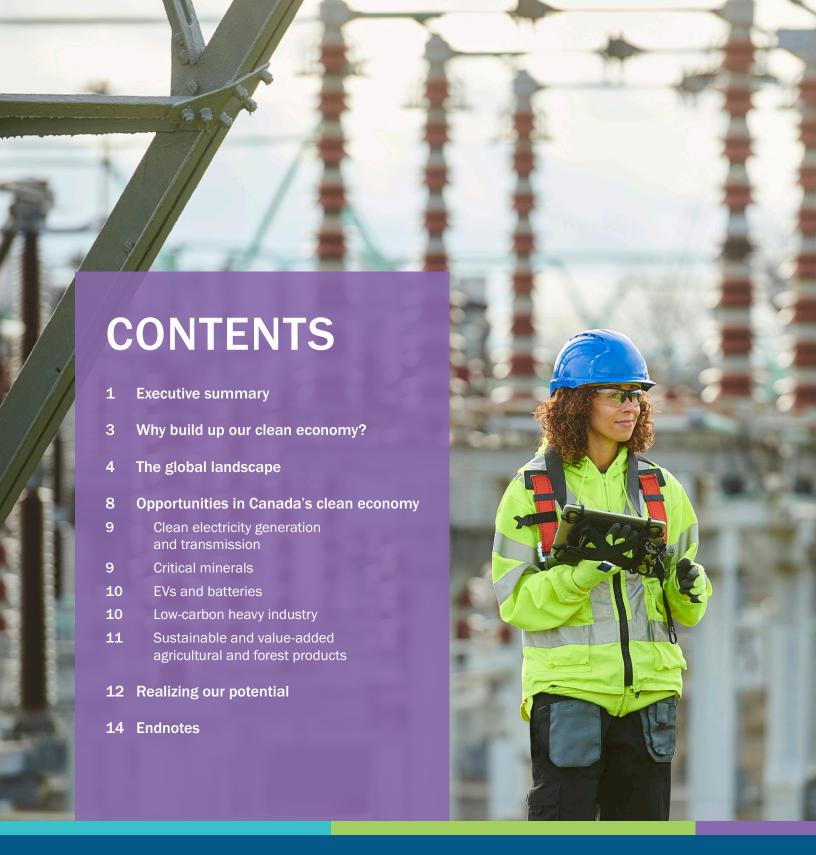


The World Next Door

Aligning Canada's economy with our new reality means building trade alliances beyond the U.S., where clean equals competitive





The World Next Door

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Executive summary

Canada woke up the day after President Donald Trump's second inauguration in unfamiliar territory. Our closest neighbour and biggest trade partner for the past century suddenly decided that Canada was not, in fact, a friend—and that our trade agreements were not really binding. Whether and which tariffs come or go is impossible to predict at this point, but one thing has become clear: trust, that other important T word, has been shattered irreparably.

Canada must now look beyond its borders, within its borders, and within itself. First and foremost, that means aligning our economy with the wider, friendlier world.

Canada has trade agreements with 60% of the global economy, making us well positioned to lessen our reliance on U.S. markets. According to Clean Energy Canada's analysis of our 10 largest non-U.S. trade partners, all have net-zero commitments and carbon pricing systems, and roughly half apply carbon border adjustments on imports and have domestic EV requirements reshaping their car markets.

Taken together, these measures send a clear, unmistakable signal about where their economies are headed. Carbon border adjustments, for example, incentivize low-carbon products from importing nations like Canada, while a carbon price and requirements for more EVs mean a market is weaning itself off fossil fuels. As more countries adopt these measures, demand for oil and gas will see a decline, while interest in clean energy imports and low-carbon products will increase.

The global market for the top-six mass-manufactured clean energy technologies (solar PV, wind turbines, electric cars, batteries, electrolysers, and heat pumps) is set to rise from US\$700 billion in 2023 to more than US\$2 trillion by 2035—close to the value of the world's crude oil market in recent years.¹

Canada's opportunities are plentiful, significant, and feasible.

