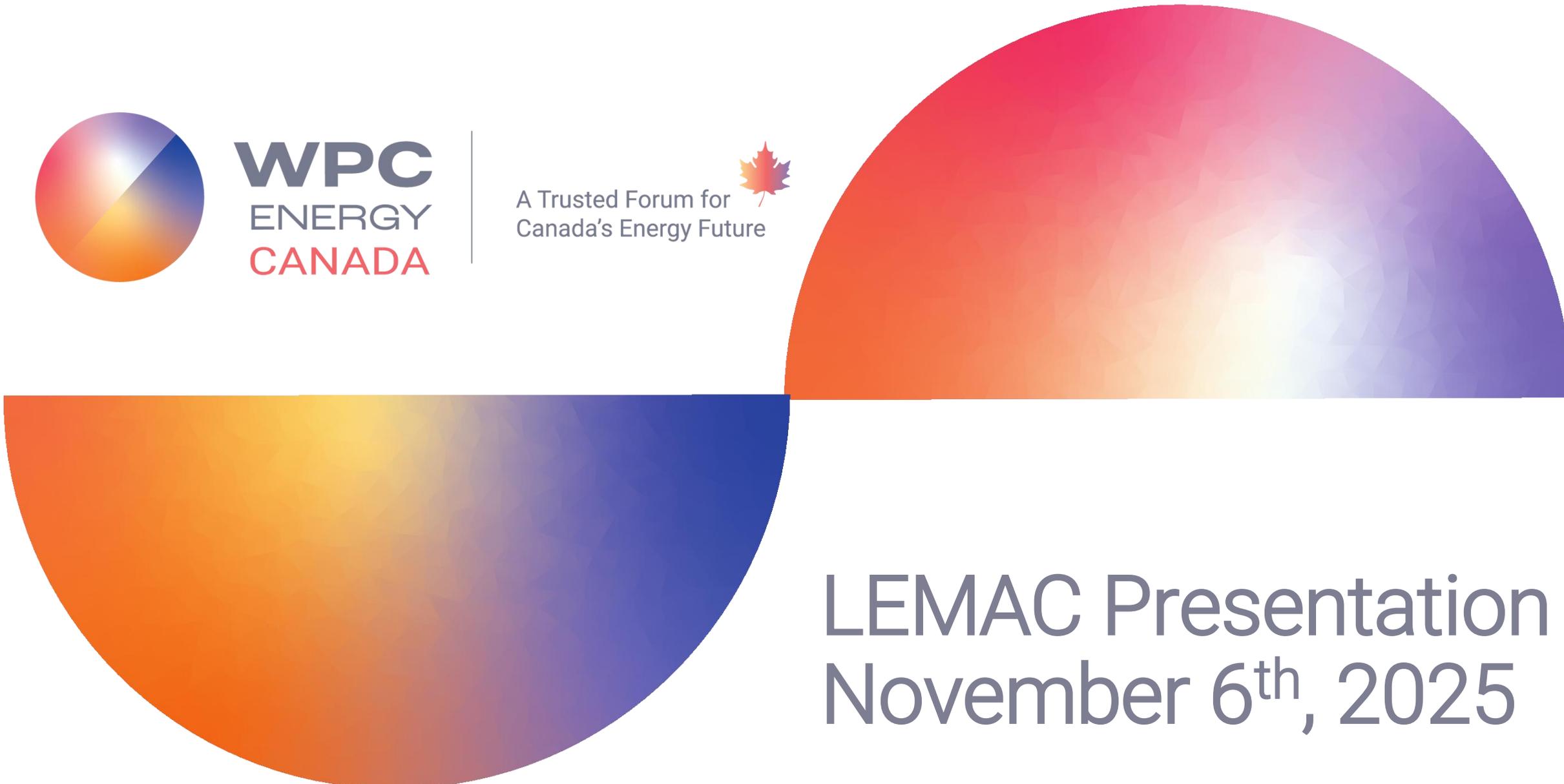




**WPC**  
ENERGY  
CANADA

A Trusted Forum for  
Canada's Energy Future



LEMAC Presentation  
November 6<sup>th</sup>, 2025

# Agenda



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# Agenda

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1. Introduction to WPC Energy
2. Oil and Gas and the Energy Mix
3. Canadian Energy
4. Canada's Energy Future

# WPC Energy



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# WPC Energy

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The World Forum for Energy Transformation: WPC Energy facilitates an open dialogue around oil, gas, energy, and their products and is dedicated to the promotion of their sustainable management for the benefit of all.

WPC Energy organizes the WPC Energy Congress every two years. The event includes Heads of State, Ministers, CEOs, Presidents and Heads of International Organizations, as well as engineers, academics and the NGO community. There are typically anywhere from 15,000 to 30,000 attendees

WPC Energy Canada strives to be a trusted, inclusive source for people and organizations to gain a realistic understanding of what is required for an effective and efficient evolution toward a new energy future. Our three main areas of focus are:

- Global interactions
- National East/West relations
- Attracting Foreign Investment in energy sector

# Oil and Gas in the Global Energy Mix



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# The Five Pillars of Civilization

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- ▶ Cement
- ▶ Steel
- ▶ Chemicals
- ▶ Plastics
- ▶ Fertilizer

