



School of  
Public Policy



# Alberta Next: Energy & Environment

Presented to Calgary Chamber of Commerce

22 September 2025

Robert J. Johnston, Ph.D.

[Robert.Johnston2@ucalgary.ca](mailto:Robert.Johnston2@ucalgary.ca)

# Key Topics

- Geopolitical context- post-institutionalism, economic warfare, new allies
- Looking west: Asian market diversification for oil and gas
- Looking south: US – Energy Dominance or Energy Abundance
- Canadian industry and policy responses
- Implications for Alberta energy

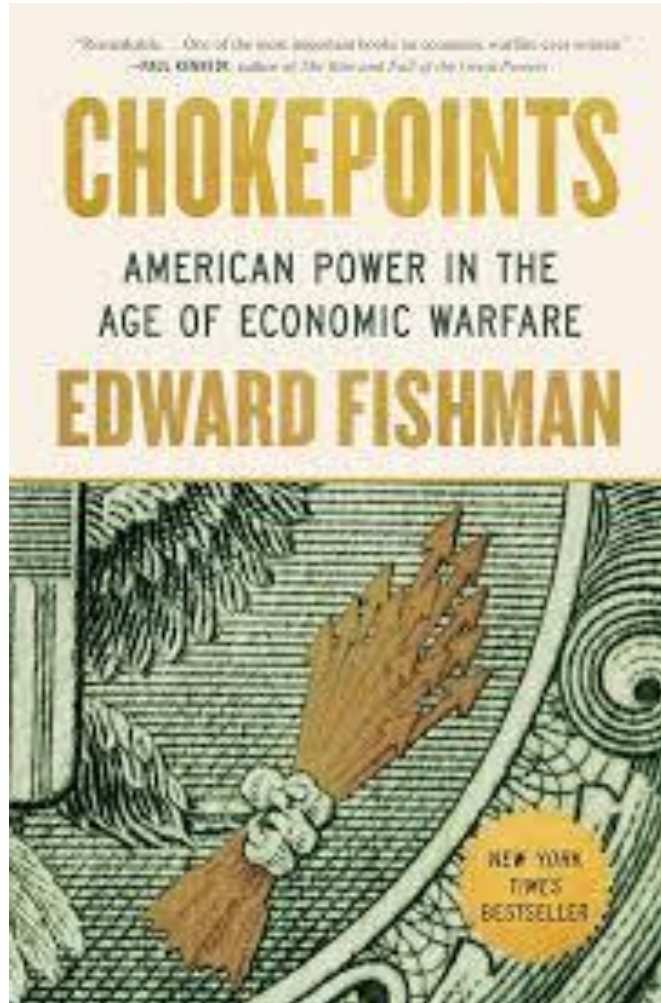
# I. The Geopolitical Landscape



# Great power competition in a post-institutionalist world



- Canada and other middle powers stranded in new realignment of global powers
- US shifting from status quo power to revisionist power-redefining a global system that was largely built by the US itself
- Erosion of global institutions and rules-based order (WTO, WHO, NATO etc) leaves Canada exposed as US withdraws
- Disruption of US domestic political institutions creates further risk of instability



## Context: economic warfare

“We have moved from the age of globalization to the age of economic warfare.”

*Rise of sanctions, export controls, and tariffs as primary instrument of state power*

Phase I: US multilateral sanctions targeting adversaries- Iran, Russia, Libya

Phase II: US unilateral sanctions and export controls targeting adversaries- China/Huawei, Iran “maximum pressure”

Phase III: US unilateral tariffs targeting allies and trading partners

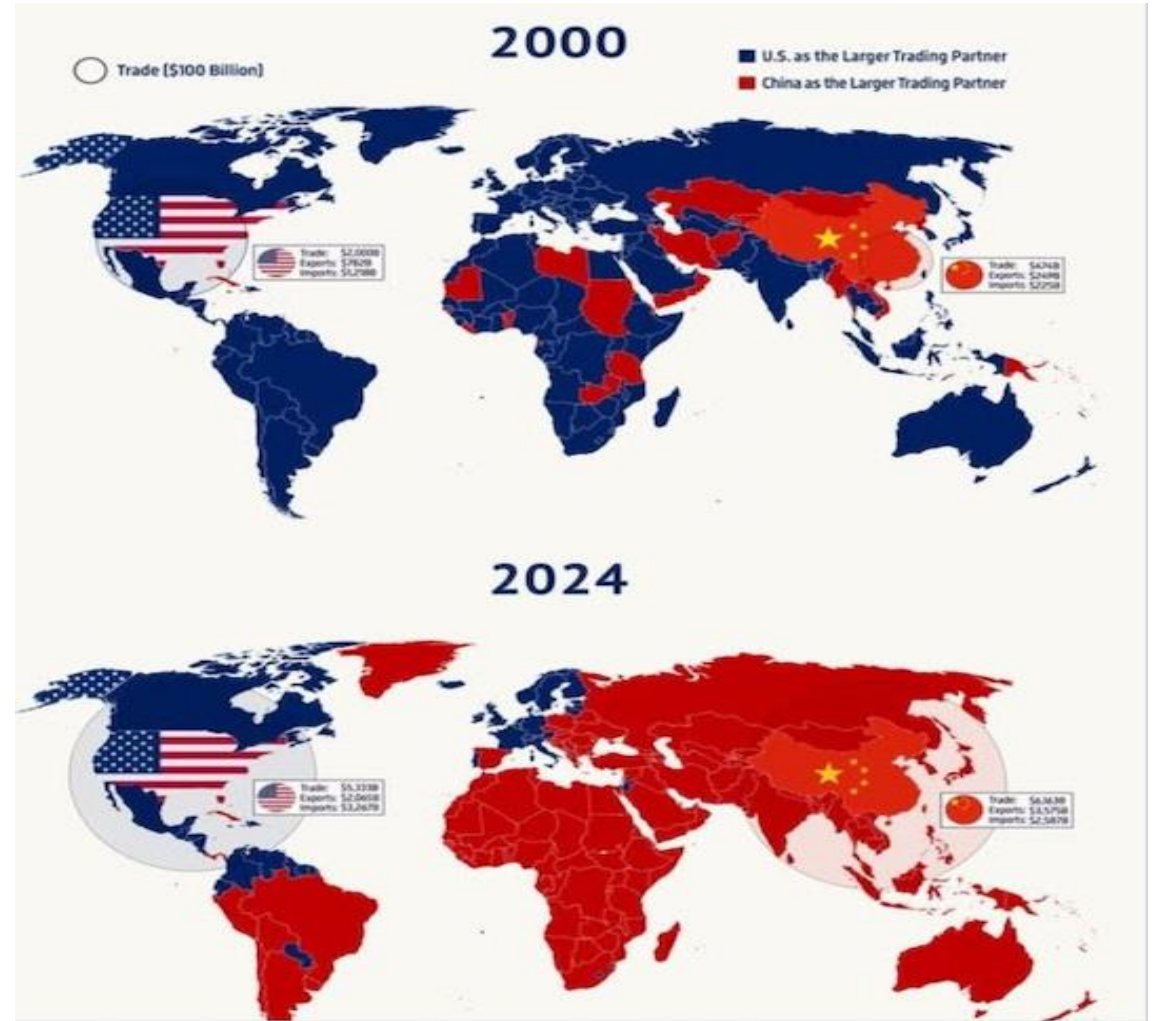
Phase IV: ??????