A made-in-Canada industrial policy approach will help unlock Canada's clean growth opportunity. A number of think tanks and business groups have analyzed and identified opportunities in Canada's clean economy, including but not limited to clean electricity generation and transmission, critical minerals, EVs and batteries, low-carbon heavy industry, and value-added agricultural and forest products.

So, how does Canada map this vision onto reality? The simple answer is to streamline Canada, connect Canada, buy Canada, and promote Canada.

Streamlining Canada involves accelerating regulatory and permitting processes for clean growth projects, making it easier for green collar workers to move between provinces, and better aligning building, construction, and transportation codes.

Connecting Canada means investing in and accelerating the build-out of critical trade, energy, and transportation infrastructure, like road networks to remote mining sites and ports to growing markets. Now more than ever, it is time to enhance connections between provincial electricity systems. Prioritizing grid interties in strategic regions will enhance energy security, flexibility, and ratepayer affordability.

Buy Canada has quickly turned into a trendy phrase, but for policymakers the definition should include growing the market for Canadian products, supporting Canadian ownership, and helping emerging Canadian companies scale up. Governments can do this through consumer incentives for locally-made clean technologies, government procurement that favours low-emissions Canadian products, and interprovincial trade promotion.

Finally, shedding our northern humility, "elbows and chin up" should be our motto moving forward. **Promoting Canada** boils down to expanding and diversifying export opportunities while also incentivizing global companies to build here. Business parks and shovel-ready industrial lands that are proximate to production networks and abundant clean electricity are easy beacons for all manner of businesses. As is our clean electricity grid: we have already seen companies choose Canada in part for its low-cost, low-emissions power. Indeed, Canada should be marketing a "Clean Canada" export brand to both Canadians and the world.

This all may sound like a bold vision, but it is one with its feet firmly on the ground.

Seizing the clean economic opportunity is not about starting over, but about leveraging pre-existing industries and advantages in a way that sets us up for a different future—



Why build up our clean economy?

Like-minded trade partners are increasingly preferring low-carbon goods and services. Canada already has a clean industry advantage, having invested in a number of major decarbonization projects while powering production with an electricity grid that is 82% clean.^{2,3} Starting next year, the EU will be applying carbon border adjustments on goods produced without a carbon price. It covers iron and steel, cement, fertilizers, aluminum, hydrogen, and electricity. With its clean industrial headstart and a provisional trade agreement with the EU, Canada is well-positioned to be a preferred supplier.⁴



- Global companies want to set up shop where they can plug into clean electricity. Sustainable projects attracted 29% of all foreign direct investment into Canada in 2023, up from 25% in 2022, 10% in 2021, and 5% in 2020. Clean energy now employs more people worldwide than fossil fuels, and Canada can and should carve out its fair share of the prize.
- Building up Canadian companies and intellectual property provides Canada with more economic autonomy and global leverage. Canada already punches above its weight when it comes to innovative clean technologies and could lean into this strategic advantage. Employing an international panel of experts, the Cleantech Group every year reviews 28,000 clean energy companies across 147 countries and highlights the 100 most innovative. Among 2024 Global Cleantech 100 finalists, 13 were Canadian.
- Clean economy sectors support stable, good-paying jobs in all parts of Canada and provide Indigenous peoples economic opportunities. The GDP of Canada's clean energy sector is projected to reach \$107 billion by 2030, with \$58 billion in investment and 600,000 jobs. As of 2022, 20% of Canada's electricity-generating infrastructure included First Nations, Métis, or Inuit partners, almost entirely in renewables.
- Improving Canadian household access to clean technologies reduces home energy bills and shields families from volatile fossil fuel price swings. Clean electricity prices are low, stable, and set here in Canada. A recent Clean Energy Canada study found that a household in Toronto that switches its gas cars for electric versions, swaps out its natural gas appliances, installs a heat pump, and makes some modest energy efficiency upgrades could save \$500 a month (as of 2024) taking into account upfront costs.¹⁰



The global landscape

There is no question that the U.S. is Canada's largest trade partner by a considerable margin. But Canada has a number of other vital trading relationships that politicians and businesses will want to foster and grow to help offset the impact of U.S. tariffs and the risks of political uncertainty.

