SAF GROUP Canadian Private Credit

Energy Tidbits

March 30, 2025

Produced by: Dan Tsubouchi

Big Thank You to SAF Group for a Great Run. Last Energy Tidbits Memo Being Posted Under SAF Group Brand

Energy Tidbits memo public distribution will be on a short pause but my posting on Twitter/X will be continuing. Mar 31 is my last day with SAF Group so there will be a short pause on publicly posting my normal Sunday morning energy and markets memo. I will be writing but not distributing until it gets rebranded. Nothing is 100% but I am hopeful for a rebranding for July. While the memo was created for clients, investors and companies, the responsibility to produce a report I am proud of every Sunday 10 am is a simple marker to help me avoid the common trap that people say they working as hard as they used to but really aren't. I have aspired to produce a quality report today and going forward and not rest on past successes. I started the memo in 1998 with a focus and concept for the memo then set 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. My target has been to write memos at least 48-50 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. Big thank you to SAF Group CEO Ryan Dunfield and the entire SAF Group team for a great experience and making me a better analyst. [click here]

2. This is the last Energy Tidbits memo being posted under the SAF Group brand. Nothing is 100% but I am targeting a rebranding for July. [click here]

3. During this pause, I will be continuing to post on Twitter/X [LINK] for news and views. And you can also reach me by direct message on Twitter/X.

4. Shell's Capital Markets Day points to it's a question of when, not if, Shell FIDs LNG Canada 1.8 bcf/d Phase 2. [click here]

5. An FID of LNG Canada 1.8 bcf/d Phase 2 is another ~10% of current BC/Alberta natural gas production and fits Tourmaline's forecast Cdn natural demand +50%, +9 bcf/d to 27 bdcf/d in 2030. [click here]

6. Kpler sees Iran oil exports down 500,000 b/d by summer and that was before the latest Trump Iran sanctions. [click here]

7. Thank you to all the Energy Tidbits readers/followers. Look forward to reconnecting soon.

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An extremely kind opening Tidbits note from SAF CEO Ryan Dunfield & SAF Group

SAF Group note

This is the only item in my Energy Tidbits memos that haven't come from me. Rather SAF Group CEO Ryan Dunfield and CFO Aaron Bunting asked for the below to be the opening note in this last Energy Tidbits memo branded under SAF Group.

"We at SAF Group continue to reflect on how fortunate we are to be part of your legendary 40-year career and what moving on from SAF means to us. Although the numbers are impressive, the intangibles have set you apart from your peers. You are a friend, a partner, and an individual we have looked up to for our entire careers.

Your career reads like a highlight reel of the energy and financial world. At GMP Securities, you simultaneously held roles often filled by more than one person—Vice Chairman, Co-Head of Investment Banking, Head of Research—and concurrently distinguished yourself as a top-ranked Oil and Gas Analyst. Later, at Haywood Securities, you revitalized the Energy Research team with unwavering dedication. Here at SAF Group, serving as Principal and Chief Market Strategist since July 2016, you brought that same thoughtful clarity to our discussions, helping us navigate markets that often defy logic. Your impressive track record serves as a constant reminder that success is rooted in diligence and dedication. You've exemplified both in abundance.

Yet, what truly distinguishes you is not your immense personal success but how many people you've lifted along the way. We think about the dozens of professionals within Canada's financial and energy sectors who owe their careers to your mentorship. That reach extends to SAF, where two of our current partners started their professional journeys under your guidance. Your keen eye for talent and commitment to helping the next generation have created an enduring legacy in Calgary and across the country.

No comments about Dan Tsubouchi would be complete without mentioning Energy Tidbits. Week after week, with unfathomable consistency, you have delivered cutting-edge energy research to the broader community. Energy Tidbits isn't just a weekly report, it has become an invaluable compass guiding us towards better, more informed decisions. Although you say you plan to write 48-50 weeks per year, you rarely if ever, actually do not send out tidbits. The statistics over the past 8+ years at SAF speak for themselves: zero missed weeks of Tidbits (always an outperformer) which equate to 455 tidbits memos, 18,000 pages of writing, and more than 8.3 million words!!!

Dan, your name is synonymous with integrity, clarity, and sharp insight across the energy sector—qualities that cannot be bought and must be earned. We are deeply grateful for the years you have dedicated to us. As you embark on your next chapter, we wholeheartedly support you. You are the ultimate professional.

We hope you enjoy a few months of downtime and cannot wait to see what is to come in the next chapter of the institution that is Dan Tsubouchi!!

With our heartfelt gratitude and warmest regards,

SAF Group

While Dan focuses on 'taking it easy', you can follow his breaking insights and Canmore sunrise pictures on X at @Energy_Tidbits."

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Thank you SAF Group CEO Ryan Dunfield & team for making me a better analyst

Thank you to SAF Group

Last year, I sat down with Ryan to let him know I planned to leave SAF in July. But I got so involved in trying to do the best I can in the US election that, in no time, July stretched into December, when I said to Ryan that March 31 was the end date. So, this is the last Energy Tidbits memo to be under the SAF Group brand. I want to hugely thank Ryan and the entire team at SAF Group for all the great years. It's not often that someone with my experience can look back at the last several years and say their perspective to energy and markets was widened. My first meeting with Ryan, he explained about how SAF capital was invested for years and not weeks or months and that I had to make sure I looked at events/themes and also think about tail risk and opportunity and not just what is happening today and this quarter. And also, thanks to Ryan for pushing me to go on Twitter/X and, most importantly, allowing my work to be publicly available. I never appreciated how Twitter/X, when used the right way and following the right people, could be as important a resource as my continued contact group and the Bloomberg terminal. And being on Twitter also expanded my direct contacts and opened up my thoughts on what might be ahead. So, a big Thank You to Ryan and SAF team for making me a better analyst than before. I take great pride in what I do so this has made my time at SAF more valuable to my work than I could have ever imagined.

Nothing is ever 100% but I hope to be in a new opportunity for July 1

Looking forward to July 1

Over the past year, I have had some calls about the future but have never pursued them as I didn't want to lose focus on my responsibilities at SAF Group and didn't think it was fair to SAF Group to have chatter of me talking to others on leaving. I know because I hear the chatter on others and there are very few secrets in Calgary. Knowing that, I have consistently said to Ryan that I would not be following up on any approaches until I was officially no longer part of SAF Group. I am fortunate to love what I do so it has never been like work. And have never had the thought to retire. I also know that retirement is like car shopping. Once you start looking at doing it, it is only a matter of time until you do it. The other key factor in why I plan to keep "working" for the foreseeable future is that I still see the world needing oil and natural gas as the key energy to the world's economy. If I thought oil and natural gas had peaked, then that likely would have led me to retire years ago and get my golf game back. But I think the fact that the energy transition isn't working anywhere near aspirations will only make the next five to ten years on how to power the world even more interesting for every capital allocator and for me. Nothing is ever 100% but I expect to follow up on a few things in the next couple months to make commitments for July 1. The best way to contact me is via direct message to me on Twitter/X at @Energy_Tidbits.

Energy Tidbits and tweets for April 1 thru approx. June 30

Will keep posting on Twitter/X

I will be travelling a bit more over the next couple months but will be writing Energy Tidbits memo, but don't plan to publicly post until it gets rebranded post June 30. I will be doing for my own purposes in my discipline to keep as current on energy and markets as I am today. However, I plan to keep posting/tweeting and will likely include short blogs on particular subjects as they come up. So, you should not see much difference from me on Twitter/X. Before I forget, another very big Thank You to SAF Group CEO Ryan Dunfield who is keeping my access to Bloomberg and my large volume of files until I have made a commitment elsewhere.

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Natural Gas: +37 bcf build in US gas storage, now -557 bcf YoY

+37 bcf build in US gas storage

For the week ending Mar 21, the EIA reported a +37 bcf build, continuing from last week's build [LINK]. Total storage is now 1.744 tcf, representing a deficit of -557 bcf YoY compared to a deficit of -624 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 Mar 21 saw storage at -122 bcf below the 5-yr average, up from last week's deficit of -190 bcf 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 (03/21/24)		5-year average (2020-24)	
Region	03/21/25	03/14/25	net change	implied flow	Bcf	% change	Bcf	% change
East	298	295	3	3	390	-23.6	342	-12.9
Midwest	367	366	1	1	531	-30.9	438	-16.2
Mountain	163	165	-2	-2	166	-1.8	108	50.9
Pacific	192	193	-1	-1	222	-13.5	168	14.3
South Central	725	688	37	37	991	-26.8	810	-10.5
Salt	202	181	21	21	295	-31.5	239	-15.5
Nonsalt	523	508	15	15	697	-25.0	571	-8.4
Total	1,744	1,707	37	37	2,301	-24.2	1,866	-6.5

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
Jan/31	2,397	-174	-208	-111
Feb/07	2,297	-100	-248	-67
Feb/14	2,101	-196	-386	-118
Feb/21	1,840	-261	-561	-238
Feb/28	1,760	-80	-585	-224
Mar/07	1,698	-62	-628	-230
Mar/14	1,707	9	-624	-190
Mar/21	1,744	37	-557	-122

Source: EIA

Natural Gas: BNEF forecasts gas storage below bottom of 5-yr range in Q4/25 & 2026

BNEF bullish US gas storage forecast

Henry Hub gas prices are ending the winter way stronger than anyone expected and closed at $4.10 on Friday. There weren't any, including natural gas producers, who called for HH to be this high as winter withdraw season comes to an end. The unexpected strong HH prices is why we remind of an item from our Mar 16, 2025 Energy Tidbits memo on the bullish forecast for HH prices to end 2025. Here is what we wrote in that memo. "*BNEF forecasts gas storage below bottom of 5-yr range in Q4/25 & 2026. On Monday, we posted [LINK] "Bullish #NatGas Forecast. Weather is always the big wildcard BUT BNEF forecasts storage below bottom end of 5-yr range in Q4/25. AND this assumes no real change in imports from CAN despite start of #LNGCanada 1.8 bcf/d in mid 2025 & Alberta demand from oil sands, data centers, etc. Thx @BloombergNEF #OOTT." BloombergNEF had just posted its "US Gas Summer Outlook: Production Can't Keep Up With LNG". And the key items we always look at is what does their model forecast for US gas storage levels as we look ahead to the winter. Their new forecast for US gas storage is a bullish indicator for HH prices going into the winter*

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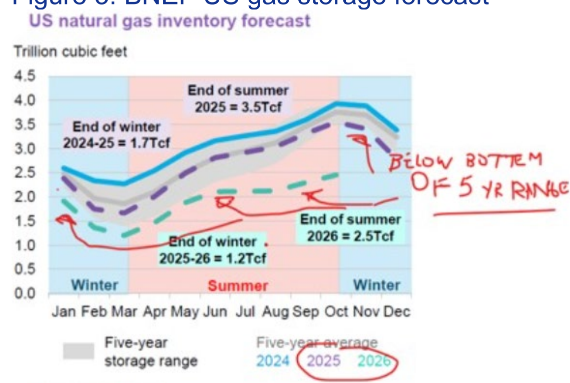
2025/2026 ie. in Q4/25. Weather, in particular how cold or hot it is in the winter, is always the huge wildcard for natural gas price forecasts. And BNEF says up front that "BNEF calculates 1,760Bcf of gas storage level variability attributable to weather between this month and the end of summer 2026." That's really BNEF reminding that winter 2025/26 temperatures are a huge wildcard. Weather aside, there is a bullish case for natural gas going into winter 2025/2026. And BNEF highlights the key factors in its report tile saying "Production Can't Keep Up With LNG". BNEF forecasts higher production but also see LNG exports increasing at a greater level. And the key to their forecast is that US gas storage falls below the bottom end of the 5-yr range in Q4/25 and continues to be so in 2026. Being below the bottom end of the 5-yr range is a bullish indicator for HH prices. Plus one of the BNEF forecast model assumptions would provide addition upside. All forecast models are all about assumptions but one that jumped out at us as potential upside is their assumption that there is no real change to US natural gas imports from Canada. This means that the BNEF is assuming Cdn natural gas production is increasing enough to offset the start of LNG Canada 1.8 bcf/d Phase 1, increasing natural gas consumption from oil sands and electricity such that there is no impact on Cdn natural gas exports to the US. Below are the two BNEF exhibits attached to our post."

Figure 3: BNEF US gas storage forecast



Source: BloombergNEF

Figure 4: BNEF US supply/demand/storage forecast

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Seasonal balances and outlook update

Supply growth eases tight inventories

US Lower 48 gas market supply-and-demand balance sheet

Bcf/d	Mar 25	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25	Oct 25	Nov 25	Dec 25	Jan 26	Feb 26	Mar 26	Apr 26	May 26	Jun 26	Jul 26	Aug 26	Sep 26	Oct 26
Dry production	106.1	106.3	106.5	106.5	106.9	107.1	106.9	107.1	107.7	108.1	108.2	108.0	108.3	108.7	108.9	108.9	109.0	109.2	108.8	108.9
Net imports from Canada	5.9	6.0	6.1	6.3	6.5	6.4	6.1	6.3	6.0	6.5	7.2	6.8	5.9	6.0	6.1	6.3	6.5	6.4	6.1	6.2
Total supply	**112.0**	**112.3**	**112.6**	**112.8**	**113.4**	**113.5**	**113.0**	**113.4**	**113.7**	**114.7**	**115.5**	**114.9**	**114.3**	**114.6**	**115.0**	**115.2**	**115.6**	**115.6**	**114.9**	**115.2**
Power consumption	28.9	27.5	31.8	40.5	47.9	47.4	40.5	33.9	32.0	33.8	35.2	31.0	29.7	28.1	32.7	41.5	49.1	48.6	41.3	34.5
Industrial consumption	23.1	22.2	21.7	21.5	21.4	21.6	21.9	23.5	24.5	24.6	24.7	23.4	22.2	22.2	21.7	21.5	21.4	21.6	21.9	23.5
ResCom consumption	31.4	20.6	12.4	8.8	8.0	8.0	9.1	15.9	28.3	41.3	47.4	43.3	31.7	20.6	12.4	8.8	8.0	8.0	9.1	15.9
Plant fuel	5.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Pipeline losses	3.5	2.9	2.6	2.8	3.0	2.9	2.7	2.7	3.3	3.8	4.5	4.2	3.5	2.9	2.7	2.8	3.0	3.0	2.8	2.8
Exports to Mexico	6.4	6.9	7.5	7.7	7.9	8.0	8.0	7.4	6.8	6.6	7.0	7.1	7.5	8.1	8.3	8.5	8.8	9.0	8.8	8.2
LNG exports	15.5	14.9	15.3	14.7	15.9	15.9	15.6	16.2	17.4	18.5	18.9	19.2	18.9	17.7	17.8	18.3	18.9	18.9	19.2	19.1
Total demand	**114.6**	**101.0**	**97.2**	**101.9**	**109.9**	**109.8**	**103.8**	**105.7**	**118.5**	**134.6**	**143.8**	**134.3**	**119.6**	**105.9**	**101.6**	**107.6**	**115.3**	**115.2**	**109.2**	**110.1**
Balancing item	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Average daily storage change last year	-2.1	9.2	11.8	8.4	3.4	2.9	7.9	10.8	-1.6	-16.1	-32.3	-22.7	-2.6	11.4	15.4	10.9	3.5	3.7	9.2	7.7
Average daily storage change	-2.6	11.4	15.4	10.9	3.5	3.7	9.2	7.7	-4.7	-20.0	-28.3	-19.4	-5.3	8.8	13.3	7.6	0.3	0.3	5.7	5.1
Total monthly storage change (Bcf)	-82	341	479	327	109	115	275	238	-142	-619	-878	-544	-165	264	414	228	10	11	170	157
Storage level (Bcf)	**1,666**	**2,007**	**2,485**	**2,813**	**2,921**	**3,036**	**3,311**	**3,549**	**3,406**	**2,788**	**1,910**	**1,366**	**1,200**	**1,464**	**1,878**	**2,105**	**2,115**	**2,125**	**2,296**	**2,453**

Source: BloombergNEF. Note: Based on forward curve as of March 3, 2025. Green indicates tightness, meaning the market is either withdrawing more gas from, or injecting less gas into, storage than during the same month a year prior. Red indicates looseness. Blue box identifies the end of the season. "ResCom" refers to residential and commercial. LNG is liquefied natural gas. Bcf is billion cubic feet, while Bcf/d is billion cubic feet per day.

3 March 2025 BloombergNEF

Source: BloombergNEF

Increasing probability for Trump's natural gas pipelines

Natural Gas: Trump definition of "mineral" increases probability for NatGas into NE US

As a reminder, one of Trump's many priorities is to get natural gas pipelines into and within the NE US so he can get Marcellus natural gas to the NE US. One of our long-term natural gas contacts reminded that he, and many others, see growth potential in the Marcellus. But he agrees that if the pipelines get into the NE US, Marcellus natural gas will go the NE as the priority and then the issue will be how much, if any, is left to export to Ontario. Here is what we wrote in last week's (Mar 23, 2025) Energy Tidbits memo on Trump's increasing push to get pipelines into the NE US. "*Trump definition of "mineral" increases probability for Natgas into NE US. We have been highlighting one of Trump's energy risks to Canada is that he will get natural gas pipelines into and within the NE US and that means there won't be Marcellus natural gas for export into Ontario. It looks like this week's critical minerals and rare earths actions include a definition of "mineral" that would cover natural gas, which we see as providing increasing probability for him to be successful. Yesterday, we posted [LINK] "Worth a read of Trump's 👇 definition this week of "mineral". May not specifically say #NatGas but would seem to cover NatGas. Would support Trump's intention to get Marcellus NatGas into NE US. If so, there would be less Marcellus NatGas exports into Ontario. #OOTT." On Friday, we posted [LINK] on Trump's Executive Order to "increase American Mineral Production". When Trump announced the EO, he stressed this for "critical minerals and rare earths" but the actual definition for the EO defined "mineral" in such a way that it could include just about everything and exclude almost nothing. Natural gas was not specifically mentioned and not specifically excluded. Given Trump's desire to get more natural gas pipelines into and within the NE US, we believe this just one more item that increases the probability for him to do so. Our Supplemental Documents package includes the executive order and the 30 U.S.C. 1606(a)(3) definition."*

Will Trump use national energy emergency to get NatGas pipelines in NE

Here is what we wrote in our Mar 16, 2025 Energy Tidbits memo on Trump using emergency authorization to get natural gas pipelines into the NE US. "*Will Trump use national emergency to get NatGas pipeliens into NE. One of the overlooked Trump themes is how he declared or will declare national emergency for items like energy.*

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We were thinking about this seeing Trump's push on NY Governor Hochul to get onboard with natural gas pipelines to the NE US. And our first thought was that he would use emergency powers to get it done if Hochul doesn't get onside. Recall that one of his day one actions was "Declaring a National Energy Emergency" that included taking actions on non-Federal Lands. Section 2 said "Sec. 2. Emergency Approvals. (a) The heads of executive departments and agencies ("agencies") shall identify and exercise any lawful emergency authorities available to them, as well as all other lawful authorities they may possess, to facilitate the identification, leasing, siting, production, transportation, refining, and generation of domestic energy resources, including, but not limited to, on Federal lands. " On Thursday, Trump posted "If New York, Connecticut, and New England had their Pipelines, savings from Heating alone would go down $2,300 per family — When you add Air Conditioning, and other things, you would have a $5,000 savings per family. All we need is a simple approval from New York. Every other State in New England, plus Connecticut, wants this, in order to help the Environment, and save BIG money. We only need the final approval from New York State, whose people all want it. Otherwise, we'll have to use other authorities. New York State has held up this project for many years, but we won't let that happen any longer. We will use federal approval!"

Trump wants Marcellus gas for New England, therefore not Ontario
We have been highlighting Trump's plan to get more natural gas pipelines int the NE US. Here is what we wrote in last week's (Mar 16, 2025) Energy Tidbits memo. "*Trump wants Marcellus gas for New England, therefore not Ontario. In the early days of Trump announcing the tariffs on Canadian oi l and natural gas, we were asked on whether Trump would stop US natural gas exports to Ontario, we said that it wasn't that Trump would stop the natural gas exports. Rather, it's Trump wanting to get natural as pipelines into and within New England so US natural gas can penetrate those markets. Our point was that, if so, that would mean less Marcellus/Utica natural gas for export. Here is what we wrote in our Feb 16, 2025 memo. "Trump wants Marcellus gas for New England, therefore not Ontario. Earlier this morning, we posted [LINK] on Trump's Friday Executive Order establishing his Energy Dominance Council and noted the winners/losers from the his mandate to the council. Our post included "#Marcellus #NatGas wins "approving the construction of natural gas pipelines to, or in, New England, California, Alaska, and other areas of the country underserved by American natural gas; " Note the "or in". Eastern Canada loses if Marcellus NatGas can stay in US and doesn't get exported to eastern Canada. ie. ~0.6 bcf/d via Niagara Falls." Trump wants to get natural gas pipelines to and into New England, which has been for a well over a decade something Marcellus producers have been trying to done but haven't been able to get approved federal and state regulators. We would expect Trump's federal regulators to be okay but then the question will be the states. And knowing Trump's style, there will be some sort of big threat to force the states to ultimately get onside. IF so and it is still an IF, then it will mean Marcellus/Utica natural gas can feed local regional markets and it should lead to lower Marcellus gas price differentials. Then the flip side is that IF Marcellus gas can stay regional, then it would mean less natural gas exports at Niagara Falls to Ontario. This was a big event 15 years ago*

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when Marcellus natural gas started to be exports via Niagara Falls. It went from zero to its current ~0.6 bcf/d. Earlier this morning, we also posted [LINK] "Marcellus #NatGas exports ~0.6 bcf/d to Ontario via Niagara Falls export point per @EIAgov. IF and a big IF, Trump Energy Dominance Council can get pipelines to and IN New England, be better market for Marcellus than Canada. #OOTT." Our post included the below EIA graph of natural gas exports to Ontario at the Niagara Falls export point."

Figure 5: Niagara Falls, NY natural gas pipeline exports to Canada

Source: EIA

Natural Gas: US natural gas pipeline exports to Mexico up +0.70 bcf/d MoM in Jan

US to Mexico January natural gas exports

On Monday, the Department of Energy (DOE) posted its Natural Gas Imports and Exports Monthly [LINK], which includes its estimate for January natural gas exports via pipeline to Mexico and is the same data as the EIA's Natural Gas Monthly that will come out on March 31. Natural gas exports to Mexico were up +0.70 bcf/d to 6.43 bcf/d in January from 5.73 bcf/d in December 2024 and were up +0.45 bcf/d (+7.6%) YoY from 5.97 bcf/d in January 2024. There was a small upward revision to December's figure (was 5.72 bcf/d). The DOE did not include any LNG exports to Mexico in Jan i.e. essentially 100% of the exports were via pipeline in Jan. Please note that we will comment if we ever believe there are any notable CNG/LNG exports to Mexico. Below is a summary of natural gas via pipeline exports to Mexico from the US. Our Supplemental Documents package includes excerpts from the DOE US Natural Gas Imports and Exports Monthly.

Figure 6: US Natural Gas Pipeline Exports to Mexico

(bcf/d)	2019	2020	2021	2022	2023	2024	2025
January	5.32	5.41	5.59	5.67	5.46	5.97	6.43
February	5.08	5.32	5.39	5.54	5.46	5.84	
March	5.05	5.60	5.91	5.48	5.83	5.87	
April	5.01	4.62	6.10	5.89	5.64	6.34	
May	5.61	4.69	6.21	6.00	6.25	6.82	
June	5.78	5.43	6.61	6.21	6.80	6.77	
July	6.20	5.85	6.40	6.12	6.79	6.75	
August	5.87	6.12	6.25	5.89	6.87	7.12	
September	5.77	6.18	5.96	5.64	6.75	6.85	
October	5.75	6.23	5.99	5.55	6.51	6.48	
November	5.40	5.64	5.52	5.37	5.97	5.94	
December	5.20	5.31	5.39	5.14	5.75	5.73	
Average	**5.50**	**5.53**	**5.94**	**5.71**	**6.17**	**6.37**	**6.43**

Source: DOE, SAF

Natural Gas: US LNG exports increase +0.14 bcf/d MoM to 13.38 bcf/d in Jan

US January LNG exports

The DOE's Natural Gas Imports and Exports Monthly [LINK] was posted on Monday and it also included the US LNG export data for January, which is the same data as the more

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commonly referenced US LNG exports from the EIA's Natural Gas Monthly that will come out on March 31. The EIA is a group within the DOE, so the data for LNG exports is either identical or just a rounding issue. On Tuesday, we posted "*US LNG exports. Jan 25: 13.4 bcfd (Jan 24: 12.8) Dec 24: 13.2 Nov 24: 12.5 US LNG exports are up in Jan with start of Cheniere's Corpus Christ Stage 3 and Venture Global Plaquemines LNG. These @ENERGY LNG exports are same as coming in @EIAgov Natural Gas Monthly on 03/31. #OOTT*". US LNG exports were up +0.14 bcf/d MoM in January at 13.38 bcf/d and up +0.60 bcf/d YoY from 12.78 bcf/d in January 2024. The MoM increase was expected given the start up of two LNG projects in Cheniere's Corpus Christ Stage 3 and Venture Global Plaquemines LNG. The top five country destinations for US LNG in January were Turkey at 2.30 bcf/d, United Kingdom at 2.02 bcf/d, France at 1.60 bcf/d, the Netherlands at 1.14 bcf/d, and Spain at 0.98 bcf/d. The DOE did not comment on the MoM or YoY changes.

Figure 7: US Monthly LNG Exports

(bcf/d)	2019	2020	2021	2022	2023	2024	2025
January	4.10	8.10	9.80	11.40	10.90	12.78	13.38
February	3.70	8.10	7.40	11.30	11.70	12.38	
March	4.20	7.90	10.40	11.70	11.80	11.93	
April	4.20	7.00	10.20	11.00	12.50	10.13	
May	4.70	5.90	10.20	11.30	11.80	11.86	
June	4.70	3.60	9.00	10.00	10.93	11.88	
July	5.10	3.10	9.70	9.70	11.30	10.45	
August	4.50	3.60	9.60	9.70	11.40	11.73	
September	5.30	5.00	9.50	9.80	11.55	12.10	
October	5.70	7.20	9.66	9.98	12.40	12.13	
November	6.40	9.40	10.20	10.10	12.87	12.53	
December	7.10	9.80	11.10	11.00	13.64	13.25	
Average	**4.98**	**6.56**	**9.73**	**10.58**	**11.90**	**11.93**	**13.38**

Source: EIA, DOE

Natural Gas: Freeport LNG NatGas supply only 1-day impact by pipeline lightning

Freeport LNG

On Monday, we forward a post "*Gulf South Pipeline Company said on Monday it has stopped delivering natural gas to the Freeport LNG plant in Texas after its pipeline was struck by lightning. The lightning strike caused Gulf South to declare a force majeure on the line effective immediately, it said in a statement, adding it is working to restore service as quickly as possible."* It turns out that the natural gas supply to the 2.1 bcf/d Freeport LNG facility was only impacted for one day. Bloomberg terminal reported natural gas flows to Freeport LNG were 1.87 bcf/d on Mar 23, 0.1 bcf/d on Mar 24, 1.69 bcf/d on Mar 25, 1.95 bcf/d on Mar 26, 1.95 bcf/d on Mar 27, and 1.87 bcf/d on Mar 28.

Natural Gas: US net natural gas imported from Canada was 8.29 bcf/d in Jan

US net importer of natural gas from Canada

For the past month, Trump has continued to reaffirm that he still intends to proceed with tariffs on Canada on April 2nd. And there has been no indication of any change to Trump's plan to have a 10% tariff on Cdn energy resources. On Tuesday, we posted [LINK] "*$1b of US subsidies to CAN in Jan. US net imports of #NatGas from Canada a.k.a what Trump calls US subsidizing Canada Jan: 256.9 bcf or 8.29 bcfd. Using $4, it's $1.0b as more NatGas needed in winter. Full year 2024: 2,224.3 bcf of 6.08 bcfd #OOTT."* On Monday, the DOE posted its monthly report US Natural Gas Imports an Exports Monthly. Notwithstanding the US is the world's largest LNG exporter, the US is a net importer of Cdn natural gas, but it is nothing compared to US net imports of Cdn oil. But it is part of Trump's US subsidizing Canada to $250 billion or whatever is his latest estimate. The DOE estimates the US was a net importer of natural gas from Canada at 8.29 bcf/d. Below is the DOE general map of US

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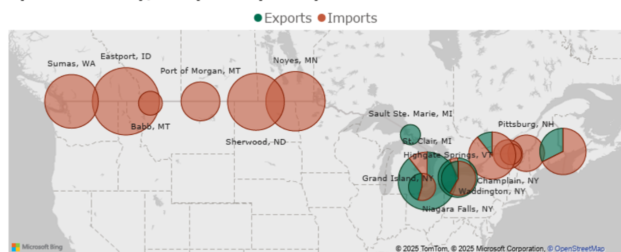
import points of Cdn natural gas.