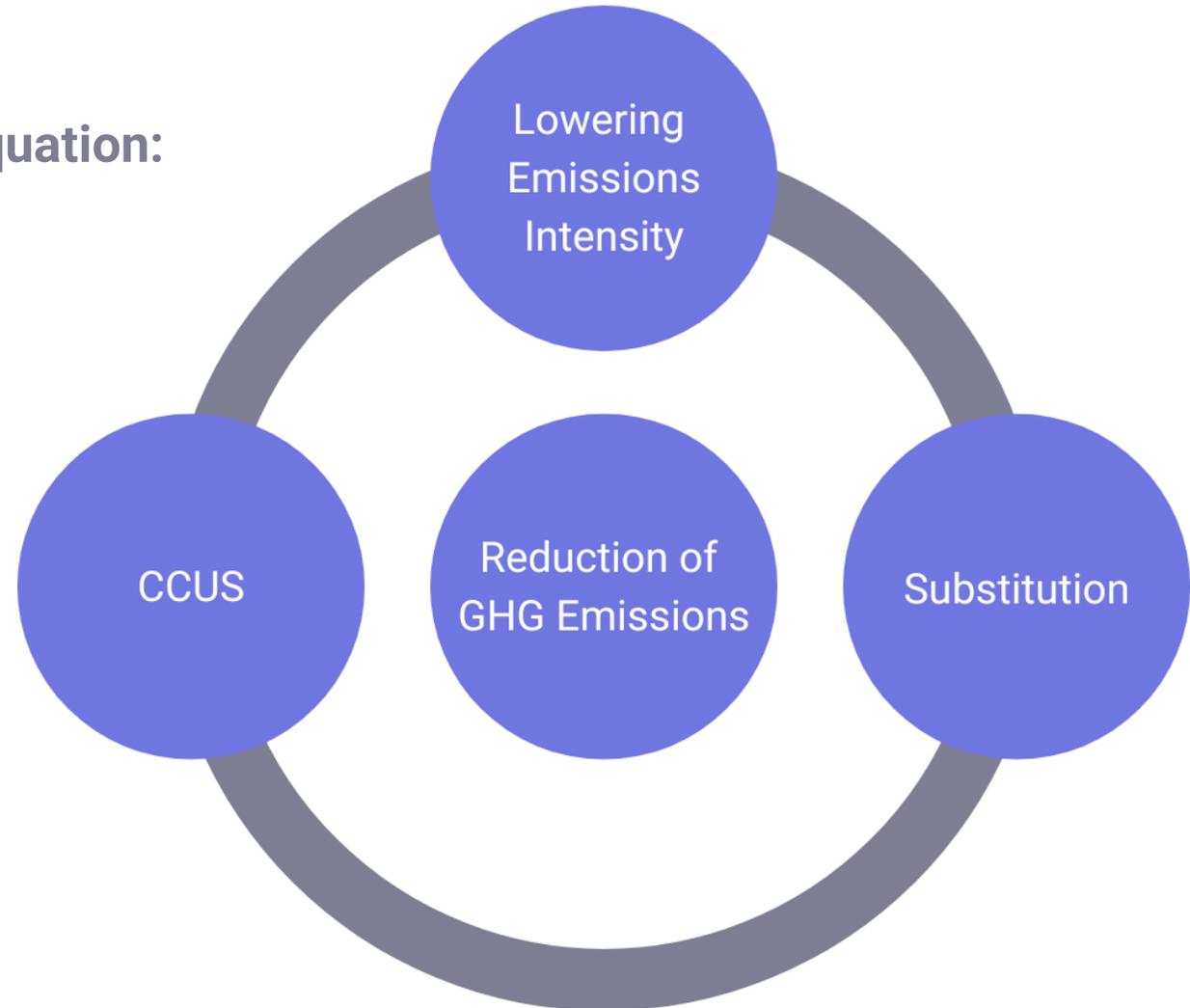


# The Three Variables of our Evolving Energy Future

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## The Three Variables of the energy equation:

- Security of supply
- Access or price
- Reduction of emissions



# Global Energy Demand

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- The global economy is projected to grow at a rate of 2.6% per year up until 2050
- Population is forecasted to increase from 8.0 billion in 2022 to 9.7 billion by 2050 with 1 billion of this increase occurring in Africa
- Energy Poverty is already a massive issue for over 3 billion people worldwide and this will only exacerbate the problem
- New energy demands on the horizon such as those required to power the Digital Revolution that require data centers to handle cloud computing and AI

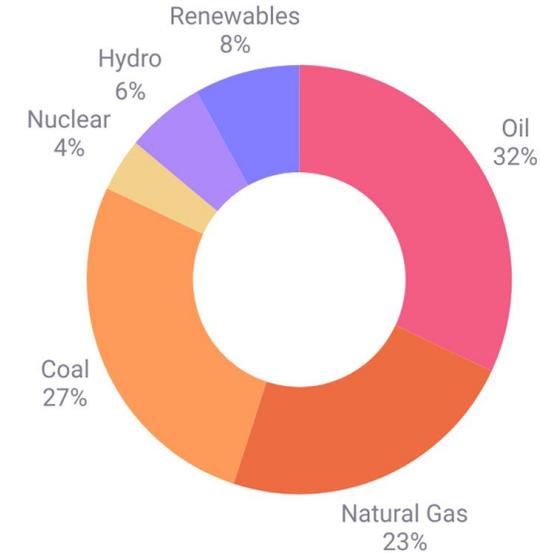


# Global Electrification

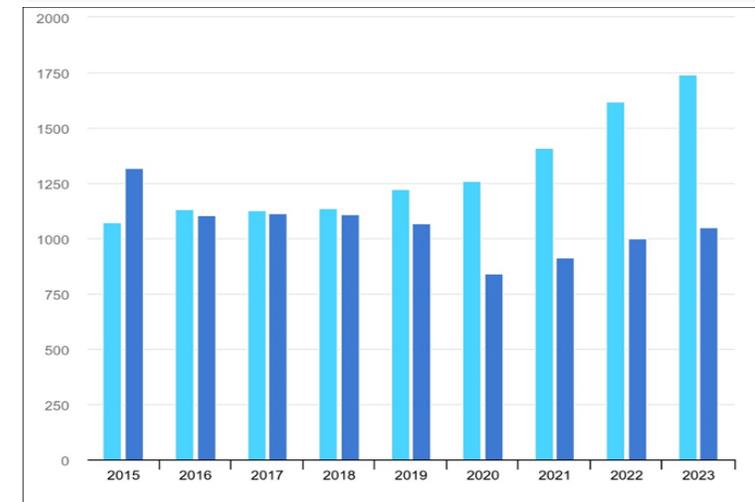
- Great strides have been made in the development of renewable energy sources
- The share of total primary energy consumption related to renewables reached 14.6% in 2023
- Together with nuclear, they represented over 18% of total primary energy consumption
- Global investment in clean energy has seen a huge increase over the last 8 years, while investment in fossil fuels has dropped off slightly

Clean Energy investment indicated in light blue; fossil fuel investment dark blue; in billions of USD

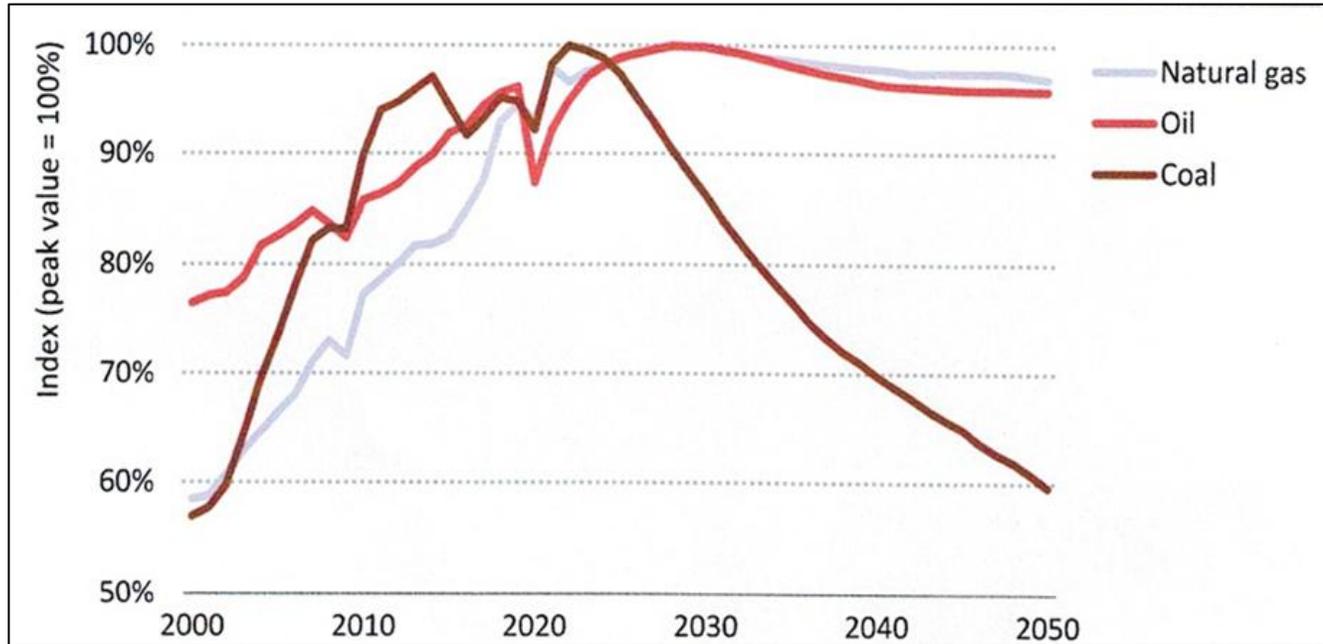
### World Primary Energy Demand (2023)