# US perception of the China threat is rising

China dominates the global trade map by number of trading partners- and overall trade volume by value

Does Trump focus on the Western Hemisphere or continue his first-term (and Biden's) pushback on China in East Asia, Latin America, and Western Europe?

US focus on containing China limits market diversification options for Canada and Mexico





# New G-20 partners for Canada?



- Europe-led “rebuild” of Trans Atlantic architecture
  - Trade
  - Climate
  - Security
- Can EU deliver this with its own internal problems?
- Asia
  - Will Trump pursue a more multilateral approach to deal with “symmetric” China threat?
  - Will Japan/Korea/India hedge against US and seek deeper links with the EU- or even China?
  - Saudi influence extending well beyond oil- US investment, Ukraine talks, critical minerals

## II. Market Diversification- Asia





# Canadian Oil Market Diversification: Asian demand in flux

## Asia Pacific oil demand by product, 2019-2030 (mb/d)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2024-30 Growth Rate	2024-30 Growth
LPG/Ethane	4.4	4.4	4.6	4.9	5.2	5.5	5.6	5.7	5.9	6.0	6.1	6.2	2.0%	0.7
Naphtha	4.6	4.5	4.8	4.8	5.2	5.2	5.4	5.7	5.8	6.0	6.1	6.3	3.0%	1.0
Gasoline	7.6	7.3	7.8	7.9	8.1	8.0	7.9	7.8	7.7	7.6	7.4	7.2	-1.7%	-0.8
Jet/Kerosene	2.9	1.9	1.9	1.8	2.5	2.7	2.8	2.8	2.9	3.0	3.1	3.2	2.6%	0.5
Gasoil/Diesel	9.6	9.3	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.1	10.1	0.7%	0.4
Residual fuel oil	2.4	2.4	2.6	2.6	2.7	2.7	2.6	2.7	2.6	2.6	2.6	2.6	-0.4%	-0.1
Other products	4.5	4.5	4.5	4.7	4.7	4.7	4.7	4.8	4.8	4.9	5.0	5.0	1.0%	0.3
<b>Total products</b>	<b>36.0</b>	<b>34.2</b>	<b>35.6</b>	<b>36.3</b>	<b>38.0</b>	<b>38.6</b>	<b>38.9</b>	<b>39.4</b>	<b>39.8</b>	<b>40.1</b>	<b>40.4</b>	<b>40.7</b>	<b>0.9%</b>	<b>2.0</b>
<b>Annual change</b>	<b>0.6</b>	<b>-1.8</b>	<b>1.4</b>	<b>0.7</b>	<b>1.6</b>	<b>0.7</b>	<b>0.3</b>	<b>0.5</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.2</b>		

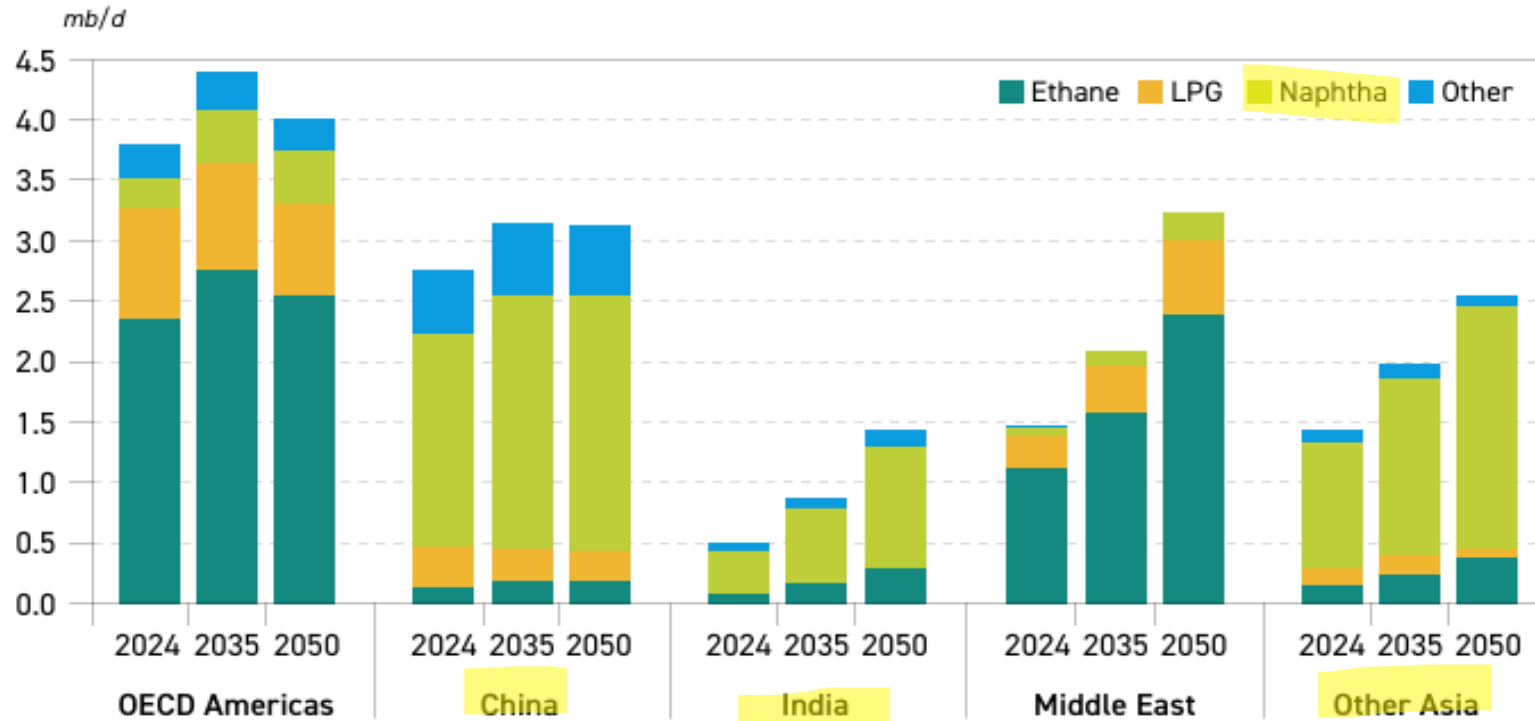
Source: IEA Oil 2025



# Preparing for the era of “crude-to-chemicals”

Figure 3.23

Regional demand in the petrochemical sector by product, 2024–2050



Source: OPEC.