Figure 8: US import and export points of Cdn natural gas by pipeline and truck

11: U.S. Natural Gas Imports & Exports by Pipeline & Truck with Canada by Point of Entry/Exit (January 2025)



Source: DOE

Natural Gas: Shell CMD features LNG, surely points to FID LNG Canada Phase 2

Shell Capital Markets Day

We have been strongly in the camp that believes Shell will FID LNG Canada 1.8 bcf/d brownfield Phase 2 and it's only a question of when, not if. And remain so following Shell's Capital Markets Day on Tuesday as Shell's CMD feature was its LNG demand outlook, need for global LNG investment and then LNG Canada 1.8 bcf/d Phase 2 is one of its two pre-FID LNG supply projects and LNG Canada fills the advantaged (and the only different shipping route) supply to "*growing Asian gas demand*.". This should not be surprising anyone as Shell has set up LNG as its feature. Here are our posts on Shell CMD that go thru their views. (i) On Mon, we posted [LINK] "*Spoiler Alert for Shell's Capital Market Day at 7am MT. #LNG has to be prominently featured. See 02/25 post. Shell upgraded their outlook for LNG demand thru to 2040 and "more investment is needed to ensure supply can keep with demand". What about LNG Canada 1.8 bcfd Phase 2 FID? #OOTT #NatGas.*" We forwarded our Feb 25, 2025 post on Shell's LNG Outlook that said "*Outlook upgraded for LNG demand through to 2040. More investment is needed to ensure supply can keep up with demand*". With that upgraded LNG demand outlook, it was inevitable that the LNG was the focus of CMD. (ii) As soon as the CMC slides were posted, we posted [LINK] "*LNG is the big winner is how Shell CEO leads off in Shell CMD. CEO just started and highlighting LNG. Keeps very bullish outlook for LNG demand thru 2040 and the increasing LNG supply gap post 2030. Expect to hear positive commentary on LNG Canada 1.8 bcfd Phase 1 upcoming start of commercial cargos. More LNG investment is needed to meet 2030 supply gap. And ONLY two LNG supply projects on its pre-FID. LNG Canada 1.8 bcfd Phase 2 & Oman. Have to believe it's WHEN not IF they will FID LNG Canada Phase 2,. #OOTT.*" (iii) After watching the webcast, we posted [LINK] "*Shell CEO reminds big advantage/benefit of LNG Canada 1.8 bcf/d Phase 2 - It's a brownfield LNG project so advantaged economics and extracts further value from Phase 1 ie. lifts the total project returns. Nothing is 100% but Shell keeps pointing to FID on LNG Canada Phase 2. Don't forget about to start LNG Canada 1.8 bcf/d Phase 1 is ~10% of current Alberta/BC #NatGas production! #OOTT*". CEO Sawan reminded of the value add from brownfield LNG Canada Phase 2. Sawan said "*As we get into the latter part of the decade and beyond, our healthy funnel of options including projects such as Oman Train 4 and a Phase 2 expansion at LNG Canada, as well as backfill opportunities, all of that will extract further value from existing LNG trains and sustain the cash flow longevity of the IG portfolio*." (iv) Then later on Tues posted [LINK] "*Every picture tells a story. Look how LNG*

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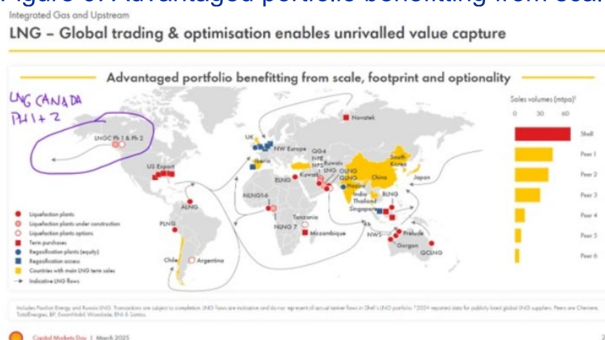
Canada Phase 1 fills a big hole in Shell's global #LNG supply shipping routes to get LNG to growing Asian gas demand. If greenfield LNG Canada Phase 1 is adding "advantaged supply...", then brownfield LNG Canada Phase 2 is even better. "And with LNG Canada, we have an asset that, when operational, will add advantaged supply. Connecting a very cost-competitive upstream gas basin to growing Asian gas demand." Shell CEO Sawan. More pointing to it's when, not if, Shell FIDs LNG Canada 1.8 bcf/d Phase 2. #OOTT #NatGas." Below are a couple of the Shell CMD slides. Our Supplemental Documents package includes the posts and the transcripts we made of CEO Sawan's comments and slides from the Shell CMD presentation.

Figure 9: Advantaged portfolio benefitting from scale, footprint and optionality



Source: Shell Capital Markets Day 2025

02/25/25: Shell ups LNG demand thru 2040, says more investment is needed
No one should have been surprised by LNG being the highlight of Shell's Capital Markets Day. Here is what we wrote in last week's (Mar 2, 2025) Energy Tidbits memo. "*Shell increase LNG demand thru 2040, says more investment is needed. No one should have been surprised to have seen Shell's LNG Outlook 2025 come out with an upgraded bullish view of LNG demand growth and highlighting the need for more LNG supply investment to meet the growth. Early Tuesday morning, we saw the Shell slide deck and their clear quotes on LNG demand growth and need for investment and posted [LINK] ""Outlook upgraded for LNG demand through to 2040. More investment is needed to ensure supply can keep up with demand" Shell #LNG Outlook. More investment needed? what about FID for Shell's 1.8 bcf/d LNG Canada Phase 2. See 👇02/12 post. Shell signaled the upgrade to LNG demand. #OOTT #NatGas." We subsequently watched the webcast replay and mgmt's comments provided the background for why they increased their LNG demand forecast. Shell included a range of LNG demand forecasts and, even under the bottom end of the demand range, there is still a big LNG supply gap emerging in the early 2030s and, at the high end of the range, there is a LNG supply gap emerging starting in 2026., And Shell had a simple message "more investment is needed to ensure supply can keep up with demand." As our post said Shell's view that more investment is needed in LNG supply to fill the gap has to be a very bullish view that Shell will FID the 1.8 bcf/d LNG Canada Phase 2."*

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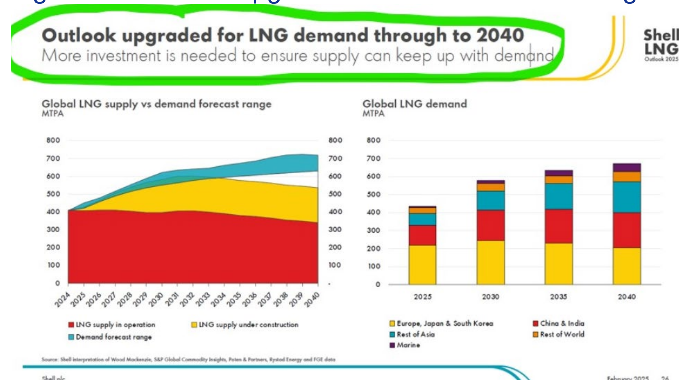
Figure 10: Outlook upgraded for LNG demand through to 2040



Source: Shell LNG Outlook 2025

02/12/25:Shell sees significant LNG demand growth, LNG Canada Phase 2 FID?
Our posts this week referred to Shell's LNG Outlook 2025 on Feb 25 as when Shell upgraded its LNG demand outlook and highlighted the need for more LNG supply investment. But Shell actually signaled that bullish LNG view on Feb 12. Here is what we wrote in our Feb 16, 2025 Energy Tidbits memo. "*Shell sees significant LNG demand growth, LNG Canada Phase 2 FID? Shell is holding its big LNG Outlook 2025 on Feb 25, but it looks like they gave away the LNG views in their just released Shell 2025 Energy Security Scenarios posted on Wed. Early Wed morning, we posted [LINK] "Spoiler alert for Shell's LNG Outlook 2025 on Feb 25. "In all three scenarios, LNG shows significant [demand] growth in the near term". 👇Shell 2025 Energy Security Scenarios. This demand outlook should be favorable for LNG Canada 1.8 bcfd Phase 2 FID in 2025. #OOTT #NatGas." Our post included Shell's slide "LNG in three scenarios". And Shell is very bullish on LNG demand growth. We wish they would just use scenarios with normal names. Rather Shell has three scenarios. Horizon is really another way of saying Net Zero, it is the "rapid acceleration of the energy transition" that will sharply reduce emissions to reach net zero by 2050 and limit global warming to 1.5C by end of the century. Archipelagos seems to be something like but not quite a business as usual case. Surge is "an era of robust economic growth is ushered in by AI technologies that are welcomed and not overly challenged, with economic growth and AI infrastructure driving up energy demand." Here is what Shell wrote on LNG. "In all three scenarios, liquefied natural gas (LNG) shows significant growth in the near term, fuelled by ongoing projects in Qatar and the USA, reaching around 550 million tonnes per year (mtpa) by the end of the decade. Divergence between the scenarios is a function of project timelines up until about 2030, but after that the scenarios diverge significantly as the different scenario drivers take hold." No surprise, the Net Zero type scenario shows LNG dropping steadily after 2030 to meet Net Zero emissions. But the other two scenarios see strong global LNG demand growth after 2030. It is why our post included the comment that this LNG demand growth outlook should be good for the potential of a FID for LNG Canada 1.8 bcf/d Phase 2. Below is the Shell Global LNG demand graph."*

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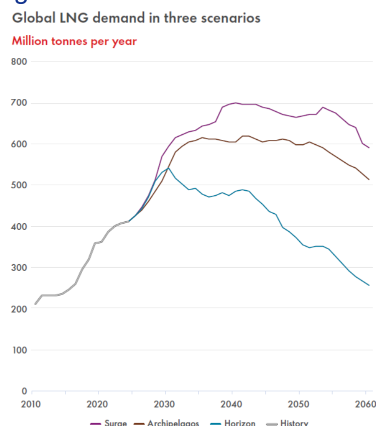
Figure 11: Global LNG demand forecast



Source: Shell 2025 Energy Security Scenarios

TC Energy CEOs "very bullish" on CGL Phase 2 ie. LNG Canada Phase 2

We have also been highlighting how TC Energy CEO' wouldn't be publicly saying he was very bullish on a FID for Coastal GasLink Phase 2 unless he had some sort of strong view that Shell and LNG Canada were going to FID the 1.8 bcf/d LNG Canada Phase 2. Here is what we wrote in our Feb 23, 2025 Energy Tidbits memo that was titled "*TC Energy CEO must Expect FID on 1.8 bcf/d LNG Canada Phase 2 as he is "Very Bullish" on Prospects for CGL Phase 2*." "*TC Energy CEOs "very bullish" on CGL Phase 2 ie. LNG Canada Phase 2. We were surprised that TC Energy CEO Poirier's Feb 14 "very bullish" view on CGL Phase 2 proceeding didn't get an attention from media and analysts. CEO Poirier clearly points to the expectation for Shell and LNG Canada to FID the 1.8 bcf/d LNG Canada Phase 2. So on Thursday, we posted [LINK] "02/14/25: TC Energy CEO is "very bullish about the prospects for CGL Phase 2". CGL Phase 2 will supply #NatGas for LNG Canada brownfield 1.8 bcf/d Phase 2. Surely CEO Poirier has reason to believe Shell/LNG Canada Phase 2 FID is highly likely to go. #OOTT. Coastal GasLink Phase 2 is the expansion of the Coastal GasLink that will add compression and equipment so the Coastal GasLink pipeline that feeds LNG Canada 1.8 bcf/d Phase 1 can handle double the natural gas so that the expanded CGL, CGL Phase 2, can deliver all the natural gas for LNG Canada 1.8 bcf/d Phase 2. On the Q4 call, CEO Poirier highlighted he is "very bullish" for CGL Phase 2 and our view is simple – Surely CEO Poirier has reason to believe that Shell/LNG Canada will FID the LNG Canada 1.8 bcf/d Phase 2 in the coming weeks or months. There is no way a big company CEO would say he is very bullish on a project proceeding that depends on another party's FID unless he had reason to believe that the other party would FID their project. Our post included an excerpt from the transcript of CEO Poirier's reply in the Q&A "On the natural gas side, there is absolutely demand for more LNG export and market opportunity for us to prosecute. We're very bullish about the prospects for CGL Phase 2 happening. That, of course, is only an input into the FID decision that our customer LNG Canada will make in due course."*

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Natural Gas: Tourmaline sees Cdn NatGas demand +50%, + 9 bcf/d to 27 bcf/d in 2030

Bullish Cdn natural gas demand from

On Tuesday, we posted [LINK] "*Don't forget a Shell FID LNG Canada 1.8 bcf/d Phase 2 is part of Tourmaline's very bullish demand by 2030 outlook for Cdn #NatGas! See 👇03/06 post. Stack up in progress + expected projects adds 9 bcf/d of new demand for Cdn NatGas by 2030. Tourmaline. #OOTT #LNG.*" We believe Tourmaline's Mar 6 views on the bullish outlook for Cdn natural gas demand were overlooked, likely because they came out in the Q&A. So when we saw Shell's comments this week on LNG outlooks and LNG Canada Phase 2, we wanted to remind that any LNG Canada 1.8 bcf/d Phase 2 FID would be right in line with Tourmaline's call for ~9 bcf/d increase for Cdn natural as demand to 2030. Here is what we wrote in our Mar 9, 2025 Energy Tidbits memo. "*Tourmaline sees Cdn NatGas demand +50%, +9 bcf/d to 27 bcf/d in 2030. Tourmaline held its Q4 call on Thursday. We were surprised that no one focused on CEO Mike Rose's very bullish Cdn natural gas demand comments in the Q&A. Rose sees added Cdn natural gas demand up 50% or ~9 bcf/d by 2030. That is huge, moving from ~18 bcf/d to ~27 bcf/d by 2030. Rose basically did the math for the in-progress or widely expected items and it totals up to an additional ~9 bcf/d of natural gas demand for Cdn natural gas. It's why, on Thursday night, we posted [LINK] "Bullish for Cdn #NatGas. $TOU CEO has done the math. Stack up in progress + expected projects adds 9 bcfd of new NatGas markets for Cdn E&P. Half will be BC LNG if LNG Canada Phase 2 goes FID. Plus oil sands use of NatGas, data centers, pipelines, etc. Momentum on the added 9 bcfd starts is kick started in 2025 with LNG Canada 1.8 bcfd Phase 1. #OOTT." In the Q&A, Rose did not provide the detail but said "We believe on the gas side, if you include LNG Canada Phase 1 and Phase 2, because it's not quite on stream yet, and build one additional pipeline, a little optimizing on existing pipelines, we can grow our overall Industry natural gas production Canada by 50% by 2030 and that doesn't include a whole bunch of other growth projects that you can dream about. We're advocating on our front for buildout on the natural gas side and long and short of it, it's apparent we need to look after ourselves and we have lots of ways to do it." Half of the 9 bcf/d will be from LNG Canada Phase 1 & Phase 2 (assuming Phase 2 gets FID), Cedar LNG, Woodfibre LNG and Tilbury Phase 2 LNG expansion. Rose highlighted pipeline expansions and one additional pipeline. And we understand the other factors are the continuing increased use of natural gas for power as oil sands production keeps increasing, and the ramping up of data centers. These seem to us to be either in-progress or widely accepted very near-term items that are going to be happening quickly ie. data centers. Items like more natural gas for oil sands power generation and data centers are happening. Plus our post highlighted that the big step change up in natural gas demand starts in 2025 with the start of commercial operations at LNG Canada 1.8 bcf/d Phase 1, which by itself, is ~10% of BC/Alberta natural gas production.*"

Natural Gas: Mexico's natural gas production up MoM in Feb, still stuck below 5 bcf/d

Mexico Feb natural gas production

Whether Mexico new President Sheinbaum likes it or not, any increasing Mexico natural gas consumption will continue to mean increasing natural gas pipeline imports from the US and/or LNG imports. On Tuesday, Pemex posted its natural gas production data for February [LINK]. Pemex reported February natural gas production of 4.425 bcf/d, which is down -7.4% YoY from 4.777 bcf/d in February 2024 and up +1.3% MoM from 4.368 bcf/d in January. The big picture story for Mexico natural gas for the past six years has been that Mexico natural gas production has been stuck at or below 5 bcf/d, and that means any increased domestic

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natural gas consumption has been met by US natural gas imports. Below is our ongoing table of Pemex reported monthly natural gas production.

Figure 12: Mexico Natural Gas Production

Natural Gas Production bcf/d	2018	2019	2020	2021	2022	2023	2024	2025	YoY%
Jan	4.910	4.648	5.005	4.848	4.713	4.955	4.780	4.368	-8.6%
Feb	4.853	4.869	4.942	4.854	4.646	4.979	4.777	4.425	-7.4%
Mar	4.646	4.857	4.946	4.839	4.766	5.035	4.768		-5.3%
Apr	4.869	4.816	4.827	4.671	4.740	5.095	4.500		-11.7%
May	4.827	4.841	4.460	4.730	4.702	5.034	4.488		-10.8%
June	4.840	4.843	4.754	4.727	4.744	5.035	4.606		-8.5%
July	4.856	4.892	4.902	4.725	4.815	4.936	4.566		-7.5%
Aug	4.898	4.939	4.920	4.656	4.796	4.947	4.534		-8.3%
Sept	4.913	5.017	4.926	4.746	4.798	4.969	4.515		-9.1%
Oct	4.895	4.971	4.928	4.718	4.795	4.950	4.503		-9.0%
Nov	4.776	5.015	4.769	4.751	4.845	4.888	4.432		-9.3%
Dec	4.881	5.024	4.846	4.697	4.845	4.786	4.400		-8.1%

Source: Pemex

Natural Gas: Delfin signs 15-yr 0.20 bcf/d LNG supply deal with SEFE (Germany)

Delfin & SEFE 15 yr LNG supply deal

On Tuesday, Delfin announced that it had signed a long-term LNG sales agreement with SEFE for a supply of 0.20 bcf/d for at least 15-years [LINK]. The LNG will be sourced by floating LNG vessels deployed by Delfin that are located offshore of Louisiana on the Gulf Coast, with deliveries beginning upon construction and commission of these vessels. The press release said "*SEFE Securing Energy for Europe and Delfin Midstream Inc. ("Delfin") today announced that they have signed a Heads of Agreement for the long-term supply of 1.5 million tonnes of LNG per year for at least 15 years.*" The CEO of Delfin, Dudley Poston, said: "*We are very pleased to enter into this agreement with SEFE and continue to build on Delfin's position as a leading source of reliable low-cost energy from the safety of the United States. We look forward to continuing to advance our critical energy infrastructure project for the benefit of our US stakeholders and international commercial partners.*" Our Supplemental Documents Package includes the Delfin press release.

There have been 28.89 bcf/d of long-term LNG supply deals since July 1, 2021

It's been a busy last five years of long-term LNG deals and, even though high-profile calls, such as the IEA are for peak natural gas consumption by 2030, buyers continue to lock up long-term LNG supply. This 5-year big wave of LNG deals started in July 2021, and we highlighted this in our July 14, 2021, 8-pg "*Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support for Brownfield LNG FIDs*". We continue to update that table, which now amounts to 28.89 bcf/d of long-term LNG deals since July 1, 2021. 64% of the deals have been by Asian LNG buyers. Note in our non-Asian LNG deals, major LNG players (i.e. Chevron, Shell, etc.) are buying for their LNG portfolio supply. China has been particularly active in this space, accounting for 42% of all Asian LNG buyers in long term contracts since July 1, 2021. There have been so many long-term LNG deals since the market changed back to long-term LNG deals in the spring of 2021 that we have now summarized on a per quarter basis. But our Supplemental Documents package includes our detailed by deal table for all long-term LNG deals since July 1, 2021.

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Figure 13: Long-Term LNG Quarterly Buyer Deals Since July 1, 2021

Long-Term LNG Quarterly Deals Since July 1, 2021						
Quarter	Deals	Volume	Average deal length	Asian buyers	European buyers	Other buyers
	(#)	(bcf/d)	(years)	(%)	(%)	(%)
Q3 2021	6	1.6	15.3	83.8%	16.3%	0.0%
Q4 2021	13	2.1	15.4	94.8%	5.2%	0.0%
Q1 2022	8	2.3	19.5	77.1%	0.0%	22.9%
Q2 2022	18	3.7	18.6	44.0%	42.1%	13.9%
Q3 2022	9	1.8	19.3	54.1%	7.3%	38.6%
Q4 2022	7	1.4	17.4	55.4%	44.6%	0.0%
Q1 2023	7	1.3	17.1	69.1%	30.9%	0.0%
Q2 2023	9	2.0	18.4	69.6%	26.5%	3.9%
Q3 2023	9	1.1	14.1	37.8%	9.2%	53.0%
Q4 2023	10	2.2	20.8	33.6%	58.7%	7.7%
Q1 2024	10	2.1	15.7	93.9%	6.1%	0.0%
Q2 2024	10	2.1	14.3	41.3%	8.9%	49.8%
Q3 2024	13	2.7	13.7	77.5%	19.3%	3.2%
Q4 2024	9	1.6	14.0	78.5%	5.0%	16.6%
Q1 2025	8	0.9	13.0	55.1%	21.7%	23.2%

Source: SAF

Natural Gas: WMO sees warm temps around the world in Apr/May/Jun

WMO AMJ temperature forecast

Summer is still three months away so it's too early for most to trade on summer temperature forecasts especially as we have seen with this winter, temperature forecasts are far from 100% accurate. And the major natural gas demand countries have moved into shoulder season where there is not normally any strong weather driven demand for natural gas. However, natural gas players at least like to see it is expected to be warmer than normal temperatures in the lead-in to summer. On March 20, the WMO posted its outlook for Apr/May/Jun temperatures, and they are calling for a very warm lead-in to summer across almost all the world [LINK]. WMO wrote, "…*above-normal temperatures are predicted for nearly all land areas. Extensive regions with increased probabilities for above-normal temperatures include most of Africa, Madagascar, Asia, South America (north of 20°S), the Caribbean, Central America, the southern and eastern parts of North America (below 45°N), the western Pacific (west of 160°E), Australia, New Zealand, and Europe. Areas with the largest increase in the probability of above-normal temperatures include the Arabian Peninsula, extending eastward into Eastern Asia; the Maritime Continent; a horseshoe-shaped pattern radiating from the Maritime Continent and stretching north-eastward and south-eastward into the North and South Pacific; the region between 45°N and 20°S encompassing North and South America; the Caribbean; northern Africa extending into Europe; and New Zealand. Regions with a weaker enhancement in the probability of above-normal temperatures are expected over the Indian subcontinent, Southeast Asia, and the northern and western coastal areas of North America."* Our Supplemental Documents Package includes the WMO forecast.

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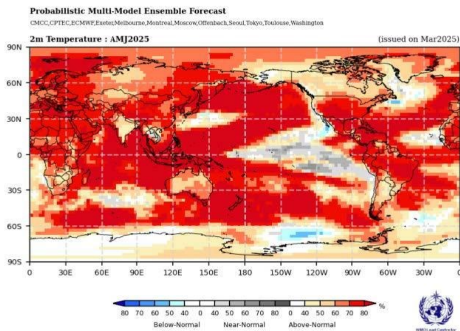
Figure 14: WMO Apr/May/Jun temperature probability



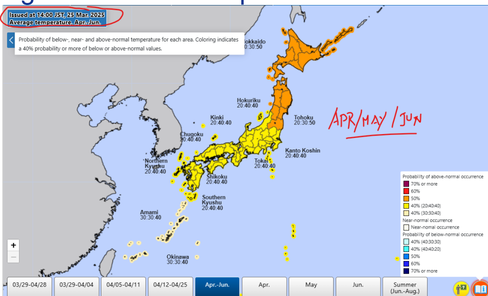
Source: WMO

Natural Gas: JMA forecasts warmer than normal temperatures for Apr/May/Jun

JMA AMJ temperature forecast

Please note we won't be including the JMA 30-day temperature forecasts for the next month as it will be for shoulder season so there should be little weather driven demand for natural gas. We will pick up again in later April as we look to late May/June when it starts to get hotter and humid. However, on Thursday the Japan Meteorological Agency (JMA) updated its temperature forecast for April/May/June in Japan [LINK]. There is no JMA commentary on the forecasts. JMA is forecasting 40-50% probability of warmer than normal temperatures throughout Japan for April through June. A warm spring is not normally a big temperature driver for big natural gas consumption, but a hot summer can be a boost to natural gas consumption. Below is the JMA's seasonal temperature probability forecast for the spring (April-June).

Figure 15: JMA Temperature Outlook for Apr - Jun



Source: Japan Meteorological Agency

02/27/25: JMA forecasts much warmer than normal temps for Jun/Jul/Aug

The new JMA temperatures forecast for a warmer than normal Apr/May/Jun lead-in to summer looks to fit with the JMA's recent Feb 2, 2025 seasonal forecast for Jun/Jul/Aug. Here is what we wrote in our Mar 2, 2025 Energy Tidbits memo. "*JMA forecasts much warmer than normal temperatures for Jun/Jul/Aug. Please note we won't be including the JMA 30-day temperature forecasts for a couple months as it is shoulder season so there should be little weather driven demand for natural gas. We will pick up again in May as the look moves to late May/June when it starts to get*

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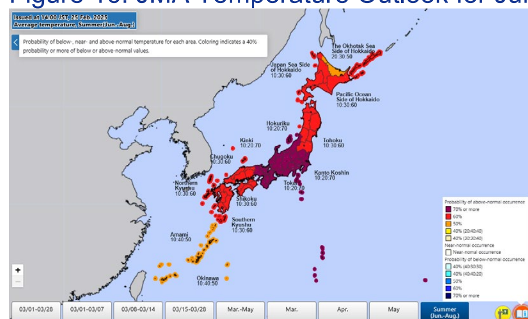
hotter and humid. However, on Thursday the Japan Meteorological Agency (JMA) updated its temperature forecast for June/July/Aug in Japan [LINK]. There is no JMA commentary on the forecasts. JMA is forecasting a 50% or more probability of much warmer than normal temperatures throughout Japan for June through August. A hot summer can be a big boost to natural gas consumption, and so far, the summer prediction would indicate increased natural gas demand as it will be hot. Note that, at this time, the JMA forecast for June/July/Aug is looking similar to the actual temperatures last June/July/Aug where it was warmer than normal for all three months. Below is the JMA's seasonal temperature probability forecast for the summer (June-August)."

Figure 16: JMA Temperature Outlook for Jun - Aug



Source: Japan Meteorological Agency

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

Japan LNG stocks up WoW

LNG stocks rebounded this week after the late winter drop in stocks seen the previous two weeks. The cold weather was a boost to electricity and natural gas demand, and as a result, we should see some Japan spot LNG cargo buying in March with Japan LNG stocks dipping below the 5-yr range. Japan's LNG stocks are up WoW, up YoY, and down when compared to the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on March 23 were at 87.9 bcf, up +17.3% WoW from 74.9 bcf on March 16, and up +23.6% from a year ago. Stocks are well below the 5-year average of 97.5 bcf. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 17: Japan LNG Stocks

Source: METI

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Natural Gas: Japan LNG imports down MoM, up YoY in February

Japan LNG imports

On Thursday, Japan's Ministry of Finance (MOF) posted its import data for February [LINK]. The MOF reported Japan's February LNG imports were 10.08 bcf/d, down -2.0% MoM from January, which was 10.28 bcf/d, and up +1.1% YoY from 9.97 bcf/d in February 2024. There was a warmer start to winter in Japan so there was no urgency to ramp up LNG imports in December and January. And even though it was colder in Feb, there didn't seem to be an urgency to import LNG. Plus, thermal coal is cheaper, and Japan will preferentially take more thermal coal than LNG for electricity generation due to prices. Japan's thermal coal imports in February were up +13.1% YoY. Petroleum Products imports were down -14.2% YoY. Below is our table that tracks Japan LNG import data.

Figure 18: Japan Monthly LNG Imports

bcf/d	2018	2019	2020	2021	2022	2023	2024	2025	YoY%
Jan	12.79	11.69	11.63	12.48	10.51	10.56	9.46	10.28	8.7%
Feb	14.23	12.61	10.99	13.84	12.19	10.98	9.97	10.08	1.1%
Mar	12.28	11.30	11.16	11.04	10.07	8.86	8.59		-3.0%
Apr	8.97	9.00	8.31	7.96	8.92	7.25	8.46		16.6%
May	9.92	8.62	7.09	7.67	8.92	7.14	7.54		5.6%
June	8.88	8.32	8.42	9.13	9.29	7.25	7.31		0.8%
July	10.55	10.56	9.35	9.58	9.54	7.88	8.70		10.4%
Aug	11.73	9.45	9.04	9.75	9.71	8.78	8.87		1.0%
Sept	10.04	10.30	10.41	8.66	8.52	8.84	8.69		-1.7%
Oct	10.12	9.75	9.20	7.17	7.88	8.38	8.19		-2.2%
Nov	10.15	10.03	9.63	9.38	8.88	8.53	8.08		-5.3%
Dec	11.23	10.54	11.96	10.89	9.39	10.06	9.85		-2.1%

Source: Japan Ministry of Finance, SAF

Natural Gas: China's CNOOC keep increasing domestic oil & natural gas production

CNOOC domestic oil and gas production

One of the key China oil and gas trends that we identified before Covid was how China was moving into a period of increasing domestic oil and natural gas production and that this mean less of a need for oil and LNG imports. And in the case of LNG imports, the other big factor was the ramp up of China natural gas pipeline imports from Russia's Power of Siberia pipeline. And the cheaper Russian pipeline natural gas will push LNG imports to the last choice. On Thursday, we posted [LINK] "*Reminder of negative China trend for #Oil, moreso for #LNG - China has been increasing domestic production so less import requirements. CNOOC Q4 shows increase China production 2023 thru 2027. Bigger hit to LNG as it coincided with China imports of Russian #NatGas pipeline cranked up via Power of Siberia that moved China from engine of LNG import growth pre 2020 to a period of flat or even slightly down LNG imports. #OOTT* . Our post included the below charts from the CNOOC Q4 slides that shows the continued domestic oil and natural gas production growth thru 2027.

Figure 19: CNOOC 2023 and 2024 oil and gas production

Production Summary

	2024			2023		
	Crude and Liquids (million bbls)	Natural Gas (bcf)	Total (million boe)	Crude and Liquids (million bbls)	Natural Gas (bcf)	Total (million boe)
China						
Bohai	225.3	81.9	238.9	207.4	69.4	218.9
Western South China Sea	34.7	258.0	79.5	38.1	246.2	80.9
Eastern South China Sea	113.7	149.3	138.6	110.9	156.4	137.0
East China Sea	2.9	80.7	16.3	2.1	57.8	11.8
Onshore	0.06	115.3	19.3	0.04	109.1	18.2
Subtotal	**376.7**	**685.2**	**492.7**	**358.6**	**638.8**	**466.8**
YoY %	+5.0	+7.2	+5.5	+6.6	+12.3	+7.8
Overseas						
Asia (Ex. China)	22.7	87.3	38.3	22.6	69.2	34.9
Oceania	2.0	56.2	12.8	1.9	51.0	11.8
Africa	17.6	6.6	18.7	19.8	7.2	21.0
North America (Ex. Canada)	21.6	34.3	27.4	20.3	40.2	27.0
Canada	33.1	-	33.1	31.0	-	31.0
South America	84.8	58.9	95.0	64.4	57.2	74.3
Europe	8.8	0.8	8.9	11.0	1.1	11.1
Subtotal	**190.5**	**244.3**	**234.0**	**170.9**	**225.8**	**211.3**
Total*	**567.1**	**929.4**	**726.8**	**529.5**	**864.7**	**678.0**

* Including our interests in equity-accounted investees, which is approximately 20.3 mm boe in 2024 and 20.4 mm boe in 2023. In 2024, production from China and overseas was 67.8% v.s. 32.2%; Crude liquids and natural gas was 78.0% v.s. 22.0%.