Source: Statistical Review of World Energy



# Global Primary Energy

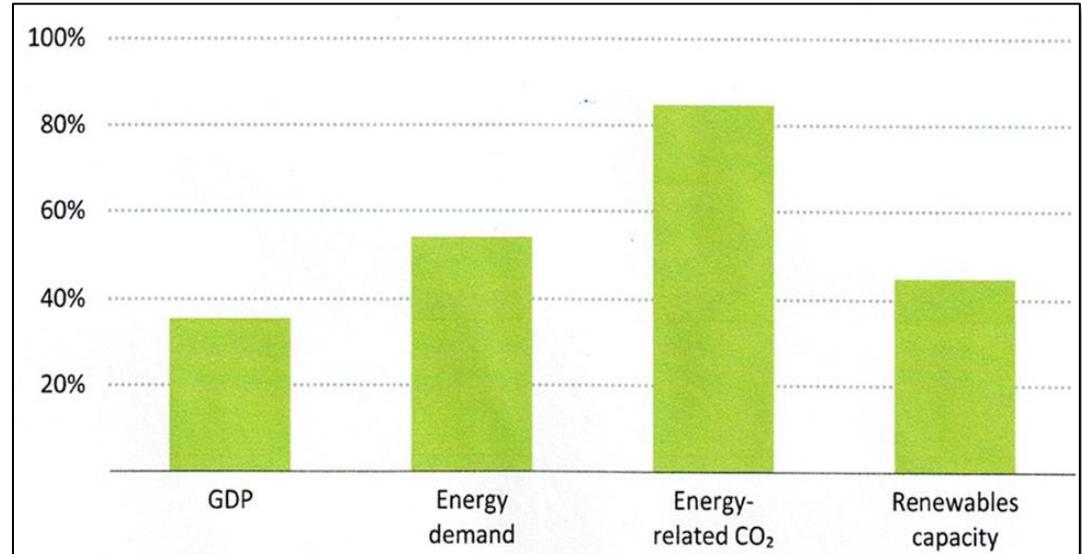


IEA Fossil Fuel Consumption by Fuel in the STEPS Scenario, 2000 - 2050

- Yet despite massive investment, supportive legislation, and huge resources dedicated to the increasing use of renewables, fossil fuels as a source of primary energy are still ~81%
- As the share of renewables and other alternative energy continues to climb all fossil fuel use peaks before 2030
- However, natural gas and oil stay very close to their current demand level as far out as 2050 based on 2.6% global economic growth

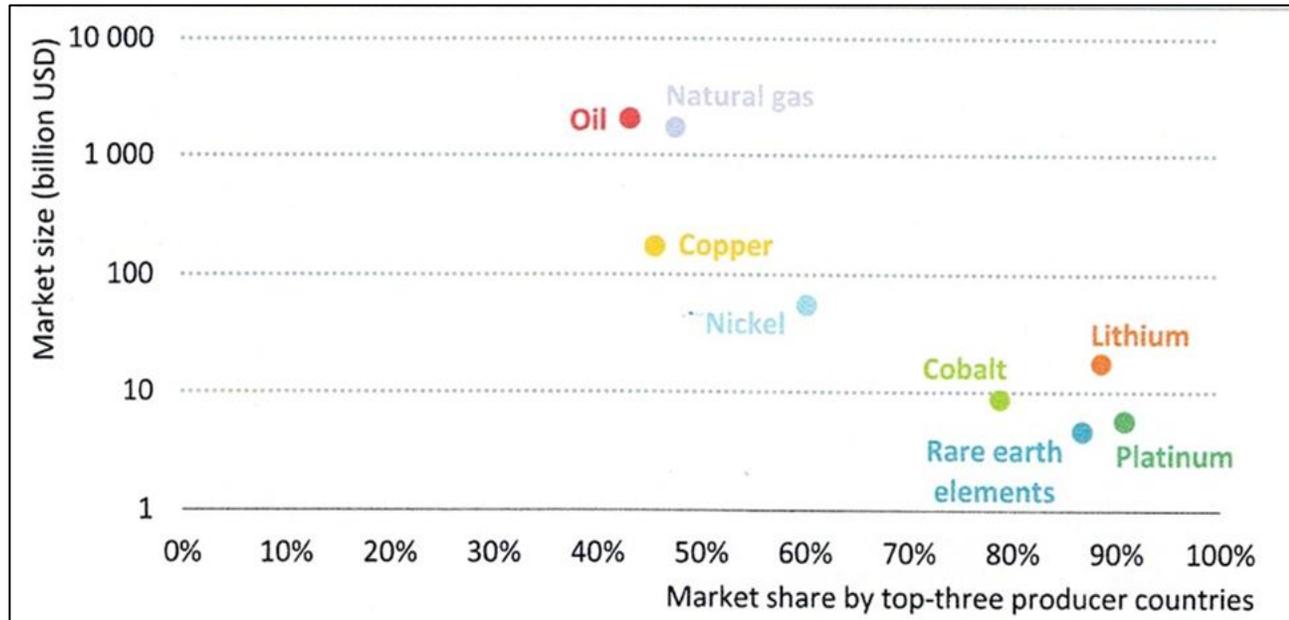
# Global Economic Growth and Energy Demand - China

- The energy demand curves on previous slide assume 2.6% economic growth to 2050, but there are sensitivities to this growth number
- China growth rate forecasted in 2023: assumed to slow to 4% from 2023 to 2030, down from 4.5% forecast in 2022. This resulted in a 5% contraction of China's economy to 2030
- 2023 predicted growth rate was 4.9%, actual was 5.2%
- This is important because the Chinese economy has such a large impact on the global picture



*China's share in the change of global economic and energy sector indicators, 2012-2022*