## Canadian oil has the potential to...

- Displace Russian and Iranian crudes (with some blending/creativity)
- Provide leverage for Asian refiners with OPEC+ and US shale/Trump
- Use oil as a catalyst for other Canadian trade and geopolitical relationship building
- Support product exports back to the US and Europe (and BC???)
- Position long-term for “decarbonized” oil for Japan/Korea/Singapore
- However, we must align with the needs of the customer- increasingly driven by crude-to-chemicals and jet fuel



## **Canadian LNG to Asia equation = “more expensive coal, less expensive gas”**

- Electric power: coal-to-LNG, coal to abated gas
- Transportation: shipping (bunker to LNG/gas derivatives) and trucking (diesel to CNG)
- Industrial: coal-to-chemicals and coking coal/steel
- Cooling demand- rising temperatures/bulb points = growth in A/C
- AI/data centers



# LNG market update: key developments

- US LNG start-ups and sanctions continue (Plaquemines T2, Corpus Christi T3, Golden Pass)
- Qatari mega-wave of LNG coming to market
- Trump/EU/Russia “sanctions for gas” dealings
- Trump pushback on EU methane regs & CSRD regulations
- US trade/geopolitical tensions with India and South Korea
- Power of Siberia 2 pipeline MOU- 50bcm
- Will glut/lower prices stimulate demand?



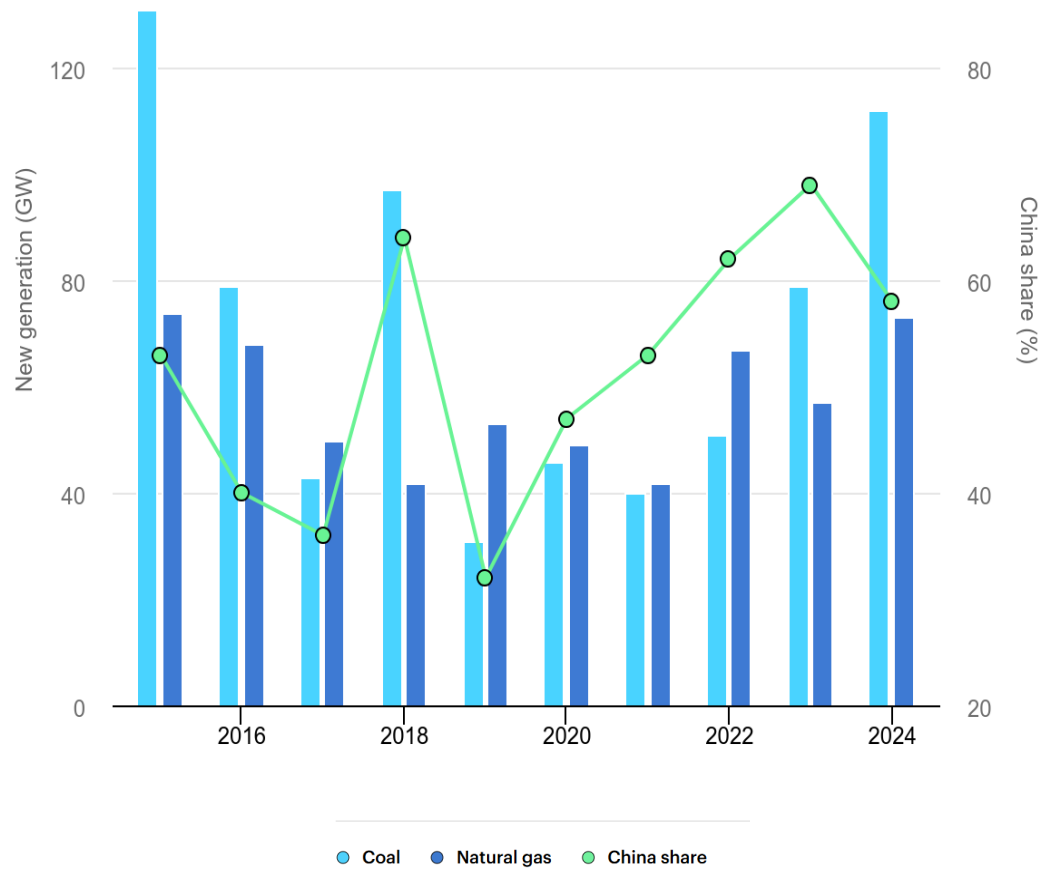
# New coal and natural gas-fired generation Final Investment Decisions, 2015-2025

China's "electro-state" dominating power plant construction

Coal outpacing gas-fired generation-particularly ex-OECD countries

Gas too expensive in many non-OECD markets

IEA (2025), New coal and natural gas-fired generation Final Investment Decisions, 2015-2025, IEA, Paris <https://www.iea.org/data-and-statistics/charts/new-coal-and-natural-gas-fired-generation-final-investment-decisions-2015-2025>, Licence: CC BY 4.0