Source: CNOOC

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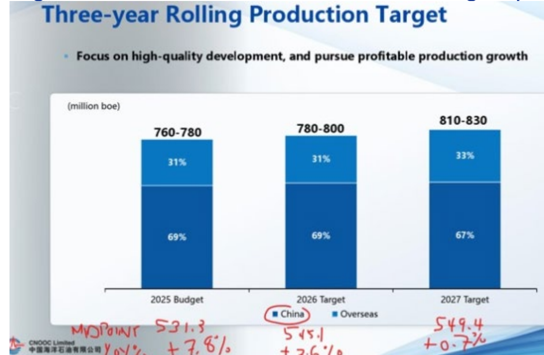
Figure 20: CNOOC 2025-2027 oil and gas production



Source: CNOOC

Natural Gas: Sinopec, China "*domestic demand for natural gas grew rapidly*"

China rapid natural gas demand growth

Last Sunday morning, Sinopec reported Q4 and there were multiple oil, gasoline, and natural gas macro views on China that most seem to have overlooked. Here is what we wrote in last week's (Mar 23, 2025) Energy Tidbits memo. "*Sinopec, China "domestic demand for natural gas grew rapidly. Later in the memo, we highlight Sinopec's Q4 release this morning and hos Sinopec is seeing increasing gasoline sales in the face of strong growth in New Energy Vehicles. Another highlighted item from Sinope was "the domestic demand for natural gas grew rapidly" ,"We stepped up effort in gas refueling and EV battery charging and swapping businesses. Over one thousand gas-refueling stations and more than 10 thousand battery charging and swapping stations were built." and "looking forward to 2025, as China's economy continues to recover and improve, domestic demand for natural gas and chemical products is expected to maintain growth, and that for refined oil products will remain influenced by alternative energy." Sinopec also highlighted they are reducing the diesel to gasoline mix in their refineries ie. diesel demand is decreasing. Sinopec didn't break down the sectors leading to the rapid increase in natural gas demand or the future growth. But, by also highlighting the natural gas refueling stations, it looks like they are including how increasing LNG-fueled medium & heavy duty trucks are reducing diesel demand."*

06/25/24: LNG trucks, China peak diesel demand sooner than expected

Here is what we wrote in our June 30, 2024 Energy Tidbits memo when we first raised how the rapid increase in LNG-fueled heavy duty trucks would lead to China reading diesel demand sooner than expected. "*On Tuesday, we saw the rationale for why China should hit peak diesel demand sooner than expected. Mackenzie said something we, and it seems many others, hadn't realized in that 25% of new heavy-duty trucks in China are now LNG fueled and not diesel fueled. We say others must be realizing because we saw comments later this week on this very subject of 25% of heavy-duty trucks being LNG fueled so we suspect they also saw the Wood Mackenzie comments. We assume that this didn't go from zero to 25% overnight so there has been some buildup of this LNG truck sales. Diesel is driven by trucks so this will have a direct impact on diesel demand. And if China reaches peak diesel demand, it also points to peak oil demand as diesel demand is roughly 25% of*

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China's 16 mmb/d oil consumption. And on early Tuesday morning, we tweeted [LINK] "Good China insights from @WoodMackenzie Alan Gelder. Chinese distillate demand is not particularly great. so negative indicator for economy today. But decoupling of China diesel demand vs economy indicator is starting for mid-term as 25% of new heavy duty trucks are LNG fuel so "that decouples the manufacturing & movement of goods from diesel demand"' Would also be a factor to China oil demand peaking sooner than prior forecasts. #OOTT @gulf_intel." Our tweet included the transcript we made of comments by Alan Gelder (Downstream Global SME, VP Refining, Chemicals & Oil Markets, Commodities Research, Wood Mackenzie) on Gulf Intelligence's Daily Energy Markets June 25 podcast. [LINK] Items in "italics" are SAF Group created transcript. At 10:40 min mark, Gelder "The Chinese economy hasn't materially returned to growth. So there is a degree to which how you measure that. We look at Chinese distillate demand – it's not particularly great, not particularly strong. There is a challenge in that actually there is a akin to what China has done around electrification of the passenger car fleet. They are shifting trucks onto LNG. So something like 25% of new heavy duty truck purchases are LNG. So in a sense, we are having that move decouples the manufacturing and movement of goods from diesel demand. Just that activity of changing their fuel type."

Diesel consumption will become less of an economy indicator in China
Our June 25, 2024 tweet noted above on diesel demand included the note that this mean diesel consumption will be less of an indicator for the economy. Many look at diesel consumption as an indicator for the China economy and increasing LNG heavy duty trucks will delink this relationship. Wood Mackenzie's Alan Gelder said "*They are shifting trucks onto LNG. So something like 25% of new heavy duty truck purchases are LNG. So in a sense, we are having that move decouples the manufacturing and movement of goods from diesel demand. Just that activity of changing their fuel type."*

Natural Gas: TASS reports Sudzha natural gas station is "actually destroyed"

Sudzha is "actually destroyed"

There is no question Ukraine is doing all it can to make sure Russia doesn't easily get a return of cash flow if any Trump deal is forced on Ukraine. On Friday morning, Ukraine bombed the key Russian Sudzha natural gas intake station a second time. And Ukraine was success in escalating from significant damage to being destroyed. On Friday, we posted [LINK] "*Key Russian Sudzha #NatGas station "actually destroyed" due to UKR followup strike today. TASS. Recall 1.5 bcf/d of RUS gas was moving to EU via UKR as late as Q4/24. Key to rebuild will be US and/or EU lifting sanctions so RUS can get key equipment. #OOTT [LINK].*" TASS reported on the 2nd Ukraine strike on Friday morning, which "actually destroyed" Sudzha is the key Russian natural gas intake station that delivers natural gas via Ukraine to Europe. And it was delivering ~1.5 bcf/d in Q4/24. The big wildcard for the return of Sudzha will be if US and/or EU remove sanctions that will allow Russia to acquire key sanctioned western equipment like big gas turbines and sanctioned western services such as gas turbine maintenance. Our Supplemental Documents package includes the TASS Friday report.

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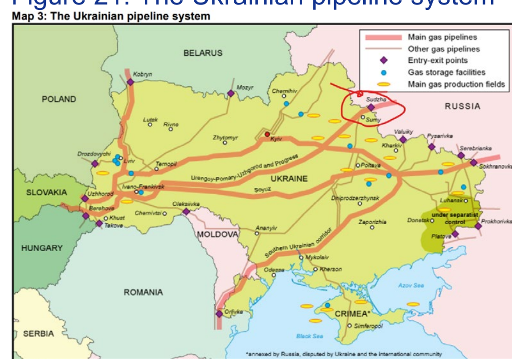
1st Sudzha UKR attack had significant damage & "long amount of time" to fix
As noted above, UKR's Friday attack on Sudzha was the 2nd attack this week. Up until the 2nd attack, we didn't know how bad the damage was and how long it would take to restore Sudzha. Our initial post was on Mar 22 and it was far from clear on how much damage from the 1st attack. And then, on Wed, Novak commented on how the first attack caused significant damage and it would take a "fairly long amount of time" to repair. But he still wasn't clear on what was damaged. That all changed on Friday. On Wed, we posted [LINK] ""*It will take a fairly large amount of time" to restore Sudzha #NatGas intake station. Novak just now. Reinforces will take longer for all RUS NatGas to flow to EU via Ukraine. Sudzha was gateway for ~1.5 bcf/d of RUS gas to EU via UKR in Q4/24. #OOTT."* Our post included the TASS report "*Novak: Russia assesses the damage to the Sudzha gas station after the attack of the Armed Forces of Ukraine*." [LINK] TASS wrote "*"The damage is still being assessed for the Sudzha gas metering station. But in general, as you know, this route is not a contract and the agreements have not been extended from January 1, 2025. It will largely depend, in principle, on future relations with European countries in terms of energy," he said. At the same time, Novak stressed that the Sudzha GIS received significant damage. "It is clear that in the event of restoration, it will take a fairly large amount of time," the Deputy Prime Minister added."* Our Supplemental Documents package includes the TASS report.

Figure 21: The Ukrainian pipeline system

Map 3: The Ukrainian pipeline system



Source: OIES

Source: Oxford Institute for Energy Studies

Natural Gas: EU natural gas long bets up, pricing risk to when Sudzha gets fixed

EU natural gas long bets up

We have been highlighting how the big downside risk to TTF & LNG if Trump/Putin deal leads to a return of Russia pipeline gas to Europe. Conversely, a delay of return of Russian pipeline natural gas is an upside risk to TTF prices. And it's why last week we highlighted the early comments on Russia saying they were significant damage to the Sudzha natural gas intake station. On Wednesday, we posted [LINK] "*Funds EU gas long bets jump most since mid-Nov. See 👇@BloombergNEF Han Wei chart. ie. take longer to bring back all RUS NatGas even with a deal. See 👇03/22 post, Sudzha #NatGas facility "suffered significant damage". Sudzha is gateway for RUS pipeline gas to EU via UKR, was ~1.5 bcf/d in Q4/24. #OOTT."* Our post included the BloombergNEF charts from their report "*Funds' EU Gas Long Bets Jump Most Since Mid-November: BNEF Chart*". The weekly long positions have been

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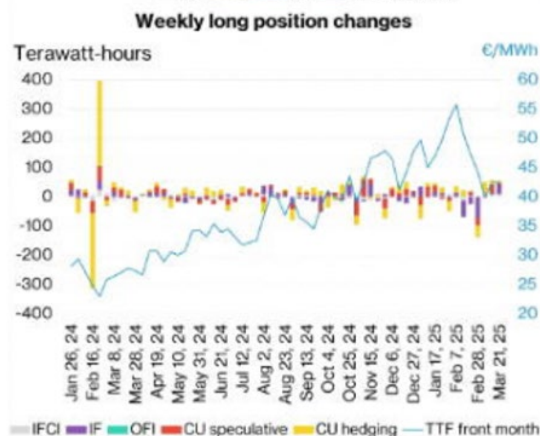
decreasing with the increasing expectation that a Trump/Putin Ukraine deal would see the return of Russian pipeline natural gas to Europe. But we have to believe once of the factors in the last 10 days has been the significant damage at Sudzha that pushes off any quick return of Russian natural gas to Europe via Ukraine. Below is one of the BloombergNEF charts. Our Supplemental Documents package includes the full BloombergNEF comment.

Figure 22: Weekly long position changes



Source: BloombergNEF

Natural Gas: Will/can Trump get/force EU to take Russian natural gas in a UKR deal

Can Trump get EU to take RUS gas

On Wed, we posted [LINK] "*Risk to TTF #NatGas price. Will/can Trump get/force EU to take Russia #NatGas in a peace deal? But the interest in restoring normal energy supply to Europe, is this the interest of only the United States and Russia? There is talk about Nord Streams. It will probably be interesting if the Americans use their influence on Europe and force it not to abandon Russian gas." #OOTT.*" On Tuesday, TSS reported on Russian Foreign Minister Lavrov's comments on Russia's discussion with the US on restoring Nord Stream natural gas pipeline deliveries to Europe and if the US can influence Europe to take the Russian natural gas. TASS wrote "*Lavrov said that the Russian Federation and the United States are discussing the topic of Nord Streams. The Russian Foreign Minister also recalled that Europe now pays several times more for energy than American business. Moscow and Washington are discussing the topic of Nord Streams. It will be interesting if the United States uses its influence on Europe and forces it not to abandon Russian gas, Russian Foreign Minister Sergei Lavrov said in an interview with Channel One. "Now, of course, there are disagreements. But the interest in restoring normal energy supply to Europe, is this the interest of only the United States and Russia? There is talk about Nord Streams. It will probably be interesting if the Americans use their influence on Europe and force it not to abandon Russian gas. But this is already some kind of surrealism," the minister said. He recalled that Europe and business are now paying several times more for energy than American business. "At the same time, people like [Vice Chancellor, Minister for Economic Affairs and Climate Protection of Germany] Robert Habeck, [head of the European Commission] Ursula von der Leyen, [German Defense Minister] Boris Pistorius, they all say that they will never allow the restoration of Nord Streams. These are either sick people or*

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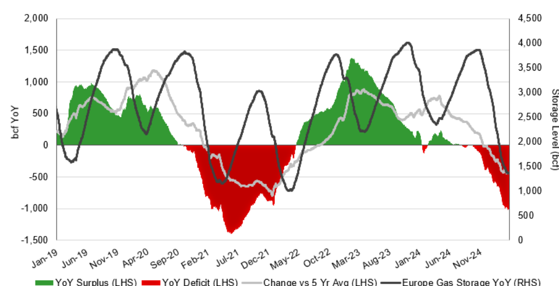
suicides," Lavrov stated."

Natural Gas: Europe storage down -0.3% WoW to 33.6% full, down -25.2% YoY

It has been a good Q1/25 so far for EU natural gas, which was helped by multiple periods of very low wind generation when wind generation is normally at its seasonal high in the winter. This has also been a big plus to coal generation in Germany to help fill the void. And as a reminder, the YoY comparison is to a hot Mar 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 had not 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 Mar 27, Europe storage was down -0.3% WoW to 33.6% vs 33.9% on Mar 20. Recall that winter 2023/24 was one of the hottest winters in Europe. Storage is now down -25.2% from last year's levels of 58.8% on Mar 27, 2024, and down against the 5-year average of 45.2%. Below is our graph of European Gas Storage Level.

Europe gas storage at 33.6%

Figure 23: European Gas Storage Level



Source: Bloomberg, SAF

Ukraine storage is currently 2.5% of total Europe gas storage volume

We don't have detailed reports, but the reports from a few weeks ago were that there were multiple Russian missile attacks on Ukraine natural gas and energy infrastructure. 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 Mar 27, natural gas in Ukraine storage was at 3.1% of its total capacity, down compared to 3.5% of its total capacity on Mar 20. Last winter, Ukraine storage as of Nov 1, 2023, was at 39.4%. Right now, Ukraine makes up about 2.5% 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.

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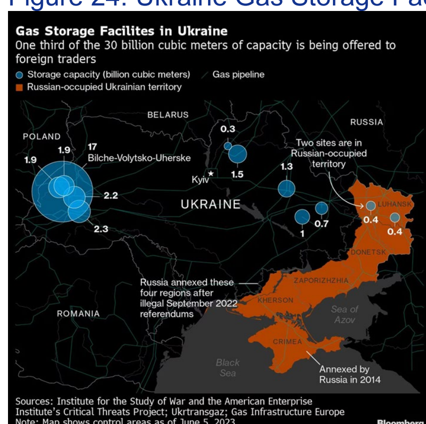
Figure 24: Ukraine Gas Storage Facilities as of June 2023



Source: Bloomberg

Oil: US oil rigs -2 rigs WoW, down -22 rigs YoY; gas rigs up +1 rig WoW

US oil rigs down WoW

We have been highlighting the consistent comments from the service companies that they are expecting relatively flat or some small decline in US rig levels in 2025 as the oil and gas companies stay in their capital disciplined + return of capital to investors mode. We are still a little surprised that oil rigs, in total, continue to be hanging in there despite WTI prices staying below $70, but we expect to see some more oil rig declines in the coming weeks. 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 US oil rigs were down -2 rigs WoW as of Mar 28. Total US oil rigs are now down -22 oil rigs YoY to 484 rigs, which is above the recent low seen in the week of Jan 24. (iii) Note we can see the basin changes but not by type of rig; the WoW changes at the major basins were as follows: Permian -3 rigs WoW, Marcellus -1 rig WoW, Granite Wash +1 rig WoW, Haynesville +1 rig WoW, and Utica +1 rig WoW. (iv) The overlooked US 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 US gas and oil rigs are down -31 rigs YoY to 588 rigs including US oil rigs down -22 rigs YoY to 484 rigs. And for the key basins, the Permian is -19 rigs YoY, Haynesville is -6 rigs YoY, DJ-Niobrara is -5 rigs YoY, Marcellus is -7 rigs YoY, Granite Wash is +7 rigs YoY, Eagle Ford is -7 rigs YoY, Barnett is +1 rig YoY, Ardmore Woodford is +5 rigs YoY, Arkoma Woodford was flat YoY, Cana Woodford is -1 rig YoY, Mississippian is -2 rigs YoY, Utica is flat YoY, and Williston is -1 rig YoY. (v) US gas rigs were up +1 rig WoW to 103 gas rigs and down -9 rigs YoY. We believe US gas rigs will need to increase over the next several months as more US LNG capacity comes onstream in 2025. Lastly, US miscellaneous rigs were flat WoW at 5 rigs and +2 rigs YoY.

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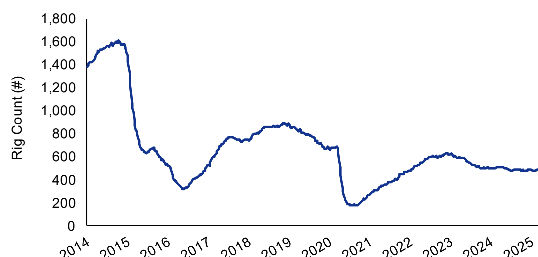
Figure 25: Baker Hughes Total US Oil Rigs



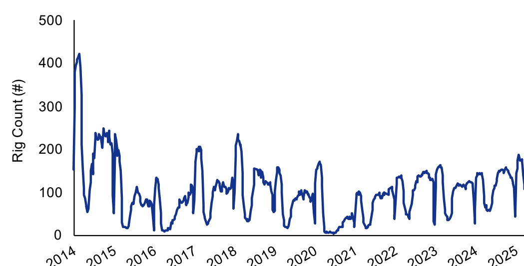
Source: Baker Hughes

Oil: Total Cdn oil rigs down -10 rigs WoW, in line with end of winter drilling season

Cdn oil rigs down WoW

Winter drilling season ended in the beginning of March, evident in the large WoW declines seen in the past few weeks. On Friday, Baker Hughes released its weekly North American drilling rig data. This week's total oil and gas rig count was down -17 rigs WoW to 162 rigs on Mar 28 and are up +11 rigs YoY. We expected to see the large decrease in rigs this week and expect another decline to come next week. It was cold in Feb, which allowed companies to keep rigs going a little longer than normal and drill a couple extra wells to take advantage of stronger than expected natural gas prices into the end of Feb. But winter drilling season has pasted as we have entered in spring. Oil rigs are down -10 rigs WoW to 108 and up +33 rigs YoY. Gas rigs are down -7 rigs WoW at 54 rigs and are down -22 rigs YoY, and miscellaneous rigs are flat WoW and +1 rig YoY at 1 rig total. As a reminder Baker Hughes changed their reporting format which does not allow us to see the provincial breakouts.

Figure 26: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes

Oil: US weekly oil production little changed WoW to 13.574 mmb/d, up YoY

US weekly oil production

The EIA estimated US oil supply was immaterially changed from last week. 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. This week, the EIA's production estimate was slightly up +0.001 mmb/d WoW to 13.574

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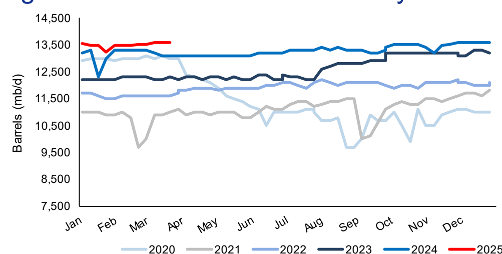
mmb/d for the week ending Mar 21. This is getting close to the 2024 highs of 13.631 mmb/d in the week of Dec 6, 2024. This is up +0.474 mmb/d YoY from 13.100 mmb/d for the week ended Mar 22, 2024. Alaska production figures were up +0.001 mmb/d WoW at 0.437 mmb/d, while the Lower 48 were flat WoW at 13.137 mmb/d. Below is a table of the EIA's weekly oil production estimates.

Figure 27: EIA's Estimated Weekly US Field Oil Production (mb/d)

	Week 1		Week 2		Week 3		Week 4		Week 5	
Year-Month	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
2024-Jan	01/05	13,200	01/12	13,300	01/19	12,300	01/26	13,000		
2024-Feb	02/02	13,300	02/09	13,300	02/16	13,300	02/23	13,300		
2024-Mar	03/01	13,200	03/08	13,100	03/15	13,100	03/22	13,100	03/29	13,100
2024-Apr	04/05	13,100	04/12	13,100	04/19	13,100	04/26	13,100		
2024-May	05/03	13,100	05/10	13,100	05/17	13,100	05/24	13,100	05/31	13,100
2024-Jun	06/07	13,200	06/14	13,200	06/21	13,200	06/28	13,200		
2024-Jul	07/05	13,300	07/12	13,300	07/19	13,300	07/26	13,300		
2024-Aug	08/02	13,400	08/09	13,300	08/16	13,400	08/23	13,300	08/30	13,300
2024-Sep	09/06	13,300	09/13	13,200	09/20	13,200	09/27	13,300		
2024-Oct	10/04	13,400	10/11	13,500	10/18	13,500	10/25	13,500		
2024-Nov	11/01	13,500	11/08	13,400	11/15	13,201	11/22	13,493	11/29	13,513
2024-Dec	12/06	13,631	12/13	13,604	12/20	13,585	12/27	13,573		
2025-Jan	01/03	13,563	01/10	13,481	01/17	13,477	01/24	13,240	01/31	13,478
2025-Feb	02/07	13,494	02/14	13,497	02/21	13,502	02/28	13,508		
2025-Mar	03/07	13,575	03/14	13,573	03/21	13,574				

Source: EIA

Figure 28: EIA's Estimated Weekly US Oil Production



Source: EIA

Oil: EIA, US shale/tight oil wells get gassier over time ie. record US ethane production

US record levels for ethane

On March 20, the EIA posted a blog "U*.S. ethane production, consumption, and exports set new records in 2024".* [LINK]. The blog is a reminder that is still overlooked by some on US shale/tight oil wells – all the major shale/tight oil plays are oil plays that produce associated natural gas and NGLS and, over time, all of the wells will produce a lesser percentage of oil than on day 1 and that means the percentage of natural gas and NGLs increases ie. the oil wells get gassier. This means that the percentage of oil produced of the total BOE/d is less each year. The EIA wrote, "*U.S. ethane production rose 7% to average a record 2.8 million barrels per day (b/d) in 2024, driven by increased ethane recovery in the Permian Basin. In the United States, almost all ethane is recovered at natural gas processing plants, which remove ethane and other natural gas plant liquids (NGPL) from raw natural gas.*" So, for plays like the Permian, they will see increasing natural gas and NGLs production as there is higher oil production but then also see an added boost to natural gas and NGLs production as the wells get gassier over time. The EIA is focusing on the increasing ethane production, with production rising 7% to a record average of 2.8 mmb/d in 2024. Thereafter, the March

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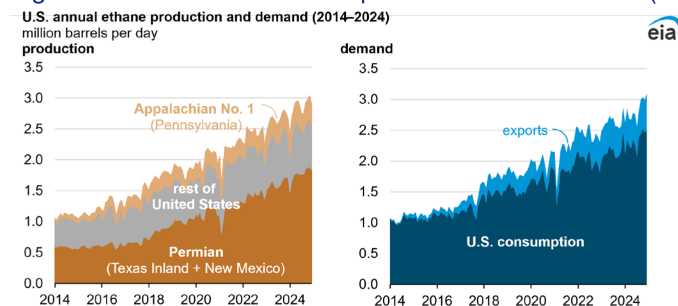
STEO forecasts production to remain flat at 2.8 mmb/d in 2025 and rise to 3.0 mmb/d in 2026. Our Supplemental Documents package includes the EIA blog.

Figure 29: Annual US ethane production and demand (2014-2024)



Source: EIA

What NGLs and how are they used?

Everyone has heard of NGLs but many people aren't aware of what is a NGL and what finished products comet from each NGL. That is with the exception of propane where everyone knows is used for heating, stoves and BBQs. There is a good EIA blog "*What are natural gas liquids and how are they used*?" that we have used before but not for several years. It goes their the NGLs from ethane to propane to butane to isobutane to pentane to pentanes Plus and how they are used. Our item above highlights ethane production. Ethane is C2H6 an is used in applications including ethylene for plastics production and petrochemical feedstock. Some of the ethane end products are plastic bags, plastics, anti-freeze and detergent. Our Supplemental Documents package includes the EIA blog.

Figure 30: What are natural as liquids and how are they used?

NGL Attribute Summary (eia)

Natural Gas Liquid	Chemical Formula	Applications	End Use Products	Primary Sectors
Ethane	C_2H_6	Ethylene for plastics production; petrochemical feedstock	Plastic bags; plastics; anti-freeze; detergent	Industrial
Propane	C_3H_8	Residential and commercial heating; cooking fuel; petrochemical feedstock	Home heating; small stoves and barbeques; LPG	Industrial, Residential, Commercial
Butane	C_4H_{10}	Petrochemical feedstock; blending with propane or gasoline	Synthetic rubber for tires; LPG; lighter fuel	Industrial, Transportation
Isobutane	C_4H_{10}	Refinery feedstock; petrochemical feedstock	Alkylate for gasoline; aerosols; refrigerant	Industrial
Pentane	C_5H_{12}	Natural gasoline; blowing agent for polystyrene foam	Gasoline; polystyrene; solvent	Transportation
Pentanes Plus*	Mix of C_5H_{12} and heavier	Blending with vehicle fuel; exported for bitumen production in oil sands	Gasoline; ethanol blends; oil sands production	Transportation

C indicates carbon, H indicates hydrogen; Ethane contains two carbon atoms and six hydrogen atoms
*Pentanes plus is also known as "natural gasoline." Contains pentane and heavier hydrocarbons.

Source: EIA, Bentek

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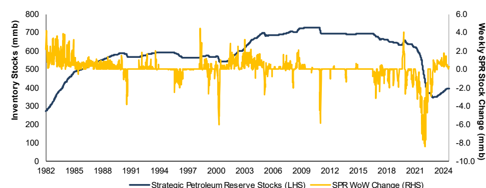
Oil: US SPR less commercial reserve deficit narrows, now -37.478 mmb

US SPR reserves

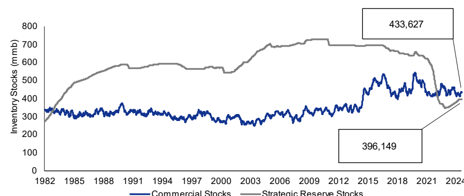
The SPR will be increasingly on the watch with Trump's stated plan to fill the SPR to the brim. The US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the week of Sep 16, 2022. This week, saw a build on the SPR side and a draw on the commercial side. The EIA's weekly oil data for Mar 21 [LINK] saw the SPR reserves up +0.286 WoW to 396.149 mmb following similar increases to reserves in the previous two weeks, with sweet being unchanged at 143.3 mmb and sour increasing +0.3 mmb to 252.8 mmb. Commercial crude oil reserves decreased -3.341 mmb to 433.627 mmb. There is now a -37.478 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 31: Strategic Petroleum Reserve Stocks and SPR WoW Change



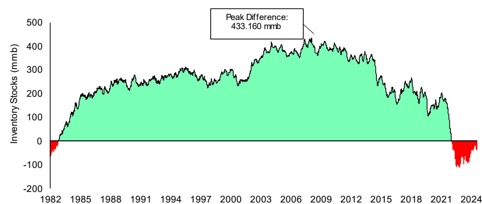
Source: EIA

Figure 32: US Oil Inventories: Commercial & SPR



Source: EIA

Figure 33: US Oil Inventories: SPR Less Commercial



Source: EIA

Oil: AAA US national average gasoline +$0.03 WoW, California +$0.11 WoW

US gasoline prices

So far there have been no real impacts from the upcoming Trump tariffs on imports of Cdn oil and petroleum products. However, it looks like the normal seasonal increase to gasoline

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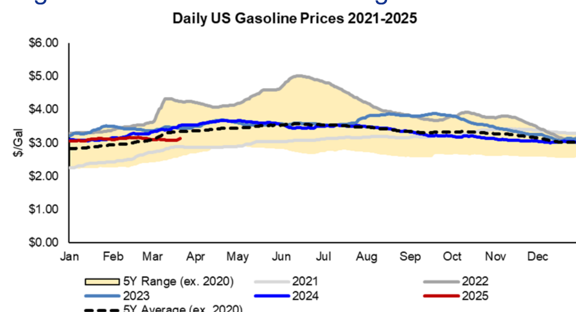
prices is starting to hit some states. This happens as refineries start to switch over to more costly to refine (and tougher emissions standards) summer gasoline blends. Yesterday, we posted [LINK] "*AAA National average gasoline prices +$0.03 WoW to $3.16 on Mar 29, +$0.05 MoM and -$0.38 YoY. California average gas prices are +$0.11 WoW to $4.76, -$0.04 MoM, =$0.29 YoY. +$0.29 vs $4.47 on Feb 1, when Martinez refinery went down. Gas prices normally seasonally increase in Spring driven by switch to more costly summer blends. Thx @AAAnews #OOTT.*" Yesterday, AAA reported that US national average prices were $3.16 on Mar 29, which was +$0.03 WoW, +$0.05 MoM and -$0.38 YoY. The negative for Californians over the past six weeks was the Feb 1 fire that led to an unplanned shut down of the Martinez refinery being down and now the switch to more costly summer blends. The morning of Feb 1, AAA reported average California gas prices of $4.47 and two weeks later were $4.84 on Feb 15, dipped back down and are creeping back higher. Yesterday, AAA also reported California average gasoline prices were $4.76 on Mar 29, which was +$0.11 WoW, -$0.04 MoM and -$0.29 YoY. Below is our graph of Bloomberg's National Average weekly gasoline prices.