Canada recently signed major trade deals with the EU and a number of Indo-Pacific nations and now has a trade agreement network covering 60% of the global economy. And yet this network is underutilized.¹¹

As we look to make long-term investment and strategic decisions with these partners in mind, Canada must view foreign markets as moving vessels. Knee-jerk investments (that still take years to realize) could miss the boat and leave Canada splashing in its wake.

On the following page, we examine Canada's 10 largest trade partners (as determined by combined export and import value) excluding the U.S.

To determine the extent to which each nation is building up its clean economy, we have identified four key barometers with big implications—and opportunities—for trade partners like Canada in the years ahead. We consider whether the country in question...

- is committed to net zero
- has a carbon pricing system
- applies a carbon border adjustment on imports
- has a requirement that EVs make up an increasing proportion of new vehicle sales

Taken together, these measures send a clear, unmistakable signal regarding where a country's market is headed. Carbon border adjustments, for example, levy a charge based on the carbon-intensity of a good's production and therefore incentivize low-carbon products from importing nations like Canada. Meanwhile, the existence of a carbon price and a requirement for more EVs means that a market is weaning itself off fossil fuels, and thus demand for oil

and gas will see declines, while interest in clean energy imports and low-carbon products will increase.

The upshot? Among our 10 largest non-U.S. trade partners, all of them have net-zero commitments and carbon pricing systems, and roughly half are putting carbon border adjustments on imports and have domestic EV requirements reshaping their car markets.

Canada's largest non-U.S. trade partners	Net-zero commitment	Carbon pricing system	Carbon border adjustment mechanism	EV sales requirement
1 *: CHINA	• Yes (2060)	Yes (emissions trading system)	• No	 Yes (dual credit system)¹²
2 MEXICO	• Yes (2050)	Yes (carbon tax, ETS)	• No	 No requirement, but proposed targets of 50% new sales by 2030, 100% by 2040
3 UNITED KINGDOM	• Yes (2050)	Yes (carbon tax, ETS)	 Yes, to be introduced in 2027¹³ 	• Yes
4 GERMANY	• Yes (2045)	• Yes (ETS)	Yes (covered by the EU CBAM)	Yes (covered by EU 2035 policy)
5 JAPAN	• Yes (2050)	Yes (carbon tax)	• No	No requirement, but target of 100% new sales by 2035 and fuel economy standards
6 SOUTH KOREA	• Yes (2050)	Yes (ETS)	• No	 No requirement, but target of 83% new sales by 2030
7 ITALY	• Yes (2050)	• Yes (ETS)	Yes (covered by the EU CBAM)	Yes (covered by EU 2035 policy)
8 BRAZIL	• Yes (2050)	 Yes (ETS incoming)¹⁴ 	• No	• No
9 SWITZERLAND	• Yes (2050)	Yes (carbon tax, ETS)	• No	 No requirement, but follows EU tailpipe emission regulations¹⁵
10 NETHERLANDS	• Yes (2050)	Yes (ETS, carbon tax)	Yes (covered by the EU CBAM)	Yes (covered by EU 2035 policy)
EUROPEAN UNION	• Yes (2050)	• Yes (ETS)	 Yes, in transitional phase, definitive regime from 2026¹⁶ 	 Yes, fleet-wide target of zero emissions by 2035¹⁷

Sources: Net Zero Tracker, World Bank, International Energy Agency^{18–20}

Blue state support

Despite Trump's efforts to roll back many key climate measures and investments, a number of individual U.S. states are still rowing in a very different direction. For example, 17 states representing 40% of the U.S. car market have their own EV requirements, following in California's legal footsteps. ^{21,22} Governor Gavin Newsom has also said he will seek trade deals that

