CANADA'S CLEAN ENERGY TRANSITION POST-IRA

Presented By

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Agenda

- 1. Canada's Clean Energy Policy
- 2. United States and the Inflation Reduction Act (the "IRA")
- 3. Policy Considerations
 - Carbon Pricing/Markets in Canada
 - Investment tax credits
 - Industrial Strategy
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Canada's Clean Energy Policy

Canada's Emissions Goals

Canadian Commitments Under the Paris Agreement

2030 Emissions Reduction Target

 Reduce national GHG emissions by 40%-45% from 2005 levels

2050 Emissions Reduction Target

- Net-zero emissions
- Offset new GHG emissions from 2050 onwards
- Requires verifiable and permanent removals





Canada's Current Policy Framework

2016: Pan-Canadian Framework (PCF)

- Endorsed by federal and provincial governments
- Four key pillars:
 - Pricing carbon pollution
 - Complementary actions to reduce emissions
 - Adaptation and climate resilience
 - Clean technology, innovation, and jobs
- · Over 50 actions addressing all economic sectors

2020: Strengthened Climate Plan

- Built on PCF foundation
- Focus areas:
 - Enhancing energy efficiency in homes and buildings
 - Promoting cleaner transportation
 - Maintaining a carbon pricing system
 - Developing industrial advantages through standards, investments, and incentives
- 64 updated federal policies, programs, and investment strategies

2021: Net-Zero Emissions Accountability Act

- Promotes transparency and accountability of federal government
- Requires development of an emissions reduction plan

2022: 2030 Emissions Reduction Plan (ERP)

- Continues with comprehensive measures including carbon pricing and clean fuel generation
- Targeted measures:
 - Oil and gas emissions cap
 - Commitment to carbon pricing
 - Clean technology innovation (specifically CCUS)
 - Clean electricity (phase-out of coal-fired electricity generation)
 - Transportation (light-duty zero-emission vehicles sales mandate)
- Announces CDN \$9.1 billion in new federal investment
- Implements approximately 80 reduction measures

Federal Investment Strategies:

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Canada Infrastructure Bank (CIB)

- Established: 2017
- Purpose: Invest in and attract private investment for revenuegenerating infrastructure projects
- Funding:
 - \$10 billion for clean power projects
 - \$10 billion for green infrastructure projects
- Investment Commitments: \$13.2 billion across 73 projects
- Eligibility Requirements:
 - New or primarily new components
 - Categories: green infrastructure, clean power, public transit, trade and transportation, broadband
 - Public interest and revenue potential
 - Proven technology
 - Private investment and commercial viability
 - Located fully or partially in Canada
- Challenges:

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- Burdensome for small-medium enterprises
- Strict commercial viability limits early-stage project funding

Canada Growth Fund

- Established: 2022
- **Purpose:** Independent, arms-length public fund used to increase private sector investment in clean energy projects and speed of the deployment of developing technologies
- Funding:
 - \$15 billion over 5 years (\$7 billion of which is earmarked for contracts for difference and offtake agreements)
- Investment Commitments: \$340 million across 3 projects
- Eligibility Requirements:
 - Align with mandate
 - Attract additional private and institutional investment that would be unlikely with Canada Growth Fund assistance
 - Reasonable expectation of capital returns
- Focus:
 - Less mature technologies (e.g., carbon capture, hydrogen, biofuels)
 - Support for small-medium enterprises

Specific Policy Measures

Carbon Pricing

- · Emissions pricing system and fuel charge
- Provinces to implement their own carbon pricing systems in alignment with federal backstop system
- Carbon price to increase to \$170/ton by 2030

Carbon Capture Utilization and Storage

- · Key for high-emission industries with fixed process emissions
- 37.5%-50% Tax Credit for eligible CCUS expenditures
- \$319 million over 7 years for R&D

Clean Fuels

- · Key for decarbonizing heavy-duty transport and oil and gas
- 15%-40% Tax Credit for Hydrogen Production expenditures
- \$1.5 billion over 5 years under the Clean Fuels Fund
- Clean Fuel Regulations
- Hydrogen Strategy

Emissions Cap for Oil and Gas

- Target to reduce oil and gas emissions 35%-38% below 2019 levels by 2030
- Emissions allowances that will decrease over time