Figure 34: AAA National Average Gasoline Prices



Source: AAA, Bloomberg

AAA reminded Feb is the normal start to seasonal increasing gasoline prices
As noted above, it looks like gasoline prices have started to see the normal seasonal increase in gasoline prices as refiners have started to switch to more costly summer gasoline blends. This year is a good reminder that oil prices are the key factor for gasoline prices as the weaker oil prices in March led to lower gasoline prices and lower oil prices can work to offset the normal seasonal move up in gasoline prices in the spring. We are expecting the upcoming Trump tariffs to see an immediate shift up in gasoline prices in a number of regions such as the NE, Midwest and Rocky Mountains. And this should be happening at the time of year when US gasoline prices normally seasonally increase. Here is what we wrote in our Feb 16, 2025 Energy Tidbits memo reminding that this is the normal seasonal period for increasing gasoline prices. "*AAA reminds Feb is the normal start to seasonal increasing gasoline prices. As we remind also on crack spreads and WCS less WTI differentials, there are normally seasonal trends. There are always unforeseen item that can impact the seasonal trends. But, on Thursday, AAA reminded that the seasonal trend for US gasoline prices is to move for the next few months. This shows up in our above US gasoline price graphs. AAA posted [LINK] "Right on Cue: Seasonal Trends Nudge Gas Prices Higher. As spring approaches, refineries are beginning*

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their transition to summer blend fuel, which often results in higher prices this time of year. This week, gas prices rose by a few cents, bringing the national average to $3.16 per gallon. Routine seasonal maintenance and an offline refinery in Northern California are putting additional strain on supply. These factors are pushing gas prices up, which means consumers may see higher prices at the pump as warmer months approach."

Oil: GasBuddyGuy sees tariff gasoline hits in NE, Great Lakes, Midwest, Rockies

GasBuddyGuy's initial call on tariffs hit

Here is what we wrote in our Mar 9, 2025 Energy Tidbits memo on the estimates by GasBuddyGuy (Patrick de Haan) on what he sees the impact from adding tariffs on Cdn oil and gasoline imports once they kick in. "*GasBuddyGuy sees tariff gasoline hits in NE, Great Lakes, Midwest, Rockies. We follow GasBuddyGuy (Patrick de Haan) for his data and views on US gasoline prices. On Tuesday, we posted [LINK] "See 👇@GasBuddyGuy's initial call on impact on NE, Great Lakes, Midwest, Rockies #Gasoline prices from Trump 10% tariff on Cdn #Oil imports. My 👇03/02 post. US refineries in Midwest & Rockies get 100% of oil imports from CAN, East Coast refineries get 23% from CAN. #OOTT." We forwarded De Haan's post and he also posted his blog "Beyond Tariffs: US Refineries and the Continued Reliance on Canadian Crude". [LINK] De Haan estimates the regional gasoline price impacts. NE (Maine, Rhode Island, Connecticut, Vermont, New Hampshire, Massachusetts, and Upstate New York) to have the largest impact as they import fuel from Irving Oil refinery in Saint=John. If you're filling up in the Northeast, you'll see price increases first and more significantly, as a significant portion of this region's refined products comes directly from the Irving Oil refinery in Saint John. "By mid-March 2025, the Northeast could expect fuel prices—including gasoline, diesel, and other petroleum products—to be 20-40 cents per gallon higher. For a typical 15-gallon fill-up, that's an additional $3-$6 every time you visit the pump." Midwest (North Dakota, Minnesota, South Dakota, Nebraska, Iowa, Kansas, Missouri), it's a crude oil import so the flow thru to pump takes a little longer. He expects "gasoline and diesel prices to rise by 5-20 cents per gallon." Great Lakes (Michigan, Wisconsin, Illinois, Indiana, Ohio, Pennsylvania). It's also crude oil import so flow thru to pump takes a little longer. De Haan expects "Residents across these states should prepare for price increases of 10-25 cents per gallon for both gasoline and diesel". Rockies (Montana, Idaho, Wyoming, Colorado, Utah) is also an oil import so will see a time lag before hitting the pumps. De Haan expects "fuel price increases of 10-20 cents per gallon " Other Regions (South, Southeast, Mid-Atlantic, Southwest and West Coast), he sees "negligible impact to other regions of the U.S., which are less reliant on Canadian crude oil. But with the typical seasonal shift ahead of us, prices are likely to increase in the weeks ahead just as they do every year with rising demand and temperatures, planned refinery maintenance, and the transition to summer gasoline in process across the entire U.S." Our Supplemental Documents package includes the GasBuddyGuy blog."*

Oil: Crack spreads +$0.53 WoW to $24.68, WTI +$0.08 WoW to $68.36

Crack spreads closed at $24.68

On Fri, we posted [LINK] "*321 crack spreads +$0.53 WoW to $24.68 on Mar 28. WTI +$0.08 WoW to $68.36. WTI steady <$70 driven by OPEC+ oil barrels coming back & questions on China/US/Global economy with Trump tariffs. Reminder cracks normally start their seasonal move up in mid Feb thru June as refineries crank up processing for summer gasoline/jet fuel demand. Thx @business #OOTT."* Crack spreads were +$0.53 WoW to $24.68 on Mar 28

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and WTI was +$0.08 WoW to $68.36. WTI Crack spreads of $24.68 are above the pre-Covid $15 to $20 range but the reality is WTI continues to be sub $70 with more concerns on economic growth in the US and around the world and the upcoming Apr 1 start of OPEC+ gradually adding back the voluntary cut barrels. Our post noted that mid-Feb is normally the time when crack spreads begin their seasonal move up as refineries move to process more oil for peak summer gasoline and jet fuel season. We have been highlighting that, for the past several months, for the most part WTI has been driven more by global factors and not crack spreads. Crack spreads of $24.68 are still solid and should, in theory incentivize refiners to try to get some more crude for refining and that, under normal times, would tend to drag up WTI. The typical pre-Covid range was $15-20. Crack spreads of $24.68 on Mar 28, followed $24.15 on Mar 21, $23.31 on Mar 14, $22.93 on Mar 7, $25.02 on Feb 28, $26.48 on Feb 21, , $21.96 on Feb 14, $22.06 on Feb 7, $18.74 on Jan 31, $17.73 on Jan 24, $17.94 on Jan 17, $16.47 on Jan 10, $16.48 on Jan 3, and $16.05 on Dec 27.

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

Crack spreads and WTI prices moved this week in line with more traditional moves ie. crack spreads move higher tends to pull up WTI. But 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 like right now, 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 $24.68 on Mar 28.

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Figure 35: Cushing 321 Crack Spread & WTI Mar 28, 2015 to Mar 28, 2025

Source: Bloomberg

Crack spreads normally move up mid-Feb into June for peak summer demand
Our Friday post highlighted "*Reminder cracks normally start their seasonal move up in mid Feb thru June as refineries crank up processing for summer gasoline/jet fuel demand.*" We included the below Bloomberg chart that shows the seasonal moves in 321 crack spreads over the past five years. There are always items that impact the normal seasonal moves but, as a general rule, 321 crack spreads start to widen in mid-Feb into June as refineries crank up processing to have product for peak summer gasoline and jet fuel season.

Figure 36: Cushing 321 Crack Spread – Seasonality to Mar 28, 2025 close

Source: Bloomberg

Oil: Cdn heavy oil differentials narrow $0.15 WoW to very low $10.00 on Mar 28

WCS - WTI differentials narrow

The Trump tariffs switching from on and then paused in previous weeks hasn't yet had any impact on WCS less WTI differentials. And we remind mid Feb is normally the start of the season for WCS less WTI differentials to narrow. This is the time of the year when we trot out our normal commentary that Feb normally marks the start of the seasonal narrowing of WCS less WTI differentials as refineries in the US start to take more medium sour crude as they change their runs to produce more asphalt for the upcoming paving season. This week saw a narrowing to the WCS less WTI differentials extending from last week's trend. WCS less WTI diffs narrowed -$0.15 WoW to a very low $10.10 on Mar 28.

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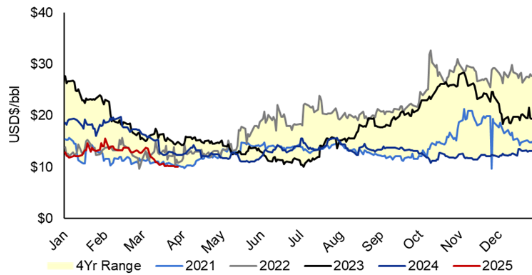
Figure 37: WCS less WTI differentials



Source: Bloomberg

WCS less WTI diffs normally seasonally narrow in mid-Feb thru May
The start of TMX pipeline in June 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. And it has continued to help in 2025 even in the face of Trump's on and off again pauses in tariffs. It is clear increasing tanker exports has worked and differentials did not widen as normally happens in H2/24. However, we remind that WCS less WTI differentials normally seasonally narrow staring in Feb and continuing into June as refineries move into peak medium sour processing ahead of summer paving/asphalt season. This means the WCS less WTI gap vs last two years is starting to narrow. Our Friday post, noted above, included "*WCS less WTI diffs normally seasonally narrow in mid-Feb thru May as US refiners ramp up for peak asphalt/paving season.*" And our post included the below chart that shows how WCS less WTI differential were low in the summer, stayed fairly flat in Aug/Sept/Oct/Nov/Dec whereas how differentials widened in Sept/Oct/Nov in 2022 and 2023. And it also shows how differentials normally narrow starting in mid-Feb thru May every year as refiners start to process more medium/heavy as they look ahead to asphalt and paving season. Below is the Bloomberg graph we attached to our post yesterday.

Figure 38: WCS less WTI differentials to Mar 28, 2025 close

Source: Bloomberg

Oil: CER reports Cdn crude by rail exports at 83,328 b/d in Jan, down -24.0% YoY

CER Cdn crude by rail

As a reminder, the CER reports crude by rail exports to the US and these are typically higher than the EIA reported crude by rail imports from Canada. Normally, this is because the EIA

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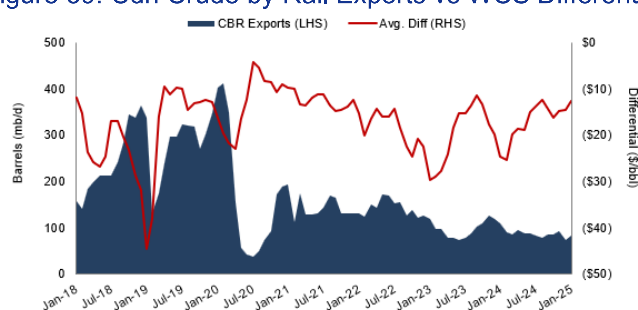
excludes Cdn crude by rail that is exported down to the Gulf Coast for immediate loading onto tankers for export, i.e. we believe the EIA doesn't include crude by rail from Canada that doesn't stay in the US. This is the normal situation but that isn't always the case. On Tuesday, the CER released their Canadian crude exports by rail figures for January [LINK]. January crude exports by rail were 83,328 b/d, which is up +10.5% MoM from 75,412 b/d in December and down -24.0% YoY from 109,701 b/d in January 2024. The CER doesn't provide any explanation for the MoM changes but we suspect weather played an impact in the MoM changes. One of the big oil stories in H2/24 was Alberta kept setting new record levels of oil production. Even still, Cdn crude by rail exports was less given the startup of TMX in Q2/24. Below is our graph of Cdn crude by rail exports compared to the WCS–WTI differential.

Figure 39: Cdn Crude by Rail Exports vs WCS Differential



Source: Canadian Energy Regulator, Bloomberg

Looks like Trump's tariffs exclude Cdn crude by rail thru US for export tankers

Here is what we wrote in our March 2, 2025, Energy Tidbits memo regarding US tariffs' impact on crude by rail from Cdn: "*As we note every month, there is normally a larger volume of Cdn crude by rail exported by Canada reported by the CER vs US imports of Cdn crude by rail reported by the EIA. The difference has always seemed to be for Cdn crude by rail that is exported, goes thru the US and then directly onto tankers for export from the Gulf Coast. Based on the Trump executive order on 10% tariffs on Canada energy resources, it looks like these crude by rail exports to tankers are excluded from the 10% tariff. The Executive Order notes "Such rate of duty shall apply with respect to goods entered for consumption, or withdrawn from warehouse for consumption, on or after 12:01 a.m. eastern time on February 4, 2025.""*

Oil: Refinery inputs up +0.087 mmb/d WoW to 15.750 mmb/d

Refinery inputs +0.087 mmb/d WoW

We have been highlighting that mid-February normally marks the start of refineries moving into a six-month period of increasing oil processing for the peak gasoline, diesel and jet fuel demand that happens every summer. There are always unplanned refinery items that impact crude oil inputs into refineries, but there are normal seasonal trends that refineries follow to provide the right fuels at the right time. Normally, 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/Feb for the normal winter turnarounds. And then leaving Feb is normally the start of the big seasonal increase in

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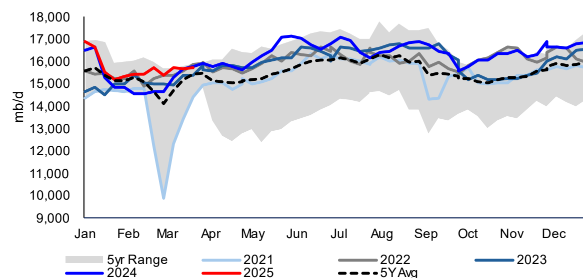
refinery throughput that continues into the summer, which we observed with this week's increase in inputs. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended March 21 [LINK]. The EIA reported crude inputs to refineries were up +0.087 mmb/d this week to 15.750 mmb/d and were down -0.182 mmb/d YoY. Refinery utilization was up +0.1% WoW to 87.0% and was down -1.7% YoY.

Figure 40: US Refinery Crude Oil Inputs



Source: EIA, SAF

Oil: EIA, US jet fuel accounts for record share of refinery output for 2024

US jet fuel refinery output

On Monday, the EIA posted a *Today in Energy* blog highlighting [LINK] jet fuel set a record in 2024 for having its highest share of refinery output in a year, reflecting its increased demand compared to other transportation fuels. Compared to pre-Covid 2019 levels, the increase was caused by domestic jet fuel consumption rising whereas jet fuel exports are still down vs. pre-Covid levels. With the increased jet fuel production in refineries, US refinery yield for motor gasoline declined to its lowest share size since 2015. Despite the increased refinery output share, jet fuel consumption has not yet returned to pre-Covid levels but is expected to reach a record high in 2026 according to March's STEO. The EIA stated, "*Changes in demand are an important factor driving changes in refinery yields. Increased air travel, measured by both TSA passenger volume and flight departures, has increased U.S. jet fuel consumption every year following the steep decline in 2020. Although jet fuel consumption has not yet recovered to its pre-pandemic 2019 volumes because of efficiency gains and changing flight patterns, among other factors, we expect jet fuel consumption will reach a record high in 2026, based on our March Short-Term Energy Outlook.*" Our Supplemental Documents package includes the EIA blog.

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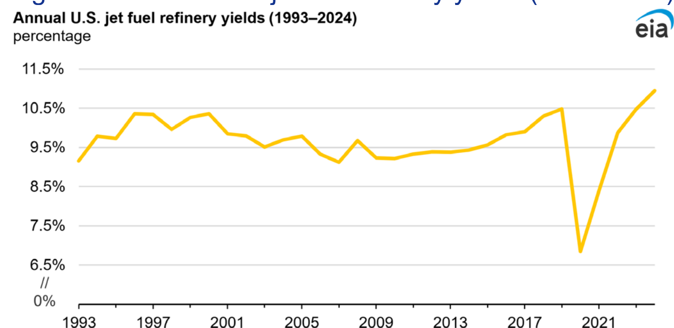
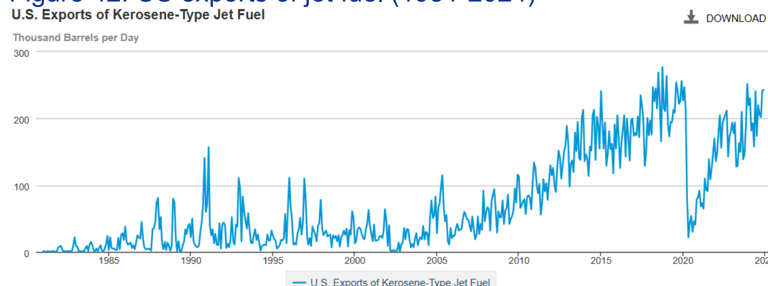
Figure 41: Annual US jet fuel refinery yields (1993-2024)



Source: EIA

US jet fuel exports flat to slightly down versus pre-Covid levels
US exports of kerosene-type jet fuel are still flat to slightly down versus pre-Covid 2019 levels. As stated above, jet fuel's record high share of refinery output was in part due to exports staying lower than pre-Covid, where jet fuel exports were near its peak. Note that the EIA posts monthly data on US exports by petroleum product, and the table below shows the monthly change in jet fuel exports [LINK].

Figure 42: US exports of jet fuel (1981-2024)



Source: EIA

Oil: Still no ETA for restart of 156,000 b/d Martinez (California) refinery

156,000 b/d Martinez refinery still down

As of our 7am MT news cut off, we have not seen any new posting by the Martinez Refining Company since its Mar 5 update on an ETA for when the 156,000 b/d Martinez refinery (California) will restart. Martinez is to post a 30-day report update on the Feb 1 incident for the end of March but that report isn't likely to be public until 4 or 5 days into April. The Martinez Feb 1 incident was the reason why California gasoline prices spiked up in Feb. Here is what we wrote in our Mar 9, 2025 Energy Tidbits memo. "*Still no ETA for restart of 156,000 b/d Martinez (California) refinery. On Wednesday, the Martinez Refining Company posted its update on the Feb 1 fire at its 156,000 b/d Martinez refinery (California) to the Hazardous Materials Programs Director. [LINK] The report is focused on updating on any hazardous materials. The report's closing paragraph was "MRC and contract personnel continue to monitor the scene of the incident, assess equipment damage, and ensure the general safety of the CFH area. Refinery operating units remain shut down while damage*

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assessment continues, with the exception of required utility and environmental systems. At this time, the length of the operating units shut down arising from the incident cannot be reasonably estimated."

Oil: Not clear the impact from the Incident at 160,000 b/d Torrance (California) refinery

160,000 b/d Torrance (California) refinery incident

As of our 7am MT news cut off, we still have not seen any update from the Torrance Refining Company or City of Torrence that updates what is happening since the Mar 13 release by the City of Torrence. But when we see a press release that says the refiner is "actively creating a repair plan", it suggests there could be some downtime or impact on refinery throughput. Repair plans says something has to be fixed. We just don't have any idea of what has to be fixed and what will the impact be. But it is a terrible time for any California refinery to have an issue given the unplanned shutdown of the Martinez refinery. On Thursday, the City of Torrance announced [LINK] "*At approximately 3:13 AM on Thursday, March 13th, the Torrance Fire Department was notified of a Refinery Report. The Torrance Refining Company Shift Safety Advisor reported a loss of steam that resulted in some unit shutdowns and slowdowns. The Torrance Refining company is assessing the impacts and are actively creating a repair plan.*"

Oil: US net oil imports up +0.845 mmb/d WoW, oil imports were up +0.810 mmb/d

US net imports up WoW

The EIA reported US "NET" imports were up +0.845 mmb/d to 1.586 mmb/d for the week of March 21. US imports were up +0.810 mmb/d to 6.195 mmb/d, while exports were down -0.035 mmb/d to 4.609 mmb/d. Top 10 was up +0.975 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) US oil imports from Canada were up +0.849 mmb/d WoW to 3.983 mmb/d. This is what we have been seeing lately as the West Coast (PADD 5) has been increasing imports of Cdn oil from tankers loaded from TMX and refineries have been cranking up Cdn imports ahead of any Trump tariffs. The big picture trend for US imports of Cdn oil over the past 9 months has been US oil imports from Canada have been higher post the startup of the TMX as more of the TMX crude has been hitting west coast US refineries. (ii) Saudi Arabia was down -0.074 mmb/d to 0.144 mmb/d. (iii) Mexico was up +0.198 mmb/d to 0.393 mmb/d. This is still well below historical levels. However, as noted later in this memo, there has been an oil quality issue that has been causing some Mexico oil exports to be rejected by US refineries. Prior to this, oil imports from Mexico were much lower with the new Olmeca (Dos Bocas) refinery slowing ramping up in 2024 and Pemex's other refineries increasing crude oil processing. The current oil quality issue aside, assuming Pemex can ramp up Olmeca and continue to improve processing at the other refineries, Mexico should be able to process all its own oil production (i.e. no exports) by the end of 2025. (iv) Colombia was down -0.159 mmb/d to 0.190 mmb/d. (v) Iraq was up +0.001 mmb/d to 0.203 mmb/d. (vi) Ecuador was up +0.127 mmb/d to 0.127 mmb/d. (vii) Nigeria was down -0.107 mmb/d to 0.086 mmb/d.

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Figure 43: US Weekly Preliminary Imports by Major Country

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

	Jan 24/25	Jan 31/25	Feb 7/25	Feb 14/25	Feb 21/25	Feb 28/25	Mar 7/25	Mar 14/25	Mar 21/25	WoW
Canada	3,716	4,063	3,918	3,653	3,818	4,091	3,675	3,134	3,983	849
Saudi Arabia	471	488	380	277	252	203	277	218	144	-74
Venezuela	319	214	226	198	276	189	148	319	195	-124
Mexico	521	149	482	553	445	308	313	195	393	198
Colombia	283	150	150	0	150	227	71	349	190	-159
Iraq	336	99	46	257	228	46	170	202	203	1
Ecuador	102	157	0	43	195	95	213	0	127	127
Nigeria	92	152	87	139	77	0	0	193	86	-107
Brazil	114	254	217	155	171	418	198	63	241	178
Libya	0	324	0	0	0	0	0	0	86	86
Top 10	5,954	6,050	5,506	5,275	5,612	5,577	5,065	4,673	5,648	975
Others	494	865	803	545	307	236	405	712	547	-165
Total US	**6,448**	**6,915**	**6,309**	**5,820**	**5,919**	**5,813**	**5,470**	**5,385**	**6,195**	810

Source: EIA, SAF

Oil: Pemex Mexico oil production down -12.4% YoY to 1.485 mmb/d in Feb

Mexico Feb oil production

Mexico oil production has continued its decline, reaching its lowest level in years. Please note that we are reporting on Pemex "oil" production excluding "condensate" production. On Tuesday, Pemex posted its oil production data for February [LINK]. Pemex reported February oil production was 1.485 mmb/d, which was down -12.4% YoY and down -0.4% MoM from the revised 1.498 mmb/d production level in January (was 1.509 mmb/d). Pemex doesn't provide any detail but there were also some weather events in the Gulf of Mexico in both Jan and Feb that impacted production. Mexico's oil production has been stuck below ~1.7 mmb/d for the last four years. Pemex has been unable to grow Mexico oil production, which means that any increase in Pemex Mexico refineries crude oil input will result in less Mexico oil for export including to the US Gulf Coast. And it also means that if Mexico has refinery issues in a month, there will be more Mexico oil for export in a month. Below is our table tracking Pemex oil production.

Figure 44: Pemex (Incl Partners) Mexico Oil (excluding Condensate) Production

Oil Production (thousand b/d)	2018	2019	2020	2021	2022	2023	2024	2025	YoY%
Jan	1,909	1,623	1,724	1,651	1,649	1,628	1,703	1,498	-12.0%
Feb	1,876	1,701	1,729	1,669	1,619	1,619	1,696	1,485	-12.4%
Mar	1,846	1,691	1,745	1,697	1,620	1,636	1,690		3.3%
Apr	1,868	1,675	1,703	1,693	1,586	1,656	1,625		-1.9%
May	1,850	1,663	1,633	1,688	1,588	1,661	1,664		0.2%
June	1,828	1,671	1,605	1,698	1,570	1,610	1,658		3.0%
July	1,823	1,671	1,595	1,701	1,583	1,550	1,636		5.5%
Aug	1,798	1,683	1,632	1,657	1,604	1,552	1,660		7.0%
Sept	1,808	1,705	1,643	1,709	1,594	1,581	1,637		3.5%
Oct	1,747	1,655	1,627	1,692	1,592	1,560	1,585		1.6%
Nov	1,697	1,696	1,633	1,691	1,582	1,558	1,555		-0.2%
Dec	1,710	1,706	1,650	1,694	1,561	1,545	1,506		-2.5%

Source: Pemex, SAF

Oil: Pemex refineries processing up MoM in Feb, Dos Bocas still struggling

Pemex refineries crude processed

We have reminded for years that a key plus for Cdn medium/heavy oil differentials will be Mexico will be reducing its oil exports as its refineries gear up. More Mexico crude refined in Mexico = Less Mexico crude available for export. In February, Pemex's seven refineries processed 0.898 mmb/d of oil, which is 45.7% of 1.967 mmb/d capacity. Despite operating below half of installed capacity, total refinery runs reached a six-month high. The low capacity can be largely attributed to Dos Bocas (Olmeca) halting operations and struggling to ramp up processing with the lack of refinery-ready oil, but the refinery is expected to process 0.220 mmb/d by the end of Mar. On Tuesday, Bloomberg posted a report "*Pemex's seven refineries in Mexico operated below half of installed capacity despite increasing runs, according to*

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company data compiled by Bloomberg. Refineries processed 898k b/d in February, up 0.8% from the previous month Facilities operated at 45.7% of installed capacity despite increasing oil processing to a 6-month high Dos Bocas refinery, also known as Olmeca, restarted in February and processed 6.8k b/d on average vs zero in January". Below is the Bloomberg table and our Supplemental Documents package includes the Bloomberg report.

Figure 45: Pemex refinery crude oil processed in Feb

Refinery	February (b/d)	m/m	y/y	Capacity use	NOTE
Cadereyta	164,011	-0.5%	-0.7%	59.6%	
Madero	99,985	3.4%	-13%	52.6%	
Tula	172,870	-13%	-31%	54.9%	
Salamanca	112,588	-23%	-15%	51.2%	Still operating below levels seen in May, when refinery had a sulphuric acid leak
Minatitlan	121,182	36%	-13%	42.5%	
Salina Cruz	220,720	12%	67%	66.9%	5-month high
Dos Bocas (Olmeca)	6,797	NA	NA	2.0%	Refinery struggles to ramp up on lack of refinery-ready oil
Total	898,153	0.8%	-4.0%	45.7%	6-month high

Source: Bloomberg

Oil: Mexico oil exports up to 0.710 mmb/d in Feb, down -24.5% YoY

Mexico oil exports

Mexico has been saying they have fixed the water issue in the oil. If so, that would account for an increase in exports as buyers don't have a valid reason for not accepting Pemex oil. However, we wouldn't be surprised that Pemex also gave a sizeable discount on oil price to move the barrels i.e. pay the refinery something plus a little extra to remove any water impurity levels. Prior to this issue, the big theme for Pemex (Mexico) oil exports is unchanged – oil production is stuck below ~1.6 mmb/d, so any improvement in crude run rates at the existing Pemex oil refineries and the startup, albeit delayed, of the new 340,000 Olmeca (Dos Bocas) refinery means there will be less oil for export. Due to Olmeca volumes slowly ramping up, we have seen declining Mexico oil exports in H2/24. In February, exports were up +33.5% MoM, after January saw exports plunge to its lowest level in 35 years. And this decline had nothing to do with Trump election. Rather Mexico oil exports in 2024 were linked to refinery operations as the more oil Mexico refineries refined, the less Mexico oil there is for export. The other factor that impacts exports is that if there are interruptions at offshore oilfields and export loadings. On Tuesday, Pemex posted its oil exports for February [LINK]. Pemex does not provide any commentary on the data, but it reported February oil exports were 0.710 mmb/d, which is up +33.5% MoM but down -24.5% YoY vs 0.940 mmb/d in February 2024. Below is our table of the Pemex oil export data.