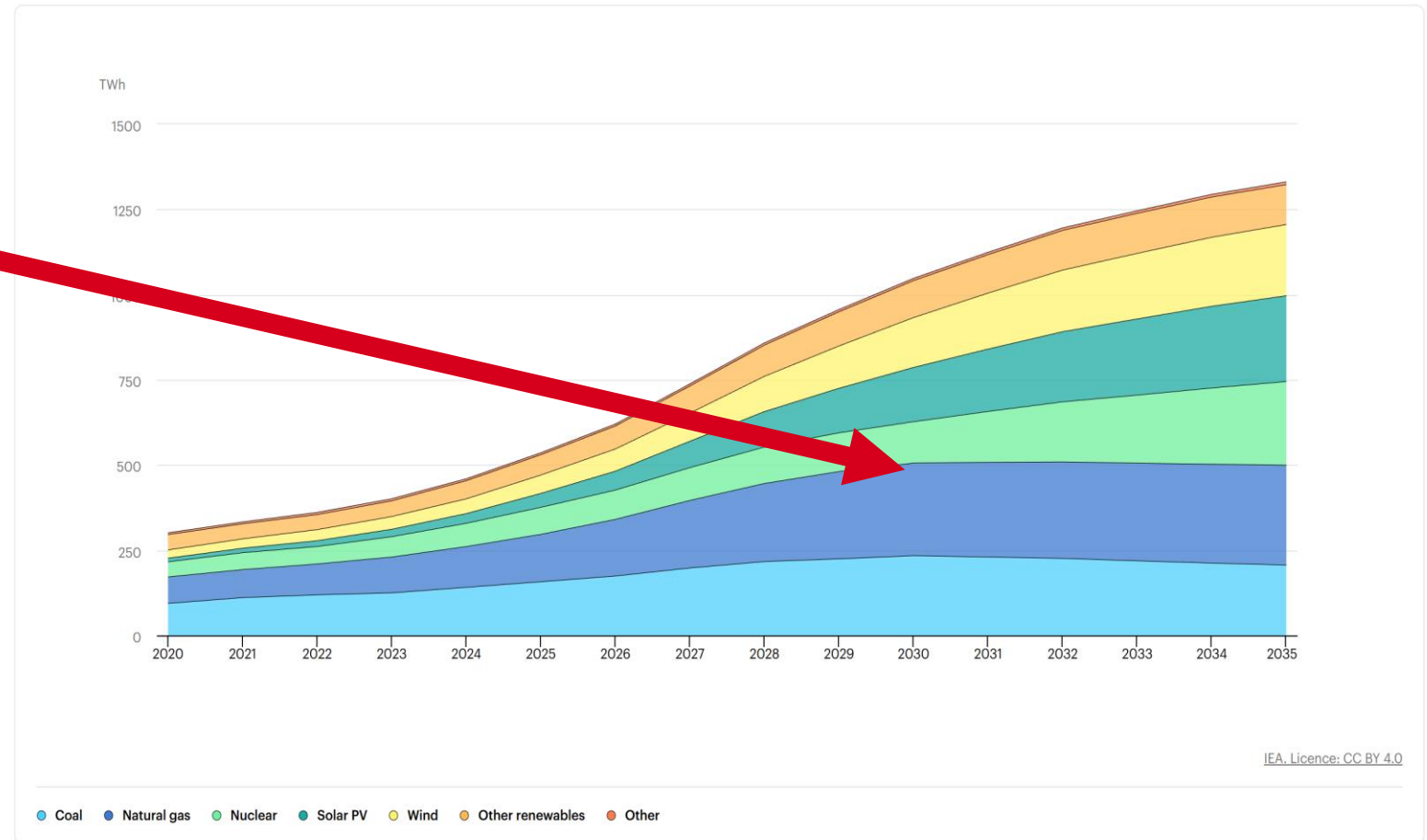


# Sources of global electricity generation for data centres, Base Case, 2020-2035

Data center demand growth- peak in coal and gas demand by 2030?

How likely is that to happen?

IEA (2025), Sources of global electricity generation for data centres, Base Case, 2020-2035, IEA, Paris  
<https://www.iea.org/data-and-statistics/charts/sources-of-global-electricity-generation-for-data-centres-base-case-2020-2035>,  
Licence: CC BY 4.0

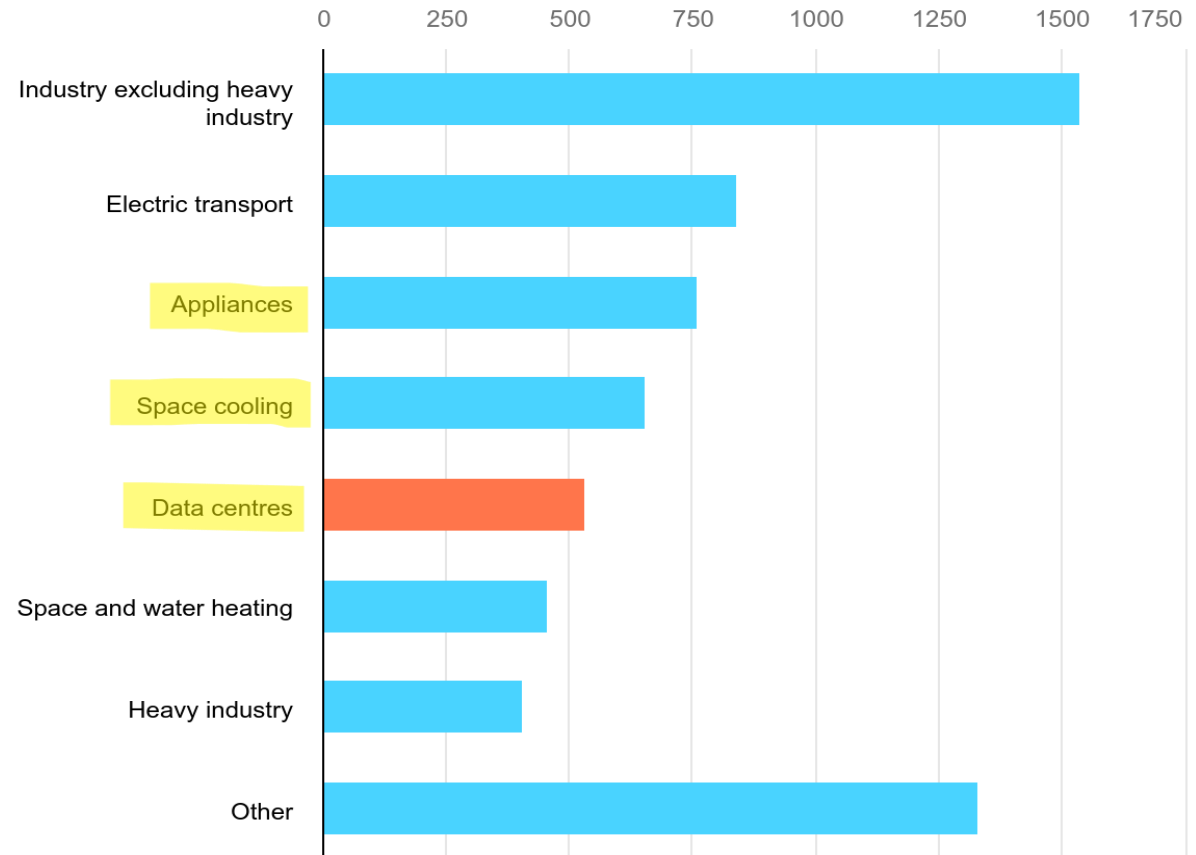




## Appliance and cooling demand electricity demand growth exceeds data centers

IEA (2025), Increase in electricity demand by sector, Base Case, 2024-2030, IEA, Paris <https://www.iea.org/data-and-statistics/charts/increase-in-electricity-demand-by-sector-base-case-2024-2030>, Licence: CC BY 4.0

IEA Global Electricity Demand Growth by Sector 2024-2030 (Twh)





## **Heat key driver of coal demand in SE Asia: redefining energy security & highlighting energy/public health link**

“Electricity demand in Southeast Asia is set to surge at an annual rate of 4%, the report projects, with growing use of air conditioning amid more frequent heatwaves a big driver of increased electricity consumption.”