Impacts of Canada's Energy Policy

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Economic Impact

- Private Sector Capital Expenditure (2022): \$80 billion (up 35.6% since 2020)
- Energy Sector GDP (2022): \$309 billion (up 83% since 2020)
- Clean Energy Projects (2023):
 - Share of Total Energy Projects: 68%
 - Value: \$159 billion
- Clean Energy Project (2021):
 - Share of Total Energy Projects: 42%
 - Value: \$92.1 billion
- Overall Energy Project Value Decline (2021-2023): Down 19.4%
 - Implication: Traditional energy project investment not fully redirected to clean energy

Environmental Impact

- 2022 Emissions: 685 million tons CO2 equivalent
 - Up 2.1% from 2021
 - Down 6.3% from 2005
- 2030 Emissions (Current Policy): 549 million tons CO2 equivalent
 - Down 25% from 2005
- 2030 Emissions (Stringent Policy): 467 million tons CO2 equivalent
 - Down 36% from 2005
- 2030 Target: 440 million tons CO2 equivalent or lower
 - Down 40%-45% from 2005

United States and the IRA's Clean Energy Provisions

Overview of the IRA

- o Date Enacted: August 16, 2022
- **Purpose**: Extends and modifies existing renewable energy credits and introduces new credits.
- Monetization Alternatives:
 - Direct Pay: Allows certain entities to receive tax credits as cash payments.
 - Transferability: Allows entities to sell or transfer credits to third parties
- **o Key Clean Energy Related Credits:**
 - Production Tax Credit ("PTC")
 - Investment Tax Credit ("ITC") for Energy Property
 - Clean Electricity PTC
 - Clean Electricity ITC
 - Qualifying Advanced Energy Tax Credit

- Advanced Manufacturing Production Credit
- Credit for Carbon Oxide Sequestration
- Zero-Emission Nuclear Power Production Credit
- Clean Hydrogen Production Credit

Impacts of the IRA

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Economic Impact

- Total Projects Announced: 305
- Private Investment: Over \$123 billion
- Jobs Created: Over 105,454 in the energy sector
- Over \$100 billion clean energy credit or grant related applications in the Department of Energy's queue

Environmental Impact

- U.S. Climate Target: Reduce GHG emissions by half from 2005 levels by 2030
- **Current Projection:** 32-42% reduction by 2030 (Rhodium Group analysis). NOTE: Comparable to Canada's projected 36% reduction by 2030.

Additional measures will likely also be needed in the U.S. meet 2030 goals

Lack of Carbon Pricing Model

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- Most developed countries use carbon pricing, which has long been considered by economists to be the most efficient method to reduce emissions.
- A national carbon tax has struggled to gain traction in the U.S.
- Nonetheless, in 2024, the U.S. took a step toward emissions pricing by introducing a methane fee, the first of its kind at the federal level.

Carbon pricing programs by price and share of emissions covered

Market - Annex I Market - Non-Annex I Tax - Annex I Tax - Non-Annex I

Share of region's emissions covered by carbon price Bubble size: Jurisdiction's volume of emissions 90% Singapore Northwest = 200 million Nova Scotia Territories South metric tons 80% Quebec Washington State, US Africa South Korea 70% British Columbia Ukraine Luxembourg Alberta, Canada 0 Shanghai Netherlands 60% Tianjin Norway Fujian Iceland Chongging 50% Kazakhstan Mainland China New Brunswick Sweden New Zealand Denmark \$126 Mexico Newfoundland and 40% Germany Ireland EU ETS Labrador Guangdong Finland Shenzhen Portugal France 30% Canada (federal) - Chile Hubei Switzerland Beijing \$131 Ontario Colombia 20% Argentina RGGI Saskatchewan Switzerland Estonia - Massachusetts 10% Latvia Canada (federal) Poland Spain 0% 20 40 60 80 100 Carbon price (\$ per metric ton of CO2 equivalent)

Photo Source: BloombergNEF

Comparison of Clean Tech Sector Valuations and Investments in the U.S. and Canada

- Research study finds U.S. clean energy companies are valued higher than Canadian ones, while Canadian oil and gas firms perform better operationally and financially than those in the U.S.
- Despite substantial tax credits for clean tech in Canada, the impact on investments appears to be less pronounced than the IRA's effect in the U.S.
 - The study notes this could be due to the perceived increased complexity and unclear regulations in Canadian policies.
- It could be that the main issue is not the policy intentions for energy transition but the complex and unclear implementation of these policies in Canada.