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Figure 46: Pemex Mexico Oil Exports

Oil Exports (thousand b/d)	2018	2019	2020	2021	2022	2023	2024	2025	YoY%
Jan	1,107	1,071	1,260	979	832	980	951	532	-44.1%
Feb	1,451	1,475	1,093	1,006	925	949	940	710	-24.5%
Mar	1,176	1,150	1,144	925	905	971	687		-29.2%
Apr	1,266	1,023	1,179	923	1,024	989	681		-31.1%
May	1,222	1,205	1,062	1,031	965	1,087	911		-16.2%
June	1,110	995	1,114	1,106	1,029	1,203	754		-37.3%
July	1,156	1,079	1,051	1,173	1,062	1,052	779		-26.0%
Aug	1,181	1,082	1,190	1,099	915	1,076	731		-32.1%
Sept	1,206	995	1,023	983	1,022	1,119	656		-41.4%
Oct	1,027	963	908	935	971	1,053	831		-21.1%
Nov	1,135	1,114	1,171	1,025	893	883	951		7.7%
Dec	1,198	1,115	1,243	1,037	900	1,027	807		-21.4%

Source: Pemex

03/02/25: Pemex Mexico Feb data will be hit by the water issues in their oil

Here is what we wrote in our Mar 2, 2025, Energy Tibits memo regarding the water issues in Mexico's oil: "*It is hard to tell from the numbers alone but it seems that the concern of Gulf Coast refiners on quality issues with Pemex oil exports may have had some impact on Pemex Jan oil exports. But we have to believe there will be a much bigger impact on the Feb data. The issue started to emerge a few weeks ago with reports such as Bloomberg's Feb 10 report "US oil refiners along the Gulf Coast are snubbing shipments from Mexico and instead turning to Colombia and Canada amid complaints that Petroleos Mexicanos is increasingly delivering crude that's unfit to make gasoline and diesel. Refiners in Texas and Louisiana are demanding discounts and repeatedly complaining about the high water content in crude currently coming from Mexico, according to people with knowledge of the situation who asked not to be named citing private discussions. That's upending flows of crude that the processors have relied on for the past half century." We have not seen any clear explanation of what caused the issue and how it will be fixed. This isn't just impacting oil to US refineries. It is also impacting Pemex refineries. On Feb 13, Bloomberg reported "Pemex partially shut its Salamanca refinery in Mexico due to equipment issues caused by high water and salt content in crude oil, according to a report from IIR Energy published Wednesday." Then on Feb 20, Bloomberg reported "Mexico's state oil company Petroleos Mexicanos partially shut down its Tula refinery in Hidalgo, Mexico, due to high water and salt content in crude oil feedstock, according to a report from IIR Energy published Thursday." These water quality issues are clearly going to impact Pemex Feb data for exports and refinery volumes. But it isn't clear yet if this will impact production volumes.*"

Oil: Trump tariffs to hit US oil imports of ~4.7 mmb/d of Cdn and Mexican oil

US oil imports from Canada & Mexico

Here is what we wrote in our Mar 2, 2025 Energy Tidbits memo on how much oil will be impacted if US adds tariffs on Canada and Mexico oil. "*Trump tariffs to hit US oil imports of ~4.7 mmb/d of Cdn and Mexican oil. As of our 7am MT news cut off, the Trump tariffs on Canada and Mexico oil is still planned to start on Tues. On Friday, we reminded that these tariffs are going to hit a huge amount of US oil imports. It will impact Canada and Mexico oil imports into the US as follows: 195,000 b/d of East Coast PADD 1 oil imports of 622,000 b/d. 100% of Midwest PADD 2 oil imports of 2,940,000 b/d. 820,000 b/d of Gulf Coast PADD 3 oil imports of 1,539,000 b/d. 100% of Rocky Mountain PADD 4 oil imports of 273,000 b/d. 457,000 b/d of West Coast PADD 5 oil imports of 1,183,000 b/d. Note our post included Venezuela even though they aren't included in the Tues Trump tariffs, but Trump decided to not renew the Chevron Venezuela license which means that a six-month wind down period for Chevron in Venezuela started yesterday. We posted [LINK["Here's where Trump tariffs*

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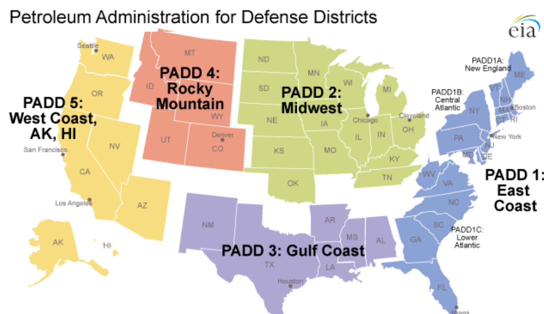
on CAN & MEX #Oil on Mar 4 will hit. @EIAgov Dec oil imports by PADD & % of PADD imports. PADD 1: Can: 146 kbd, 23%. Mex: 49 kbd, 8%. Ven: 11 kbd, 2%. PADD 2: Can: 2,940 kbd,100%. PADD 3: Can: 431 kbd, 28%. Mex: 389 kbd, 25%. Ven: 289 kbd, 19%. PADD 4: Can: 273 kbd, 100%. PADD 5: Can: 444 kbd, 38%. Mex: 13 kbd, 1%. #OOTT." Our Supplemental Documents package includes the EIA graphs of oil imports by PADD for each Canada, Mexico and Venezuela."

"PADDs" were created in WWII to ration gasoline

Our Feb 28, 2025 above post included the EIA's map showing the PADDs. PADD stands for Petroleum Administration for Defense Districts. And the defense is because the PADDs were created in WWII. The EIA writes "*The Petroleum Administration for Defense Districts (PADDs) are geographic aggregations of the 50 States and the District of Columbia into five districts: PADD 1 is the East Coast, PADD 2 the Midwest, PADD 3 the Gulf Coast, PADD 4 the Rocky Mountain Region, and PADD 5 the West Coast. Due to its large population, PADD 1 is further divided into sub-PADDs, with PADD 1A as New England, PADD 1B the Central Atlantic States, and PADD 1C comprising the Lower Atlantic States. There are two additional PADDs (PADDs VI and VII) that encompass U.S. Territories (these are not pictured on the map). The PADDs help users of EIA's petroleum data assess regional petroleum product supplies. During World War II the Petroleum Administration for War, established by an Executive order in 1942, used these five districts to ration gasoline. Although the Administration was abolished after the war in 1946, Congress passed the Defense Production Act of 1950, which created the Petroleum Administration for Defense and used the same five districts, only now called the Petroleum Administration for Defense Districts."*

Figure 47: Petroleum Administration for Defense Districts



Source: EIA

Oil: Trump hits Venezuela oil by secondary tariffs on those who buy Venezuelan oil

Trump's new secondary tariffs

Trump supporter or not, people have to give him or his team credit for coming up with secondary sanctions concept on Venezuelan oil that seems to be effective. Trump says any country that buys oil and/or natural gas from Venezuela "*will be forced to pay a Tariff of 25% to the United States on any Trade they do with our Country*." On Monday, we posted [LINK] "*Trump hits Venezuela #Oil. "any country that purchases Oil and/or Gas from Venezuela will be forced to pay a Tariff of 25% to the US on any trade they do with our Country". Positive for*

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Med/Heavy #Oil like Canada. #OOTT." Trump posted "P*resident Donald J. Trump announced today that the United States of America will be putting what is known as a Secondary Tariff on the Country of Venezuela, for numerous reasons, including the fact that Venezuela has purposefully and deceitfully sent to the United States, undercover, tens of thousands of high level, and other, criminals, many of whom are murderers and people of a very violent nature. Among the gangs they sent to the United States, is Tren de Aragua, which has been given the designation of "Foreign Terrorist Organization." We are in the process of returning them to Venezuela — It is a big task! In addition, Venezuela has been very hostile to the United States and the Freedoms which we espouse. Therefore, any Country that purchases Oil and/or Gas from Venezuela will be forced to pay a Tariff of 25% to the United States on any Trade they do with our Country. All documentation will be signed and registered, and the Tariff will take place on April 2nd, 2025, LIBERATION DAY IN AMERICA. Please let this notification serve to represent that the Department of Homeland Security, Border Patrol, and all other Law Enforcement Agencies within our Country have been so notified. Thank you for your attention to this matter!"*

Oil: Will Trump/Putin UKR deal also get US fracking to unlock Russia shale/tight

Will Trump unlock Russian shale/tight?

No one knows how the final Trump/Ukraine "minerals" deal will end up but, if the Telegraph's reporting is correct, it will be at huge cost to Ukraine and also open up Russia for more than just a return of their oil, natural gas and LNG. It will bring US fracking technology to unlock huge Russian shale/tight oil and gas potential. The fracking aspect didn't get much attention. On Thurs, we posted [LINK] "*Must read 👇@Telegraph Ambrose Evans-Pritchard. Big potential negative to #Oil #NatGas #LNG if a final US/UKR Minerals Deal is anything like latest draft. Not only does it bring back Russian oil, NatGas, LNG to export markets, US fracking would unlock huge RUS shale/tight potential. #OOTT [LINK]."* The Telegraph had just posted an exclusive "*Revealed: Trump's plan to force Ukraine to restore Putin's gas empire*". The Telegraph wrote on how they had seen the "*latest version of his "minerals deal", obtained by The Telegraph, is unprecedented in the history of modern diplomacy and state relations"*. It's worth a read because The Telegraph's reporting n the deal is that it is a brutal deal for Ukraine. Some of the Telegraph comments are: "*The text leaves little doubt that Mr Trump's chief objective is to incorporate Ukraine as a province of America's oil, gas and resource industries. It dovetails with parallel talks between the US and Russia for a comprehensive energy partnership, including plans to restore West Siberian gas flows to Europe in large volumes, with US companies and Trump-aligned financiers gaining a major stake in the business. The revived gas trade would flow through Ukraine's network, and later via the Baltic as the sabotaged Nord Stream pipelines are brought back on stream. The new draft states that the United States-Ukraine Reconstruction Investment Fund will control Ukraine's "critical minerals or other minerals, oil, natural gas (including liquified [sic] natural gas), fuels or other hydrocarbons and other extractable materials". All critical materials listed in the US Energy Act are covered, including both rare earths and 50 other minerals such as lithium, titanium, cobalt, aluminium and zinc. The US will control infrastructure linked to natural resources "including, but not limited to, roads, rail, pipelines and other transportation assets; ports, terminals and other logistics facilities and refineries, processing facilities, natural gas liquefaction and/or regasification facilities and similar assets." "The Russian media says these talks cover the return of US drillers to the Kara Sea and the Arctic, but also cover US fracking technology."* Our Supplemental Documents package includes the Telegraph report.

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Oil: Russian refineries processing slightly rebounds, still below Feb low levels

Russian refinery runs

There have been multiple drone hits on Russian refinery complexes in Mar and that included a week ago in the face of the so-called energy ceasefire between Russia and the Ukraine orchestrated by President Trump. Despite this, there were reports that Ukraine attacked Russian energy facilities the next day. Unfortunately, we never get any firm detail these facilities are impacted when a drone hits one of the refineries. Russia's refineries were strategically targeted throughout Feb as Ukraine's government seeks to reduce Russia's energy revenue and supplies to the Russian army. Gazprom's Astrakan plant has still not resumed operations, after it was forced to halt production in early Feb after a drone attack caused a fire to the facility. Bloomberg reported that during the period of Mar 13-19, Russia's average crude processing rate rose +0.01 mmb/d to 5.18 mmb/d from the level seen during the Mar 5-12 period. The average refinery runs from March 1-19 was 5.17 mmb/d, and this is still about -0.02 mmb/d below the level seen for most of Feb, when processing rates averaged around 5.19 mmb/d. If processing rates maintain at the current average level of 5.17 mmb/d for the rest of Mar, it would mark a five-month low for refinery runs. Bloomberg wrote, "*Russia's crude-processing rates have grown for three weeks in a row until March 19, but remain below the February average amid repeated Ukrainian drone attacks, according to a person with knowledge of industry data. Average refinery runs on March 1-19 were at 5.17m b/d vs 5.19m b/d for most of February*". Our Supplemental Documents package includes the Bloomberg article.

Oil: Urals oil price $60 lets legitimate Greek-owned tankers load Russia oil

Greek-owned tankers loading Russian oil

Russian seaborne tanker exports have been strong in March, reaching a five-month high in four-week average flows, and a key reason is that its Urals price has been low and that means it is below the price cap and non-sanctioned tankers (like Greek tankers) have been able to load Russian crude. Here is what we wrote in our Mar 9, 2025, Energy Tidbits memo. "*Urals oil price $60 lets legitimate Greek-owned tankers load Russia oil. We finally saw a good insight into why Russia tanker loadings, apart from weather factors, are up – the price of Urals oil is down below the price cap so legitimate tankers can load Russian oil. And because of this Greek-owned tankers loaded 40% of the Russian crude in Feb, the highest % in 19 months and sanctioned tankers loaded 38% of Russian crude which was the lowest in 12 months. And the reminder that if Urals price stays below the price cap, these increased loadings will impact supply On Thursday, we posted [LINK] "Great tanker insights for near-term holdback to #Oil prices from @Michellewb_ .Russian Urals oil price $60 in Feb, below price cap which meant "private Greek shipowners have come in and they have literally saved the day for the Russians because they don't need to source alternative tonnage". Greek tankers 40% of loadings, highest in 19 mths. Sanctioned tankers 38%, lowest in 12 mths. "These are extraordinary events and I think we have to quickly reassess oil flows, oil prices and what a potential lifting of the price cap means now." See my 👇transcript. #OOTT @sean_evers @gulf_intel." Our post included the SAF Group created transcript of comments by Michele Wiese Bockmann (Principal Analyst, Lloyd's List Intelligence) with Sean Evers (Founder & Managing Director, Gulf Intelligence) on Gulf Intelligence Daily Energy Markets podcast on March 3, 2025. [LINK] Items in "italics" are SAF Group created transcript. At 5:40 min mark, Evers asked about where the US sanctions are now in curtailing Russian oil supply. Wiese Bockmann "…. I've crunched February numbers and the extraordinary thing is that, because Urals crude has averaged $60 per barrel, $60 a barrel for most of February*

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means that it was effectively under the price cap. And what's happened is that private Greek shipowners have come in and they have literally saved the day for the Russians because they don't need to source alternative tonnage. The price of Urals is more or less below the cap and so I analyzed the percentage of tankers by beneficial ownership that called there to lift Russian oil and products. And I found that. Hang on, I'm just going to refer to my notes here, so we had 40% of tonnage, the highest figure in 19 months, was Greek owned. And the dark fleet, the percentage that lifted was 38%, which was the lowest in 12 months. So, effectively, the lowering of the crude prices has all but rendered those sanctions ineffective. And then you remember, of course, that only the US ones were the stickiest. The EU and UK sanctions, while initially causing some difficulty for trading those that are sanctioned in the dark fleet, have since sort of recovered from that. So when you look at the prospects for a month long ceasefire, we can probably start talking about whether or not the G7 price cap, how much longevity does it have. These are extraordinary events and I think we have to quickly reassess oil flows, oil prices and what a potential lifting of the price cap means now."

Oil: Russia's seaborne crude shipments hit 5-month high

Russia's seaborne crude exports

On Tuesday, Bloomberg released their weekly Russian Seaborne crude tracker titled "*Russian Crude Flows Hit Five-Month High While Peace Talks Drag*". Russia's oil exports reached a five-month high, as the US led talks of a Russia/Ukraine 30-day ceasefire dragged on last week. Bloomberg wrote, "*US hopes of achieving a broad ceasefire between Russia and Ukraine are unlikely to be realized any time soon. Discussions between American and Russian teams in the Saudi Arabia capital Riyadh on Monday focused on safety of navigation in the Black Sea, but the Kremlin said it won't disclose details of the 12 hours of negotiations. President Donald Trump's assertion that he would end the war in day has run up against a Russian leader, Vladimir Putin, whose forces are making gains on the battlefield."* There was an approximate -0.530 mmb/d WoW decrease in daily crude flows, falling to 3.03 mmb/d for the seven days to Mar 23. The fall in shipments was attributed to lower Russian Urals crude shipments from the Baltic and Black Sea ports. Despite the lower shipments WoW, the four-week average flows increased to about 3.45 mmb/d from last week's revised 3.42 mmb/d, marking the highest level in five months. Bloomberg also wrote, *"Despite the slump, the less volatile four-week average flows edged higher to about 3.45 million barrels a day, compared with a revised 3.42 million in the period to March 16. On this measure, shipments hit their highest level since October."* Our Supplemental Documents package includes the Bloomberg report.

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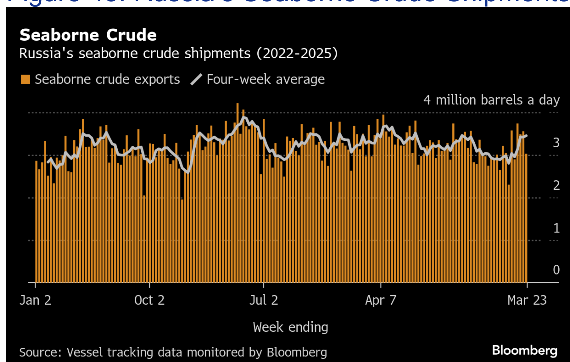
Figure 48: Russia's Seaborne Crude Shipments



Source: Bloomberg

Russia oil exports to China increased WoW, still down -0.16 mmb/d vs Jan 5
As mentioned in the previous few weeks' memos, we expected increased unloading in China because of Urals price being below the price cap and allowing legitimate tankers to load Russian crude as those February loadings in Russia reach China in March. And it looks like a little more Russian oil is being unloaded in China, reflective in the upward revisions seen for the previous week's shipment volumes. Prior to the recent decline in Urals price, we highlighted the reports in Jan that China had stopped some direct unloading of sanctioned Russian tanks, and this is evident in the trend depicted in Bloomberg's Russian oil shipments to China. Bloomberg's crude oil shipments from Russia to China have continued to report lower volumes of shipments since the US sanctions were implemented on Jan 10. The four-week average of Russia oil shipments to China were 1.16 mmb/d for the week ending Mar 23, which is up slightly from last week's upward revision to 1.14 mmb/d (was 1.10 mmb/d). This week is also down -0.16 mmb/d vs the four-week average on Jan 5 of 1.320 mmb/d. Below is the table from the Bloomberg article showing Russia's Asian customers.

Figure 49: Russian Crude Shipments to China

Russia's Asian Customers
Shipments of Russian crude to Asian buyers in million barrels a day

4 weeks ending	China	India	Other	Unknown Asia	Other Unknown	Total
February 16, 2025	1.33	1.40	0.04	0.06	0.00	2.83
February 23, 2025	1.18	1.51	0.00	0.09	0.00	2.77
March 02, 2025	1.17	1.60	0.00	0.15	0.00	2.92
March 09, 2025	1.30	1.55	0.00	0.33	0.00	3.18
March 16, 2025	1.14	1.52	0.00	0.48	0.03	3.17
March 23, 2025	1.16	1.37	0.00	0.60	0.05	3.17

Source: Vessel tracking data compiled by Bloomberg
Bloomberg

Source: Bloomberg

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Oil: On Tues, OPEC+ starts with its "*gradual & flexible*" return of voluntary cut barrels

OPEC+ Apr 1 return of barrels

As a reminder, on Tues Apr 1, OPEC+ starts with its *"gradual & flexible*" return of voluntary cut barrels. Here is what we wrote in our Mar 9, 2025 Energy Tidbits memo on OPEC+ adding back barrels. "*OPEC+ to proceed with Apr 1 "gradual & flexible" return of voluntary cut barrels. On Monday just after noon, we posted [LINK] "ICYMI. Brent dropped an hour ago as OPEC confirmed "to proceed with a gradual and flexible return of the 2.2 mbd voluntary adjustments starting on 1st April, 2025..." #OOTT." Just after 11am MT, OPEC posted its release [LINK] that it was, as per their plan, proceeding with "a gradual and flexible return of the 2.2 mbd voluntary adjustments starting on 1st April, 2025." OPEC proceeded with their previously announced plan "Taking into account the healthy market fundamentals and the positive market outlook." This was their previously announced plan but, in the last couple weeks, a number of the major sellside analysts came out with their view that OPEC was likely to push back the return of the barrels from April 1 to July 1. So, no surprise the immediate Brent oil price reducing was down ~$1 and Brent ended up down $1.50 to $71.62 on Monday. Our Supplemental Documents package includes the OPEC release."*

Figure 50: OPEC phase out starting Apr 1, 2025

Country	2025									2026									Required Production Level as per 37th ONOMM (1)
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep - Dec	
Algeria	911	914	917	919	922	925	928	931	934	936	939	942	945	948	951	953	956	959	**1,007**
Iraq	4,012	4,024	4,037	4,049	4,061	4,073	4,086	4,098	4,110	4,122	4,134	4,147	4,159	4,171	4,183	4,196	4,208	4,220	**4,431**
Kuwait	2,421	2,428	2,436	2,443	2,451	2,458	2,466	2,473	2,481	2,488	2,496	2,503	2,511	2,518	2,526	2,533	2,541	2,548	**2,676**
Saudi Arabia	9,034	9,089	9,145	9,200	9,256	9,311	9,367	9,422	9,478	9,534	9,589	9,645	9,700	9,756	9,811	9,867	9,922	9,978	**10,478**
UAE	2,938	2,963	2,989	3,015	3,041	3,066	3,092	3,118	3,144	3,169	3,195	3,221	3,246	3,272	3,298	3,324	3,349	3,375	**3,519**
Kazakhstan	1,473	1,477	1,482	1,486	1,491	1,495	1,500	1,504	1,509	1,514	1,518	1,523	1,527	1,532	1,536	1,541	1,545	1,550	**1,628**
Oman	761	764	766	768	771	773	775	778	780	782	785	787	789	792	794	796	799	801	**841**
Russia	9,004	9,030	9,057	9,083	9,109	9,135	9,161	9,187	9,214	9,240	9,266	9,292	9,318	9,344	9,371	9,397	9,423	9,449	**9,949**

Source: OPEC

Oil: OPEC+ updated compensation plans start in Apr, could offset Apr added barrels

Updated OPEC+ compensation plans

The other OPEC+ action that starts on Tues Apr 1 is the updated OPEC+ compensation plans, which in theory, could more than offset the added voluntary OPEC barrels in Apr. Here is what we wrote in last week's (Mar 23, 2025) Energy Tidbits memo. "We expect that markets will want to see if the OPEC+ countries who are to repay for overproduction, especially Iraq and Kazakhstan, actually cut their promised production cuts before they assume they will actually do so. But, in theory, in the event they do, the compensation cuts will more than offset the gradual return of OPEC+ voluntary cut barrels for April. On Thursday, OPEC posted [LINK] "*OPEC Secretariat receives updated compensation plans from Saudi Arabia, Russia, Iraq, the United Arab Emirates, Kuwait, Kazakhstan, and Oman. As agreed during the virtual meeting held by the eight countries with additional voluntary adjustments, including Saudi Arabia, Russia, Iraq, the United Arab Emirates, Kuwait, Kazakhstan, Algeria, and Oman, on 3 March 2025, the OPEC Secretariat receives updated compensation plans as per the table below:"*

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Figure 51: Updated compensation plans

	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Total
Algeria																	
Iraq	116	116	135	130	120	115	120	120	120	120	123	123	123	123	125	125	1,954
Kuwait		8	15	23	30	38	27										141
Saudi Arabia	15	9	6														30
UAE		5	10	10	10	10	10	10	20	20	33	33	33	50	55	56	365
Kazakhstan	38	53	57	72	66	81	85	90	84	49	39	38	40	38	42	36	908
Oman	5	7	10	12	14	18	20	13									99
Russia	25	51	76	102	127	152	173										706
Total	199	249	309	349	367	414	435	233	224	189	195	194	196	211	222	217	4,203

Source: OPEC

Oil: Are Trump's only options for Iran bullish for oil if Iran doesn't negotiate

Iran rejects direct US negotiations

Earlier this morning, we posted [LINK] "*Overlooked? Absent military action, is Trump's only option to get Iran to cave in bullish for #Oil in near term. Iran hasn't caved in post Trump letter. Rather Iran President today says no negotiations with US as the US "must first rebuild trust by rectifying past breaches". Is only Trump option to crank up sanctions and hit Iran oil exports/cash flow? 👇@kpler see Iran oil exports down 500,000 b/d by summer and this is BEFORE the latest Trump sanctions. #OOTT.*" Iran's response to Trump's letter was reaffirmed this morning by the Iran President saying they aren't prepared for any direct negotiations as the US "*must first rebuild trust by rectifying past breaches*." [LINK] And iran and Trump have not changed what they are prepared to negotiate. Iran will negotiate on the JCPOA concept ie. its nuclear weapons only. And not on ballistic missiles, drones, civilian nuclear power, support with regional bad actors, etc. Trump wants to Iran to cave in on those items. And Iran hasn't changed despite the Trump threats such as he will view any shots fired by the Houthis as shots fired by Iran, and now the US moving stealth bombers to Diego Garcia. So absent military action that would send oil prices soaring, is Trump's only action to get Iran to cave in is to hit their oil exports and cash flow? Our post forwarded the below Kpler forecast that sanctions, pre this week's new Iran sanctions linked to Chinese teapot refinery, were already expected to cut Iran's oil exports by 500,000 b/d by summer and more with the new sanctions.

> **Are Trump's only options bullish for oil if Iran doesn't negotiate**
> Iran keeps throwing the ball back in Trump's court as to what to do next. Here is what we wrote in our Mar 9, 2025 Energy Tidbits memo. "*Are Trump's only options bullish for oil if Iran doesn't negotiate. Earlier this morning, we were scanning Iran media and posted [LINK] "Bullish upside for #Oil? What are Trump's options to not let Iran go nuclear as Iran says 👇"become clear that lifting sanctions is possible through strengthening Iran and neutralizing sanctions.... by utilizing our vast domestic capacities..." Iran's strength depends on continued oil exports. So what options? cut Iran oil exports to cut cash flow? Israel bomb Iran nuclear facilities? Other? #OOTT." This was a statement today by Iran's parliamentary speaker so is after Trump's above Friday comments. The speaker was clear that strengthening Iran is the way to get sanctions lifted. He didn't say it directly, but strengthening Iran needs cash flow and Iran's cash flow depends on oil exports. If Iran wants strength and needs oil exports to continue strong, then it made us wonder what are Trump's options to make sure Iran can't get nuclear capability if Iran won't negotiate. We noted the two obvious ones – try to cut off Iran's cash flow by cutting off oil exports or by supporting/allowing Israel to bomb Iran's nuclear facilities. The cutting off oil exports*

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to zero is what Trump signed off on Feb 4 in his maximum pressure on Iran. So it is his stated policy. And both of those would look to be potential upsides to oil prices. Mehr reported "The US seeks to impose its demands and disarm Iran, as outlined in the US policy document he has signed, he added. He further stressed that no negotiation under the shadow of threats, with an agenda of imposing new concessions, will lead to the lifting of sanctions, nor will it result in anything other than humiliating the proud Iranian nation. "Today, more than ever, it has become clear that lifting sanctions is possible through strengthening Iran and neutralizing sanctions. Therefore, we are not waiting for any letter from the United States and believe that by utilizing our vast domestic capacities and seizing opportunities to expand foreign relations with other countries, we can reach a position where the enemy has no choice but to lift sanctions within the framework of continued negotiations with the remaining parties to the JCPOA." Our Supplemental Documents package includes the Mehr report. "

02/04/25: Trump's maximum pressure on Iran, cut oil exports to zero
Here is what we wrote in our Feb 9, 2025 Energy Tidbits memo. "*Trump's maximum pressure on Iran, cut oil exports to zero. Earlier this morning, we posted [LINK] "Reminder: On Feb 4, Trump signed his stated policy of maximum pressure on Iran that included denying Iran of revenue and driving their oil exports to zero. See my Feb 4 post. [LINK] #OOTT." Recall that one of Trump's early actions was they he signed off on the maximum pressure on Iran campaign and to cut their oil exports to zero. Here is what we wrote in our Feb 9, 2025 Energy Tidbits memo. "Trump signs off on imposing maximum pressure on Iran & cut oil exports to zero. On Tuesday, we posted [LINK] "Trump Maximum Pressure on Iran. "Implement a robust and continual campaign, in coordination with the Secretary of the Treasury and other relevant executive departments or agencies (agencies), to drive Iran's export of oil to zero, including exports of Iranian crude to the People's Republic of China;" And more. #OOTT." There was no real reaction to oil prices with the signing of the executive order. We have saying foTumr months that Trump's quickest way to impact oil prices would e if he goes back to his first term playbook of cutting Iran and Venezuela oil exports to almost zero. Trump has surprised many, including us, on how he seems to have no interest in cutting Venezuela's oil exports. And, based on the conversations we had with investors and oil people, most don't expect him to cut Iran's oil exports to zero for fear of what it would do to oil price and gasoline prices. If you read the executive order, it certainly seems say the US will drive oil exports to zero. Our Supplemental Documents package includes the executive order*."

Oil: Kpler sees Iran oil exports down 500,000 b/d by the summer

Kpler sees Iran oil exports down

On Thursday, we posted [LINK] "*Positive for #Oil in Q2/Q3.Iran #Oil exports down 500 kbd by summer? "the latest U.S. sanctions do not alter our forecast for Iranian oil production, as we had already anticipated tighter enforcement from the Trump administration, leading to a 500 kbd decline in Iranian output and exports by summer—bringing oil exports down to around 1.2 Mbd. However, Washington retains the ability to escalate pressure further, potentially pushing Iran's oil exports below 1 Mbd." @Kpler @muyxu #OOTT.*" Kpler posted a blog "*US sanctions first Chinese teapot over Iranian oil trade.*" [LINK]. The attention on the blog was on the title how the latest US sanctions were the first on any of the Chinese teapot refineries and

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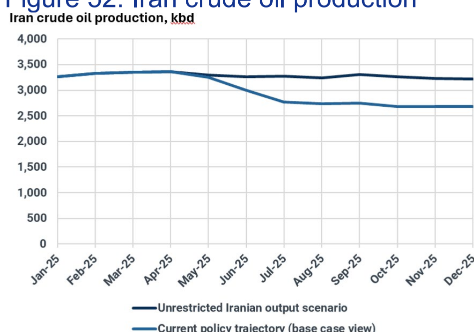
how that will cause the other teapots to think twice on taking Iran oil on sanctioned tankers. But what jumped out at us was the Kpler comment on their view for declining Iran oil exports at down 500,000 b/d and possibly even more depending how the new sanctions play out. Kpler wrote '*The latest U.S. sanctions do not alter our forecast for Iranian oil production, as we had already anticipated tighter enforcement from the Trump administration, leading to a 500 kbd decline in Iranian output and exports by summer—bringing oil exports down to around 1.2 Mbd. However, Washington retains the ability to escalate pressure further, potentially pushing Iran's oil exports below 1 Mbd."* Below is the Kpler graph. Our Supplemental Documents package includes the Kpler blog.