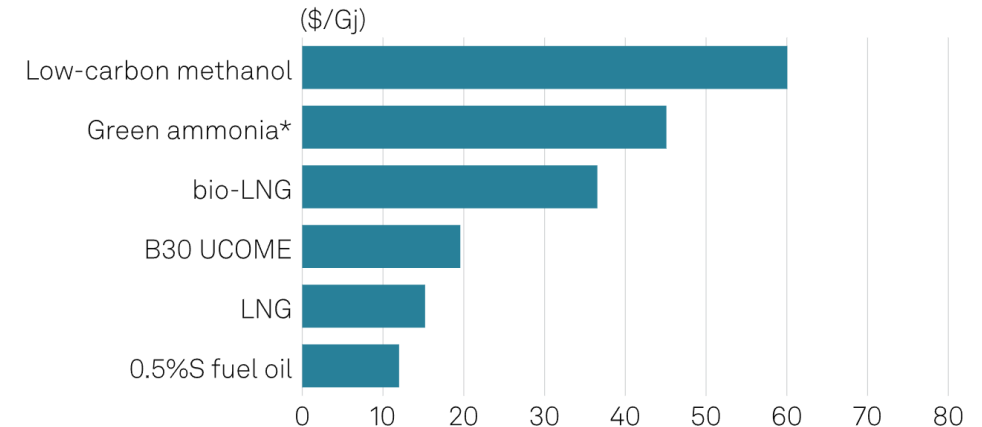
<https://www.iea.org/news/southeast-asias-role-in-the-global-energy-system-is-set-to-grow-strongly-over-next-decade>



# Shipping/maritime markets are opportunity for abated gas

- **Shipping:** grey/green/blue competition – layered on top of LNG/methanol/ammonia competition
- Dual-fuel bunker/LNG winning for now
- IMO ratification + EU leadership driving decarbonization
- Traditional fuel oil/bunker market +/- 5mmbpd globally

## Green fuels much more costly than marine fuel oil



Note: Ammonia cargo cost. Platts June average delivered bunker prices in Rotterdam for other fuels.

Source: S&P Global Commodity Insights

# Risk to LNG- the information war on methane emissions from LNG is heating up

## Chart: Is LNG worse for the climate than coal?

Research suggests that liquefied natural gas can have a bigger emissions footprint than coal, undermining LNG's status as a "bridge fuel."



By **Maria Virginia Olano**  
26 January 2024



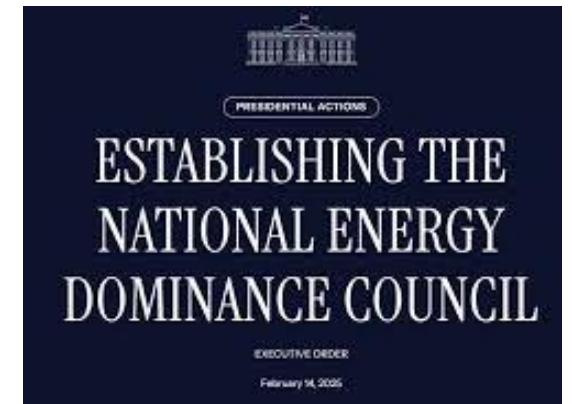
### III. US-re-examining the north-south energy relationship





# USA: energy dominance or energy abundance?

- Trump vision of reindustrialization relies on cheap domestic energy- i.e. AI/data centers
- “Kitchen table” issues- inflation and disposable income remain politically sensitive- for Congress more so than Trump apparently
- Emerging tension between Trump and “drill baby drill” world in the US and Saudi
- Dominance = high prices, abundance = low prices- who wins?

