crude oil floating storage WoW changes by regions

Vortexa floating storage by region

Bloomberg posts Vortexa crude oil floating storage in key regions, but not all regions of the world. The regions covered are Asia, North Sea, Europe, Middle East, West Africa and US Gulf Coast. We then back into the "Other" for rest of world. (i) As noted above, last week's Jan 10 was revised down -4.47 mmb. The major revision was Asia -4.50 mmb. (ii) Total floating storage at Jan 17 of 52.09 mmb was +0.68 mmb WoW vs revised down Jan 10 of 51.41 mmb. The major WoW changes were Asia +3.17 mmb WoW and Europe -2.73 mmb WoW. (iii) Two weeks ago, we highlighted the originally estimated very low 15.75 mmb in Asia as of Jan 3. A week ago, we noted it was revied up to 21.43 mmb but yesterday it was revised back down to 19.82 mmb. So still very low for Asia as there have only been two weeks below 20 mmb in 2024. This week, Asia was +3.17 mmb WoW to 24.41 mmb. We

expect we could see increases in Asia floating storage with the disruption being caused by China reportedly being stricter on not taking sanctioned tankers. (iv) Jan 17 estimate of 52.09 mmb is -76.44 mmb vs the 2023 high on June 23, 2023 of 128.53 mmb. Recall Saudi Arabia started its voluntary 1 mmb/d production cuts on July 1, 2023. The major changes by region vs the June 23, 2023 peak are Asia -48.85 mmb and Other -16.23 mmb. (iv) Below is the table we created of the WoW changes by region posted on Bloomberg at of 9am MT yesterday. Our table also includes the "Original Posted" regional data for Jan 10 that was posted on Bloomberg at 9am MT on Jan 11.

Figure 61: Vortexa crude oil floating by region

Vortexa crude oil floating storage by region				Original Posted	Recent Peak	
Region	Jan 17/25	Jan 10/25	WoW	Jan 10/25	Jun 23/23	Jan 10 vs Jun 23/23
Asia	24.41	21.24	3.17	25.74	73.26	-48.85
North Sea	0.57	0.01	0.56	0.76	4.71	-4.14
Europe	2.06	4.79	-2.73	5.07	6.05	-3.99
Middle East	6.73	8.18	-1.45	8.74	6.59	0.14
West Africa	4.81	5.98	-1.17	5.86	7.62	-2.81
US Gulf Coast	0.46	0.00	0.46	0.00	1.02	-0.56
Other	13.05	11.21	1.84	9.71	29.28	-16.23
Global Total	52.09	51.41	0.68	55.88	128.53	-76.44
Vortexa crude oil floating storage posted on Bloomberg 9am MT on Jan 18						
Source: Vortexa, Bloomberg						

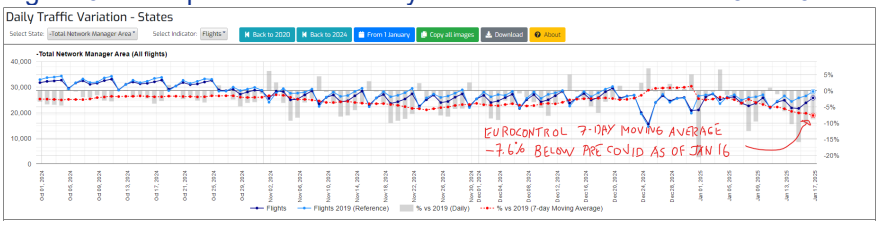
Source: Bloomberg, Vortexa

Oil: Europe airports daily traffic 7-day moving average -7.6% below pre-Covid

Europe airports daily traffic

Yesterday, we posted [LINK] "*Xmas Europe air travel above pre-Covid didn't last. Air travel vs pre-Covid is now -7.6% below re-Covid, lower vs pre-Covid than before Xmas. 7-day moving average as of: Jan 16: -7.6% below pre-Covid. Jan 9: -4.2%. Jan 2: -2.6%. Dec 26: +0.8%. Dec 19: -2.4%. Dec 12: -3.6%. Dec 5: -4.0%. Nov 28: -4.3%. Nov 21: -5.5%. Nov 14: -3.8%. #OOTT.*" The Xmas rush for the 7-day moving average as of Dec 26 was the first week above pre-Covid since the Jan 2024. Air travel always goes up for Xmas and it always seasonally drops after Xmas. But the drop But last year, it didn't drop as much and was actually above pre-Covid in Jan 2024. This year, there has been a big drop off since Xmas. The 7-day moving average was -7.6% below pre-Covid as of Jan 16, which followed -4.2% as of Jan 9, -2.6% as of Jan 2, +0.8% as of Dec 26, -2.4% below pre-Covid as of Dec 19, -3.6% as of Dec 12, which followed -4.0% as of Dec 5, -4.3% as of Nov 28, -5.5% below as of Nov 21, and -3.8% as of Nov 14. Normally we try to pull the data early Saturday mornings for a consistent weekly comparison. Eurocontrol updates this data daily and it is found at [LINK].

Figure 62: Europe Air Traffic: Daily Traffic Variation to end of Jan 16



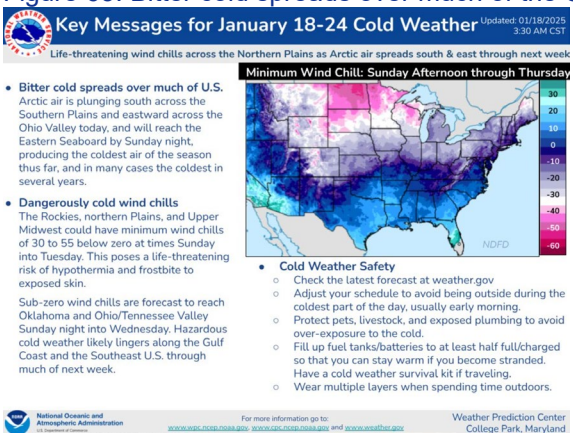
Source: Eurocontrol

Bitter cold hitting most of US

Oil & Natural Gas: Expect a range of oil & gas interruptions wit the brutal cold

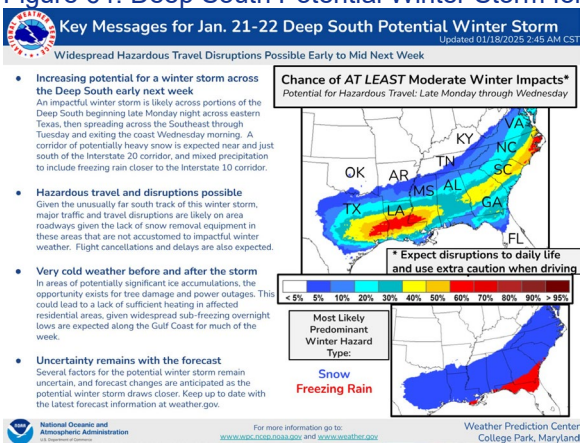
It's hard to predict exactly what oil and gas operations will be impacted but, when we saw the forecast for brutal even pushing down into Texas and Gulf Coast, there has to be some impacts on oil and gas operations. Yesterday, we posted [LINK] "*#Oil & #NatGas interruptions are to be expected. Even in winter regions in north, brutal cold tends to impact production, drilling & crude by rail. Cold, snow, freezing rain in TX, OK, LA where less winterized operations leads to more #NatGas freeze-offs and also refinery interruptions like Feb 2021 big freeze. Thx @NWSWPC #OOTT."* The NWS Weather Prediction Center (part of NOAA) had posted [LINK] "*A trifecta of impactful winter weather systems will bring about bitterly cold temperatures, heavy snow to the Northeast, & both disruptive snow & ice accumulations to much of the Southern U.S. over the next seven days. This post contains all three sets of current Key Messages.*" When it gets to that level of cold, it impacts oil and gas operations even in the northern US oil and natural gas. Rigs and frack spreads slow down. Rail operations, including crude by rail, slow down. When wells go down for any reason, well operators won't get back at the wells right away. But where the big potential risk is in Texas, Louisiana and the Gulf Coast if the NWSWPC forecast is right for cold, freezing rain and/or snow. Operations aren't as winterized so one example of a larger impact in the south will be more natural gas production freeze-offs. And, as noted earlier in the memo, the big Texas Feb 2021 freeze hit refineries the hardest. Below are two of the NWSWPC maps.