# Global Economic Growth and Energy Demand - Geopolitics

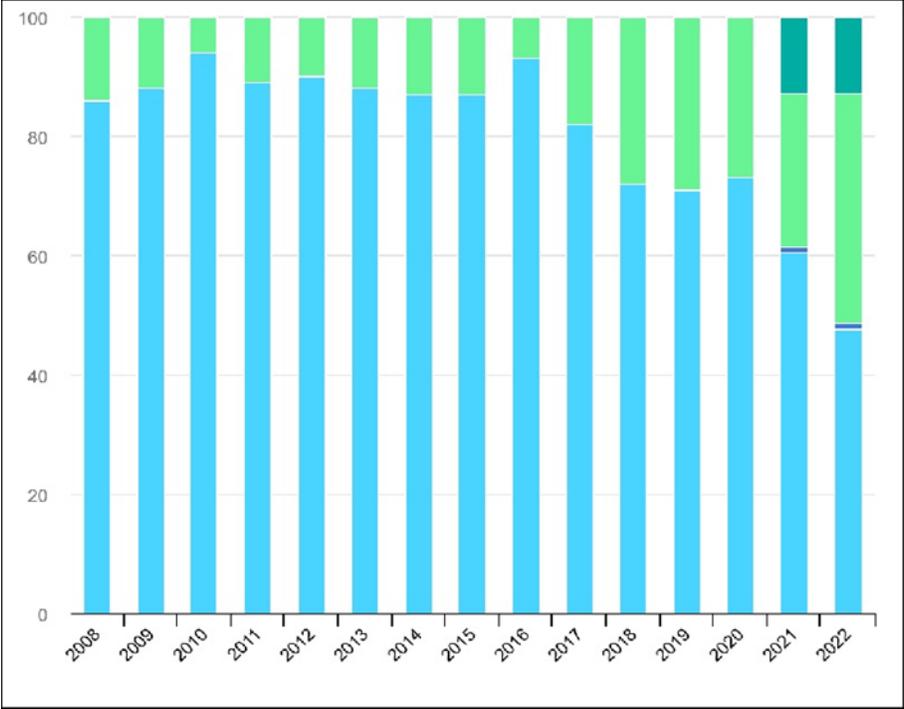


Average market size and level of geographical concentration for extraction of selected commodities, 2020-22

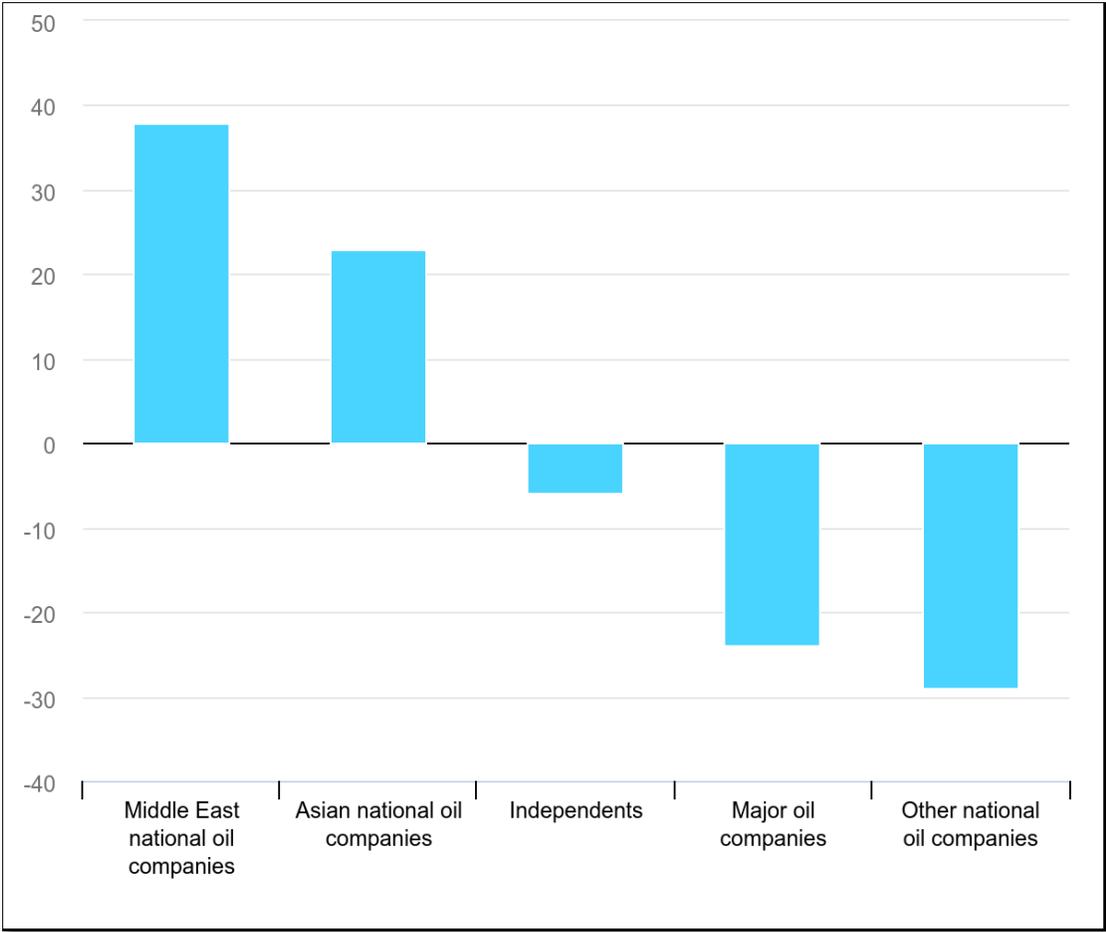
- Option to build renewable capacity exists for many countries
- However, the three largest producer countries account for at least 70% of manufacturing capacity for key mass-manufactured technologies; wind turbines, batteries, solar panels, heat pumps, etc.
- In addition, current production capacity for critical minerals is far more concentrated than traditional hydrocarbon sources

# Global Economic Growth & Energy Demand - Investment

Distribution of cash spending (%) by the oil and gas industry, 2008-2022



Light Blue: Oil and gas capital expenditure  
 Dark Blue: Low-carbon capital expenditure  
 Light Green: Dividends plus buybacks minus issuances  
 Dark Green: Net debt repaid



Billions of dollars

# Global Economic Growth and Energy Demand - Summary

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- Global energy demand will continue to increase. Thus, we need every joule of energy we can get our hands on
- Investments in renewables, cost improvements, and supply capacity are all on positive trajectories
- Can renewables continue to offset energy demand growth? Perhaps
- Can renewables and alternative sources of energy replace existing demand for oil and gas? In the short to medium term, unlikely
- Thus, it seems reasonable that demand for oil and gas will remain strong into foreseeable future