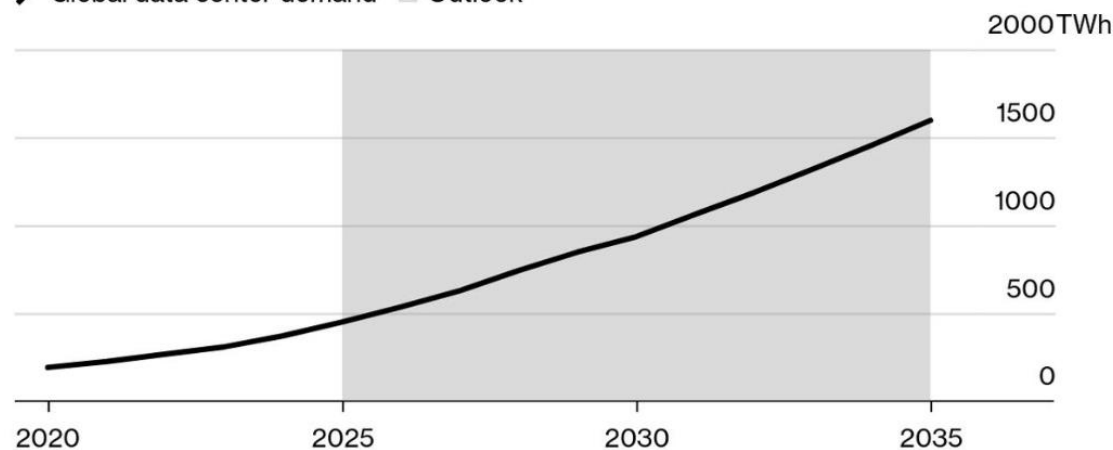


# US data center boom = energy emergency?

## AI Power Boom

Data center electricity demand forecast to more than triple by 2035

Global data center demand Outlook



Source: BloombergNEF

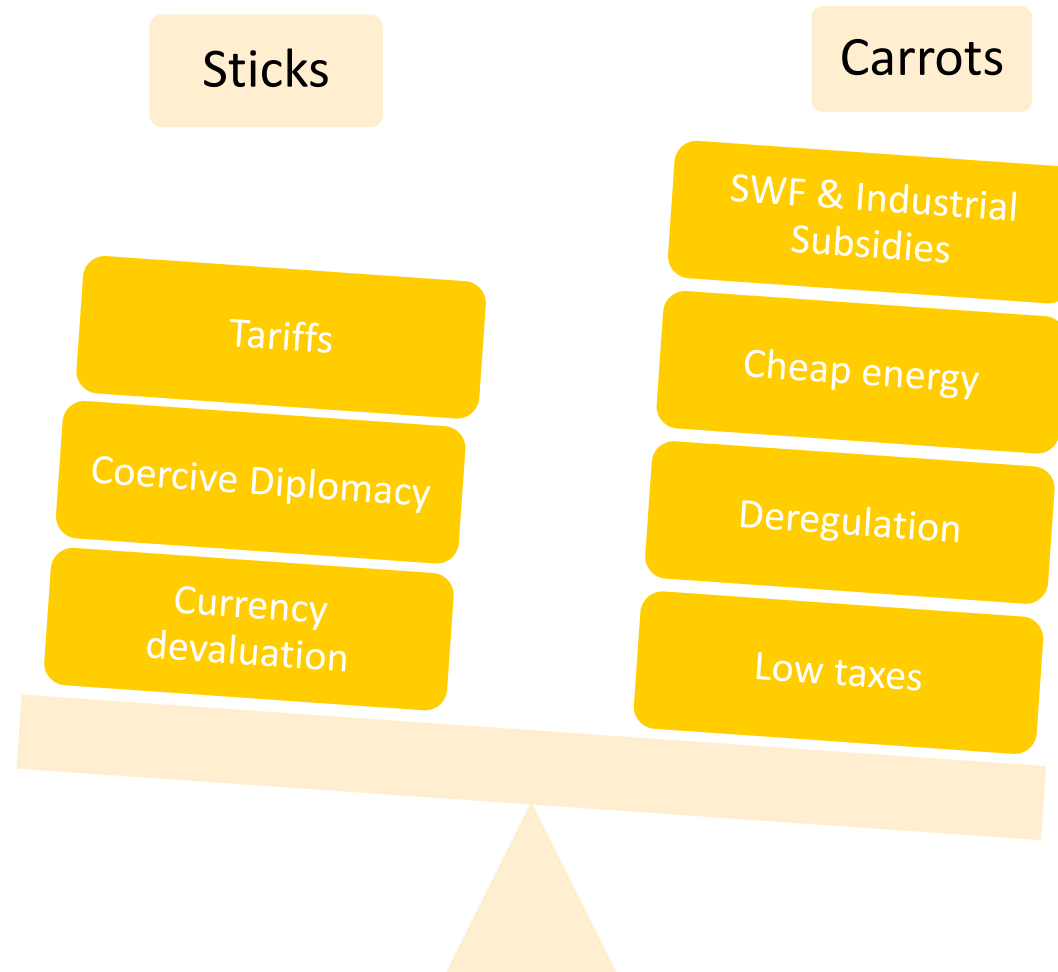
Note: Demand measured in terawatt-hours

Bloomberg

- Global AI power demand expected to equal 40% of US current electricity demand by 2035
- Which fuels/technologies will support this growth?
- Can Canada partner with the US or should we pursue our own data center projects?
- What are the electricity price implications for other users on the grid- including trade-exposed manufacturing?

# US reindustrialization: sticks, carrots, and energy abundance?

**Trump's  
reindustrialization  
strategy goes well  
beyond tariffs-  
what is the  
Canadian  
response?**



# Trump team taking electricity cost challenge on directly



JH Campbell coal plant in Michigan – kept open following Trump executive order on 5/30/25 just 24 hours before closure

- Cheap electricity, not clean electricity
- Extending the life of coal plants
- Fast-tracking permitting- nuclear, new transmission, gas pipelines
- Special industrial tariffs
- Canceling clean electricity standard type mandates- offshore wind, CCUS
- Demand shift from EVs/electrolyzers /heat pumps to AI and manufacturing



## IV. Canadian industry and policy response



# Growth case for Alberta oil



Oil sand production grew from 2.5mmbpd to 3.5mmbpd from 2015 to 2024



Smith government talking about doubling oil sands production over next decade- “use it or lose it”



Industry capex would need to return to pre-2014 levels



Industry focus more cautious- partially regulatory/cost environment, partially investor preference for share buybacks & dividends