Figure 63: Bitter cold spreads over much of the US for Jan 18-24



Source: NWS Weather Prediction Center

Figure 64: Deep South Potential Winter Storm for Jan 18-24



Source: NWS Weather Prediction Center

Oil & Natural Gas: SLB sees oversupplied oil market, subdued upstream investment

SLB CEO sees subdued upstream investment

Q4 reporting for oil and gas started on Friday with SLB (formerly known as Schlumberger) reported. The big oil field service companies are always first to report each quarter. And we look to the service companies as they indicate what the oil and gas companies plan to do in the near term and also their views on the commodities. (i) We like to compare the CEO messages to prior quarters to see what is different and/or mission SLB CEO view on oil and on oil and gas industry activity steadily decreased in his 2024 quarterly comments. Here are some snippets from the CEO outlook Q1 "*The Momentum Continues. "The oil and gas industry continues to benefit from strong market fundamentals driven by a growing demand outlook."* Q2 *"Beyond 2024, the fundamentals of this cycle remain in place, and there is a long tailwind of growth opportunities*." Q3 "*Despite Cautious Macro Environment. "This performance was achieved despite an environment where short-cycle activity growth softened, and some international producers exercised cautious spending triggered by lower oil prices and ample global supply."* Q4 "*Despite Macro Headwinds", "While upstream investment growth will remain subdued in the short term due to global oversupply, we anticipate the oil supply imbalance will gradually abate."* (ii) On Friday, we posted [LINK] "*SLB CEO sees near term macro headwinds & oil oversupply with oil supply imbalance will gradually abate. "Macro headwinds" (was "cautious macro environment"). "upstream investment growth will remain subdued in the short term due to global oversupply, we anticipate the oil supply imbalance will gradually abate..... coupled with rising energy demand from AI and data centers will support the investment outlook for the oil and gas industry throughout the rest of the decade" See 👇excerpts, CEO macro #Oil #NatGas view lessened in each quarter. #OOTT."* (iii) SLB CEO sees an oversupplied oil market. "*While upstream investment growth will remain subdued in the short term due to global oversupply, we anticipate the oil supply imbalance will gradually abate."* Our Supplemental Documents package includes the SLB CEO outlooks from the Q1, Q2, Q3 and Q4.

Oil & Natural Gas: Will Trump set in motion multiple positives for oil & gas?

Positives coming for oil and gas

Earlier this morning, we posted [LINK] "*Will Trump set in motion multiple positives to #Oil #NatGas tomorrow? Return to 1.0 & hammer Iran & Venezuela oil exports? Halt offshore*

windmills on Federal lands? Cancel Biden's EVs mandates/subsidies? Will others follow when he pulls US out of Paris? And more. #OOTT." We think it is overlooked that Trump is expected to take action tomorrow that will set in motion multiple positives for oil and natural gas. The big ones are will he return to his 1.0 playbook of hammering Iran and Venezuela oil exports as that would be a 2025 oil price impact. Looking for the next several years, his desire to stop offshore windmills means natural gas will be needed even more than expected. Cutting EVs mandates and subsidies means US will use more gasoline for longer. There are more items but the concept is that he could set in motion multiple positive tomorrow. Earlier in the memo, we noted Trump potential tariffs on Cdn oil and Rubio's non-specific comments on a return to maximum pressure on Iran. It was the big week for key Trump cabinet nominees to face their respective Senate confirmation committee meetings. We reviewed the transcripts for all the key nominees. We were not looking for what the nominees were saying that was general headline comments. Rather our focus is on what they say that was related to energy. Our overall view is that all the nominees were disciplined, and their comments aligned with Trump's positions outlined in the election campaign. The tougher part was when they did the political speak of not really saying anything specific on items. But going into tomorrow's new Trump Administration, we should be expecting him to move on what he said on the campaign trail. Here are some of the confirmations.

Oil & Natural Gas: Trump cabinet stick to Trump energy campaign promises

Trump cabinet stick to the script

Earlier in the memo, we noted Trump potential tariffs on Cdn oil and Rubio's non-specific comments on a return to maximum pressure on Iran. It was the big week for key Trump cabinet nominees to face their respective Senate confirmation committee meetings. We reviewed the transcripts for all the key nominees. We were not looking for what the nominees were saying that was general headline comments. Rather our focus is on what they say that was related to energy. Our overall view is that all the nominees were disciplined, and their comments aligned with Trump's positions outlined in the election campaign. The tougher part was when they did the political speak of not really saying anything specific on items. But going into tomorrow's new Trump Administration, we should be expecting him to move on what he said on the campaign trail. Here are some of the confirmations.

Getting rid of Biden's EV mandate and incentives on Day 1

We have highlighted how Trump getting rid of Biden's EV mandate was to be a Day 1 Executive Order. On Wed, DOT Sec nominee Duffy didn't specifically say that at his Senate hearing. However, he was clear that they need to make EVs pay their fair share of roads maintenance, which we saw confirming that Trump plans to take away any incentives/advantages for EVs. On Wed, we posted [LINK] "*DOT Sec nominee @SeanDuffyWI gives clear #EVs position. Sen Fischer should EVs be paying into the Highway Trust Fund? Duffy "Absolutely. Senator, I think you brought that up in the office, in our -- in our conversation. They should pay for use of our roads." Thx @business* #OOTT /"

Scott Bessant: US to add 3 million "boe/d" not 3 million b/d of "oil"

We were surprised that it wasn't just the general media but also some energy/markets commentators saying Treasury Secretary nominee Bessant is saying the US is going to add 3 mmb/d of oil. Bessant has never said 3 mmb/d of oil rather he has consistently said oil equivalent ie. oil, condensate, NGLs and the oil

equivalent amount of natural gas. That is what "boe" or "oil equivalent" barrels mean. On Tuesday, we posted [LINK] "*Reminder Scott Bessant was referring to adding 3 million boe/d (barrels of oil equivalent), which would include oil equivalent of #NatGas bcf/d to be added. Bessant wasn't saying US would add 3 mmb/d of #Oil. Regardless, the key oil supply question will be how much can US add and SUSTAIN. #OOTT."*