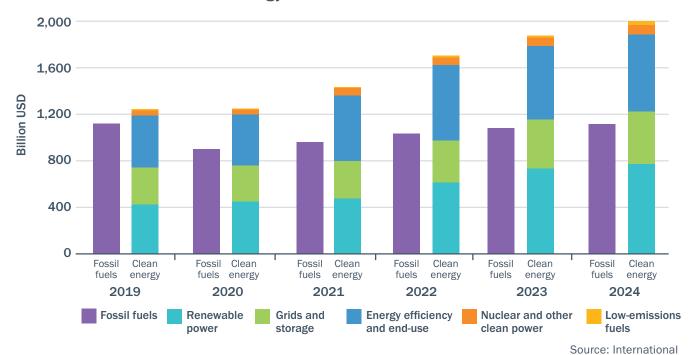
spare California, the world's fifth-largest economy, from retaliatory tariffs.²³ Add to that the Canadian market and facing competition from abroad, and U.S. automakers are still compelled to build better, more affordable EVs. By empowering its own clean economy, Canada is aligning its trajectory with the U.S. states that share our values—along with most of the world.

A net-zero world

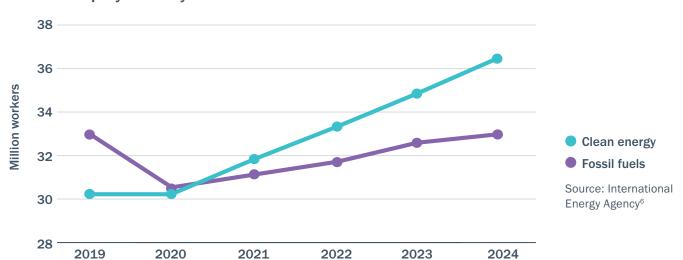
142 countries have adopted or are considering net-zero targets. Together, they represent 76% of global emissions, 78% of its GDP, and 84% of the world's population.



Global investment in clean energy and fossil fuels



Global employment by sector



What does net zero mean for Canadian fossil fuels?

Fossil fuels fall from around 80% of total energy supply to around 13% by 2050 in the International Energy Agency's Net Zero by 2050 scenario.²⁴ Remaining fossil fuels will be used in plastics, captured and stored, or in sectors with few clean options.²⁵ Unless Canada builds up its clean economy, it could experience the most severe GDP loss from the energy transition of any G20 nation by 2050, according to analysis published by the International Monetary Fund.²⁶



Energy Agency⁶



Opportunities in Canada's clean economy

Canada is uniquely positioned to address the economic challenges of today by growing our clean economy to support domestic demand while increasing low-carbon exports.

To seize this advantage, federal and provincial governments should pursue an industrial policy approach, giving special attention to industries and companies that:

- are poised to play an expanding role in a net-zero world
- support trade diversification with non-U.S. nations
- create and build clean domestic supply chains, prioritizing industries that use Canadian resources and know-how, multiplying jobs and supporting other industries
- leverage clean electricity to attract new industries and clean up existing ones

A number of think tanks and business groups have analyzed and identified specific opportunities in Canada's clean economy.²⁷⁻³¹ Many of these opportunities build on Canada's strengths, including affordable clean power, abundant natural resources, innovation and production, and skilled workforces.

Clean electricity generation and transmission

The world is undergoing a profound expansion of the electricity sector, underpinned by the rapidly falling cost of renewable power, including complementary battery storage, which saw costs decline by 89% between 2010 and 2023.^{24,32} In a net-zero 2050, the International Energy Agency projects total global power generation to nearly triple by 2050, with the relative share of power produced from renewables rising from 30% in 2023 to 88% in 2050 as fossil-fuel-based generation falls from 60% to approximately zero.

Cheap, clean electricity has been the backbone of Canada's economy for decades and is a key competitive advantage as foreign investors look to locate in jurisdictions with an electricity system that is reliable, affordable, and clean. Not only does Canada have the lowest electricity rates among G7 countries, the country's renewables growth potential is among the world's best.³³ Wind, solar, and storage capacity have grown 46% in five years, with another 15,000 megawatts of clean capacity either currently underway or planned across the country, representing more than \$30 billion in investment.³⁴ As of 2022, 20% of Canada's electricity-generating infrastructure included First Nations, Métis, or Inuit partners, almost entirely in renewables.⁹

Canada has also been a global leader in nuclear power generation and is ramping up green hydrogen potential. The Canada Deuterium Uranium supply chain fully resides in Canada with exports to four countries and a modernization plan for future CANDU exports. Finally, Canada has another export opportunity in the commodities and energy carriers produced by clean electricity, including clean hydrogen, ammonia, and methanol, which can all be manufactured using electrolysis (splitting water into hydrogen and oxygen using electricity). While the potential scale of this opportunity is not fully known, the global market for clean hydrogen could reach over \$1.9 trillion by 2050, with Canadian exports reaching \$20 billion to over \$42 billion by 2050.