Improved market access will help but not likely to be enough

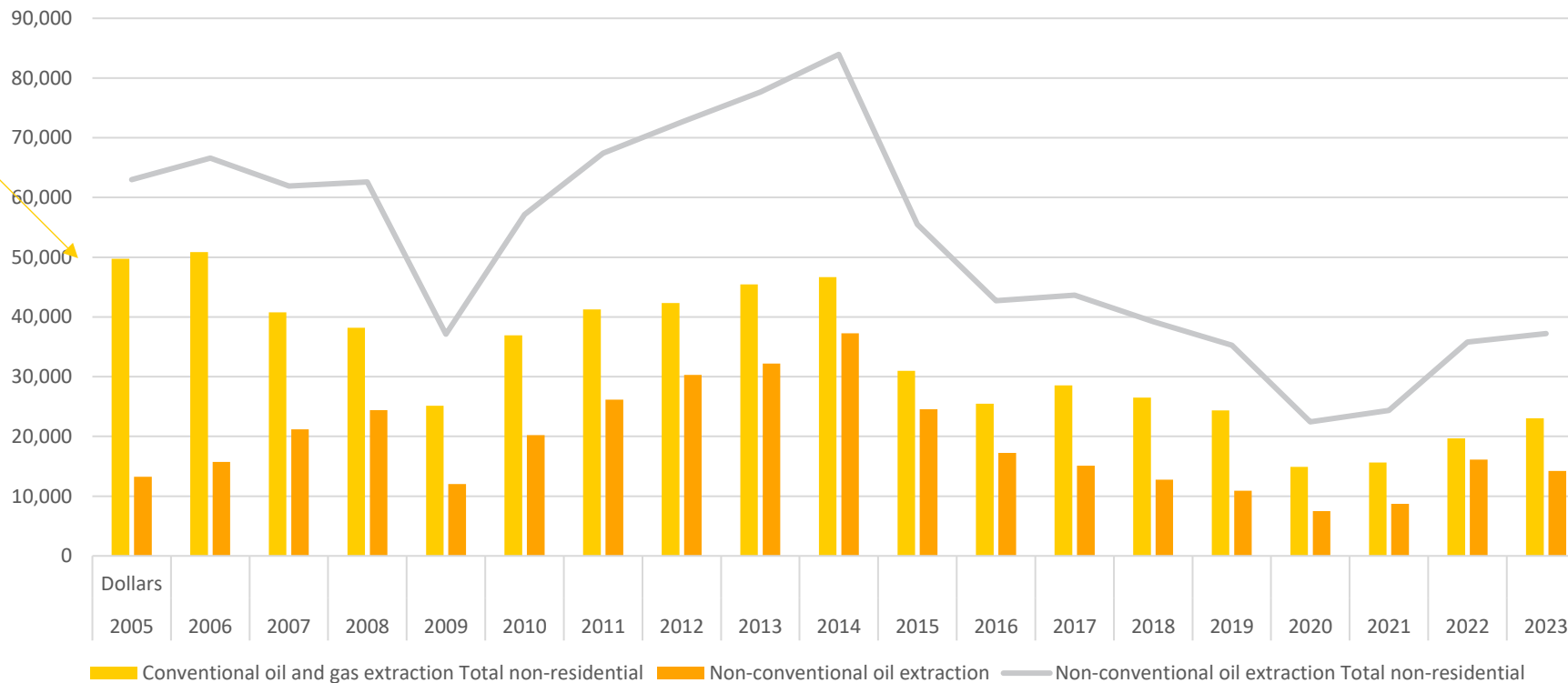


Provincial bitumen royalty-in-kind program will play some kind of role



# Canadian upstream recovery since 2021- still less than half of 2014 peak

Canadian Upstream Oil and Gas Capital Investment 20025-2023 (2017 CAD- millions)





# Canadian oil and gas capex- another super-cycle? How would this time be different than 2015?

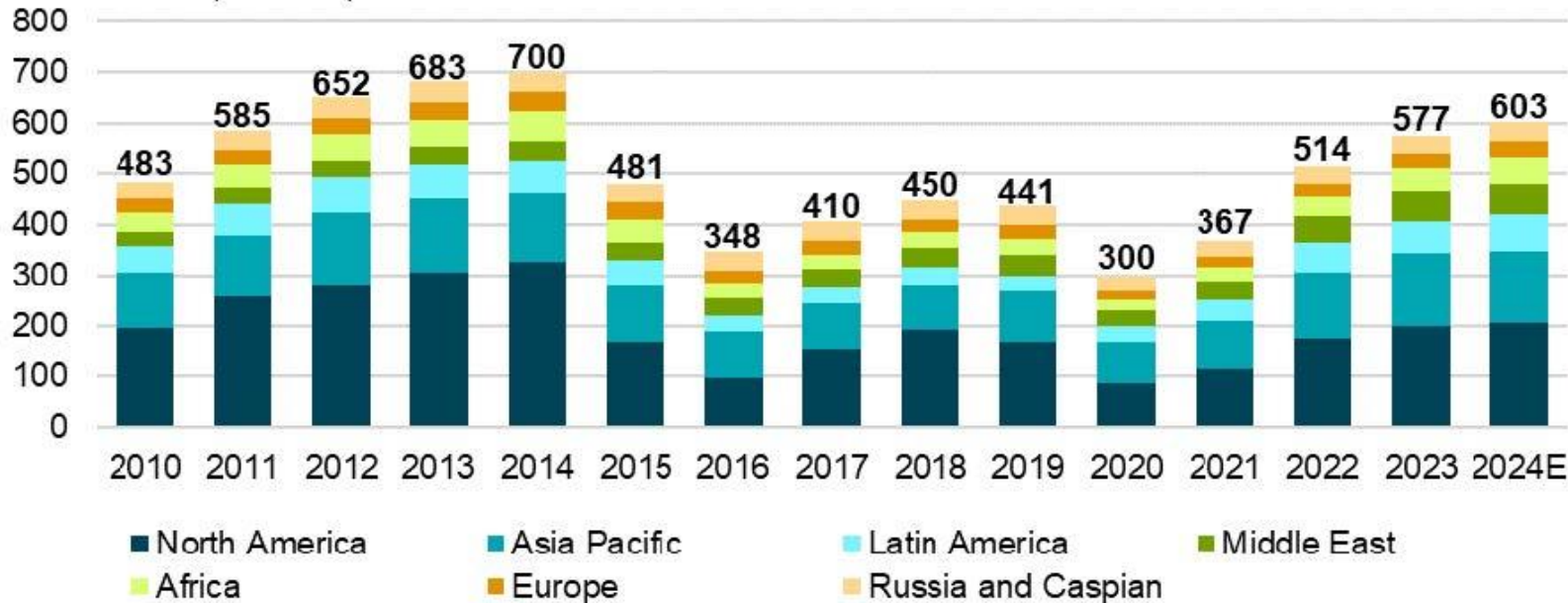
	2015	Current
OPEC+ (Saudi/UAE)	Pursued market share	Currently unwinding COVID-era cuts
OPEC+ (Russia)	Pursued market share	Constrained by sanctions and under-investment
US shale	Ramped from 9mmbpd to 13mmbpd	Expected to top out around 14mmpd and decline
Capital markets	NOCs and shale able to access debt markets	Capital providers (OPEC governments, financial markets) prefer dividends to reinvestment
Canadian policy	Trudeau government takes power November 2015	Carney government takes power May 2025



# Global factors- spare capacity, EM growth, electrification- drive upstream investment

## Upstream Oil & Gas Capex

Billion USD (nominal)