Rubio wants to reexplore Chevron's Venezuela oil license

Earlier in the memo, we noted Rubio's non-specific comments on a return to cutting Iran oil exports. Secretary of State nominee Marco Rubio has stayed out of the spotlight but had his Senate confirmation hearing on Wednesday. We posted [LINK] "*Bullish for Cdn #Oil as Rubio points to less Venezuela heavy/medium oil to US. Re Cuba: Rubio says won't speak ahead of Admin decisions as Trump sets policy. BUT has no hesitation to say oil license to Chevron & others provided $ billions and "all that [licenses] need to be reexplored". Seems to Infer Trump is onside. Less VEN oil into US is positive for Cdn Oil prices. See 👇 @business transcript. #OOTT."* We have looked at Rubio as a good pick for Secretary of State for Trump as he will be a careful speaker to not be too much offside Trump's views. On Cuba, Rubio said it was up to Trump. Late in the hearings, he is asked about Cuba. Rubio is Cuban American and has strong anti Cuba regime views. But he made a specific point of saying he didn't want to speak out on a position ahead of Trump decision. Ted Cruz, another Cuban American, asked if Rubio would commit to the view that Cuba has all the qualifications of having state sponsored terrorism activity. Rubio replies "*Well, I would just say -- again, I don't want to speak ahead of the administration of these decisions. As I said, the president sets our foreign policy and my job is to execute it. That's how our system of government works."* The reason we highlight this is that it seems to reaffirm our assessment of him as being careful to not get out ahead of Trump on major foreign policy items. His Cuba response makes us think Trump is onside Rubio on Venezuela. And Rubio was clear, he disagrees with the oil licenses to Chevron and others and wants them reexplored. As opposed to Cuba, Rubio had no hesitation to a clear foreign policy action. Rubio said "*I was in strong disagreement with the Biden administration, because they got played the way that I knew they would get played.*
They entered into negotiations with Maduro. He agreed to have elections. The elections were completely fake. They leveraged migration against us to get those concessions, and now they (ph) have these general licenses where companies like Chevron are actually providing billions of dollars of money into the regime's coffers and the regime kept none of the promises that they made. So, all that needs to be reexplored." Trump can change his mind on a dime but Rubio seems to point to them to wanting to put an end to Chevron's oil license and that means over 250,000 b/d less Venezuela oil imports into the US. Ie. positive for WCS.

Trump to pull US out of Paris climate agreement on day 1

This has been a no debate issue and there has been so little commentary or discussion or even debate if it's a good idea for Trump to pull the US out of the Paris climate agreement. Rather it is as if everyone has accepted Trump's consistent

comments that he plans to pull the US out of the Paris climate agreement on Monday. Just like he did in his first term.

Trump to cancel Biden's offshore oil lease & drilling ban

Here is what we wrote in last week's (Jan 12, 2025) Energy Tidbits memo. "*No surprise to see Trump come out right away on how he will cancel Biden's Jan 6 plan to permanently withdraw 625 million acres of offshore lands from oil leasing and drilling. But it isn't clear how quickly he can reverse it as it appears it will take more than a stroke of a pen on an executive order or memorandum. On Monday, Biden announced "Memorandum on the Withdrawal of Certain Areas of the United States Outer Continental Shelf from Oil or Natural Gas Leasing". [LINK] Biden's actions "Using his authority under Section 12(a) of the Outer Continental Shelf Lands Act, President Biden is issuing two Presidential Memoranda to protect all U.S. Outer Continental Shelf areas off the East and West coasts, the eastern Gulf of Mexico, and additional portions of the Northern Bering Sea in Alaska from future oil and natural gas leasing. The withdrawals have no expiration date and prohibit all future oil and natural gas leasing in the areas withdrawn. President Biden first used this authority in January of 2021 when he restored protections for part of the Northern Bering Sea, and again in March 2023 to withdraw 2.8 million acres of the Beaufort Sea from future oil and gas leasing, which completed protections for the entire U.S. Arctic Ocean." Biden said there is no expiration date. The comments on the action were that it wouldn't be able to be reversed with a quick stroke of the pen by Trump. On Monday, we posted [LINK] "Here's why it will likely take more than a stroke of the pen for Trump to reverse Biden's removal of #Oil #NatGas leases/drilling on 625 mm acres of offshore federal lands. See excerpt on 1953 law & 2019 district court ruling from @maxinejoselow @MerylKornfield [LINK] #OOTT." Our post included an excerpt from the Washington Post report "The 1953 law gives the president broad powers to withdraw federal waters from future oil and gas leasing, and U.S. District Judge Sharon L. Gleason ruled in 2019 that such withdrawals cannot be undone without an act of Congress. The Trump administration appealed the decision at the time, but the federal government dropped the appeal after Biden took office, so a higher court never weighed in on the matter. Andrew Mergen, a professor at Harvard Law School who previously worked on this offshore drilling litigation as a Justice Department official, said Gleason's ruling took a very expansive view of presidential powers and could have been overturned."*

Energy Transition: Is BC having a reality check on funding climate projects

BC reality check on funding climate projects

Earlier this morning, we posted [LINK] "*Reality check on reducing emissions in BC. @Dave_Eby "commitment to take action on climate change remains foundational". BUT mandate to Energy "meet emissions targets in a manger that reduces costs to families and grows the economy, and positions us for trade diversification..." Seems to signal climate changes actions must be economic/viable without relying primarily on big BC govt subsidies. #OOTT #NatGas."* We like reading the mandate letters to ministers because they provide overall priorities for the government and new cabinet, and then specific priorities for a ministry. BC Premier Eby knows he almost lost the election because of items like cost of living, cost of energy, growth , etc. His mandate letters started off with the govt challenges

starting with "*grow the economy by creating good jobs across BC" and "Reduce costs for families*". With those as a backdrop, his mandate letter to the Minister of Energy and Climate Solutions seemed to point to they are going to have to not waste money on climate change projects that require big govt subsidies that are nowhere near economic and really don't make an impact. Eby confirmed taking action on climate change remains foundational. But his comments on doing so that reduces costs on families and businesses and grows the economy implied, at least to us, they aren't going to have govt subsidies for projects that add to energy costs to families. And don't forget, energy costs roll thru to costs of making products. Eby's mandate letter to the minister wrote "*Identify innovative ways to help us meet our carbon emission goals in a manner that reduces cost burdens for BC families and businesses, grows our economy, and positions us for trade diversification and expansion in light of growing global economic and political instability and supply chain cost inflation."*

ACEA warns EU on EV mandate

Energy Transition: ACEA to EU act now to prevent irreparable damage to EVs

No one should be surprised that, on Thursday, the ACEA (European Automobile Manufacturers' Association) posted its letter to EU leaders "*Act now to prevent irreparable damage to competitiveness as EV growth sluggish and trade tensions rise"* [LINK]. The ACEA has been warning the EU that the BEV mandates are not working and that there need to be changes as EU's BEV mandate, big changes and changes soon. (i) On Thursday morning, we posted [LINK] "*EU's BEV plan does not work warns @ACEA_auto again! "The European Green deal must be subject to a reality check and realignment" "A realistic pathway to decarbonising the automotive industry, one that is market driven, and not penalty driven" New BEV car registrations -6% YoY in 2024, "market share is also on a downward descent, declining by 1% to 13.6%" Demise of ICE & gasoline/diesel consumption will take longer than aspired in EU. #OOTT."* (ii) EU BEV adoption continues to get worse. ACEA wrote "*The most urgent action that the industry needs now is that the EU finds a solution for compliance burden relief for cars and vans on the 2025 CO2 target. Political action today could not be more critical, as the latest provisional figures indicate an almost 6% decline in new electric car registrations in 2024. Market share is also on a downward descent, declining by 1% to 13.6%—far from the sharp increase needed to meet stringent CO2 targets in the coming years."* (iii) Need a market driven not a penalty driven solution for BEVs. ACEA wrote "*a realistic pathway to decarbonising the automotive industry, one that is market driven, and not penalty driven; find a solution to the disproportionate costs of compliance with the 2025 CO2 target for cars and vans*." (iv) ACEA also takes a shot at the EU's overall green deal. ACEA wrote "*The European Green Deal must be subject to a reality check and a realignment – to make it less rigid, more flexible and to turn the decarbonisation of the automotive industry into a green and profitable business model*." Our Supplemental Documents package includes the ACEO release.