Critical minerals

Demand for critical minerals has risen considerably in recent years, with lithium demand rising by 30% and nickel, cobalt, graphite, and rare earth elements seeing increases ranging from 8% to 15% in 2023. Delan energy technologies have become the main driver of this demand growth. Under current global policies, demand for lithium is projected to grow fivefold between today and 2040, while demand for graphite would almost double as nickel, cobalt, and rare earth elements see increases of 65% to 80%.

Canada is host to 31 different critical minerals, many of which are necessary for building a path to net zero. For instance, Canada is one of the few Western nations that have an abundance of cobalt, graphite, lithium, and nickel—critical minerals that are essential to creating batteries and EVs. Canada is also a major producer of copper, which is used in power transmission, building wiring, EVs, and other electronic components. Developing just six of Canada's critical minerals could contribute more than \$500 billion to the country's GDP over the life of the mines. A0,41 Many of Canada's global allies are looking to increase and diversify their supply of responsibly produced critical minerals, and Canada has already signed numerous agreements with partners such as the EU, the U.K., Japan, and South Korea to increase cooperation on and investment in Canada's critical mineral supply chain.









EVs and batteries

Global growth for batteries is expected to increase from US\$120 billion to \$330 billion by 2030 with current policy settings, almost tripling in size and making batteries the fastest-growing energy technology worldwide. 44 While EVs will drive the vast majority of this growth—global sales are projected to grow from 18% in 2023 to 44% in 2030—demand for battery storage will play an important role, as battery storage capacity to be added globally by 2030 is expected to be more than the total fossil fuel capacity added over the same period.

Canada's battery supply chain potential has been ranked first in the world by BloombergNEF, ahead of China and 28 other countries. ⁴⁵ We are already realizing this potential with Ontario and Quebec landing \$46 billion in private-sector automotive battery plant investments—in part on the basis of cheap, clean power relative to potential sites in the U.S. ⁴⁶ As Canada looks to diversify its exports, we have a particular opportunity to build out the midstream portions of our battery supply chain and export high-value, sustainable battery materials to global markets.

For decades, Canada has also been a vehicle manufacturing hub, host to five auto manufacturers, a robust auto parts manufacturing sector, and home of zero-emissions bus and truck manufacturers (many of which are also headquartered here).

Low-carbon heavy industry

Canada is well-positioned to supply global markets with low-carbon steel, aluminum, chemicals, and fertilizers, which will be needed in the coming decades. For example, steel made in the U.S., EU, and China is between 16% and 200% more carbon-intensive than steel made in Canada, while aluminum from those countries is between 170% and 535% more carbon intensive than Canadian products. To access a "green premium on world markets," the federal government has invested over \$6.5 billion into decarbonizing 15 heavy industry facilities in Alberta, Ontario, Quebec, and Saskatchewan.

We will also need high-value, low-emissions chemicals in a net-zero world, from the plastics in our EVs, to the resins protecting our solar panels, to the refrigerants in our heat pumps.⁴⁷ The private sector is mobilizing at a global scale. For example, the First Movers Coalition, a group of global companies and governments, is committed to purchasing low-carbon products across eight heavy industry sectors including steel, aluminium, cement, and chemicals.⁴⁸ Cumulatively, they represent over US\$8.5 trillion in purchasing power.⁴⁹

The impact of interprovincial trade barriers on Canada's economy

Numerous studies have found that barriers in our own country equate to Canadians paying at least 7% more for goods and services, resulting in a loss of economic activity that costs the federal government \$15 billion a year in lost revenue, according to Scotiabank. Two separate studies, one from the International Monetary Fund, determined that **complete trade liberalization within Canada could boost national GDP by an impressive 4%.** And yet another research paper explored these benefits through a more tangible lens, finding average wages could rise by 5.5%, government revenues for social programs could increase by 4.4%, corporate profits could rise and thus attract more investment to Canada, Canadians would enjoy lower prices on goods and services, and workers would have better access to job opportunities across the country. Addressing these barriers will be a critical component of supporting Canada's domestic clean industries.