# Canadian Energy



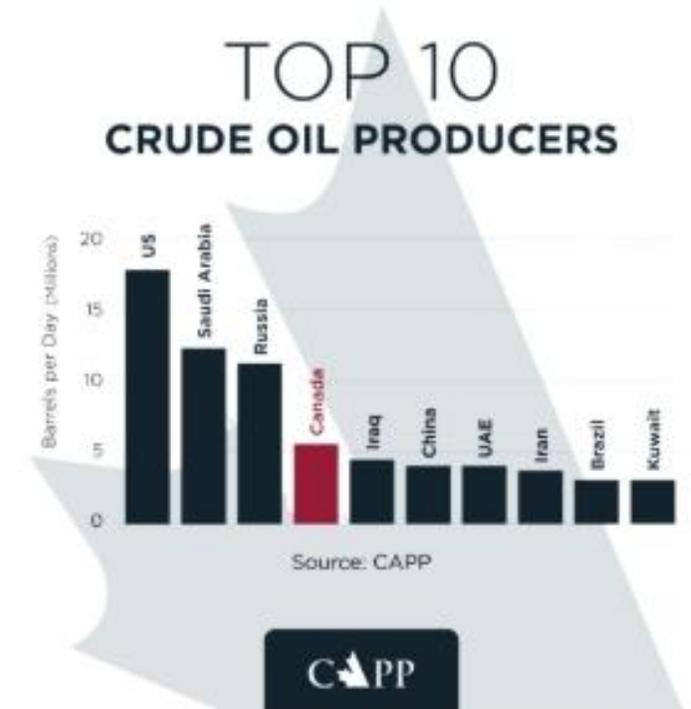
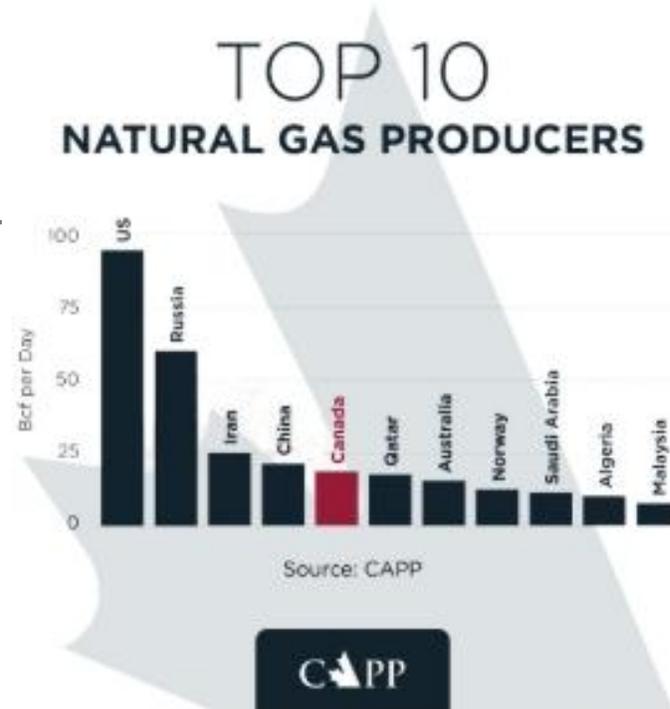
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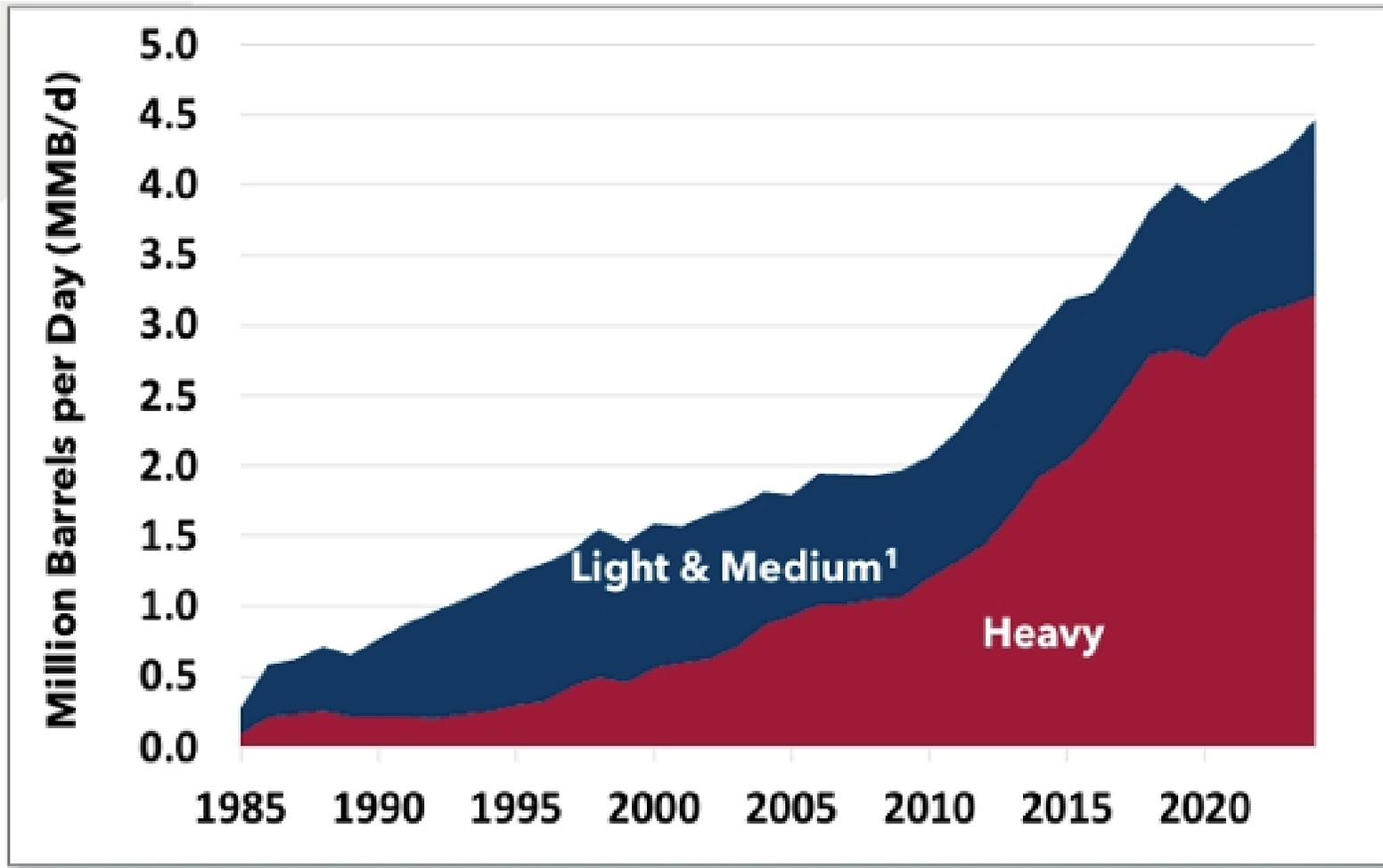
# Canada Resources



- In 2024, Canadian oil production totaled 5.7 million barrels per day
- In 2024 Canadian Natural Gas production was 18.1bcf per day
- 2<sup>nd</sup> largest uranium producer
- 2<sup>nd</sup> largest hydro generator
- 6<sup>th</sup> largest nuclear power generator
- 9<sup>th</sup> largest wind power generator
- 10<sup>th</sup> largest hydrogen producer