11/13/24: ACEA, worsening EU EV outlook reinforces need for urgent action

Our Thursday post referenced the ACEA's Sept warning on the need for urgent action in the EU on the EV mandate. But that wasn't the only time the ACEA has warned the EU. Here is what we wrote in our Nov 24, 2024 Energy Tidbits memo. "*ACEA, worsening EU EV outlook reinforces need for urgent action. As noted above, on Thursday, the ACEA reported EU BEV sales in Oct were up +2.4% YoY but its YTD share was down to 13.2%. That was on Nov 19 so the ACEA obviously was*

rolling up the Oct sales in the week or so prior to that. So they knew the numbers and no surprised, on Nov 13, the ACEA wrote "New evidence of worsening outlook for electric vehicle market reinforces need for urgent action". We didn't see the ACEA Nov 13 call for urgent action on BEVs in EU until Wed. On Wed, we tweeted [LINK] "Can EU do something to fix stagnating #BEV sales? How long will it take to turnaround? "New evidence of worsening outlook for electric vehicle market reinforces need for urgent action" "All indicators point to a stagnating EU electric vehicle market, at a time when acceleration is needed." ACEA_auto #OOTT." The warnings are new ones from the ACEA. They are clear, the BEV market is stagnating in the EU. It's worth a read as the ACEA highlights stability is not enough, the BEV market needs more. And the costs of compliance in hitting the BEV sales targets is steep for car manufacturers. There are number of items that need to get the BEV market accelerating instead of stagnating including more EV market stimulus. Our Supplemental Documents package includes the ACEA urgent action release."

09/19/24: ACEA, Urgent action needed as EU BEV Aug sales -43.9% YoY

Here is what we wrote in our Sept 22, 2024 Energy Tidbits memo on the ACEA's warning in Sept that urgent action was needed on the EU's BEV mandate. "*ACEA, urgent action needed as EU BEV Aug sales -43.9% YoY. No one should be surprised that, on Thursday, the ACEA (European Automobile Manufacturers' Association) posted its letter to EU leaders "Act now to prevent irreparable damage to competitiveness as EV growth sluggish and trade tensions rise" [LINK]. The ACEA has been warning the EU that the BEV mandates are not working and that there need to be changes as EU's BEV mandate, big changes and changes soon. (i) On Thursday morning, we posted [LINK] "EU's BEV plan does not work warns @ACEA_auto again! "The European Green deal must be subject to a reality check and realignment" "A realistic pathway to decarbonising the automotive industry, one that is market driven, and not penalty driven" New BEV car registrations -6% YoY in 2024, "market share is also on a downward descent, declining by 1% to 13.6%" Demise of ICE & gasoline/diesel consumption will take longer than aspired in EU. #OOTT." (ii) EU BEV adoption continues to get worse. ACEA wrote "The most urgent action that the industry needs now is that the EU finds a solution for compliance burden relief for cars and vans on the 2025 CO2 target. Political action today could not be more critical, as the latest provisional figures indicate an almost 6% decline in new electric car registrations in 2024. Market share is also on a downward descent, declining by 1% to 13.6%—far from the sharp increase needed to meet stringent CO2 targets in the coming years." (iii) Need a market driven not a penalty driven solution for BEVs. ACEA wrote "a realistic pathway to decarbonising the automotive industry, one that is market driven, and not penalty driven; find a solution to the disproportionate costs of compliance with the 2025 CO2 target for cars and vans." (iv) ACEA also takes a shot at the EU's overall green deal. ACEA wrote "The European Green Deal must be subject to a reality check and a realignment – to make it less rigid, more flexible and to turn the decarbonisation of the automotive industry into a green and profitable business model." Our Supplemental Documents package includes the ACEO release."*

Figure 65: EU Aug new car registrations by power source

EU August New Car Registrations by Power Source						
	Aug-24	Aug-23	% Change	YTD Aug 24	YTD Aug 23	% Change
BEV	92,627	165,204	-43.9%	902,011	983,718	-8.3%
PHEV	45,590	58,660	-22.3%	501,266	527,697	-5.0%
HEV	201,552	189,114	6.6%	2,138,474	1,765,893	21.1%
Others	18,634	19,687	-5.3%	224,692	213,537	5.2%
Petrol	213,057	257,139	-17.1%	2,504,457	2,580,076	-2.9%
Diesel	72,177	98,008	-26.4%	909,592	1,007,279	-9.7%
Total	643,637	787,812	-18.3%	7,180,492	7,078,200	1.4%
Others incl fuel-cell electric vehicles, natural gas vehicles, LPG, E85/ethanol, and other fuels						
Sources ACEA						

Source: ACEA

Energy Transition: BEV winter range losses are more than from just cold temperature

Multiple BEV range losses in winter

InsideEVs is not an anti EVs group rather "*Since 2012, InsideEVs has faithfully served fans of electric cars, plug-in hybrids and alternative-energy vehicles of all shapes and sizes*." We have referenced their EV 101 articles as they provide both pro and con items for BEVs. On Thursday, we posted [LINK] "*Straight talk on BEV challenges for those who live in winter climates! Big drop in BEV range is more than because it gets to 32F/OC outside. Also big loss from snow tires, turning on the heater, etc. BEVs can be 1st car in California but likely 2nd or 3rd car in Canada, much like Equinor said 👇04/26/23 in Norway. Thx @smartassicuss @InsideEVs #OOTT*. On Dec 1, 2024, InsideEVs posted "*How Cold Winter Weather Affects Electric Cars (And What To Do About It"*. [LINK] InsideEVs reminds there are more items that reduce BEVs range in winters than just cold temperatures and they included items that most don't include or consider for lower battery range in winter such as the switch to winter snow tires that can lower BEVs range by up to 20%. Everyone will reference the studies that talk about the reduction in BEV range from cold temperatures. BVut there is more. People in Canada switch to snow tires in Nov and they normally stay on thru March. InsideEVs wrote "*Another range-sapping part of cold-weather EV driving is the switch from summer to winter tires. Between their different rubber compounds and tread patterns, they produce more rolling resistance, and this will incur a range drop. You should regularly check the tire pressure in winter, as it can vary depending on outside conditions, and having them underinflated can further penalize efficiency. Michelin says that rolling resistance can lower an EV's range by up to 20 percent. It also notes that a 30 percent increase in rolling resistance will increase electricity consumption by between 3 and 5 percent*." Turning on the heater in the car can drain even more. InsideEVs wrote "*This is why turning on the heater in an EV, even one with a heat pump, will instantly cause the predicted range to drop. Polestar says that outside temperatures can reduce the range of its EVs by 10 to 12 percent, but if you also use the climate system, that can go up to 41 percent."* There are other items in the InsideEVs report. We really wish the Liberals would have outlined the full impact of winter on BEVs battery range when they started selling the aspiration of BEVs to Canadians. Our Supplemental Documents package includes the InsideEVs report.