Source: IEF, S&P Global Commodity Insights

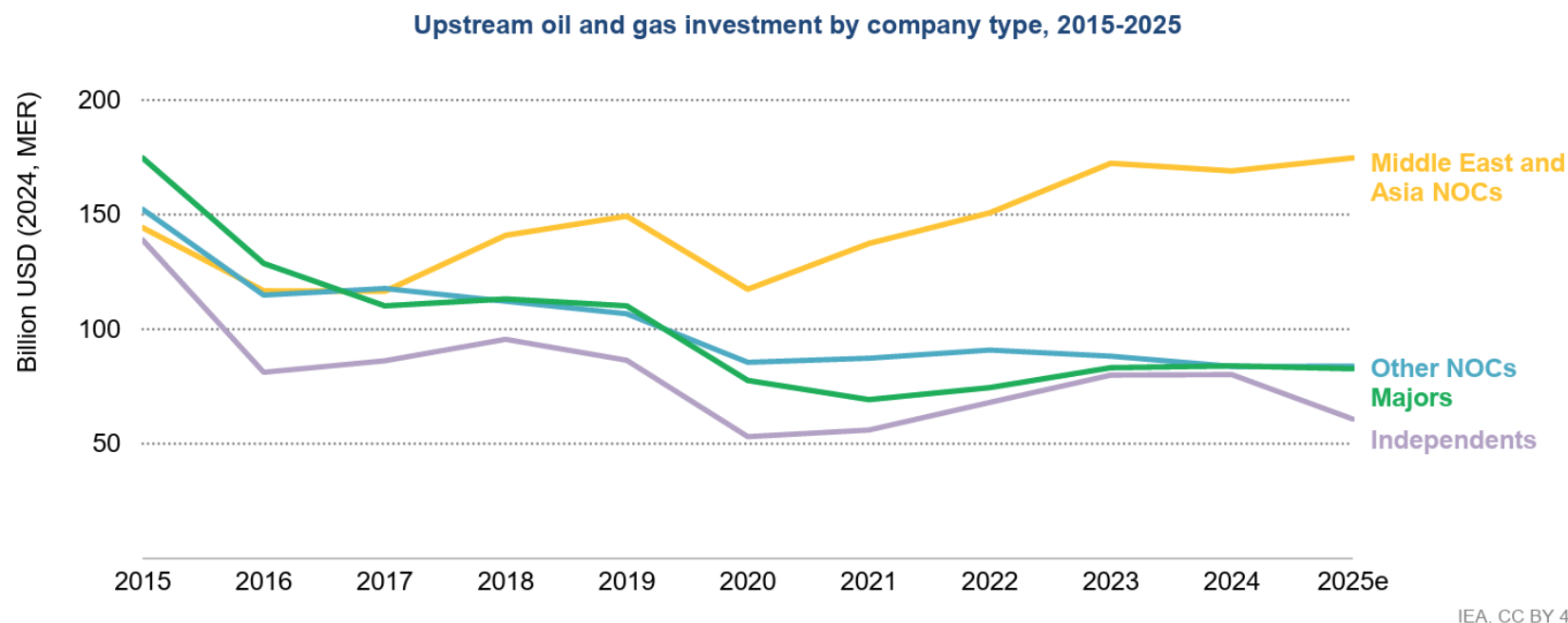
How do these global trends interact with domestic policy?

*Global determines the size of the upstream pie; domestic factors shape the size of the slice....*

# OPEC+ “Core” + Chinese NOCs

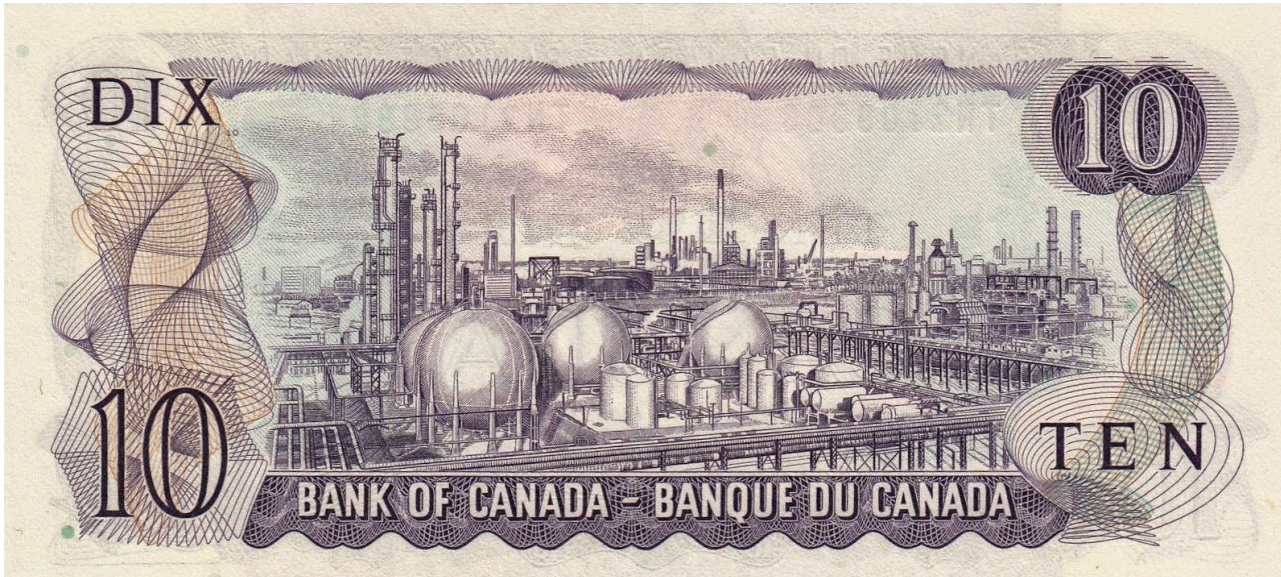
## Outspending Non-Core OPEC and Majors/Independents

Upstream investment by the majors is set to dip slightly for the first time since 2021; current levels remain well below 2015, as do their share of total upstream spending



Middle Eastern and Asian national oil companies now account for about 40% of upstream investment, up from 25% in 2015. Investment by independents is set to fall due to lower oil prices and higher costs, despite recent M&A moves that cut expenses via consolidation.

# Bringing back an Energy-Manufacturing partnership to Canada



“Today we are in a different war, but the principles of industrial policy and the opportunity for an East-West partnership in the energy-intensive manufacturing industries remain compelling”

- <https://thehub.ca/2025/04/14/robert-j-johnston-president-trump-has-thrown-down-the-economic-gauntlet-canada-must-be-unified-in-our-response/>

# The geopolitical world ahead for Canada

	Signposts	Trade	Security	Energy/Climate
G7 re-integration	Recommitment to common challenges	Pause in US tariff escalation	Unified focus on Russia, Iran, China	US/G7 compromise on energy security & climate (nuclear, gas)
G6 + 1	“Three C’s”  CETA, CPPTP, CBAM	Continued US tariff escalation- tighter Canada/EU/Japan trade	Divergence on Russia, Iran, China within G7	US energy dominance anchored by fossil fuels; G6 CBAM/climate club?
Fortress North America	USMCA renegotiation	US-led external North American trade posture toward China and RoW	US “sphere of influence” frame with Russia/China, marginalizing G7	Energy production prioritized for domestic consumption- not export





# Summary

- US domestic political crisis and retrenchment from international leadership creates dual risk for Canada
- Market diversification pathway points West, and to LNG first
- Asian market for oil is there but is evolving on the demand side
- Political and commercial partnerships with Asia are key
- Canada should unite around a strategy for energy-intensive manufacturing and AI/data centres
- Oil and gas emissions cap may disappear but Clean Electricity Regulations less likely to do so