Electrification and clean hydrogen are at the heart of Canada's clean industrial opportunity, where clean electricity and hydrogen replace natural gas or coal as a heat source (for example, hydrogen-DRI steelmaking) and hydrogen is used as a feedstock (chemicals and fertilizers where clean hydrogen underpins ammonia production and methanol-to-olefins).⁵³ In both instances, Canada has a built-in advantage and flexibility in pathways to ensure the lowest-possible emissions.

Sustainable and value-added agricultural and forest products

The global population will approach nine billion over the coming decade, requiring the world to produce 14% more food, feed, and biofuels than today. Fortunately, Canada's agriculture and agri-food sector has significant economic growth potential. Canada exported \$100 billion in agriculture and agri-foods and \$17.1 billion in forest products in 2023, and RBC estimates that under a high-growth scenario, Canada could reestablish itself as the world's fifth-largest agricultural exporter, a position it has not held since the early 2000s. 54,56

In the International Energy Agency's net zero by 2050 scenario, total bioenergy supply rises to almost 20% of total global energy supply, up from around 10% in 2023.²⁴ **Advanced biofuels, made from both agricultural and forest products, are another potential growth area for Canada** as global energy markets look to reduce reliance on fossil fuels. The sector could add up to 46,500 direct jobs between 2022 and 2035.⁵⁷

Canada's forest products sector's exports were \$45.6 billion in 2022, and no nation derives more net benefit from trade in forest products than Canada. 54,56 Engineered forest products such as mass timber and composite siding panels are also projected to see significant growth in the coming years. The global market for mass timber is growing at an annual rate of 15% and could reach \$4.9 billion by 2030. 58 Mass timber is recognized as playing a major role in reducing emissions from a building sector that is forecast to double the volume of building stock globally by 2060. 59 As nations look to build with lower-carbon building materials, many forest products can replace cement and steel in both smaller and midsized buildings. Mass timber also has the opportunity to create localized, deeply integrated supply chains in Canada. 60





Canada, the cleantech innovation heavyweight

Canada is already home to over 2,400 pure-play cleantech companies offering innovative technologies in sectors from renewable energy and energy efficiency to agriculture and mining. Canada's cleantech sector also punches above its weight, with 13 companies making the 2024 Global Cleantech 100 list (selected from a review of 28,000 clean energy companies across 147 countries). The sector has shown strong job growth and export performance over the last decade, the latter expanding an above-average 110% from 2012 to an impressive \$19.7 billion in 2023. Global Affairs Canada notes that small and medium enterprises in cleantech are roughly twice as active in international markets compared to Canadian companies broadly. Canada is also a global leader in some potentially disruptive spaces. General Fusion, one of the world's most promising nuclear fusion startups, operates out of B.C. and has attracted \$440 million in private capital. And the road, Ballard Power leads a cluster of hydrogen fuel cell technology companies that have earned Burnaby an unlikely nickname: "the Silicon Valley of the hydrogen fuel cell."





Realizing our potential

Understanding Canada's clean economic opportunity is one thing. Fully realizing it is another. The good news is that governments have the tools they need to make it happen.

Accordingly, it is time to streamline Canada, connect Canada, buy Canada, and promote Canada. Here is what we mean by that:

Streamline Canada by breaking down barriers and better aligning codes, standards, and credentials.

- Accelerate regulatory and permitting processes for clean growth projects.
 Coordinate federal and provincial authorizations to unlock nationally significant clean-energy-related projects aligned with our broader economic goals (such as enhancing energy security, building economic resilience, boosting productivity, and decarbonizing the economy) while maintaining strong environmental standards. Implement a "one project, one review" approach as B.C. has done and move clean growth projects up the queue while prioritizing Indigenous consent, governance, and options for ownership in projects.
- Make it easier for green collar workers to move across provinces and territories. Ensure the professions and skilled trades required to build clean economy projects (such as geologists, engineers, EV mechanics, wind turbine technicians, and heat pump installers) are prioritized in labour mobility efforts to build clean growth projects faster.
- Explore opportunities to better harmonize building, construction, and transportation codes and standards across provinces. Coordinating the provincial adoption of national building and electrical codes to align with federal timelines could simplify construction and speed up the build-out of affordable, energy-efficient housing and low-carbon infrastructure. Similarly, the mutual recognition of transportation rules, like trucking standards, could ease the movement of products and materials such as critical minerals and EV batteries across provincial borders.