Figure 52: Iran crude oil production



Source: Kpler

Houthis keep targeting US navy

Oil: Houthis keep targeting US navy, no Trump retaliation against Iran as promised

Oil markets continue to not reflect any risk of the Houthis attacking the US navy leading to any escalation that could include the US retaliating against Iran as Trump warned. There has to be big hits to the Houthis drone and ballistic missile capability from the US continued pounding of the Houthis. But the Houthis still keep launching drones against the US navy in the Red Sea and ballistic missiles against Israel. The overnight news were reports of Israel downing a Houthis ballistic missile before it reached Israel territory and the Houthis launching more drone attacks against the US navy in the Red Sea. Here is what we wrote in last week's (Mar 23, 2025) Energy Tidbits memo. "*No one really knows what Trump or Iran will do, but what started out this week as Trump raising the potential for an escalation against Iran seems to have pulled back to both Trump and Iran not wanting to escalate. But what isn't clear is what happens next. (i) On Monday, Trump looked to have the risk for military action against Iran. On Monday, we posted [LINK] "WOW! New #Oil price wildcard. Trump will treat "Every shot fired by the Houthis will be looked upon, from this point forward, as being a shot fired from the weapons and leadership of IRAN, and IRAN will be held responsible, and suffer the consequences, and those consequences will be dire!" Impossible for Trump to back down from this promise. ie. will he launch missiles at Iran if Houthis launch drones/missiles at US navy or American cargo ships? #OOTT." Trump seemed clear in his warning to Iran – if the Houthis attacked the US again, the US would view it as an attack by Iran and the "consequences will be dire." (ii) The Houthis subsequently launched drones/missiles at the US Nav in the Red Sea on three occasions. So, at least the Houthis didn't seem to worry that Trump warned Iran he would take it out on Iran if the Houthis attacked the US navy. (iii) When we saw the Houthis announce the attacks, we posted [LINK] "Trump Houthis/Iran*

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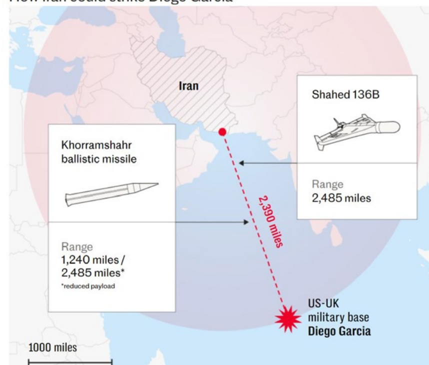
watch! Houthis said they attacked US navy in Red Sea after Trump's Monday 👇threat that an Houthi attack is treated as if an Iran attack. No confirmation yet by CENTCOM. will we see one? If CENTCom confirms, doesn't this obligate Trump to hit Iran:? Brent only +$0.75 today. #OOTT." Then on Tues, the Houthis say they targeted the US Navy again in the Red Sea and we were still waiting to see what Trump would do. (iii) Trump either ignored or backed away from his threat. On Wednesday, we posted [LINK] "Here's why #Oil hasn't spiked up post Houthis attacks at US navy in Red Sea in last 48 hrs. Seems like he is backing off his warning to Iran. Mon morning: "from this point forward" every shot fired by Houthis will be viewed as a shot by Iran, "Iran will be held responsible and suffer the consequences, and those consequences will be dire". Just now "Iran must stop the sending of these supplies immediately. Let the Houthis fight it out themselves.... they [Houthis] will be completely annihilated". At least for now, market not reflecting Trump attacks Iran as inferred on Mon morning. #OOTT." (iv) Yesterday, we posted [LINK] "Does Iran Supreme Leader, like Trump, want to avoid direct conflict with US over "the events in Yemen". Khamenei wants "entire Islamic Ummah" to strongly oppose the "truly large, atrocious crime" in Gaza. But seems less outraged over US attacks on Houthis? "The same is true about the events in Yemen. The attacks on the people of Yemen and on Yemeni civilians are also crime that must definitely be stopped." It struck us that Khamenei seemed to downplay the events in Yemen, which we interpreted as him wanting to signal he doesn't want to get into an escalation with the US over the Houthis."

Oil: US deploys long-rang stealth bombers is another warning to Iran

US deploys stealth bombers to Diego Garcia

On Monday, the reports were on the US deploying its B-2 Spirit stealth long-range bombers to Diego Garcia and the headlines were initially on as a deterrent to the Houthis. Surely no one believed that as the Houthis don't have the capability to shoot down regular US fighter jets and the US basically has target practice for its jets on any Houthis targets. Rather, the logical explanation is that the stealth bombers are any warning to Iran. No one knows what is going to eventually play out between the US and Iran and always having the Israel wildcard. But at least for now, Trump's threats/warnings to Iran don't seem to be forcing any Iran to want to negotiate on Trump's terms. Below is The Telegraph's map of the US-UK military base in Diego Garcia

Figure 53: US-UK military base in Diego Garcia



Source: The Telegraph

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Oil: VP Vance worried US attack on Houthis trigger Houthis missiles at Saudi oil

Risk for Houthis to attack Saudi

Pretty amazing story in the Atlantic on how they were accidentally included in group Signal text with VP Vance, Secretary of State Rubio, Defense Secretary Hegseth, National Security Advisor Waltz, and other senior Trump officials that included the group texts from Mar 11 and leading up to the US big attack on the Houthis on Sat Mar 15. The Atlantic eventually signed out of the group chat after the attack. We were surprised that it didn't get any real coverage but what jumped out at us was VP Vance's concern that the US attack could lead to the Houthis resuming attacks on Saudi oil facilities and worried the risk for a "moderate to severe spike in oil prices". On Monday, we posted [LINK] "*Risk US attacks on Houthis could see Houthis resume drones/missiles at Saudi #Oil facilities? VP Vance thinks so. "if there are things we can do upfront to minimize risk to Saudi oil facilities, we should do it" See 👇@PolymarketIntel post. #OOTT.*" We didn't see the full Atlantic report until later but then saw Vance also texted "*I am not sure the president is aware how inconsistent this is with his message on Europe right now. There's a further risk that we see a moderate to severe spike in oil prices. I am willing to support the consensus of the team and keep these concerns to myself. But there is a strong argument for delaying this a month, doing the messaging work on why this matters, seeing where the economy is, etc*." Since the Mar 15 US attack on the Houthis, the Houthis have launched multiple ballistic missile attacks at Israel but they have not, as of yet, launched drones or ballistic missiles against Saudi Arabia. Even though the Atlantic waiting until Mar 24 to post the report [LINK] , we have to believe the US isn't very happy about the Atlantic writing for the Houthis to read Vance's concerns that the Houthis could go after Saudi Arabia and potentially see a moderate to severe oil price spike.

Oil: No inference/hint from Houthis leader Thurs speech Houthis will attack Saudi oil

Houthis leader Thurs speech

Normally the Houthis leader is fairly direct when he warns a country so it caught our eye in his normal lengthy address, he didn't seem to infer or hint to any warning against Saudi Arabia in light of Vance's above worry that the Houthis may attack Saudi oil facilities in response to the US hammering of the Houthis. The leader reminds the Arab nations have be unprecedented inaction in regard to Gaza but there was no inference or hint that they Houthis would take any action against Arab and Islamic nations. On Friday, we posted [LINK] "*No inference Houthis might attack Saudi #Oil (per 03/24 👇Vance fears) from Houthi leader speech. Yes, he reminds of "unprecedented Arab and Islamic inaction" re Gaza but no warning to them if they don't step up. Also leader reminds they aren't giving up vs US. #OOTT.*" The media focus on the Houthis leader speech was that the Houthis aren't yet giving up to the US pounding.

Oil: Kurdistan IOCs negotiations bust, won't resume export of oil until Iraq commits to

Still no Iraq Kurdistan final deal

It looks like the IOCs in Kurdistan won't be resuming oil exports via Turkey for some time. After months of negotiations and multiple times that Iraq said the exports were to be resumed within days, it looks like the "negotiations" were not that serious and that Iraq seems to have strung out the negotiations, at times offering hope, with the hope the IOCs would cave in and accept a lesser deal. As we have previously written, the IOCs have gone two years on this and we have to believe they will continue to hang in there longer to see if they can get what they want ie. it seems hard to see how this gets quickly resolved. The IOCs are sticking to wanting their contracts honored. On Friday, we posted [LINK] "*IOCs in Kurdistan "will not*

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resume exports until there is commitment from the GOI to honor our contracts including payment surety for past and future exports." APIKUR invested the E&P capital and wanted their contract honored. Whereas looks like Iraq was stringing out "negotiations" in hopes APIKUR would eventually cave in to a lesser deal. #OOTT @apikur_oil." APIKUR is the industry association for the Kurdistan IOCs. They wrote [LINK] *"APIKUR objects to the ministry of oil's actions. Designated International Oil Companies (IOCs), along with the Kurdistan Regional Government, have been negotiating in good faith with the Government of Iraq (GOI), including directly with Prime Minister Sudani's office, to reach a resolution to resume exports through the Iraqi-Türkiye pipeline in accordance with our legal agreements and the Iraqi budget law. We understand today the Ministry of Oil has demonstrated it is unwilling to negotiate a solution that honors IOCs contract sanctity and is attempting to establish a process to unilaterally alter the economic framework of legal and valid contracts between the KRG and IOCs. These actions by the Ministry of Oil are not acceptable, and the member companies of APIKUR will not resume exports until there is commitment from the GOI to honor our contracts including payment surety for past and future exports. We understand today the Ministry of Oil has demonstrated it is unwilling to negotiate a solution that honors IOCs contract sanctity and is attempting to establish a process to unilaterally alter the economic framework of legal and valid contracts between the KRG and IOCs."*

Oil: Libya oil production of 1.373 mmb/d is above Aug 1 levels

On Thursday, the Libya National Oil Corporation (NOC) posted [LINK] *"Oil, gas and condensate production rates over the past 24 hours. #NOC #OIL #LIBYA"*. The NOC reported crude oil production of 1,372,634 b/d and 51,293 b/d of condensates amounting to total liquids production of 1,423,927 b/d. This is above the Aug 1 level of 1.279 mmb/d for oil + condensate before the interruptions started and when the NOC stopped providing oil production updates for a few months. Note that the NOC has updated its posting format a few times since Jan, and it did not provide commentary on the changes in production like it did in a previous week's post. The NOC has also removed its total production figure that included oil, condensate, and natural gas production measured in boe/d.

Libya oil production at 1.373 mmb/d

Libya targets 1.6 mmb/d in 2025 and 2.0 mmb/d by 2028

The restart of Mabrouk is a good example of low-hanging fruit and why can buy into their oil growth potential assuming there is no resumption of fighting between east and west Libya. Here is what we wrote in our Jan 19, 2025, Energy Tidbits memo. "*Libya targets 1.6 mmb/d in 2025 and 2 mmb/d by 2028. We have been big believers 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."

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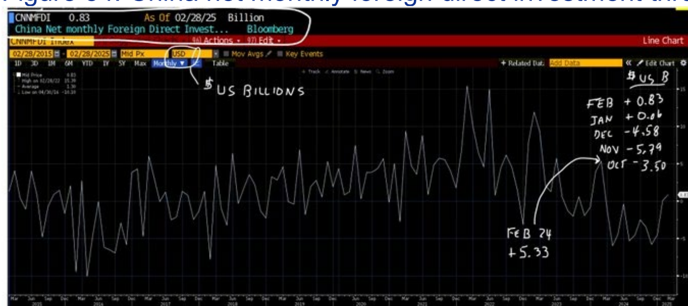
Oil: Jan & Feb were first positive net monthly FDI into China since Feb 2024

Positive net monthly FDI into China

On Thursday, we posted the China Net Foreign Direct Investment ("FDI") data for February from Bloomberg [LINK] "*Modest positive indicator for China recovery. 1st two months of positive, albeit modest, net monthly foreign direct investment flows since Feb 24. US $ B Feb 25: +0.83 Jan: +0.06 Dec: -4.58 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 Thx @business #OOTT".* February net FDI came in positive at +$0.83b, which was followed by Jan at +$0.06b. This marks the first two months of positive net monthly foreign direct investments since Feb 2024. For most of 2024, we had highlighted a major negative indicator for the China economy – China went from years of net monthly foreign direct investment inflows to months of net monthly foreign direct investment outflows. But this week, we saw a modestly positive indicator for China's recovery with two months of net foreign direct investment inflows after 10 consecutive months of outflows. Foreign direct investment has been a huge driver of China over the decades, and Jan/Feb are the first two positive, albeit modest, months of net monthly FDI. So at least stopped 10 consecutive months of negative net monthly FDI and potentially forming a bottom. Although there is still the uncertainty of Trump tariffs. Our post included the below Bloomberg graph and note it is in US$b.

Figure 54: China net monthly foreign direct investment thru Feb 2025



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*

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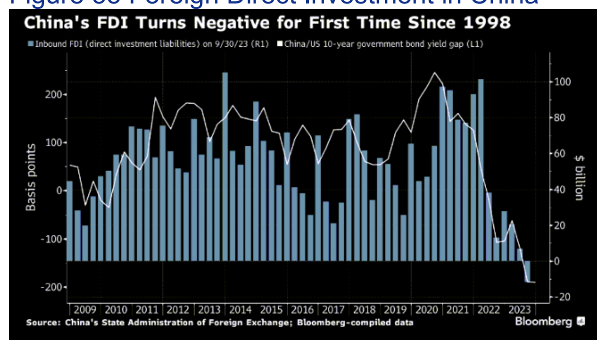
chains to reduce risks. Direct investment liabilities in the country's balance of payments have been slowing in the last two years. After hitting a near-peak value of more than $101 billion in the first quarter of 2022, the gauge has weakened nearly every quarter since. It fell $11.8 billion in the July-to-September period, marking the first contraction since records started in 1998."

Figure 55 Foreign Direct Investment in China



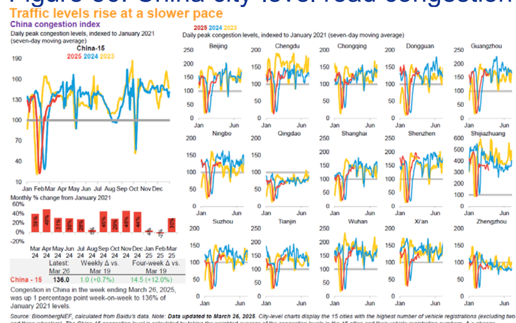
Source: Bloomberg

Oil: China city-level road congestion -6.6% YoY, still a negative activity indicator

China city-level road congestion

We have noted in our previous two week's memos that we have to wonder if the lower YoY city-level road congestion is reflecting less city economic activity, as the Spring Festival ended weeks ago. On Thursday, BloombergNEF posted its China Road Traffic Indicators Weekly report, which includes the Baidu city-level road congestion for the week ended Mar 26. BloombergNEF reported Baidu city-level road congestion saw a small increase of +0.7% WoW to 136.0% of Jan 2021 levels. March 2025 data saw average daily peak congestion down -6.6% YoY when compared to March 2024. March 2025 is post-Spring Festival, so road congestion should be at normal levels. So similar to last week, the week ended Mar 26 being -6.6% YoY would seem to be a negative economic indictor for city-level activity. Note that this report was formerly titled Road Traffic indicators, and is now China Road Traffic Indicators, but the content of the report is unchanged. BloombergNEF's report was titled "*Congestion growth continues slowly*". Below are the BloombergNEF key figures.

Figure 56: China city-level road congestion for the week ended Mar 26



Source: BloombergNEF

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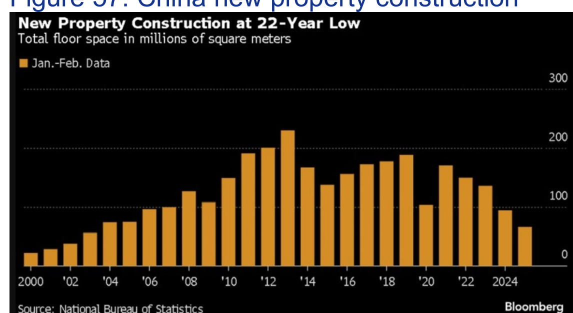
Negative China steel indicator

Oil: Continued negative for China steel, Jan/Feb property construction at 22-yr low
On Monday, we posted [LINK] "*Continued negative indicators for China steel industry and, by extension, the economy. China new property construction is the most steel-intensive part of the market and Jan/Feb is at 22-yr low. Thx 👇@kathgemm. A stalled China economy keeps hurting its #Oil demand. #OOTT.*" Steel is always viewed as an economic indicator, especially for China. Bloomberg reported "*China's Steel Market Is Still in Thrall to Bleak Property Data. Chinese steel prices are languishing, despite signs of resilience in the wider economy and the approach of peak demand season in the building industry. The disconnect between better economic data, and the gloomy reality linked to the property market, suggests another tough year ahead for the nation's steelmakers — and additional impetus for the government to force cuts on an industry bloated by its reliance on real estate spending that isn't coming back.*" Bloomberg included the below graph that highlighted "new property construction in Jan/Feb was at a 22-yr low.

Figure 57: China new property construction



Source: BloombergNEF

Negative China steel indicators are once again below pre-Sept stimulus levels
Here is what we wrote in our Mar 16, 2025 Energy Tidbits memo on how China's steel indicators had fallen back below the pre-Sept stimulus levels. Here is what we wrote last week. "*China steel indicators are once again below pre-Sept stimulus levels. Steel is always viewed as a key indicator for economies, especially in the case of China. On Thursday, we posted [LINK] "Negative indicator for China recovery - Steel PMI. China Sept stimulus boost to China steel industry PMI only lasted until Nov. But now, Jan/Feb 2025 steel PMI is lowest post Covid. And Trump tariffs on China should keep pressure on China economy. #OOTT Thx @BloombergNEF." BlooombergNEF had posted its Industrial Metals Monthly, which tracks short term developments in iron ore, steel, copper, aluminum and other base metals. One of the many slides that we have included in prior Energy Tidbits memos is their China's steel industry activity slide. When you look back over the past eight months, it showed the steel indicators jumped up post the Sept stimulus with strong Oct and Nov data but Dec was lower and Jan was down more and Feb was up a bit but again still back below the pre Sept stimulus levels. The Sept stimulus impact didn't last. And our concern is that we still don't know the ultimate impact on the China from the Trump initial tariffs that started this week. But all we know is that adding tariffs on China will be negative. Below is the China's steel industry activity chart attached to our post.*"

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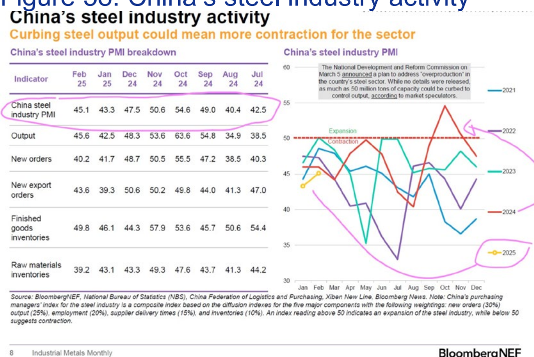
SAF GROUP Canadian Private Credit

Figure 58: China’s steel industry activity



China’s steel industry PMI breakdown

Indicator	Feb 25	Jan 25	Dec 24	Nov 24	Oct 24	Sep 24	Aug 24	Jul 24
China steel industry PMI	45.1	43.3	47.5	50.6	54.6	49.0	40.4	42.5
Output	45.6	42.5	48.3	53.6	63.6	54.8	34.9	38.5
New orders	40.2	41.7	48.7	50.5	55.5	47.2	38.5	40.3
New export orders	43.6	39.3	50.6	50.2	49.8	44.0	41.3	47.0
Finished goods inventories	49.8	46.1	44.3	57.9	53.6	45.7	50.6	54.4
Raw materials inventories	39.2	43.1	43.3	49.3	47.6	43.7	41.3	44.2

Source: BloombergNEF, National Bureau of Statistics (NBS), China Federation of Logistics and Purchasing, Xiben New Line, Bloomberg News. Note: China's purchasing managers' index for the steel industry is a composite index based on the diffusion indexes for the five major components with the following weightings: new orders (30%) output (25%), employment (20%), supplier delivery times (15%), and inventories (10%). An index reading above 50 indicates an expansion of the steel industry, while below 50 suggests contraction.

Source: BloombergNEF

Oil: How come China’s NEV sales aren’t impacting Sinopec gasoline sales?

Sinopec sees gasoline sales increases

We spoke to a number of long-term followers on the breaking news last Sunday morning on Sinopec’s recap and outlook for China’s demand for natural gas, LNG, diesel, gasoline and oil for chemicals that was in their then just released Q4. The item that got the most attention (both agreement and disagreement was our questioning why the impact of China’s strong growth in New Energy Vehicles sales hasn’t yet led to peak gasoline demand given that almost everyone has been out there with the view China gasoline demand peaked in 2023 or 2024. Those who disagreed asked for our data and proof. We would say we don’t have separate Chinese channel checks. Rather all we did was read the release and noted what Sinopec said on gasoline consumption in China – sales are up. Here is what we wrote in las week’s (Mar 23, 2025) Energy Tidbits memo. “*How come China’s NEV sales aren’t impacting Sinopec’s gasoline sales? We have a 7am MT news cut off but the Sinopec Q4 had just come out so we are able to included the great il food for thought from Sinopec’s Q4 release this morning. We can’t help read their comments and note the negative on oil demand is on diesel, which makes sense given weak China manufacturing and the increasing penetration of LNG-fueled medium and heavy duty trucks. Most will be surprised by Sinopec highlighting growth in gasoline sales in the face of the big increase in China New Energy Vehicle sales, which makes us wonder if this is the trend we have been highlighting – its PHEVs that are dominating BEVs in China and PHEVs are really just much more fuel efficient ICE. Earlier this morning, we posted [LINK] “Huge #Oil questions from Sinopec Q4. Is China #Gasoline sales growing because PHEVs are dominating BEVs and PHEVs are just very fuel efficient ICE? Is China total #Oil demand modestly growing driven by jet fuel, petrochemicals & gasoline offsetting declining #Diesel demand that is hit by weak China manufacturing & LNG displacing some diesel for trucks? Reminder total Oil demand incl oil for petrochemicals. "domestic demand for #NatGas grew rapidly, while that for refined oil products domestically declined slightly, and domestic demand for chemical products continued to increase." "achieved growth in high-grade gasoline sales" "We followed market demand and flexibly adjusted product mix and export scheduling by producing more jet fuel and continuously reducing the diesel-to-gasoline ratio. Effort was made to carry forward the transition of low-cost “refined oil products to chemical feedstocks” and high-value “refined oil products to refining specialties” strategy, and to increase production .." "boosted the sales volume of high-grade gasoline. " "domestic demand for natural gas and chemical products is expected*

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to maintain growth, and that for refined oil products will remain influenced by alternative energy. " "make every effort to increase the production of jet fuel; continue with the transition of low-cost "refined oil products to chemical feedstocks" and high-value "refined oil products to refining specialties" Has total demand for oil peaked or is it like Jan 25 vs Jan 24 small increase in total oil demand but diesel down YoY? #OOTT." Our Supplemental Documents package includes excerpts from the Sinopec Q4."

China Jan 25 vs Jan 24 oil demand by category fits the Sinopec comments

Here is another item from last week's (Mar 23, 2025) Energy Tidbits memo on the Sinopec recap of China demand. "*China Jan 25 vs Jan 24 oil demand by category fits the Sinopec comments. Our Sinopec post said "Has total demand for oil peaked or is it like Jan 25 vs Jan 24 small increase in total oil demand but diesel down YoY". Their comments reminded of OPEC's Mar MOMR split of China oil demand and our Sinopec included the OPEC table of Jan 2025 vs Jan 2024 China oil demand that shows China diesel demand YoY but overall China oil demand up YoY driven by increasing petrochemicals, jet fuel and gasoline."*

Figure 59: China oil demand Jan 25 vs Jan 24

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

China's oil demand By product	Jan 24	Jan 25	Change Jan 25/Jan 24 Growth	%
LPG	2.85	3.06	0.21	7.3
Naphtha	1.90	2.05	0.15	7.7
Gasoline	4.24	4.28	0.04	0.9
Jet/kerosene	1.21	1.23	0.02	1.3
Diesel	4.50	4.34	-0.16	-3.6
Fuel oil	0.97	0.99	0.02	1.8
Other products	1.84	1.80	-0.04	-2.4
Total	17.51	17.73	0.22	1.3

Note: * Apparent oil demand. Totals may not add up due to independent rounding.

Sources: Argus Media, Chinese Customs, Chinese National Bureau of Statistics, JODI and OPEC.

However, diesel is estimated to have seen the largest decline of 162 tb/d, y-o-y, down from a contraction of 33 tb/d, y-o-y, seen the previous month. Diesel has been under pressure from weak manufacturing activity amid the ongoing penetration of LNG trucks. The 'other products' category (comprised of bitumen, petroleum coke and lubricants) is estimated to have declined by 43 tb/d, y-o-y, in January, down from an increase of 82 tb/d, y-o-y, seen in December.

Source: OPEC March MOMR

Oil: Sinopec highlighting oil for chemicals is why Saudi sees growing China demand

Sinopec highlights oil for chemicals

One of the surprising takeaways from our discussions with long-term contacts was that most don't really associate petrochemicals growth with oil consumption growth. Here is another item from last week's (Mar 23, 2025 Energy Tidbits memo on Sinopec's Q4 recap and outlook. "*Sinopec highlighting oil for chemicals is why Saudi sees growing China demand. Sinopec's highlighting in the just released Q4 of China's increasing consumption of oil for petrochemicals is something Saudi Aramco has been highlighting as key to their view why China's overall oil consumption is still increasing. Here is what we wrote in our Jan 26, 2025 Energy Tidbits memo. "Saudi Aramco CEO, China oil consumption is growing driven by petrochemicals. Saudi Aramco CEO Nasser didn't specifically say that China car consumption of gasoline and gasoline had peaked, but he seemed to infer that in his comments to Bloomberg. But Nasser highlighted there is growth in China oil consumption, it's just driven by growth in petrochemicals. On Tuesday, we posted [LINK] "Petrochemicals growth = Growth in China oil demand even if gasoline/diesel component is peaking. "The growth [in China oil demand] is still there. Instead of producing more gasoline and diesel,*

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they are using the feedstock to produce more chemicals" Aramco CEO to @JoumannaTV #OOTT." Our post included the transcript we made of Nasser's Bloomberg interview. Bloomberg's Joumanna Bercetche asked "It's interesting what you say about transport fuel in China, because obviously, there there has been a big shift towards the usage of electric vehicles. Analysts are saying that we're getting close to peak oil demand when it comes to transport fuel. What do you see?" Nasser replied "I think in China, as I say, there is a huge growth even for electric vehicles. The liquid to chemical, our strategy is to go to 4 million by 2030. About 4 million barrels per day. A lot of it is going to into China, China. Why do they need the liquid to chemical as a feed. They need it because of electric vehicles. They need it for solar panels. They need it for carbon fibers. So, my point even for the [??] on going to electric vehicles, you need oil as a feed stock to produce the material that would be required for any transitions. So, the growth is still there. Instead of producing more gasoline and diesel, they are using the feed stock to produce more chemicals. You'll see a lot of the conversion of refineries in China, for example, a lot of the one that we're investing right now, the conversion of liquid to chemical is at 60 to 70%, compared to an average of about 10 to 12% integration in liquid to chemical around the world." Bercetche followed up "do you think the market was overstating the state of demand that is coming out of China? And the fact that people have been so bearish about some signals coming through there?" Nasser replied 'No. We're still seeing good demand coming out of China. We're seeing it in 2024 we still anticipate, as I said, most of the growth, 1.3 million. 40% of that growth, will come from China and India. The rest is coming from the rest of the world. As I said, China, even when you talk about the move into electric vehicles and renewables and all of that, they need to feedstock to create the material that would be used in these electric vehicles and these carbon fibers and all of these things. So, we are seeing the demand, and demand is increasing year on year."

Vitol also sees China petrochemicals demand driving oil demand growth

Here is what we wrote in our Nov 24, 2024 Energy Tidbits memo on Vitol also highlighting China oil consumption of petrochemicals. "*Vitol, China total oil demand growth on trend even as peak transport fuel reached. Yesterday, we tweeted [LINK] "Great China #Oil demand perspective from @vitolnews @Giovanni Serio. China oil demand "trend is the same. What has changed is the composition of that demand. It is very clear when you break it down that peak transport fuel has been reached in China, but that petchem continues to expand and drive demand growth".Excerpt from his must read [LINK] #OOTT." We have been focusing on the piece of the China oil demand picture that we can follow – the growth of LNG-fueled trucks leading to peak China diesel demand. But that is a key piece but only piece of the China oil demand picture and we were reminded of this point by a great perspective comments by Giovanni Serio, Vitol's Global Head of Research at this week's FT Commodities Asia conference. The headlines from Serio's comments were his clear view that "peak transport fuel has been reached in China". That makes sense with LNG-fueled trucks and BEVs and PHEVs growth. Although he does also remind a wildcard is how much PHEVs keep taking share from BEVs. But what was missed in the headlines is that he sees China oil demand on trend with pre-Covid because strong petchem growth makes up for peak transport fuels. Our tweet included his key quote and the graphs that show the flattened gasoline/gasoil (diesel) curve an the strong growth in petchems to give the overall trend. Below is his road transport fuels and petchem*

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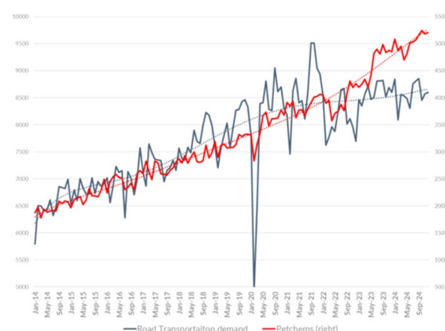
demand growth graph."

Figure 60: China road transportation fuels & petchems demand



Source: Vitol

Oil: Vortexa crude oil floating storage -10.05 mmb WoW to 53.56 mmb on Mar 29

Vortexa floating storage

We are referencing the Vortexa crude oil floating storage data posted on the Bloomberg terminal as of 6pm 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 Mar 22 at 9am MT. (i) Yesterday morning, we [LINK] "*Vortexa crude #Oil floating storage. It's only 1-week but a very low 53.56 mmb on 03/28, -10.05 mmb WoW vs revised down by -1.09 mmb 03/21 of 63.61mmb. 7-wk moving average down 68.53 mmb after prior 5-wk moving averages >70mmb. Been ~2 mths since China stopped unloading some sanctioned RUS/Iran tankers. Asia is off from peak but still a little high. Thx @vortexa @business #OOTT.*" (ii) As of 6pm MT Mar 29, Bloomberg posted Vortexa crude oil floating storage estimate on Mar 28 was 53.56 mmb, which was -10.05 mmb WoW vs revised down small Mar 21 of 63.61 mmb. Note Mar 21 was revised -1.09 mmb to 63.61 mmb vs 64.70 mmb originally posted at 9am MT on Mar 22. It's only one week but 53.56 mmb is very low. (iii) Revisions. There was a mix of +/- revisions for the seven prior weeks, but they weren't big with all less than +/- 2 mmb, such that the average revision for the prior seven weeks was almost nothing at -0.44 mmb. Here are the revisions for the prior seven weeks compared to the estimates originally posted on Bloomberg at 9am MT on Mar 22. Mar 21 revised -1.09 mmb. Mar 14 revised +1.47 mmb. Mar 7 revised +0.12 mmb. Feb 28 revised +0.18 mmb. Feb 21 revised -1.66 mmb. Feb 14 revised -1.21 mmb. Feb 7 revised -0.92 mmb. (iv) The 7-week moving average moved back below 70 mmb after the prior five weeks being over 70 mmb, the first such weeks since Aug. The addition of the low 53.56 mmb for Mar 28 dropped the 7-week moving average go 68.53 mmb, down from the prior 7-week moving average of 71.48 mmb as of Mar 21. (v) 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 but we didn't do until 6pm MT yesterday due to a power issue at our building. (vi) Note the below graph goes back to Jan 1, 2020 to show the run up to Covid and then how Covid started to

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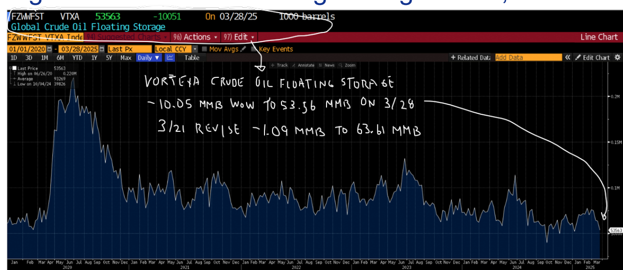
impact Covid in March/April 2020. (vii) Mar 28 estimate of 53.56 mmb is -78.30 mmb vs the 2023 peak on June 25, 2023 of 131.86 mmb. Recall Saudi Arabia stepped in on July 1, 2023 with its voluntary cuts. (viii) Mar 28 estimate of 53.56 mmb is -27.16 mmb YoY vs Mar 29, 2024 of 80.72 mmb. Below are the last several weeks of estimates posted on Bloomberg as of 6pm MT on Mar 29, and 9am MT on Mar 22 and Mar 15.