03/25/23: Equinor chief economist Norwegians bought EVs as 2nd or 3rd cars

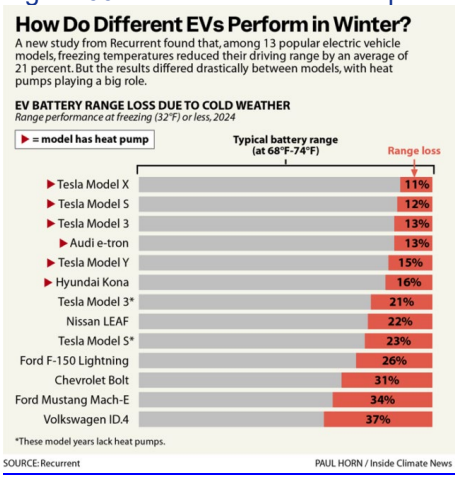
Our post referenced the Equinor chief economist comments that Norwegians buy BEVs as 2nd or 3rd cars. We have to believe that will be the case for Canadians unless they are low mileage home owners within city commuters. Here is what we

wrote on Equinor in our March 26, 2023 Energy Tidbits memo. "*The Equinor Chief Economist Wareness comment to the FT also supported the above item on how Norwegians aren't using their EVs as much as would be expected given the massive penetration of new car sales over the past several years. Yesterday, we tweeted [LINK] "Here's why Norwegians #EV mileage is low relative to new car sales. "We've bought an EV instead of taking the bus, or it becomes the second or the third car" says @EWaerness. many other reality check energy transition views in his @FT interview [LINK] #OOTT." Waerness says that Norwegians really have bought EVs as their 2nd or 3rd cars and not the principal car. Whereas historically car buyers buy new cars as a principal car other than the wealthy who have more than a couple cars. The FT wrote "Norway's experience with electric vehicles provides an example, Wærness suggested. Subsidies to buy battery-powered cars had rapidly increased their number, and Norway has been repeatedly cited as an example of how quickly customers could switch to EVs. But the overall car fleet had swollen too, Wærness said. "We've kept a lot of the diesel cars and gasoline cars, and we've added EVs, and it took 10 years before gasoline demand went down," he said. "We've bought an EV instead of taking the bus, or it becomes the second or the third car."*

BEV range losses when it winter temperatures hit 32F/0C

It looks like the InsideEVs report above referenced the same starting point for basic BEV range losses at 32F/0C from Recurrent that we highlighted in last week's (Jan 12, 2025) Energy Tidbits memo. Here is what we wrote *"EV range losses in cold weather. On Wednesday, we posted [LINK] "Should be busy day at #EV charging across the US. It's 32F or below in most of the US. @weatherchannel. At 32F, battery range loss is significant. And will be much worse when temps are below 32F. Thx Kristoffer Teague [LINK] #OOTT." We were watching the US temps and, at the time of our post, it was below 32F in most of the Lower 48. And that reminded of the challenge for EVs in most of Canada – EVs lose significant range in winter. Our tweet included the below table that shows their tested EV range loss at 32F or 0C. We don't know how it goes below 32F but we assume it isn't linear so range loss will accelerate below 32F and The Weather Channel temperatures were as of 12:15pm ET so pretty close to maximum warmth for the day. They also highlighted the reduced range loss for those EVs that have heat pumps. Don't forget that any EV owner will also remind that the range loss is greater depending on items like using the heater for the inside car temperature and added weight items beyond the driver. Not to pick on anyone, but the some of the most popular BEVs like Fort F-150 Lightning have 26% range loss at 32F and that would assume the pickup truck wasn't being used for pickup type use. Our Supplemental Documents package includes the Inside Climate News report that was posted by arstechnica.com. [LINK]"*

Figure 66: How do different EVs perform in winter?



Source: Inside Climate News

Energy Transition: Blackrock "*think oil and gas*" to meet growing AI energy demand

BlackRock finally says oil and gas

We think most people missed the big change in BlackRock's stance on powering the AI energy demand – BlackRock finally came out and specifically said "think oil and gas" to meet AI energy demand. Here is what we wrote in last week's (Jan 12, 2025) Energy Tidbits memo. On Thursday, we posted [LINK] "*Finally, the dirty little AI secret is revealed. BlackRock's #1 theme for the game changing AI industrial revolution is financing the future, says "think solar farms, power grids, oil and gas". 1st time specifically naming oil and gas as a winner in the AI mega trend. BlackRock 2025 global outlook "Meeting growing energy demand (think solar farms, power grids, oil and gas) will generate investment of US$3.5 trillion per year this decade" Prior to this, only used deliberately vague "low-carbon" Bullish for value of #Oil #NatGas going forward. #OOTT."* (i) Positive for oil and natural ga as BlackRock finally comes out of the closet to say the words oil and gas in their key investor theme. As opposed to their purposely vague "low-carbon" words. This is their first mention of think oil and gas when thinking about the biggest transformation theme for capital allocation for the coming years. It's the first mention so look for them to start to include it in their regular disclosure. (ii) BlackRock posted its 2025 Global Outlook this week and highlighted its view that AI is driving a major industrial revolution. Their first theme is "*This fundamentally different landscape upends the nature of investing, in our view. We think investors can find opportunities by tapping into the waves of transformation we see ahead in the real economy, with AI and the low-carbon transition requiring investment potentially on par with the Industrial Revolution. That's why our first theme is financing the future*." And their "financing the future" page is where they finally specifically name oil and gas for the massive AI energy demand. They say "*Sizable capital will be needed as the transformation unfolds, and that investment is happening now. Major tech companies are starting to rival the U.S. government on research and development spending. But it's not just about the rise of AI and its buildout via data centers. Meeting growing energy demand (think solar farms, power grids, oil and gas) will generate investment of US$3.5 trillion per year this decade, according to the BlackRock Investment Institute Transition Scenario*." (iii) Prior to this disclosure, we have

been highlighting how BlackRock has been using the vague "low-carbon" description. So now that they have admitted oil and gas, look for them to use the terms more in the future. We can't believe people didn't realize this long ago but we should now see more investors accept oil and natural gas is key to the AI datacenter growth. Our Supplemental Documents package includes excerpts from the BlackRock 2025 Global Outlook.