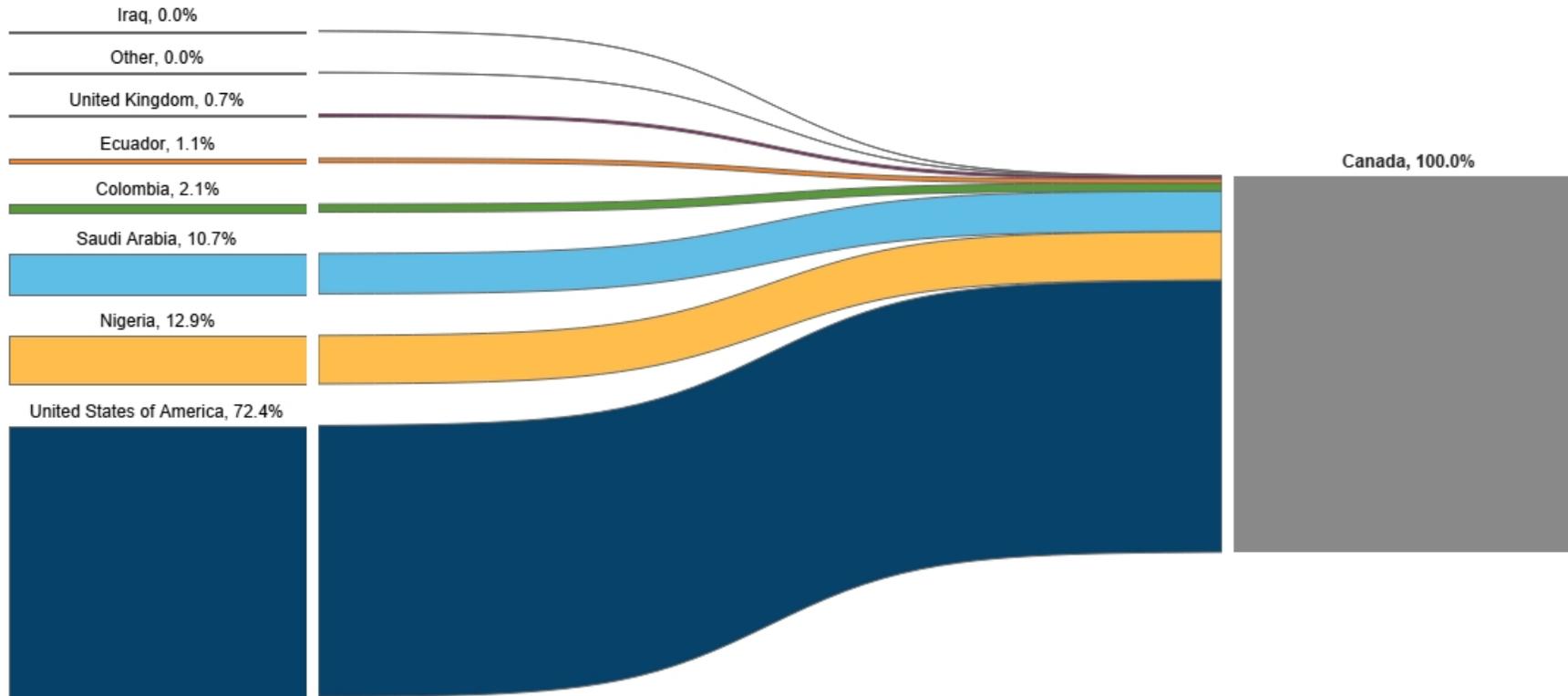
# Canada - Energy



Canada exports ~4.84 million barrels per day of which ~91% is to the US



# North American Energy – Canada



- Canada requires ~2.35 million barrels per day
- By exporting ~4.84 million barrels per day we need to import ~1.49 million barrels per day
- These imports come primarily from the US



# Canada's Energy Future



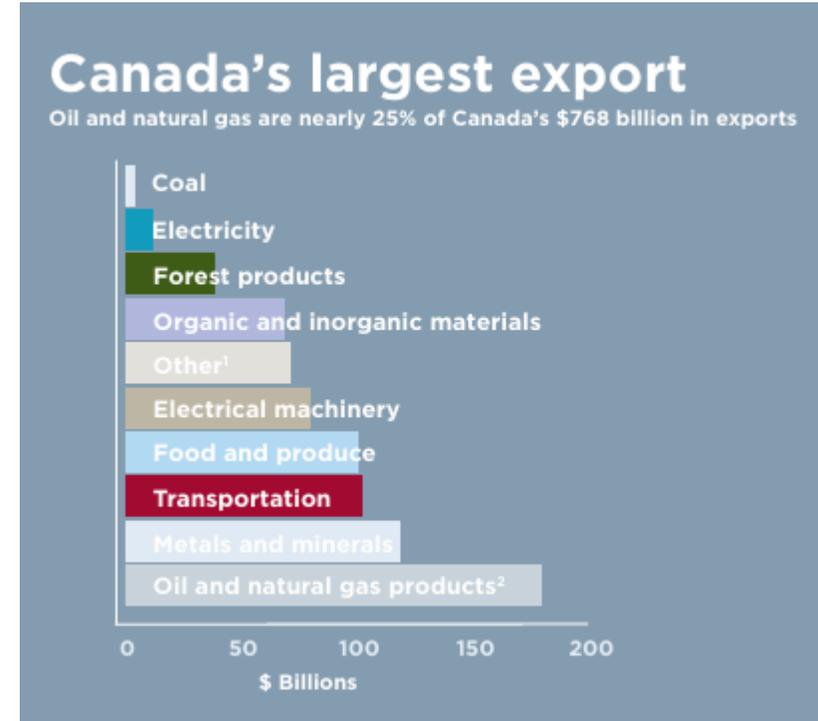
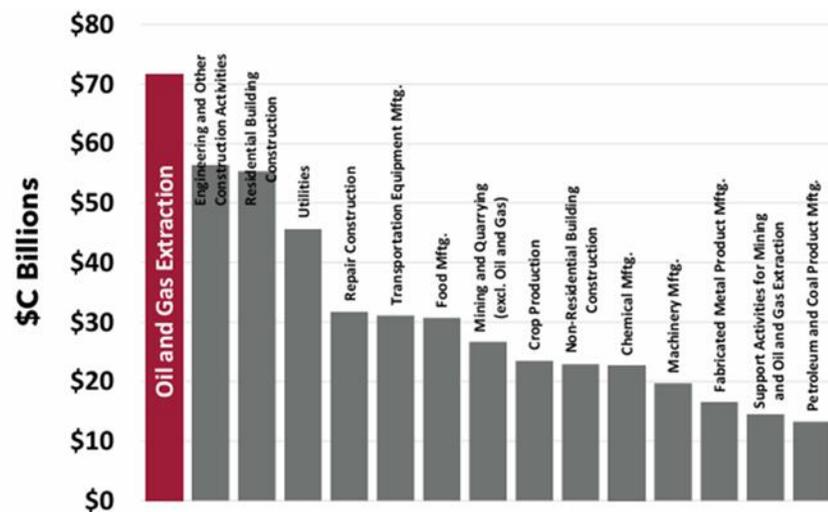
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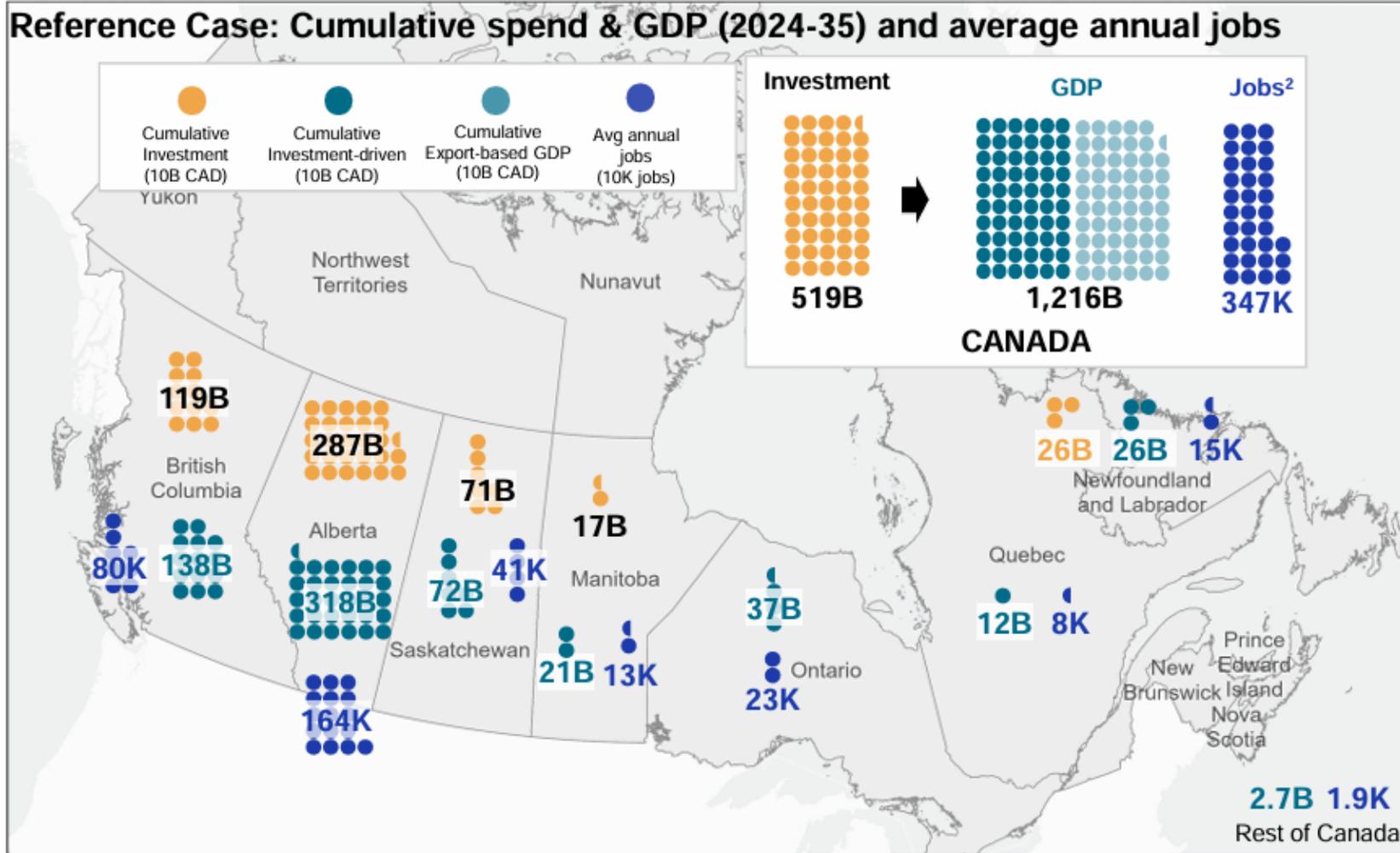
# Contribution of Oil and Gas to Canadian Economy