Figure 61: Vortexa Floating Storage Jan 1, 2000 – Mar 28, 2025, posted Mar 29 at 6pm MT



Source: Bloomberg, Vortexa

Figure 62: Vortexa Estimates Posted 6pm MT on Mar 29, 9am MT on Mar 22 and Mar 15

Posted Mar 29, 6pm MT

FZWWFST VTXA Index 01/01/2020 - 03/28/2025

	Date	Last Px
Fr	03/28/2025	53563
Fr	03/21/2025	63614
Fr	03/14/2025	64154
Fr	03/07/2025	74849
Fr	02/28/2025	75856
Fr	02/21/2025	70218
Fr	02/14/2025	77442
Fr	02/07/2025	71129
Fr	01/31/2025	71571
Fr	01/24/2025	69692
Fr	01/17/2025	70650
Fr	01/10/2025	60795

Mar 22, 9am MT

FZWWFST VTXA Index 01/01/2020 - 03/21/2025

	Date	Last Px
Fr	03/21/2025	64701
Fr	03/14/2025	62680
Fr	03/07/2025	74733
Fr	02/28/2025	75679
Fr	02/21/2025	71876
Fr	02/14/2025	78652
Fr	02/07/2025	72049
Fr	01/31/2025	72793
Fr	01/24/2025	70645
Fr	01/17/2025	70525
Fr	01/10/2025	59942
Fr	01/03/2025	51922

Mar 15, 9am MT

FZWWFST VTXA Index 01/01/2020 - 03/14/2025

	Date	Last Px
Fr	03/14/2025	62111
Fr	03/07/2025	75478
Fr	02/28/2025	73780
Fr	02/21/2025	70291
Fr	02/14/2025	79627
Fr	02/07/2025	73036
Fr	01/31/2025	74740
Fr	01/24/2025	70961
Fr	01/17/2025	70921
Fr	01/10/2025	60934
Fr	01/03/2025	53763
Fr	12/27/2024	63353

Source: Bloomberg, Vortexa

Source: Bloomberg, Vortexa

Oil: Vortexa crude oil floating storage by region

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 Mar 21 was revised -1.09 mmb. The largest revisions were Asia revised -2.88 mmb, Other revised -2.03 mmb and the other regions were all revised up small. (ii) Asia. The last two weeks have Asia down to ~24 mmb, still a little high but down big after hitting 40 mmb in Feb when China surprised by becoming stricter on taking sanctioned tankers related to Russia and Iran. It took several weeks for the change in China taking sanctioned tankers to work thru the system. The issue will if this is impacted by this week's increased Iran tanker sanctions directed at one of the Chinese teapot refineries. (iii) Total floating storage on Mar 28 of 53.56 mmb is -10.05 mmb WoW vs revised down Mar 21 of 63.61 mmb. The major WoW changes were West Africa -5.06 mmb WoW and Europe -3.36 mmb WoW. (iv) Below is the table we created of the WoW changes by region posted on Bloomberg at of 6pm MT

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yesterday. Our table also includes the "Original Posted" regional data for Mar 21 that was posted on Bloomberg at 9am MT on Mar 22.

Figure 63 Vortexa crude oil floating storage by region

Vortexa crude oil floating storage by region				Original Posted	Recent Peak	
Region	Mar 28/25	Mar 21/25	WoW	Mar 21/25	Jun 23/23	Mar 28 vs Jun 23/23
Asia	24.12	24.47	-0.35	27.35	74.12	-50.00
North Sea	1.42	3.35	-1.93	2.76	6.79	-5.37
Europe	4.60	7.96	-3.36	7.04	6.05	-1.45
Middle East	7.44	7.65	-0.21	6.90	6.59	0.85
West Africa	3.99	9.05	-5.06	8.48	7.62	-3.63
US Gulf Coast	2.39	1.75	0.64	0.76	1.53	0.86
Other	9.60	9.38	0.22	11.41	29.16	-19.56
Global Total	53.56	63.61	-10.05	64.70	131.86	-78.30
Vortexa crude oil floating storage posted on Bloomberg 9am MT on Mar 29						
Source: Vortexa, Bloomberg						

Source: Bloomberg, Vortexa

Figure 64: Vortexa crude oil floating storage for Asia Jan 1, 2020 thru Mar 28, 2025

Source: Bloomberg, Vortexa

Oil: Global oil & product stocks deficit narrowed to -5.50 mmb from -6.80 mmb

Global oil stocks

On Wednesday, BloombergNEF posted its "*Oil Price Indicators*" weekly, which provides good charts depicting near-term global oil demand and supply indicators. (i) Note BloombergNEF uses different periods to determine the surplus/deficit, sometimes using a four-year average for 2018-2019 and 2022-2024, and other times using a five-year average for 2018-2019 and 2022-2024. In both cases they do not include 2020 and 2021 in the averages. (ii) The global stockpile for crude oil and products narrowed its deficit to -5.50 mmb for the week ending March 14, from a deficit of -6.80 mmb for the week ended March 7. (iii) Total crude inventories (incl. floating) saw a draw of -0.6% WoW to 621.90 mmb. (iv) Land crude oil inventories increased +1.4% WoW to 558.20 mmb, narrowing their deficit from -15.70 mmb to -5.70 mmb against the five-year average (2018-2019 and 2022-24). (v) The gasoil and middle distillate stocks were down -3.0% WoW to 213.40 mmb, with inventories flipping to a deficit of -3.90 mmb from a surplus of +0.70 mmb. Jet fuel consumption by international departures in the week starting March 24 is set to increase by +12,600 b/d WoW, while consumption by domestic passenger departures is forecasted to rise +23,900 b/d WoW. Below is a snapshot of aggregate global stockpiles.

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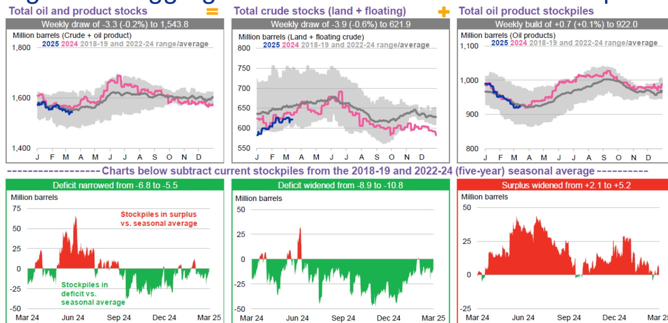
Figure 65: Aggregate Global Oil and Product Stockpiles



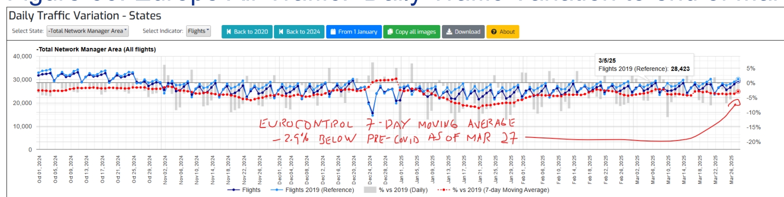
Source: BloombergNEF

Oil: EU airports daily arrivals/departures 7-day moving average -2.9% below pre-Covid

Europe daily arrivals departures

Yesterday morning, we posted [LINK] [LINK] "*EU air traffic (arrivals/departures) stuck below pre-Covid. 7-day moving average as of: Mar 27: -2.9% below pre-Covid. Mar 20: -3.5%. Mar 13: -4.0% Mar 6: -2.2%. Feb 27: -4.3%. Feb 20: -2.4%. Feb 13: -4.1%. Feb 6: -4.3%. Jan 30: -5.9% below pre-Covid. Jan 23: -7.6%. Jan 16: -7.6%. Jan 9: -4.2%. Jan 2: -2.6%. Dec 26: +0.8%. #OOTT.*" Note the Eurocontrol air traffic is daily arrivals/departures data. The Xmas rush for the 7-day moving average as of Dec 26 was the only time above pre-Covid since Jan 2024 but it didn't last and went right back below pre-Covid in Jan 2025. Air traffic always goes up for Xmas and it always seasonally drops after Xmas. But in Jan 2024, it didn't drop as much and was actually above pre-Covid in Jan 2024. This year, there was a big drop off after Xmas. The 7-day moving average was -2.9% below pre-Covid as of Mar 27, which follows -3.5% as of Mar 20, -4.0% as of Mar 13, -2.2% as of Mar 6, -4.3% as of Feb 27, -2.4% as of Feb 20, -4.1% as of Feb 13, -4.3% as of Feb 6 ,-5.9% as of Jan 30, -7.6% as of Jan 23, -7.6% below as of Jan 16, -4.2% as of Jan 9, -2.6% as of Jan 2, and +0.8% as of Dec 26. 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 66: Europe Air Traffic: Daily Traffic Variation to end of Mar 27



Source: Eurocontrol

Oil: Asia/Pacific international Feb passenger air travel up +5.9% YoY

Asian Pacific air traffic in Feb

On Thursday, the Association of Asia Pacific Airlines (AAPA) released its Feb traffic results [LINK] which is comprised of aggregate data across a total of 40 Asia Pacific airline carriers. (i) Air travel. International passenger air travel on the 40 airlines is up big YoY. The AAPA reports preliminary Feb 2025 travel figures were up +5.9% YoY from Feb 2024. Travel is still down -8.1% when compared to pre-Covid Jan 2020 numbers. Note that Asia air travel hadn't dropped much in Jan 2020, so it is a reasonable, but not perfect, comparison for pre-Covid.

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The AAPA wrote, *"An aggregate total of 30.8 million international passengers flew on the region's carriers in February, representing a 5.9% increase over the number recorded in the same month last year, on the back of the Lunar New Year holiday period. In revenue passenger kilometre (RPK) terms, demand grew by 9.2% year-on-year, reflecting relative strength on long-haul markets. Combined with an 8.6% expansion in available seat capacity, the average international passenger load factor edged 0.4 percentage points higher to 82.2% for the month."* (ii) Air cargo was up +2.8% YoY, measured in Freight Tonne Kilometres (FTK), and the freight load factor decreased by -1.7 percentage points to 56.5% YoY. Meanwhile, headline capacity measured in Available Seat Kilometres (ASK) rose +8.6% YoY but is still down -15.2% compared to Jan 2020 numbers. (iii) Subhas Menon, Director General of the AAPA, said: *"Overall, airlines are expected to continue to benefit from sustained travel demand and growth in air shipments as a result of ongoing expansion in e-commerce activity. However, the region's carriers are facing headwinds, particularly as rising costs, driven in part by fleet capacity constraints, continue to exert pressure on revenue… The recent rise in protectionist sentiment also presents potential challenges to trade and broader business activity. In response, Asian airlines are maintaining a cautious stance, closely monitoring evolving operating conditions while actively exploring opportunities in high-potential growth markets."* Below is a snapshot of the APAA's traffic update.

Figure 67: APAA Preliminary International Air Traffic Data

International	Feb-25	Feb-24	% Change	Jan-Feb 2025	Jan-Feb 2024	% Change
Passengers (Thousand)	30,759	29,037	+ 5.9%	65,966	58,382	+ 13.0%
RPK (Million)	106,862	97,844	+ 9.2%	230,736	198,853	+ 16.0%
ASK (Million)	129,976	119,660	+ 8.6%	277,746	245,579	+ 13.1%
Passenger Load Factor	82.2%	81.8%	+ 0.4 pp	83.1%	81.0%	+ 2.1 pp
FTK (Million)	5,467	5,318	+ 2.8%	11,441	11,007	+ 3.9%
FATK (Million)	9,682	9,130	+ 6.0%	20,423	18,863	+ 8.3%
Freight Load Factor	56.5%	58.2%	- 1.7 pp	56.0%	58.4%	- 2.4 pp

Source: AAPA

Oil & Natural Gas: Dallas Fed Survey, "*uncertainty rising, costs increase*"

Dallas Fed quarterly energy survey

One of our favorite quarterly reports is the Dallas Fed quarterly energy survey, which was posted on Wednesday [LINK]. The survey provides a good window into what the US oil and gas sector is thinking about prices, activities, and issues. (i) The data for this survey was collected March 12-20 from a total of 130 firms; of which 88 were E&Ps and 42 were oilfield service companies. During the March 12-20 survey, WTI averaged $67.60/bbl and HH was $4.26/mcf. (ii) The main headline was "*Oil and gas activity edges higher; uncertainty rising, costs increase".* (iii) Costs rose at a quicker pace than last quarter, as the input cost index for oilfield service firms increased from 23.9 to 30.9. The lease operating expenses index also grew, increasing from 25.6 to 38.7 and the E&Ps' cost index rose from 11.5 to 17.1. (iv) Respondents said they expected WTI to be $68/bbl for year end 2025, and they have longer term expectations that WTI will be at $74/bbl in two years and $82/bbl in five-years. (v) For gas, respondents expect HH to be $3.92/mcf at year end 2025, and they said that they expect HH to be a price of $4.46/mcf in two years and $5.01/mcf in five years. (vi) One of the negatives Trump didn't want to hear was in response to the special question to the service companies on the impact of the 25% tariff on steel for customer demand with 63% of service companies expecting their customer demand to decrease. If there less customer demand for

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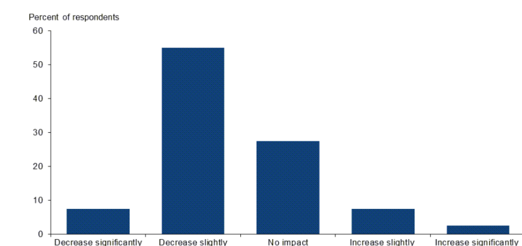
steel products, it means that there will be less demand for items like tubulars, and that means less E&P activity. (vii) The other negative item for Trump's drill baby drill aspirations is that the E&P companies still see $60 WTI is needed to profitably drill a new well. (viii) E&P firm comments. E&P respondents commented on elevated uncertainty from inconsistent government policy, rising input costs driven by tariffs and regulation, and diverging capital allocation between oil and gas firms. One survey respondent was quoted: "*Uncertainty around everything has sharply risen during the past quarter. Planning for new development is extremely difficult right now due to the uncertainty around steel-based products. Oil prices feel incredibly unstable, and it's hard to gauge whether prices will be in the $50s per barrel or $70s per barrel. Combined, our ability to plan operations for any meaningful amount of time in the future has been severely diminished.*" (ix) O&G service firm comments. Respondents reported that tariff and trade policy uncertainty is disrupting supply chains, inflating input costs, and complicating both near and long-term planning. One respondent commented: "*Uncertainty around tariffs and trade policy continues to negatively impact our business, both for mid- to long-term planning and near-term costs. Because of trade tension, especially with Canada, a large operator requested we look to potentially move manufacturing out of the U.S. to support their work in Canada and other international markets.*" Our Supplemental Documents package includes excerpts from the Dallas Fed survey.

Figure 68: What impact of 25% steel import tariff on customer demand



Source: DallasFed

Oil & Natural Gas: UK, North Sea oil & gas important to UK for many, many decades

UK needs North Sea oil and gas

We were very early in saying several years ago that the Energy Transition will take way longer, cost way more and be a bumpy/rocky road. And the key takeaway was that oil and natural gas would be needed for way longer than the aspirations in the Energy Transition and Net Zero. And we were early in our #1 2022 Prediction – Leaders will finally admit the energy transition isn't working. Leaders may not say it directly but that is the implied conclusion when we see their actions. This week, we saw another non-admission admission. This time by UK Chancellor Rachel Reeves. On Monday, we posted [LINK] "*Doesn't sound like there will be stranded #Oil #NatGas assets in North Sea. As doesn't sound like UK Labour Govt sees peak #Oil #NatGas demand by 2030 as per IEA call. "North Sea oil and gas is going to be really important to the UK economy for many, many decades to come." Rachel Reeves.*

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Thx @EnergyVoiceNews Matthew Perry #OOTT." Energy Voice's (UK) Monday report "*Reeves backs Jackdaw and Rosebank developments in North Sea"* [LINK] included Reeves saying "*North Sea oil and gas is going to be really important to the UK economy for many, many decades to come*." Many, many decades is a long time and we can't see why Reeves would highlight this if the UK Labour Govt believed oil and natural gas was reaching peak demand before 2030 as the IEA forecasts. When we read strong quotes like that, is just jumps out as a non-admission admission that the energy transition will take way longer, cost way more and be a bumpy/rocky road and that oil and natural gas is needed for way longer than the aspirations of the energy transition and Net Zero. And if oil and natural gas is needed for way longer, then it means there will be less stranded oil and gas assets. Our Supplemental Documents package includes the Energy Voice report.

7.7 earthquake in Myanmar

Oil & Natural Gas: A rare 7.7 magnitude earthquake hits Myanmar

On Friday, the USGS reported that a M7.7 earthquake hit near Mandalay, Myanmar (Burma), with tremors felt through Thailand and China. The quake was the result of strike slip faulting between India and Eurasia plates. As of Friday morning MT, there is at least 144 reported deaths, with hundreds of more injured. Earthquakes at 7.0 or greater are rare and this is only the 6th such earthquake within a 250 km range of the Mandalay area since 1900. Below is our running table of earthquakes 7.0 or stronger since Jan 1, 2017, that average out to 12-13 such earthquakes each year.

Figure 69: Earthquakes 7.0 or stronger since Jan 1, 2017

Earthquakes With 7.0+ Magnitude										
Country	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**
Indonesia	-	1	3	-	3	-	6	-	-	13
Japan	-	-	-	-	2	1	-	2	-	5
Papua New Guinea	1	2	1	1	-	1	1	-	-	7
US	-	2	1	2	1	-	1	1	-	8
Mexico	2	1	-	1	1	-	-	-	-	5
Peru	-	2	3	-	1	1	-	1	-	8
Russia	1	1	-	2	-	-	-	1	-	5
New Zealand	-	-	1	1	2	-	2	-	-	6
Vanuatu	-	-	-	-	1	1	2	1	-	5
New Caledonia	1	2	-	-	1	-	2	-	-	6
Fiji	-	2	-	-	-	2	-	-	-	4
Philippines	1	1	-	-	1	1	1	-	-	5
Chile	-	-	-	-	-	-	-	1		1
China	-	-	-	-	1	-	-	1	1	3
Cuba	-	-	-	1	-	-	-	-	-	1
Ecuador	-	-	1	-	-	-	-	-	-	1
Greece	-	-	-	1	-	-	-	-	-	1
Guatemala	-	-	-	-	-	1	-	-	-	1
Haiti	-	-	-	-	1	-	-	-	-	1
Honduras	-	1	-	-	-	-	-	-	1	2
Iran	1	-	-	-	-	-	-	-	-	1
Pakistan	-	-	-	-	1	-	-	-	-	1
Philippines	-	-	-	-	-	1	-	1	-	2
Solomon Islands	-	-	-	-	2	1	-	-	-	3
South Georgia Islands	-	1	-	-	-	-	-	-	-	1
Taiwan	-	-	-	-	-	-	-	1	-	1
Turkey	-	-	-	-	1	-	2	-	-	3
Tonga	-	-	-	-	-	1	2	-	-	3
Venezuela	-	1	-	-	-	-	-	-	-	1
Myanmar	-	-	-	-	-	-	-	-	1	1
Total	**7**	**17**	**10**	**9**	**19**	**11**	**19**	**10**	**3**	**105**

Updated as of Mar 28, 2025

Source: USGS, Wikipedia

Putin on US and Greenland

Oil & Natural Gas: Trump push for Greenland has nothing to do with Putin & Russia

On Friday, we posted [LINK] "*Putin says Trump wanting Greenland has nothing to do with RUS. "it is obvious that the US will continue to consistently advance its geo-strategic, military-political and economic interests in the Arctic. As to Greenland, this is an issue that concerns two specific nations and has nothing to do with us." #OOTT."* It looks like Putin is just

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stepping aside as an effective approval for Trump to do with what he wants and can gets on Greenland. The interesting part is that before Putin said it had nothing to do with Russia, Putin went thru a history lesson going back to the 1860s of the US wanting to get Greenland. Our post included the Kremlin transcript of Putin's comments on Thurs at the 6th International Arctic Forum. Here is what Putin said about the current Trump Greenland push "*In short, the United States has serious plans regarding Greenland. These plans have long historical roots, as I have just mentioned, and it is obvious that the United States will continue to consistently advance its geo-strategic, military-political and economic interests in the Arctic. As to Greenland, this is an issue that concerns two specific nations and has nothing to do with us."* Our Supplemental Documents package includes the Kremlin transcript. [LINK]

Trump wants Greenland, would be a big strategic deal

Here is what we wrote in our Dec 29, 2024 Energy Tidbits memo on Trump wanting Greenland. "*Trump wants Greenland, would be a big strategic deal. Early Monday morning, we posted [LINK] "Method to Trump madness! Greenland has huge strategic value for US is why Trump wants to buy Greenland again. US would control both ends of Northwest Passage and controlling major international shipping lanes has military and commercial value. See 👇08/18/2019 SAF Group Energy Tidbits memo. But expect Denmark/Greenlanders to reject. #OOTT." Last Sunday, Trump announced the appointment of his ambassador to Denmark and wrote ""For purposes of National Security and Freedom throughout the World, the United States of America feels that the ownership and control of Greenland is an absolute necessity." No surprise on Monday, Greenland Prime Minster Mute Egede rejected Trump's statement and wrote "Greenland is ours. We are not for sale and will never be for sale. We must not lose our long struggle for freedom." Trump raised interest in his first term and was rejected. Our post included what we wrote in our Aug 18, 2019 Energy Tidbits memo on Trump's first buy Greenland desire. It isn't an oil and gas upside, rather we see it as a hugely strategic position for the US as it would give the US control over both ends of the Northwest Passage. An, as seen elsewhere, controlling major shipping lanes is a strategic asset for both commercial and military reasons.".*

Trump has always wanted to buy Greenland as it would be of strategic value

Here is what we wrote in our Aug 18, 2019 Energy Tidbits memo. *"Trump buying Greenland would be of strategic value. We recognize Trump was ridiculed for his asking his advisors about buying Greenland. We have no idea if Trump was truly serious about wanting to try to buy Greenland. Surely he would have expected Greenlanders to vote no especially as they are viewed as anti resource development. The primary reason being attributed for his interest is Greenland's mineral and oil potential. We would say no to oil and gas. its not that Greenland doesn't have oil and gas potential, its that it hasn't worked to date (albeit with only limited exploration wells) and the US doesn't need it. We were surprised that Trump defenders didn't try to stop the ribbing by noting Greenland as big strategic value to the US in a world of global warming. Not so much that Greenland would be accessible, rather Greenland's strategic location in a world of global warming and increasing ability for ships/tankers to move thru the Northwest Passage. If Greenland was the US, the US*

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would effectively share the effective control at both ends of the Northwest Passage with Russia on one end and Canada on the other end. Not a bad positioning. As we have seen in 2019, effective control of major waterways has been a major issue in the Strait of Hormuz, Bab el Mandeb, Strait of Gibraltar, and Strait of Malacca. "
.

Figure 70: Northwest Passage

Source: Geology.com

Energy Transition: Sinopec gasoline sales keep increasing despite huge NEV sales

Sinopec gasoline sales keep going higher

Here is another item from last week's (Mar 23, 2025) Energy Tidbits memo on Sinopec's Q4 and the one that surprised our long-term contacts in our discussion on Sinopec. "*Sinopec gasoline sales keep increasing despite huge NEV sales. Earlier in the memo, we posted on Sinopec Q4 results and said there are huge questions on oil from the Sinopec Q4 including the big question "Is China #Gasoline sales growing because PHEVs are dominating BEVs and PHEVs are just very fuel efficient ICE?" It jumped out to us how Sinopec noted the shift from low value diesel to higher value gasoline in its refineries and its highlighting the growth in high-grade gasoline sales. This is likely contrary to what almost everyone expects with the huge China New Energy Vehicle sales and most have called peak China oil demand has been reached driven by NEVs. At a minimum, the Sinopec comments on gasoline should stir up the question as to why gasoline sales keep increasing. And we have to remind of the point we have highlighted for a very long time – China's NEVs sales are dominated by PHEV sales over BEV sales and PHEVs are really just more fuel efficient ICE. And that the big unknown is what percentage of kms driven by Chinese PHEV owners are driven in electric mode vs ICE mode. Below is what we wrote on this in our March 2, 2025 Energy Tidbits memo*."

03/02/25: China's BYD Feb sales, NEV up huge YoY, PHEV are 1.5x BEV

Here is what we wrote in our Mar 2, 2025 Energy Tidbits memo. "*China's BYD Feb sales, NEV up huge YoY, PHEV are 1.5x BEV. Earlier this morning, we posted [LINK] "BYD Feb sales just out. Huge YoY growth in both PHEV + BEV sales. PHEVs keep dominating BEVs in China. Don't forget NEVs = BEVs + PHEVs. Feb sales: PHEV: 193,331, +189.2% YoY, 59.9% share. BEV: 124,902, +127.5% YoY, 38.7% sh. YTD Feb sales: PHEV: 364,400, +124.2% YoY, 58.5% sh. BEV: 250,279, +56.2% YoY, 40.1% sh. #OOTT." BYD posted its Feb production and sales volumes this morning. The Feb sales were similar trend as seen in 2024: NEV sales continue*

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to be up big and PHEV sales continue to be 1.5x BEV sales. As a reminder, in China NEV sales are the sum of BEV + PHEV sales. Our concern is that almost everyone refers to BYD's NEV sales without splitting between BEV and PHEV. We recognize it takes that extra step to go and get the split but there is likely a difference to the China gasoline consumption decline forecast if the cars are BEVs vs PHEVs. This is not a question that the huge % increase in PHEVs is because the huge % is relative to a low base. BYD's PHEVs reached parity to BEV volumes about a year ago. So, the YoY % growth between the two is from a similar basis in 2024. BEVs had a big recovery in Feb vs Jan when BEVs were +19.7% YoY so both BEV and PHEV were up huge YoY. And PHEVs continue to be 1.5x BEV sales. Our table below shows the BYD Feb and YTD Feb 28 NEV sales split into BEV, PHEV, Commercial vehicles – bus and Commercial vehicles – others."

Figure 71: BYD New Energy Vehicle Sales for Feb and YTD Feb 28 2025

BYD New Energy Vehicle Sales: Feb 2025

	Feb-25	% Share	Feb-24	% Share	Volume Δ	% change
BEV	124,902	38.7%	54,908	44.9%	69,994	*127.5%*
PHEV	193,331	59.9%	66,840	54.6%	126,491	*189.2%*
Commercial Vehicle - Bus	453	0.1%	201	0.2%	252	*125.4%*
Commercial Vehicle - Others	4,160	1.3%	362	0.3%	3,798	*1,049.2%*
Total	**322,846**	**100.0%**	**122,311**	**100.0%**	**200,535**	***164.0%***

	YTD Feb 25	% Share	YTD Feb 24	% Share	Volume Δ	% change
BEV	250,279	40.1%	160,212	49.5%	90,067	*56.2%*
PHEV	364,400	58.5%	162,555	50.2%	201,845	*124.2%*
Commercial Vehicle - Bus	739	0.1%	526	0.2%	213	*40.5%*
Commercial Vehicle - Others	7,966	1.3%	511	0.2%	7,455	*1,458.9%*
Total	**623,384**	**100.0%**	**323,804**	**100.0%**	**299,580**	***92.5%***

Source: BIYD Production and Sales Volumes for February 2025 posted Mar 2, 2025
Prepared by SAF Group

Source: BYD

Big unknown – how much do Chinese drive in ICE vs electric mode

We have been asking this question for some time as it always seems to us to be a dirty little secret as to how much PHEVs are driven in ICE mode vs battery mode. And we think the question is valid in light of Sinopec's comments that gasoline sales are increasing, when most have been saying China's gasoline consumption has peaked in light of the big increase in NEVs sales. Here is another item from our Mar 2, 2025 Energy Tidbits memo. "*Big unknown – how much do Chinese drive in ICE vs electric mode. It seems like a dirty little secret for car companies to keep as to how much their PHEVs are driven in ICE mode vs electric mode. It is a split that they must all have but don't disclose whether it is in China, Europe or the US. The only clear statement we have seen was from Volvo and that wasn't in any disclosed reports, rather was the response in a conference call on how the km driven by their PHEVs is about 50/50 split ICE vs electric mode. Our BYD post highlighted this unknown. Our Tuesday post said "Dirty little secret for PHEVs, what % of kms driven are in ICE vs electric mode. PHEVs are really just more fuel efficient ICE vehicles. See 👇09/04 tweet. Volvo said its PHEVs kms driven are 50/50 ICE vs electric mode. Unknown for Chinese PHEVs. Surely more kms in electric than Volvo but how much more?" BYD newer higher end cars are moving more extended range electric, which has to help them drive significantly more in electric mode. But we don't know what % of kms are driven in ICE vs electric mode. In our prior posts on the BYD data, we remind that*

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the vast majority of Chinese in cities live in apartments vs single family homes. And given that most of these apartments were built in the big China boom from 2000 to Covid, we have to question if they are set for broad EV charging for most of the residents. Only BYD and therefore Chinese govt knows the data on how many kms these millions of PHEVs are driven in ICE mode vs electric mode."