12/09/24: Blackrock, $3.5T/yr in capex, incl low-carbon, to meet energy demand

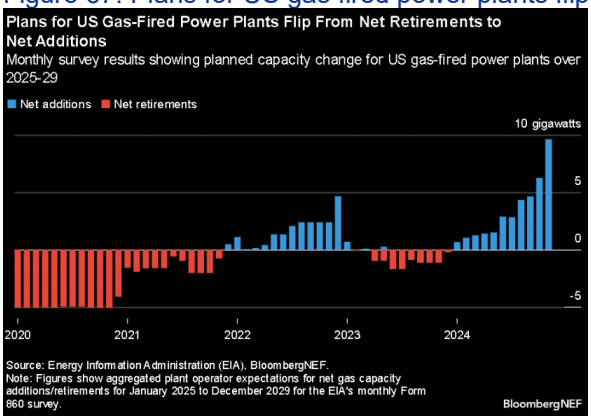
On Jan 6, before we saw the BlackRock 2025 Global Outlook, we posted [LINK] "*dirty little secret. low carbon = natural gas. see 👇12/12/24 post. AI Datacenter massive increasing need for 24/7 power is bullish for #NatGas. #OOTT."* Our Monday poste linked to our Dec 11, 2024 post on BlackRock's use of "low-carbon" instead of saying natural gas. Here is what we wrote in our Dec 15, 2024 Energy Tidbits memo. "BlackRock, $3.5T/yr in capex to meet growing energy demand. We have been big believers that the value of natural gas will be going much higher as the energy transition unfolds and that is even more so with the emergence of AI data centers that need 24/7 reliable power. So as we see this golden age or super cycle for AI data centers, we see that bringing a similar bullish view for natural gas. It may have taken most of 2024 but we are finally seeing more people realize that AI data centers need 24/7 power as their priority and that means natural gas and keeping coal and nuclear plants from being retired as the only ways to have new 24/7 power in scale for the next decade. So whenever we see bullish AI data center forecasts and the associated increase in electricity demand, it is a reminder of the bullish mid- and long-term demand for natural gas. On Wednesday, we posted [LINK] "*AI Data Center 24/7 power need is bullish for #NatGas. Low-carbon = #NatGas. BlackRock "I and the low-carbon transition require investment potentially on par with the Industrial Revolution.... Plus, meeting growing energy demand will generate US$3.5 trillion of investment per year this decade,,,," #OOTT."* BlackRock's weekly commentary on Dec 9 highlighted the AI data center growth and need for massive growth in energy demand and hopefully low carbon as a priority. But like we have said before, it's like a dirty little secret that companies wit BlackRock don't want to use the words fossil fuels including natural gas when talking about the big energy demand to fuel the massive growth in energy demand for AI data centers. So the reminder we always make is low-carbon means natural gas. BlackRock wrote "*More broadly, we think investors can find opportunities by tapping into the transformation we expect in the real economy. AI and the low-carbon transition require investment potentially on par with the Industrial Revolution. Major tech companies are starting to rival the U.S. government on research and development spending. Plus, meeting growing energy demand will generate US$3.5 trillion of investment per year this decade, according to the BlackRock Investment Institute Transition Scenario. We see private markets playing a vital role in financing the future. Big spending on AI and the low-carbon transition plus rising geopolitical fragmentation is likely to cause persistent U.S. inflation pressures. And an aging workforce could start to bite as immigration slows, likely keeping wage growth too high for inflation to return to the Fed's 2% target."* Our Supplemental Documents package includes the BlackRock weekly commentary.

Energy Transition: AI datacenters growth = flip to big growth in US #NatGas power

Big growth in US #NatGas power plants ahead

We still many ignore that natural gas is the big winner for the growth in AI datacenter energy demand. And that there is an increasing scramble for long term natural gas power supply. And that means need for long term natural gas supply. Here is what we wrote in last week's (Jan 12, 2025) Energy Tidbits memo. One of our key energy themes for the last several years has been the increasing need for natural gas power generation as the Energy Transition would take way longer, cost way more and be a bumpy/rocky road. The need for natural gas generation has only massively increased with the rapid and massive growth in AI datacenters and their need for 24/7 power. Earlier this morning, we posted [LINK] "*AI data centers growth for 24/7 power = #NatGas demand growth. No other reason to explain the about face from US retiring #NatGas power plants to massive planned additions of #NatGas power. Value of #NatGas is going higher. Thx @BloombergNEF David Mohammadi #OOTT.*" Yesterday, Bloomberg posted a short piece "*US Gas-Fired Power Capacity Was Set to Drop. No More: BNEF Chart."* And "*As of the November 2024 survey, the US is expected to see 9.6 gigawatts of net gas capacity additions from January 2025 to December 2029. That's a significant change from earlier survey results, such as the 5GW of net retirements expected in2020, and the 1.7GW of net retirements expected as recently as mid-2023."* We suspect there will be a longer piece this week on these numbers. But the short piece did not say what caused this abrupt change and we simply filled in the blanks by saying what else but AI datacenters need for 24/7 power could cause this. It is a massive increase in natural gas power generation plans. We look at this as being the icing on the cake for a an extended period of increasing need for natural gas power generation and has to point to increasing value of natural gas for the coming decade. Below is the BlooobergNEF graph that was attached to our post.

Figure 67: Plans for US gas fired power plants flip from net retirements to net additions



Source: BloombergNEF

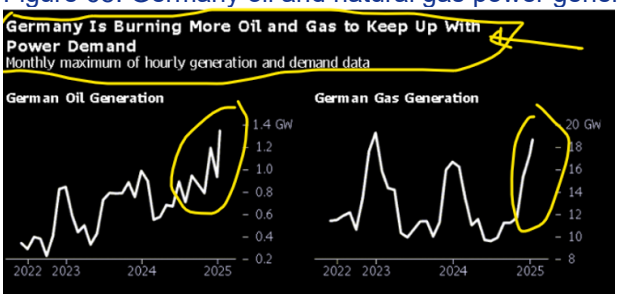
Energy Transition: Germany wind generation crashes again in peak winter season

Germany wind generation crashes

Germany has been a great reminder this winter that wind generation is far from predictable and reliable even in their traditional peak wind generation season. We have noted this a few times this winter – Germany wind generation crashes have led to big demand for Germany to draw on natural gas and domestic oil generated electricity, but also electricity imports of France nuclear power and/or Poland coal power. And Germany's oil power generation is

now the highest since 2017 and its natural gas power generation is at 2-yr highs. On Tuesday, we posted [LINK] "*Wind 101: Can crash even in the normal peak winter seasonal generation period. German electricity generation from #Oil highest since 2017, from #NatGas at 2-yr highs with low wind this week. Bad timing as winter is also solar seasonal low. Thx @EamonFarhat @BloombergNEF #OOTT."* Our post included the Bloomberg Tuesday report that said "*Germany's electricity generation from oil surged to the highest since at least 2017, as European powerproviders prepare for a slump in wind energy. The move follows a jump in the nation's gas-fired output on Monday evening to the highest in two years. Wind generation in the country is forecast to plunge on Wednesday, similar to the low-wind "Dunkelflaute" phenomenon in November. German power demand on Tuesday rose to the highest in almost a year. That could indicate further tightness in the market, potentially affecting power prices in neighboring countries like France, which often export power to Germany. Previous periods like this have seen extreme price spikes for the tightest times of day."* Below are two of the Bloomberg graphs from their Tuesday report. Our Supplemental Documents package includes the Bloomberg report.

Figure 68: Germany oil and natural gas power generation

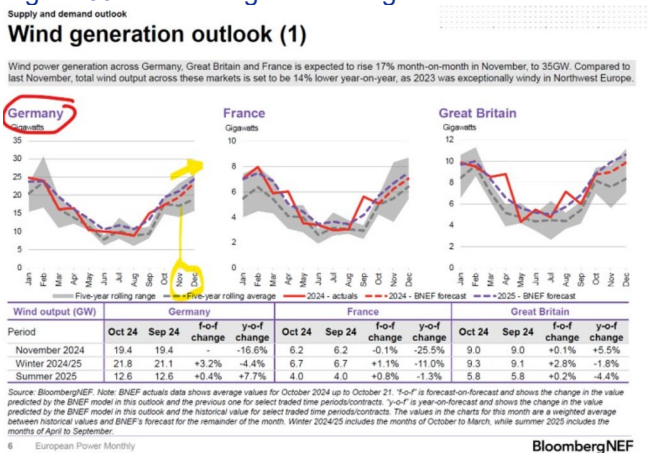


Source: Bloomberg.