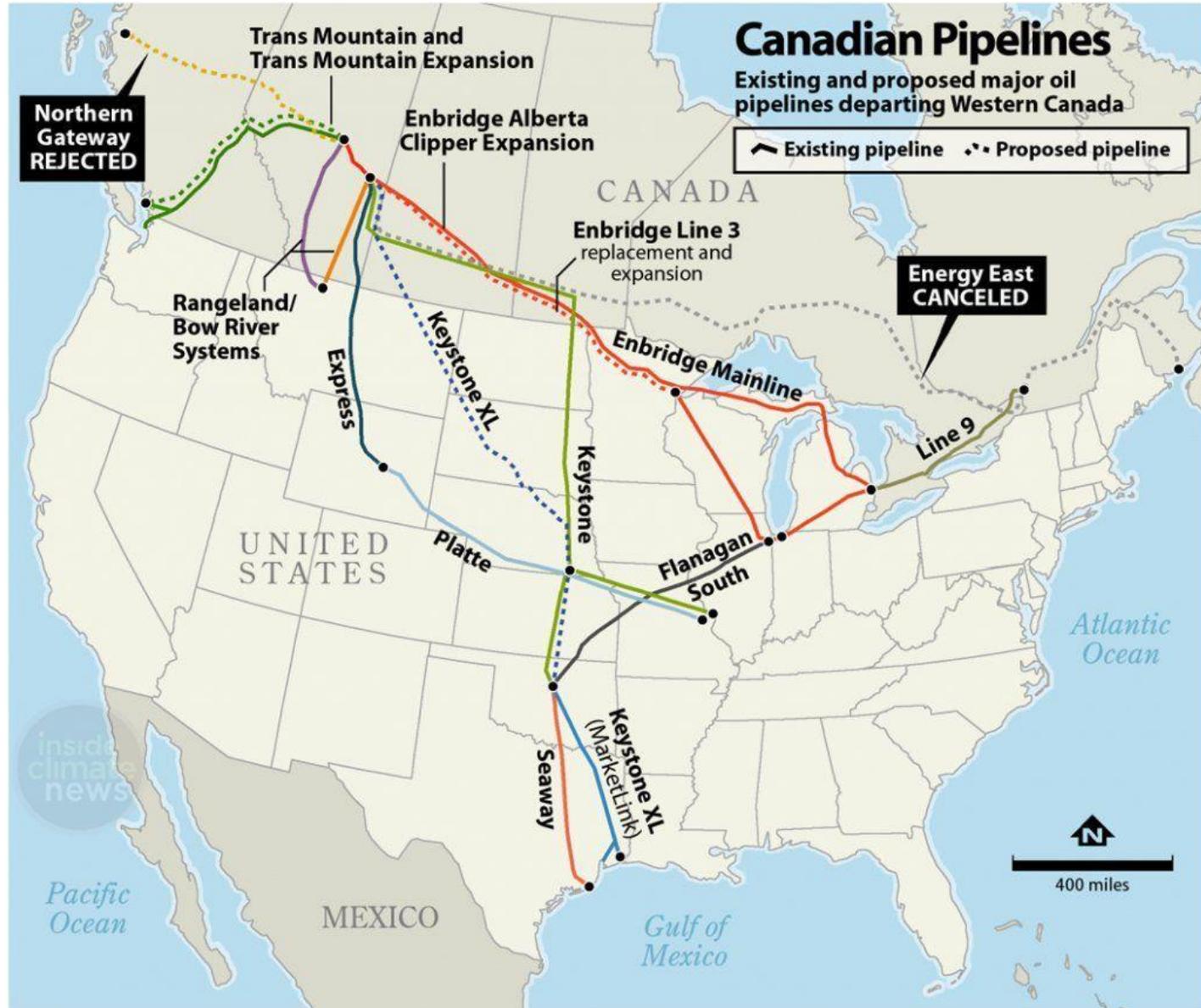


- \$94.5 billion in total government revenue 2021 to 2023
- 900,000 jobs supported (direct and indirect)
- The Oil and Gas Extraction subindustry is the largest Goods Producing industry in Canada



# Oil and Gas Development Benefits all Provinces





SOURCE: IHS Markit

InsideClimate News

# North American Pipeline System





# Major Project Challenges

- Multiple projects have been cancelled over the last 10 years
- Prior regulations approval time ranged from 3.5 years to over 10
- Of the 25 projects submitted under the federal Impact Assessment Act since it came into force three-and-a-half years ago, almost all remain in the first two phases of a four-part approvals process
- This incredibly burdensome approval process is driving away investment as the companies are unwilling to go through the uncertainty of the process
- It is not just Oil and Gas projects: mines for critical minerals, HV lines, wind & solar farms, etc.