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Photo Source: CorporateKnights

Policy Considerations

State of Carbon Pricing in Canada

- **Purpose and Coverage of Carbon Tax:** The intent of carbon pricing is to incentivize Canadians to use less fossil fuels and increase their use of "cleaner" energy.
- Plans for Increases: Introduced on April 1, 2019, at \$20 per tonne, the carbon tax is set to increase by \$15 annually until it reaches \$170 per tonne in 2030.

• Support:

- Since carbon pricing started in 2019, Canada's GHG emissions have fallen almost 8%.
- Approximately 80% of Canadian households will get more money back from the carbon rebates than what the tax costs them.
- Carbon pricing is one of the most effective ways to reduce emissions.

• Criticisms:

- It is redundant to have both a carbon tax and rebates.
- The tax is harmful to Canadian businesses' competitiveness.
- Conservative Leader Pierre Poilievre (along with several conservative premiers) has been a prominent critic of the carbon tax, arguing it unfairly burdens Canadians amid high inflation and pledging to eliminate it if elected.
- According to a November 2023 Angus Reid poll, 42% of Canadians want the carbon tax abolished, 17% support a temporary
 reduction for three years, 25% favor freezing current rates, and only 15% agree with planned increases.

Investment Tax Credits

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Investment Tax Credits (2023 & 2024 Federal Budgets)

- Key Areas:
 - Clean Technology
 - Carbon Capture, Utilization and Storage
 - Clean Hydrogen
 - Clean Technology Manufacturing
 - Clean Electricity
 - Electric Vehicle Supply Chains
- Common Features:
 - Strict eligibility requirements
 - Varying tax credit rates
 - Clawback provisions
 - Temporary, lasting through 2034

Example: Carbon Capture Utilization and Storage Investment Tax Credit

- Tax Credit Rate: 37.5% 50%
- Qualification Requirements:
 - Submit a formal plan
 - Includes front-end engineering study
 - Obtain initial project evaluation from Ministry of Natural Resources
- Ongoing Reporting Requirements:
 - Annual reporting on project results vs. initial estimates
 - Potential clawback of tax credits if deviations are too large
- Tax Credit Amount:
 - Varies based on:
 - Specific activity undertaken
 - Year in which the expenditure occurred

Canadian ITCs Overview



	Clean Technology	Carbon Capture, Utilization and Storage	Clean Hydrogen	Clean Technology Manufacturing	Clean Electricity
Maximum Rate	30% *	60%/50%/37.5%	40%/25%/15%	30%	15%*
Eligible Taxpayers	Taxable Canadian corporations** & REITs**	Taxable Canadian Corporations**	Taxable Canadian Corporations**	Taxable Canadian Corporations**	Canadian tax- exempts and taxable entities**
Phase-out Starts	January 1, 2034	January 1, 2032	January 1, 2034	January 1, 2032	N/A
End Date	December 31, 2034	December 31, 2040	December 31, 2034	December 31, 2034	December 31, 2033
Recapture Period***	10 years	20 years	20 years	10 years	Unclear
Status: January 2023	Parliament (Bill C-59	Parliament (Bill C-59)	Draft legislation released for comment December 20, 2023, input due by February 5, 2024	Draft legislation released for comment December 20, 2023, input due by February 5, 2024	Draft legislation scheduled to be released during 2024

* Labour requirements must be met to attain highest ITC %

** Directly or through as a member of a partnership

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*** Period during which certain actions can cause ITCs claimed to be reversed

Boosting Competitiveness through Strategic Industrial Policy

- Canada's energy sector is regulated by both federal and provincial/territorial governments, leading to potentially conflicting policies.
 - Alberta had a seven-month pause on the regulator approving proposed new renewable energy projects, and introduced new regulations which limit wind turbine construction and make solar panel installation on farmland more difficult
- The Federal government should increase consultations and dialogue with provincial and territorial governments, ensuring coherent energy policies.
- Organizations like the Business Council of Canada and Canadian Manufacturers & Exporters advocate for a clearer industrial strategy to boost clean energy investments, suggesting the use of previous national strategies which increased investment in railways and Alberta's oilsands development as models.

Conclusion

- Canada already spends more than what the IRA offers, on a proportional GDP basis, to incentivize investment in clean energy.
- Still, Canada is not on track to achieve its emissions goals, suggesting additional measures might need to be taken.
- These could include:
 - Streamlining regulations
 - Clarifying tax credits and increasing accessibility
 - Implementing a cohesive strategy



Photo Source:Lexpert

Thank You

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