Europe wind generation seasonally peaks in the winter

Our Nov 3, 2024 Energy Tidbits memo highlighted how wind and solar have opposite seasonal peaks and trough. On Oct 31, 2024, we tweeted [LINK] "*Wind & Solar 101. EU wind has big gains from summer trough to winter peak vs solar has big losses from summer peak to winter trough. Offsetting seasonality means adding solar + wind capacity doesn't add 1 +1 in terms of actual generation in EU. But a modest net up in winter ie. less demand for #NatGas generation especially if hot winters like 22/23 & 23/24. Thx @BloombergNEF. #OOTT."* Our tweet included the below BloombergNEF wind generation outlook that shows the seasonality of wind generation and that wind generation peaks ion the winter at >2x summer trough. Yet, as noted above, wind generation this week was at the low for the year.

Figure 69: BloombergNEF wind generation outlook



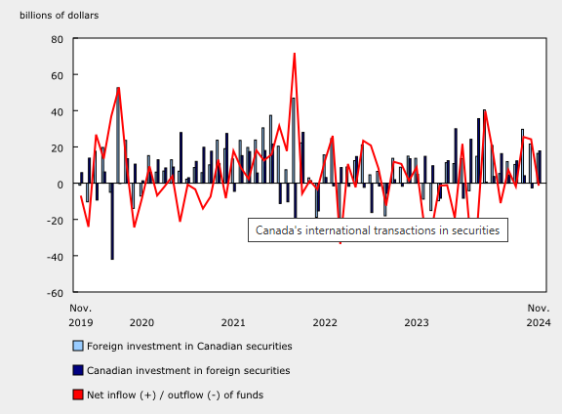
Source: BloombergNEF

Capital Markets: StatsCan, Cdn investment in foreign securities was $17.8bn in Nov

StatsCan Intl. Securities Transactions

On Friday, Statistics Canada reported their international transactions in securities for November 2024 [LINK]. StatsCan reported an increase of +$17.8bn in Canadian holdings in foreign securities in November, and a +$16.4bn of foreign investment in Canadian securities. Canadian investors acquired $11.9bn in foreign debt securities, driven by $10.3bn in investment bonds, and increased exposure to foreign equities by +$5.9bn with a large focus being US shares at +$5.1bn. Foreign investment in Canadian money market instruments increased by a record +$19.5bn in November, led by purchases of Government of Canada Treasury bills amounting to +$15.3bn. StatsCan reported: "*Canadian investors increased their exposure to foreign securities by $17.8 billion in November, the highest investment since March 2024. Meanwhile, foreign investors acquired $16.4 billion of Canadian securities, led by an unprecedented investment in money market instruments.*"

Figure 70: Canada's international transactions in securities



Source: Statistics Canada

Demographics: Half of Canadians are $200 or less away from insolvency

Canadians feel worse about personal finances

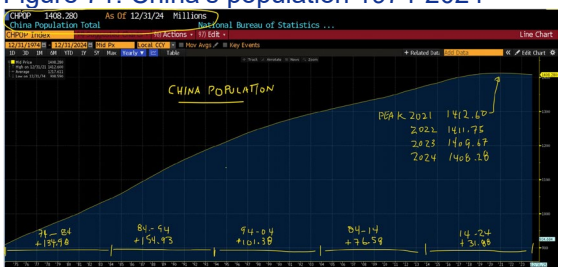
Everyone has to decide what they do to help others, but I am a big believer in trying to help our others who are trying to financially survive in today's world. So, when I see the MNP Consumer Debt Index showing Canadians are increasingly pessimistic on their personal finances, it says I have to do even more. On Monday, MNP Consumer Debt Index was posted. A couple of the key takeaways are: "*Two in five Canadians are worried someone in their household could lose their job, reaching an all-time high (41%, +9 pts). Half of Canadians remain concerned about their ability to repay their debts (50%, +2 pts), while two-thirds (65%, +2 pts) say they urgently need rates to go down despite interest rate cuts. Half of Canadians are $200 or less away from insolvency (50%, +8 pts)." "The number of Canadians teetering on the edge of financial insolvency increased significantly this quarter. Half (50%) now indicate they are $200 or less away from insolvency, a significant eight-point increase since last quarter. A third say they are already insolvent (35%), jumping nine points. Women (55%, +4 pts) are more likely to be $200 or less away from insolvency. However, the increase in men who are $200 or less away from insolvency (44%) was particularly striking this quarter, jumping 13 points." "The financial cushion for many households is eroding as disposable income shrinks, leaving less room to manage unexpected expenses. Canadians have $147 less left over at the end of the month on average, decreasing to $790 this quarter."* Our Supplemental Documents package includes the MNP release.

Demographics: China population declines for 3rd consecutive years

China population decline

We have been following and writing on China demographics trends for two decades. They are a key part our views on energy as demographics trends are predictive unless there is some abrupt major change in the demographic trend. There is no surprise that China's big growing economic challenge is its aging and shrinking population. And even though there were some small positives in 2024, China is continuing on a declining population trend. On Friday, we posted [LINK] "*China's growing economic challenge is its shrinking and aging population. 3rd consecutive year of declining population. -1.39 mm YoY to 1.408.28 mm at yr end 2024. 60 & older now 310.31 mm, or 22% of population. Thx @business #OOTT."* Chinese state media reported National Bureau of Statistics Friday population data. China's population peaked in 2021 a 1.4126 billion and has dropped in the last three years to 1.41175 billion in 2022, to 1.40967 billion in 2023 and down 1.39 mm YoY to 1.40828 billion at year-end 2024. The population decrease was "*China recorded 9.54 million newborns last year, an increase of 520,000 compared with 2023. The birth rate for 2024 reached 6.77 per 1,000 people, reflecting an increase of 0.38 per thousand from the previous year."* Another positive was Xinhua reporting "*Official data indicated that approximately 11.94 million Chinese individuals married for the first time in 2023, up 13.52 percent compared with 2022, marking the first rise in newlywed numbers since 2014. "* Our post included Bloomberg's China population graph for the last 50 years and we marked it up to include the population increases by decade. China's population increased 134.90 mmm for 1974-84, 154.93 mm for 1984-94, 10.38 mm for 1994-2004, 76.58 mm for 20024-14, and 31.88 mm for 2014-24. Our Supplemental Documents package includes the Xinhua and Global Times reporting.