Connect Canada by investing in and accelerating the build-out of critical trade, transportation, and energy infrastructure.

- Increase infrastructure spending in transportation networks and trade corridors.

 Proactively identify and invest in critical trade and transportation infrastructure needs such as road networks to remote critical mineral mining sites, rail lines, clean shipping, electrified trucks and charging, and ports to improve access to markets.
- Accelerate the build-out of a national clean grid. Unlock Canadian clean energy independence by establishing a grid initiative that works with willing provinces and Indigenous peoples to agree on priority inter-provincial transmission opportunities, develop a fair approach to quantifying and sharing the benefits and costs associated with these projects, and establish a clear planning process for their development. To help bring partners to the table, the federal government could cover up to 50% of the associated capital costs of the projects and establish a streamlined permitting process. Prioritizing provincial interties in strategic regions can better connect provincial electricity grids, enhance energy security, improve ratepayer affordability, facilitate complementary system balancing, and support a clean power corridor across the country.

Buy Canada to grow the market for Canadian products, support Canadian ownership, and help emerging Canadian companies scale up.

- Grow domestic consumer demand for clean Canadian products and materials. Support Canada's EV supply chain and keep Canada's auto industry competitive by reintroducing consumer rebates and offering bonus incentives for EVs assembled or with parts made in Canada. Launch a heat pump and solar panel voucher program to help Canadians purchase heat pumps and solar panels made by Canadian manufacturers.
- Leverage public procurement power to buy clean Canadian products. Commit to procuring clean materials with federal housing and infrastructure spending, and incentivize provinces and municipalities to do the same. Advance a standardized "buy clean" approach across the country that benefits clean Canadian suppliers and grows the market for their products—in a trade law compliant way.

interprovincial trade promotion. Launch interprovincial trade missions to help provinces better promote their goods, services, companies, and research and development to other provinces. Support buyer-supplier initiatives that offer regional information sessions for small and medium enterprises and help emerging Canadian cleantech leaders scale up. Complement Canada's export promotion services by offering more support for businesses to promote, facilitate, and increase domestic trade opportunities.

Promote Canada to other nations and global companies that could invest and create jobs in Canada while diversifying export opportunities for **Canadian firms**.

- Build business parks to attract new investment in the clean economy while also creating a knowledge-sharing ecosystem for Canadian companies. Work with provinces, Indigenous communities, and economic development agencies to develop an inventory of serviced, shovel-ready industrial lands in close proximity to laboursheds and production networks. Ensure these areas are already permitted for development before applications are even submitted, and prioritize clean economy supply chain activities in these zones and promote them to investors. Look to the models used in Quebec's Becancour Industrial Waterfront Park and B.C.'s Port of Prince Rupert.
- Grow Canada's clean electricity supply to attract more clean investments and ensure Canada has sufficient electricity to power them. Ensure Canada maintains its clean electricity advantage by working with industry, provinces, and electric utilities to assess the power needs of priority clean sectors poised for growth and quickly deploy affordable, reliable, clean energy resources and related transmission infrastructure to serve them. Maintain investment certainty for grid build-out and capture clean-electricity-related investment flowing out of the U.S. by finalizing clean electricity investment tax credits as soon as possible.
- Promote a new Canadian brand for an evolving global economy. Canada is ideally positioned to provide low-carbon goods and services to our trading partners. We should be marketing a "Clean Canada" export brand to both Canadians and the world to promote not only Canadian commodities, but also our technology and certification standards. Export trade missions should focus on new markets opened through recent trade deals (CPTPP and CETA) and offer extra support to small and medium Canadian enterprises to help them access these markets.

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