## Case Study: LNG in Canada and the U.S.

In 2015, neither Canada nor the USA were exporting LNG. Since then, the two countries have pursued vastly different approaches to LNG development. The United States has already built significant infrastructure and is now the world's largest exporter, while Canada's first major export project still won't be in operation until mid-2025.



**-2.5 bcf operational  
or under construction**

**Vs.**

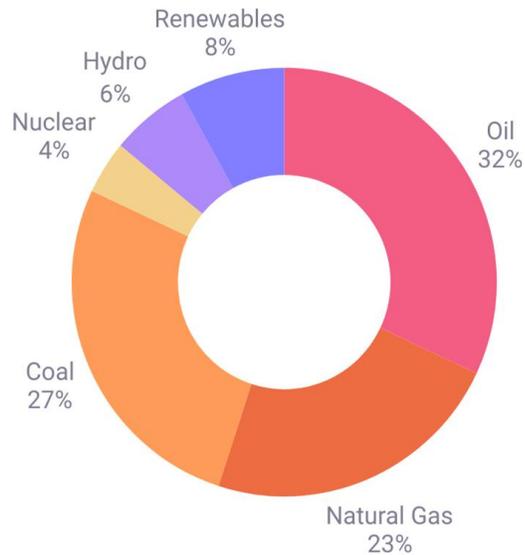


**-25 bcf operational  
or under construction**



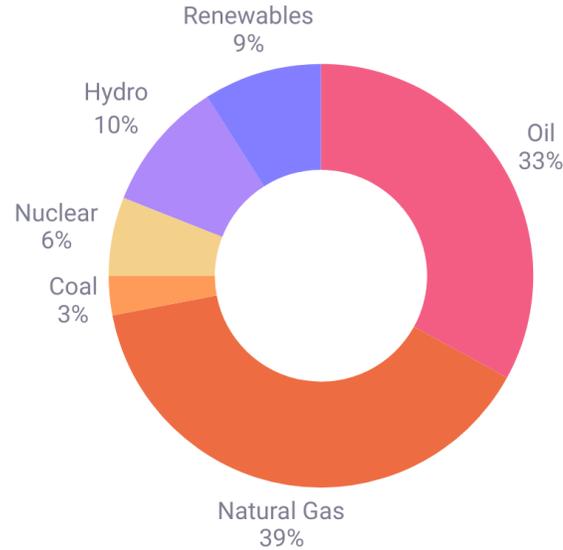
# Major Project Challenges

### World Primary Energy Demand (2023)



Source: Statistical Review of World Energy

### Canada's Primary Energy Demand (2023)



Source: Canada Energy Regulator, Canada's Energy Future Data Appendices, Primary Energy Demand, converted to EJ

Over the past decade, approximately **\$280 billion** in Canadian oil and natural gas projects have been **cancelled**.



**\$164.1 billion**  
in LNG projects



**\$62.8 billion**  
in pipeline projects



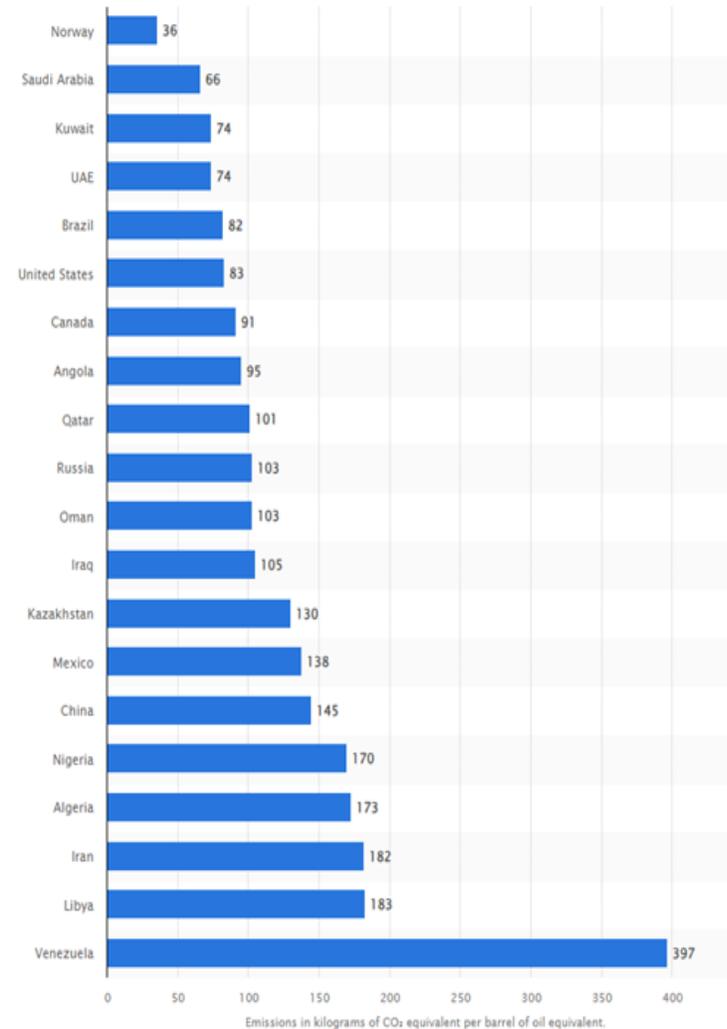
**\$30.4 billion**  
in oil sands projects



**\$22 billion**  
in refinery projects

# Emissions Reduction & Clean Technology Growth

- Flaring and venting regulated and
- GHG intensity in Canada's oilsands fell by 36% from 2000 to 2021



Average carbon dioxide (CO<sub>2</sub>) emissions from oil production in 2022, by country (in kilograms of carbon dioxide equivalent per barrel of oil equivalent)



# Major Projects Resurgence

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There appears to be a change in Ottawa that supports the building out of Canada's infrastructure through major projects in order to become the preferred supplier of energy and clean technology to the world.



All major projects require a streamlined regulatory process such that approvals are obtained within a two-year time frame or less and are:

- Financially viable
- Have proper oversight to ensure on time and on budget delivery
- Provide opportunities for Indigenous participation/partnerships

# Takeaways

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- Global demand for energy is going to continue to increase
- Oil and Gas specifically will continue to be a major contributor to this energy supply for the foreseeable future
- Oil and Gas industry benefits all provinces in many ways but specifically through supply of materials
- In order to enhance the positive effects of the industry for all Canadians:
  - Clear the roadblocks to building the infrastructure we need to connect Canadian energy to the world.
  - Immediately streamline approvals for major projects already in the federal review process.
  - Continue advancing emissions reduction technologies to enhance our environmental leadership while keeping energy affordable and competitive.
- We are starting to see a change in thinking by the federal government and thus today there would appear to be a bright future for Canadian energy



# What does the Future Look like for the Land Profession

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- With increasing energy demand will need infrastructure for delivery of energy including:
  - Oil and Gas facilities and pipelines
  - High Voltage lines
  - New and upgraded electrical grid infrastructure
- Leases for wells for oil & gas and geothermal, wind and solar farms, biofuels, etc. Almost any source of energy requires land on which to build
- Consultation with key stakeholders for any projects is part of doing business in this country and that will require land professionals to shepherd through the process

Thus, the future for the land profession looks very bright indeed.



THANK YOU!



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