Figure 71: China's population 1974-2024



Source: Bloomberg

Chinese 65 & over are now 217 million or 15.4% of total population

Our We have not yet seen the more Here is what we wrote in our Oct 13, 2024 Energy Tidbits memo on China's aging population. "*Chinese 65 & over are now 217 million or 15.4% of total population. We remind China is ageing and ageing fast. Plus it is always important to remember demographics are predictive and the direction of travel can't be changed for years. It's Senior's Day in China or the Double Ninth Festival. On Friday, Xinhua (state media) [LINK] reported "China's population aged 60 and above reached nearly 297 million in 2023, accounting for 21.1 percent of the total, as the country works to tackle the challenges of an aging society, according to an official report released Friday. Released jointly by the Ministry of Civil Affairs and China National Committee on Ageing, the report on the development of the country's work on aging in 2023 stated that the number of people aged 65 and above reached 216.76 million, accounting for 15.4 percent of the total population."*

Demographics: Canada's CMAs population grew +3.5% YoY in July 2024

Canada's CMAs population estimates

Please note these Canadian population data points refer to "census metropolitan areas" so exclude areas and smaller towns. On Thursday, Statistics Canada reported [LINK] Canada's 41 census metropolitan areas (CMAs) population reached 30,893,239 on July 1, 2024, growing +3.5% YoY. This marked the second year in a row where populations of CMAs grew by over a million people in a 12-month period and outpaced Canada's growth as a whole, at +3.0% YoY. Continuing from the trend seen in the most recent population estimates of Q3/24, international migration was the main driver of population growth across the Canada for the 12-month July 1, 2024, time period. Statistics Canada stated, *"As those new immigrants continue to be concentrated within large urban centres and account for almost the entirety of growth in those areas, they contribute to Canada's increasing urbanization. As of July 1, 2024, three in four (74.8%) Canadians were living in a CMA, up 0.4 percentage points from a year earlier."*

Calgary continues to be destination of choice for movers

On Thursday, we posted [LINK] "*Calgary continues to have highest internal Canada migration. @StatCan_eng. Blue skies, Rockies an hour away, people still say hello to others, high paying jobs & "affordable housing values & lower tax rates incentivize an increasing number of out-of-province buyers to move to Alberta according to RE/MAX Canada's 2024 Tax Report".* The Statistics Canada CMAs [LINK] report that Alberta continues to be the destination of choice for domestic migration within

Canada, having a net gain of +43,750 people from interprovincial migration over the last year. Calgary led the growth recording a over 20-year high of +20,859 migrations. Statistics Canada wrote "*Canada's big three CMAs each saw net losses from both interprovincial migration and intraprovincial migration from July 1, 2023, to July 1, 2024, though they were smaller than the gains from international migration. Net interprovincial migration was negative for the Vancouver CMA (-5,709) for the first time since the period from July 1, 2012, to July 1, 2013, meaning that more people moved from that CMA to other provinces or territories than moved to it. The CMAs of Toronto (-9,819) and Montréal (-6,667) also recorded net losses from exchanges with other provinces, though they were lower than losses in the previous year. Alberta was the destination of choice for movers, with the province recording a net gain of 43,750 people from interprovincial migration over the last year. As a result, the CMAs of Calgary (+20,859) and Edmonton (+13,893) recorded their highest net gains in over 20 years.*"

Canada's "total population" +176,699 in Q3 to 41,465,298 at Oct 1, 2024

Here is what we wrote in our Dec 22, 2024 Energy Tidbits memo on Canada's total population. "*On Tuesday, Statistics Canada reported [LINK] Canada's population grew by 176,699 in Q3 to 41,465,298 at Oct 1, 2024. This was +0.4% QoQ increase, and was primarily driven by international migration, accounting for 92% of all growth, with only 8% of growth coming from natural increases (births less deaths). This brings Canada's total population growth for the first nine months of 2024 to +951,517, which has is lower than last year's growth of +1,030,378 for the same period. The report also noted that temporary immigration has slowed for the fourth consecutive quarter only seeing an increase of +47,187, which is the lowest since 2015 Q3.*"

Energy Tidbits: Thank you for all the great insights/feedback last year

Great insights from readers

I want to give a big thank you to all of the readers and Twitter/X followers who took the time to contact me with insights and feedback on my work. I have had a chance to meet and deal with financial people that I never knew in my years working in investment banking industry with GMP Securities/Griffiths McBurney & Partners. I haven't been able to squeeze in all the meetings when I travel but, hopefully, I can meet even more people in 2025 in my travels. It's been great to set up new relationships and to learn how different financial people look at markets and energy. it has hopefully helped broaden my perspective on issues.

Twitter/X: Thank you for getting me to 12,000 followers

@Energy_Tidbits on Twitter

This week, I went over 12,000 followers on Twitter/X. I really appreciate the support and, more importantly, some excellent insights and items to look at from Twitter/X followers. It helps me do a better job. For new followers to our Twitter/X, I am trying to tweet on breaking news or early views on energy items, most of which are followed up in detail in the Energy Tidbits memo or in separate blogs. My Twitter/X handle is @Energy_Tidbits and can be followed at [LINK]. I wanted to use Energy Tidbits since I have been writing Energy Tidbits memos for 25 consecutive years. Please take a look thru my tweets and you can see I don't just retweet other tweets. Rather I try to use Twitter/X for early views on energy items. Our Supplemental Documents package includes our tweets this week.

Misc Facts and Figures.

During our weekly review of items for Energy Tidbits, we come across a number of miscellaneous facts and figures that are more general in nature and often comment on sports and food.

Wine of the week: 2001 Elderton "Command" Shiraz

In August, I started the wine of the week when I realized I had to get to opening up some wines bought 20 to 30 years ago that included some that, unfortunately, were getting past their prime. One of the negatives of the change in life from Covid was a huge absence of entertaining at home, which means there has been a big shortfall in wine drinking at our home. So am now making sure what, when I bought them 15-25 years ago, were some good wines and make sure bottles get opened especially as many are 20 to 40 years old. On Thursday, I posted the wine of the week, which was 2001 Elderton "Command" Single Vineyard Shiraz, Barossa. Wine Spectator and Robert Parker both loved the 2001 Barossa Valley vintage so no surprise that it was a well rated wine. I don't remember the price, but wine drinkers will remember, Australia Shiraz were pretty cheap in the early 2000's as it was really the early days of Parker getting big interest in Aussie Shiraz. And Aussie Shiraz had the added value as they were then viewed (and correctly to this date) as a vintage that would have long drinking life. It was like Chateauneuf du Paper, two inexpensive wines that could be enjoyed over a couple of decades. And I have never opened up an Aussie Shiraz for at least a decade as I find that they are less fruity as they age. Interestingly, I always wait a decade or more for Chateauneuf du Paper as they seem to be less earthy and a little more fruit after 10+ years. The 2001 Command was excellent, and I have probably a decade to drink my remaining 2001's.

Figure 72: 2001 Elderton "Command" Shiraz

Source: SAF Group, K&L Wines

Surprised Texans HC Ryans didn't cut Kris Boyd on the spot

It's good news/bad news time of the year for NFL fans. Good news because it's the playoffs and the best teams play each other. Bad news is that the season is quickly coming to an end. We weren't surprised to see the football analysts on TV coverage not want to get into a lot or even many comments on the Texans kickoff in the Chiefs/Texans game. Texans kick off, Texans special team's player Kris Boyd causes a fumble but the Chiefs ultimately recovered the fumble. Boyd wasn't in the pileup and initially celebrates thinking his teammates recovered the ball. Finds out,

on the way to the sidelines, throws his helmet which is a 15-yard penalty. Special teams coach Frank Ross yells at him coming and Boyd gives him a good two-handed shove. Many on the Texans saw it. After the game, Boyd said ""*He [Ross] was just telling me, 'You can't do things like that. Just keep your composure. That was six seconds at the beginning of the game. We have a whole other ball game to play. Let's lock in, hone in on our details, and play smart.'*" A lot of the Texans players and coaches saw it as it was the play of the game and mistake with the penalty. I was just surprised that Ryans didn't cut him right then and there.

Figure 72: Texans Boyd shoves Texans coach Ross

Source: Newsweek