HEVs & PHEVs are really just more fuel-efficient ICE vehicles

Here is another item from our Mar 2, 2025 Energy Tidbits memo. *"HEVs & PHEVs are really just more fuel-efficient ICE vehicles. We call it a dirty little secret by the car companies but, for some reason, they don't want to disclose what % of kms are their PHEVs driven in ICE mode vs electric mode. They have the data and we would have thought that would be some sort of sales/marketing pitch for the value equation of PHEVs vs ICE if they are driven mostly in electric mode. But that data doesn't seem to be something they disclose. As noted in our BYD post on Tuesday, it is unknown what % of kms are driven in ICE vs electric mode given vast majority of Chinese in cities live in apartments build in prior boom. Although, given that more BYD higher end PHEVs have are extended range electric, we would expect that Chinese drive their PHEVs significantly more in electric mode than driven by Volvo's PHEV owners. We linked to our prior disclosure on Volvo saying their PHEVs are driven about 50/50 in gasoline vs electricity mode. In the western world, HEVs are the big winners as opposed to PHEVs in China. The emergence of HEVs and PHEVs is a win or at least a much lesser loss of gasoline/diesel consumption vs BEVs. No one can deny an HEV will burn less gasoline or diesel than its ICE counterpart. However, we still find many don't understand that HEVs and even PHEVs are really just more fuel-efficient ICE vehicles and, in particular, for PHEVs that are generally lumped in with BEVs for an electrified car group. HEVs and PHEVs run on gasoline or diesel for likely at least half of the time for PHEVs, at least for Volvo's, and probably 90% for HEVs. On Sept 4, we tweeted [LINK] "HEV/PHEV 101 - They are really just more fuel efficient ICE. Ford: HEV F150 does 23 mpg vs ICE150 at 19 mpg. Volvo: PHEVs km driven are split 1/2 using battery, 1/2 using petrol/diesel. #OOTT." Our tweet referenced Ford and Volvo data on HEVs and PHEVs. On Ford F150 Hybrid vs ICE mpg. Our tweet included the EPA rated mileage for the Ford F150 ICE vs Hybrid. The EPA rates the Hybrid fuel efficiency as being only 4 mpg more than the ICE. That increased fuel efficiency would be reduced if it was a full apples-to-apples comparison. The ICE has a much larger towing capacity. The F150 ICE 3.5L cyl F-150 does 19 MPG with a tow capacity of 13,500 lbs. The F150 HEV 3.5L 6 cyl F-150 does 23 MPG with a tow capacity of 11,200 lbs. On Volvo PHEVs, most just lump PHEVs in with EVs because both are electrified. But the reality is that a lot of PHEV is driven in ICE mode. As noted earlier, Volvo backed off its fully electric plans and its press released noted "Volvo Cars' most recent data shows that around half of the kilometres covered by the latest plug-in hybrid Volvo cars are driven on pure electric power." So based on the "most recent data", Volvo PHEVs are driven around 50/50 between km driven in battery mode vs ICE mode. Given the press release was Volvo having to back away from its electrified goals, we have to be believe the "around half" driven by PHEV is likely below half. We also believe that Volvo has likely picked the best time period for PHEVs driving in battery mode. We would assume the most recent data is referring*

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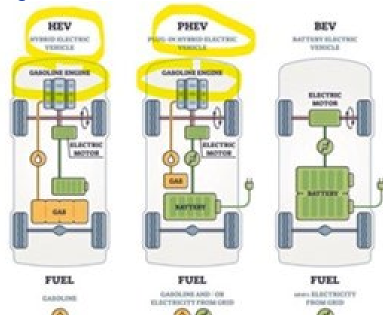
to some spring/early summer period and it does not include winter months where the PHEVs will be driven more in their ICE mode."

Figure 72: HEV vs PHEV vs BEV



Source: Engineering Infrastructure

Energy Transition: ACEA, EU Feb BEV sales +23.7% YoY, up +5.6% MoM

EU Feb BEV sales

As a reminder, EU new car registrations do not include the UK. EU BEV sales were up a big +23.7% YoY in Feb, which followed +34.0% YoY in Jan. And Feb BEV sales were +5.6% MoM from Jan sales. On Tuesday, we posted [LINK] "*Weak EU consumer? EU Feb car sales -3.4% YoY, YTD Feb -3.0% YoY. But BEV & PHEV up, Petrol & Diesel down. BEV Feb strong at +23.7% YoY to 15.4% share vs 12.0%. Big change from weak 2024 BEVs -5.9% YoY to 13.6% share vs 14.6%. PHEV Feb -1.4% YoY to 7.4% share vs 7.3% HEV keeps winning. Feb +19.0% YoY to 35.6% share vs 28.9%. Petrol down big. Feb -22.4% YoY to 28.6% share vs 35.6%. Diesel down big. Feb -28.8% YoY to 9.4% share vs 12.8%. Thx @ACEA_auto #OOTT."* A key theme from 2024 continues to play out: HEV sales are the big winner taking share from all the other fuels. But it was a big month for BEVs, which continue to be helped by reports of discounting BEVs to try to clear inventory. BEV Feb sales of 131,275 were up +23.7% YoY and up MoM vs Jan sales of 124,341. HEVs continue to be up strong and taking share from all other fuel sources. HEV Feb sales grew +19.0% YoY, bringing HEV share to 35.6% versus 28.9% in Feb 2024. PHEV sales were down -1.4% YoY, with the share down to 7.4%. And then the offset is that petrol and diesel sales are down big YoY. The other general economic theme is that EU total car sales of 853,670 were down -3.4% YoY, which may be a sign of a weak EU consumer. Below is our table of the ACEA EU auto sales for Feb by fuel sources. Our Supplemental Documents package includes the ACEA Feb new car registrations.

Figure 73: EU Feb new car registrations by power source

EU FEB CAR SALES

EU Feb 2025 New Car Registrations by Power Source

	Volume Feb-25	Volumes Feb-24	% Change	Share Feb-25	Share Feb-24	YTD Feb 25	YTD Feb 24	% Change	Share YTD Feb 25	Share YTD Feb 24
BEV	131,275	106,166	23.7%	15.4%	12.0%	255,489	198,936	28.4%	15.2%	11.5%
PHEV	63,570	64,475	-1.4%	7.4%	7.3%	124,947	131,591	-5.0%	7.4%	7.6%
HEV	304,062	255,443	19.0%	35.6%	28.9%	594,059	500,301	18.7%	35.2%	28.8%
Others	30,121	30,124	0.0%	3.5%	3.4%	57,855	63,260	-8.5%	3.4%	3.6%
Petrol	244,073	314,504	-22.4%	28.6%	35.6%	489,838	616,117	-20.5%	29.1%	35.5%
Diesel	80,569	113,126	-28.8%	9.4%	12.8%	163,452	226,893	-28.0%	9.7%	13.1%
Total	853,670	883,838	-3.4%	100.0%	100.0%	1,685,640	1,737,098	-3.0%	100.0%	100.0%

Others incl fuel-cell electric vehicles, natural gas vehicles, LPG, E85/ethanol, and other fuels

Sources ACEA

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

Source: ACEA

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Energy Transition: ACEA, Germany Feb BEV +30.8% YoY, up +4.2% MoM

Germany Feb BEV sales +30.8% YoY

After a brutal H2/24 for BEV sales in Germany, it has been a good start to 2025 for BEV sales in Germany on a YoY basis and a +4.2% MoM increase from Jan. The reports out of Europe were attributing the boost to government support in the run up to the Feb 23 Germany election. Germany BEV sales saw a big +30.8% YoY jump after a brutal Feb 2024, and its share increased to 16.6% from 10.5% from the previous year. On Tuesday, we posted [LINK] "*Weak German consumer. Feb car sales -6.4% YoY, YTD Feb -4.6% YoY But strong BEV and weak Petrol & Diesel. BEV: Continue strong in 2025 after brutal 2024. Feb +30.8% YoY to 17.7% share vs 12.6%. Brutal 2024 was -27.4% YoY to 13.5% share vs 18.4%. PHEV: Strong Feb +34.0% YoY to 9.6% share vs 6.7%. HEV: Feb +6.1% YoY to 28.6% share vs 25.2%. Petrol down big. Feb -26.2% YoY to 28.0% share vs 35.5%. Diesel down big. Feb -23.8% YoY to 15.8% share vs 19.4%. Thx @ACEA_auto #OOTT.*" Despite the large YoY increase, the BEV sales are being compared to brutal 2024 sales, and the continued lower overall car sales volume serves as a sign of the continued weak German consumer. All other power sources gained market share in 2024 besides BEVs, but in Feb BEV, PHEV, and HEV all gained share YoY. Below is our table of Germany new car registrations by power sources for Feb.

Figure 74: Germany Feb new car registrations by power source

GERMANY FEB CAR SALES

Germany Feb 2025 New Car Registrations by Power Source

	Volume Feb-25	Volumes Feb-24	% Change	Share Feb-25	Share Feb-24	YTD Feb 25	YTD Feb 24	% Change	Share YTD Feb 25	Share YTD Feb 24
BEV	35,949	27,479	30.8%	17.7%	12.6%	70,447	49,953	41.0%	17.1%	11.6%
PHEV	19,534	14,575	34.0%	9.6%	6.7%	37,246	28,969	28.6%	9.1%	6.7%
HEV	58,153	54,792	6.1%	28.6%	25.2%	117,405	106,894	9.8%	28.6%	24.8%
Others	771	1,283	-39.9%	0.4%	0.6%	1,635	3,206	-49.0%	0.4%	0.7%
Petrol	56,911	77,106	-26.2%	28.0%	35.5%	119,269	158,830	-24.9%	29.0%	36.9%
Diesel	32,116	42,153	-23.8%	15.8%	19.4%	65,072	83,089	-21.7%	15.8%	19.3%
Total	203,434	217,388	-6.4%	100.0%	100.0%	411,074	430,941	-4.6%	100.0%	100.0%

Others incl fuel-cell electric vehicles, natural gas vehicles, LPG, E85/ethanol, and other fuels

Sources ACEA

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

Source: ACEA

Energy Transition: ACEA, UK Feb BEV sales up +41.7% YoY, but down -28.3% MoM

UK Feb BEV sales +41.7% YoY

UK BEV sales continued their strong sales driven by discounting and the need for car manufacturers to try to get as close as possible to the UK govt targets for car manufacturers to have BEV sales to 28% of total car sales for 2025. The ACEA Feb new registrations for BEV sales in the UK amounted to 21,244 BEVs, which was +41.7% YoY but down -28.3% MoM from Jan. We have been highlighting for months that we expected to see strong BEV sales in the last few months as car manufacturers offer big discounts to try to get BEV to their target of total sales, which was 22% for 2024 and now 28% for 2025. On Tuesday, we posted [LINK] "*Weak UK consumer. UK Feb car sales -1.0% YoY, YTD Feb -1.9% YoY. But BEV, HEV strong vs very weak Petrol. BEV. Big month in Feb +41.7% YoY to 25.3% share vs 17.7%. YTD 22.8% share vs 15.8%. UK regulated target BEV 28% of total car sales in 2025. PHEV Feb +19.3% YoY to 8.7% share vs 7.2%. HEV Feb +14.2% YoY to 35.5% share vs 30.8%. Petrol Feb -33.5% YoY to 27,3% share vs 40.7%. YTD Feb 29.0% share vs 36.9% Diesel Feb -12.2% YoY to 3.25 share vs 3.6% Thx @ACEA_auto #OOTT*". We call the BEV numbers deceiving because there has been well reported big discounting and there has been ICE and HEV demand in the UK, but some car manufacturers held back ICE and HEV deliveries in 2024 to ensure BEV sales got as close as possible to the UK targeted minimum total car sales of 28% for 2025. So, if the BEV demand hasn't and still isn't high enough, then

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the car manufacturers must restrict and hold back ICE and HEV sales. But overall, UK Feb car sales were down -1.0% YoY signalling a weak UK consumer. Below is our table of UK new car registrations by power source for Feb.

Figure 75: UK Feb new car registrations by power source

UK FEB CAR SALES

UK Feb 2025 New Car Registrations by Power Source

	Volume Feb-25	Volumes Feb-24	% Change	Share Feb-25	Share Feb-24	YTD Feb 25	YTD Feb 24	% Change	Share YTD Feb 25	Share YTD Feb 24
BEV	21,244	14,991	41.7%	25.3%	17.7%	50,878	35,926	41.6%	22.8%	15.8%
PHEV	7,273	6,098	19.3%	8.7%	7.2%	19,871	18,042	10.1%	8.9%	7.9%
HEV	29,849	26,140	14.2%	35.5%	30.8%	81,634	73,575	11.0%	36.5%	32.3%
Others	0	0	n/a	0.0%	0.0%	0	0	n/a	0.0%	0.0%
Petrol	22,986	34,579	-33.5%	27.3%	40.7%	64,616	92,815	-30.4%	28.9%	40.8%
Diesel	2,702	3,078	-12.2%	3.2%	3.6%	6,400	7,404	-13.6%	2.9%	3.3%
Total	84,054	84,886	-1.0%	100.0%	100.0%	223,399	227,762	-1.9%	100.0%	100.0%

Others incl fuel-cell electric vehicles, natural gas vehicles, LPG, E85/ethanol, and other fuels

Sources ACEA

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

Source: ACEA

Energy Transition: An interruption in AI's 20-min training mode is very expensive

AI processing needs reliable 24/7 power

We were listening to CNBC Squawk on the Street on Fri morning when Magentar Capital's David Snyderman was explaining what he saw as Coreweave's moat. Magentar is a long-term large shareholder and debt holder of Coreweave. He was asked about what Coreweave's moat. He didn't specifically say intermittent wind and solar won't work for AI processing but he emphasized how any interruption during an AI's 20-min training mode is very expensive for AI processing. If so, the last thing an AI data center can have is any electricity interruptions from intermittency. On Fri, we posted [LINK] "*AI processing needs reliable not intermittent power. It's very expensive if AI data centers have any interruptions during their 20 min training times. "I don't think a lot people put in any substance in around saying reliability…. when you go to train a model. You save. You train for 20 min. And you save again. If at any time in that 20 min stand, it fails or breaks, you go back. Compute's really expensive. But that's not the most expensive piece. The most expensive piece is the compounding effect of not getting your product out to market" 👇Magentar Capital David Snyderman on @SquawkStreet. What else besides #NatGas & #Coal can step up in near term to provide additional 24/7 power? #OOTT.*" Our post included the video we made of Snyderman's comments.

Energy Transition: Sam Altman "*our GPS are melting*", temporary rate limits

Sam Altman on GPS issues

On Thursday, we posted [LINK] "*what else but #NatGas & bringing back #Coal can step up to provide 24/7 power so 👇@sama's GPUs don't melt and don't have to have rate limits? Yes, mini-nukes SMRs will be jump in but they are a decade or more away from any scale up. #OOTT.*" We forwarded the Sam Altman post "*it's super fun seeing people love images in chatgpt. but our GPUs are melting. we are going to temporarily introduce some rate limits while we work on making it more efficient. hopefully won't be long! chatgpt free tier will get 3 generations per day soon.*" No question Altman and all others have an ongoing priority for efficiency to reduce power and cooling needs. And Altman didn't says they can't work on intermittent wind and solar. However, the commentary continues to be on the need for maximum 24/7 power. Nuclear is a favorite for big tech but the reality is that mini-nukes (SMRs) are still a decade away from being able to scale up to size. And that continues to mean the only options for more 24/7 power in the next several years are to take more 24/7 power away from the grid or find a way to add more natural gas and coal.

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Energy Transition: EU airlines want urgent action to pull back SAF targets

EU airlines want SAF relief

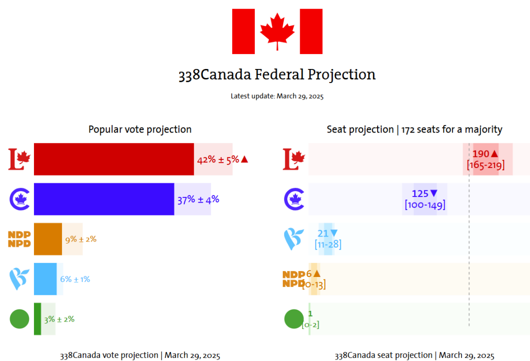
This has been something we have highlighted for years – the impossibility of EU airlines coming anywhere near what the EU wants for Sustainable Aviation Fuel as its both way more expensive than jet fuel and there is nowhere near the potential supply. On Thurs, we posted [LINK] "*Sustainable Aviation Fuel 101: Its way more costly vs JetFuel and isn't available in size. EU airlines want urgent action from EU to pull back on SAF & other Fit for 55 to protect competitiveness of air industry. 👇@A4Europe. #JetFuel will be needed for longer. #OOTT.* Airlines for Europe posted "*Europe's leading airlines ask policymakers to strengthen competitiveness and keep Europe connected. The CEOs of 17 of Europe's leading airline groups are asking policymakers in Brussels and Member States to urgently commit to policy choices that protect the competitiveness of Europe's airlines and keep air travel accessible for all Europeans.*" The urgent call is for the EU to (pull back) review their net zero transition targets and the need to bring down the cost of SAF. They also said the EU needs to *"avoid additional aviation taxes becoming the default position for national governments."* Our post highlighted SAF but the big picture is the EU airlines want the EU to back off their energy transition targets. It's another reminder that the energy transition is going to take way longer, cost way more and be a bumpy/rocky road. Our Supplemental Documents package includes the Airlines for Europe post.

Capital Markets: Liberals widen early lead in Canada's Apr 28 election

Canada election Apr 28

There are still 29 days to go until the Canada federal election on Apr 28. And a lot can happen but the early lead is to the Liberals who are, based on the 338Canada projections as of Mar 29, are widening the lead. Yesterday we posted [LINK] "*Day 6 of 37 in Canada Apr 28 election. Liberals widen lead in @338Canada 03/29 projections. 172 needed for majority. Liberals 190. Conservatives 125. Bloc 21. NDP 6. Green 1. #OOTT.*" Our post included the below 338Canada projections as of Mar 29.

Figure 76: 338 Canada Federal Projection update Mar 29, 2025



Source: 339Canada

Capital Markets: USDA Consumer Price Index for food +0.2% MoM in Feb, +2.6% YoY

USDA CPI for food +2.6% YoY

We believe the USDA consumer food price index is supposed to be a much better indicator

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for grocery store prices than the UN's food commodity price index. But we continue to believe that very few people would say their grocery cart bills are only +2.6% YoY. Rather grocery shoppers still have sticker shock on a lot of grocery staples and, as the grocery retailers highlight, consumers are always on the hunt for sale items and continue to trade down. On Tuesday, the USDA posted its February Consumer Price Index for food [LINK], which reported the Consumer Price Index for all food (CPI) increased +0.2% from January and is up +2.6% YoY in February. The +2.6% YoY increase in the Consumer Price Index has a relative weighting for the various food categories. Beef and veal were up +2.0% MoM, +7.6% YoY, and are expected to increase +5.2% over 2025. Retail eggs are up +12.5% MoM and +58.8% YoY and are expected to increase +57.6% in 2025 (this increase is likely due to continued HPAI outbreaks). Dairy products were fell -1.0% MoM, but were up +0.8% YoY, and the full year forecast is that dairy products will decrease -0.8% in 2025. It is important to note the USDA said *"In 2025, overall food prices are anticipated to rise slightly faster than the historical average rate of growth. In 2025, prices for all food are predicted to increase 3.2 percent, with a prediction interval of 1.3 to 5.1 percent. Food-at-home prices are predicted to increase 2.7 percent, with a prediction interval of -0.1 to 5.7 percent. Food-away-from-home prices are predicted to increase 3.7 percent, with a prediction interval of 2.6 to 4.9 percent."*

Capital Markets: US consumers spending less says lululemon CEO

US consumers spending less

We recognize that lululemon isn't going to represent the lower income US consumer. But it is a leading brand and leading brands tend to provide good indicators for the US consumer. As an aside, we also follow lululemon in great part due to it being founded by a former oilpatch co-worker, Chip Wilson. Lululemon was one of the big market stories on Friday morning with their Thurs afternoon results, in particular the CEO's comments on the consumer concerns on inflation, the economy, geopolitical circumstances leading to a material impact in traffic. One other interesting comment is that the traffic decline was in the US whereas Canada and international were fine. On Thurs, we posted [LINK] "*US consumers spending less says lululemon. "consumers are spending less due to increased concerns about inflation and the economy."' "considerable uncertainty driven by macro and geopolitical circumstances." "material impact to traffic across the industry" Note material impact in US traffic is not being seen in Canada & international. "the notable trend we saw was that shift in the US, nothing materially different in terms of either Canada or the international markets." Thx @business."* Our Supplemental Documents package includes excerpts from the Q4/25 call.

Capital Markets: Trump couldn't care if foreign car co's raise prices

Trump tariffs foreign cars

Trump supporter or not, he is at least setting the stage for Americans to buy more US made cars as he is forcing international car companies to raise prices. And he could care less if foreign car companies raise prices. But that also depends up on US car companies not raising prices and the WSJ reported Trump warned them not to do so. On Thurs, the WSJ reported [LINK] "*When President Trump convened CEOs of some of the country's top automakers for a call earlier this month, he issued a warning: They better not raise car prices because of tariffs. Trump told the executives that the White House would look unfavorably on such a move, leaving some of them rattled and worried they would face punishment if they increased prices, people with knowledge of the call said. Instead, Trump said, they should be grateful for his elimination of what he called former President Joe Biden's electric-vehicle mandate, which involved subsidies and emissions requirements to encourage electric-car production."* Yesterday,Trump reminded he could care less if foreign car companies raise

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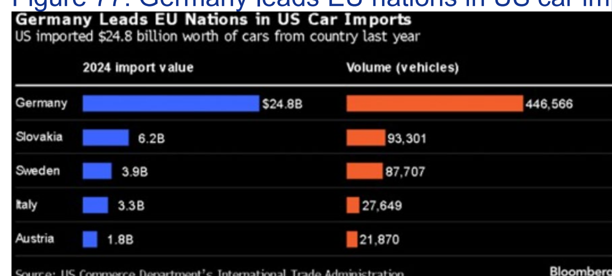
prices. NBC News reported on their telephone conversation with Trump. [LINK]. NBC wrote *"Asked what his recent message was to motor industry CEOs, and whether he had warned them against raising prices, Trump said, "The message is congratulations, if you make your car in the United States, you're going to make a lot of money. If you don't, you're going to have to probably come to the United States, because if you make your car in the United States, there is no tariff." When pressed if he told CEOs not to raise prices, as reported in the The Wall Street Journal, Trump added, "No, I never said that. I couldn't care less if they raise prices, because people are going to start buying American-made cars." Trump continued, "I couldn't care less. I hope they raise their prices, because if they do, people are gonna buy American-made cars. We have plenty." Asked if he was concerned about car prices going up, Trump said, "No, I couldn't care less, because if the prices on foreign cars go up, they're going to buy American cars." After the interview, an aide to the president followed up with NBC News to say that Trump was referring specifically to foreign car prices."*

Capital Markets: Will Trump tariff on autos lead to luxury car deals in Canada?

Trump tariffs foreign cars

We are still waiting for the almost all of the major European luxury carmakers to announced price changes in the face of Trump's 25% tariffs. We suspect there is a bit of concern they don't want to be first mover and therefore get the spotlight in a negative way. The only announcement we have seen so far is Ferrari rising prices up to 10% but Ferrari is a unique market in itself. But the price increases are coming in the US. The broad expectation is they will lose sales due to price increases. The 2025 model year is about half over so the tariff timing is not great for the end of the 2025 production period. What isn't clear is what will the German luxury carmakers do with volumes allocation and pricing in Canada. On Thurs, we posted [LINK] "*If German luxury cars are going to get hammered selling into the US, maybe Mercedes, BMW, Porsche, etc should send more cars to Canada and price the 2025s to move them? Good chart from @WillWilkesNews #OOTT."* Our post included the below Bloomberg chart that shows US oil imports by EU country.

Figure 77: Germany leads EU nations in US car imports



Source: Bloomberg

Demographics: Canada's "total population" +63,382 in Q4 to 41,528,680 on Jan 1, 2025

Canada total population 41,528,680

On Mar 19, Statistics Canada reported [LINK] Canada's population grew by 63,382 in Q4 to 41,528,680 as of Jan 1, 2025. This was an +0.2% QoQ increase, marking the slowest growth rate since Q4 2020, and it was within the typically lower growth range for Q4 during the last decade pre-Covid (2009-2019). International immigration accounted for 98.5% of the growth in the quarter, and 97.3% of growth over the full year equaling +724,586 immigrants. This brings Canada's total population growth for 2024 to +744,324, a growth rate of 1.8%. The

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report noted that Canada gained +483,591 permanent immigrants in 2024, which is the highest number of immigrants welcomed in a year since 1972, but it was still in line with the 2024-2026 Immigration Levels Plan of Immigration, Refugees and Citizenship Canada.

Figure 78: Canada's population estimate as of Jan 1, 2025

Geography	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025
	Persons				
Canada (map)	40,784,356	41,038,370	41,288,599	41,465,298	41,528,680
Newfoundland and Labrador (map)	541,820	543,141	545,247	545,880	545,579
Prince Edward Island (map)	176,318	177,318	178,550	179,301	179,280
Nova Scotia (map)	1,068,120	1,071,498	1,076,374	1,079,676	1,079,627
New Brunswick (map)	844,433	849,168	854,355	857,381	858,963
Quebec (map)	8,956,326	9,003,338	9,056,044	9,100,249	9,111,629
Ontario (map)	15,944,379	16,033,583	16,124,116	16,171,802	16,182,641
Manitoba (map)	1,475,046	1,485,955	1,494,301	1,499,981	1,504,023
Saskatchewan (map)	1,226,848	1,233,068	1,239,865	1,246,691	1,250,909
Alberta (map)	4,791,876	4,842,523	4,888,723	4,931,601	4,960,097
British Columbia (map)	5,627,961	5,666,888	5,698,430	5,719,594	5,722,318
Yukon (map)	45,936	46,353	46,704	46,948	47,126
Northwest Territories[5] (map)	44,499	44,686	44,731	44,936	45,074
Nunavut[5] (map)	40,794	40,851	41,159	41,258	41,414

Source: Statistics Canada

Reminder forecasts tend to exclude non-permanent residents
In our Dec 24, 2023, Tidbits we said the following "*It is important to remember that most forecasts for Canada's population growth do not include non-permanent residents. Rather the forecasts normally only include growth in immigrants. We find this a little misleading as adding people is adding people to the country and it seems like non-permanent residents are here for much longer than many expect. It isn't unusual to speak to people in the service industry who have been in Canada for more than a decade as non-permanent resident.*"

Capital Markets: Eggs in Canada are expensive but not as much as in US

Egg price comparison

As noted earlier in the USDA CPI for food item, the cost of eggs has soared for the US in previous months. What some have called "eggflation" has seen eggs skyrocket to record high prices in select countries due to factors such as bird flu outbreaks and increasing production costs. Canadian consumers have surely noticed the rising egg prices when looking at their grocery bills compared to last year, so it makes sense to see Canada among the most expensive countries to buy a dozen eggs [LINK]. The table below ranks 30 selected countries by the least to the most expensive price for 12 regular-sized chicken eggs (in USD$) sourced from Numbeo cost of living data [LINK].

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Figure 79: Rankings for the cost of a dozen eggs (USD$)

Rank	Country	Price ($)	Rank	Country	Price ($)
1	India	$0.96	16	Singapore	$3.24
2	Indonesia	$1.56	**17**	**Canada**	**$3.37**
3	Russia	$1.58	18	Germany	$3.62
4	China	$1.62	19	Chile	$3.70
5	Malaysia	$1.93	20	Belgium	$3.80
6	Brazil	$1.99	21	UK	$3.84
7	Philippines	$2.05	22	Ireland	$4.07
8	Japan	$2.14	23	France	$4.08
9	Colombia	$2.18	24	USA	$4.11
10	South Africa	$2.22	25	Australia	$4.13
11	Mexico	$2.28	26	Sweden	$4.14
12	Argentina	$2.55	27	Austria	$4.35
13	Peru	$2.65	28	Netherlands	$4.57
14	Spain	$2.80	29	New Zealand	$6.22
15	UAE	$2.97	30	Switzerland	$6.85

Source: MSN, Numbeo, SAF Group

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

In January, 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: Hundred Acre 2011 Kayli Morgan

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. In this case, it was only a 14-yr old wine that I thought I would drink ahead of the Trump Apr 2 tariff day. For this occasion, I wanted to drink what I have always found as the best Napa Valley wines – winds from Hundred Acre's Jayson Woodbridge. Little trivia item, he was an investment banker in Canada pre-his wine making days. I was fortunate to get on the list in the 2000s from mutual Cdn financial contacts. On Thursday, I posted the wine of the week, Jayson's 2011 Kayli Morgan. I opened it and put it in the decanter. Took a sip an hour later and it was great but waited until I did a little bit more work before getting into the wine. It was probably the best of the great wines that I have opened in the past eight months in the wine of the week.

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Figure 80: 2011 Hundred Acre Kayli Morgan, Napa Valley

Source: SAF Group, K&L Wines

Seems like a lot less tourists were in San Jose del Cabo in March

Another anecdote from talking to neighbours, business owners and being out at the popular restaurants during what is normally a busy March period – there are less tourists this year. Foot traffic in retail is down, road traffic is less and even the most popular restaurants for tourists were not full. It was noticeably more quiet than would be expected. Businesses are expecting to see more Canadians as Canadians redirect travel away from the US to other destinations. But that redirection hasn't happened so far. Rather the comments from some of the popular restaurant mangers is that they are seeing less Canadians. They don't have a reason but we suspect the weak Cdn dollar plays a key role as the popular San Jose del Cabo restaurant pricing are US dollar based.

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