BRITISH COLUMBIA
Canada

Clean Energy

Abundant, Reliable and Responsibly Sourced

British Columbia, *Naturally.*

BritishColumbia.ca

A world-leading climate policy, abundant resources, cutting-edge technology, highly skilled workforce, regulatory certainty and easy access to the Asia Pacific market position British Columbia (B.C.) as a global leader in the supply of responsibly sourced low emissions clean energy.

Our world is transitioning to clean energy to meet greenhouse gas reduction targets. As part of B.C.'s commitment to reduce greenhouse gas emissions by 40 percent by 2030, the government is taking actions and providing rebates and incentives for clean energy projects. The Province's CleanBC plan includes policies that help businesses build a cleaner economy and prepare for impacts of climate change.

There's a greater focus on Environmental, Social and Governance (ESG) investing, as indicated by investors with more than $120 trillion worth of assets under management having signed on to the United Nations Principles for Responsible Investment. B.C. businesses are well positioned to meet the interests of investors with the support of the ESG Centre of Excellence which provides businesses in B.C. with guidance, resources and tools to conduct green business practices and meet global sustainability targets.

Abundant resources

British Columbia leads the way in abundant natural resources that drive the development, testing and use of clean energy technology including but not limited to low-carbon hydrogen, biofuels, renewable natural gas, biomass, renewable electricity, geothermal and carbon capture, utilization and storage.

B.C. is expediting industrial decarbonization by harnessing one of its most reliable resources in the battle against climate change: its abundant, clean and cost-effective hydroelectric power supply as an alternative to fossil fuel. Unlike many other regions in the world, B.C. has an electricity grid that can deliver close to 100% zero-emissions electricity to power homes, businesses and vehicles.

Additionally, in 2024 BC Hydro released a 10-year Capital Plan to build B.C.'s energy future. They will invest $36 billion to maintain and strengthen B.C.'s electricity grid across the province, including new and upgraded transmission lines, substations and other equipment. This represents an increase of 50% over BC Hydro's previous capital plan. And in the future, BC Hydro plans to issue rolling calls for power, as B.C. will continuously scale up clean electricity production to meet the needs of a growing, clean energy economy.

Sustainable Environmental leadership

B.C. is a global leader in providing regulatory certainty in clean energy development. The B.C. government is taking action to maintain a safe energy sector while also building the cleanest facilities in the world. The CleanBC Roadmap to 2030 outlines the Province's plan to reduce emissions by 40% by 2030, and includes a range of accelerated and expanded actions across eight pathways, including low-carbon energy, transportation, buildings, communities, industry, forest bioeconomy, agriculture, aquaculture and fisheries, and negative emissions technologies.

Additionally, in 2021 B.C. became the first province in Canada to release a Hydrogen Strategy that is helping the province transition away from fossil fuels and move towards a cleaner, low-carbon energy system. Other examples of government actions include accelerating technology development for a low-carbon future through the Centre for Innovation and Clean Energy and providing funding for development of innovative technologies in the clean energy sector.

The B.C. government was an early supporter of fuel cell innovation, and today the province is home to the largest hydrogen and fuel cell sector in Canada.

In March 2023 B.C. announced the New Energy Action Framework to:

- Require LNG facilities in the environmental assessment process to pass an emissions test and achieve net zero by 2030.
- Implement a regulatory emissions cap for the oil and gas industry to meet B.C.'s 2030 emissions-reduction target.
- Establish a clean-energy office to boost investment in clean energy and sustainable jobs.
- Create a BC Hydro Task Force to speed up the electrification of B.C.'s economy with renewable electricity.

Community and First Nations engagement

The Province is committed to true, lasting reconciliation with Indigenous peoples in British Columbia through adopting and implementing the United Nations Declaration on the Rights of Indigenous Peoples and the Calls to Action of the Truth and Reconciliation Commission. As part of those commitments, B.C. works in partnership with First Nations and the clean energy industry on achieving agreements that ensure real benefits reach people in the province while also protecting our environment. Over the coming years, the Province will work in partnership with First Nations communities to support economic and social opportunities for families. Through collaboration with First Nations, the Province will ensure communities remain healthy and are equipped to deal with growth.

Additionally, British Columbia Energy Regulator's Indigenous Education Program is partnered with several post-secondary institutions across the Province to provide scholarship and training for Indigenous peoples who are interested in a career in clean energy.

Helpful Resources:

- **The Clean Energy and Major Projects Office**, which helps support clean energy projects in B.C., prioritizes the advancement of First Nations interests and First Nations-led clean energy projects.
- **Indigenous Clean Energy Network:** Resources, webinars and other information to advance Indigenous inclusion in Canada's energy futures economy through Indigenous leadership, and broad-based collaboration with energy companies, utilities, governments, development firms, cleantech innovators, academic sector and capital markets.
- **BC Community Climate Funding Guide** for Indigenous communities and local governments is an all-in-one guide of funding opportunities for climate action projects.

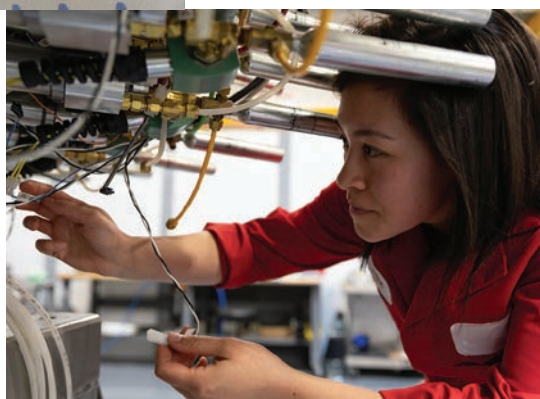
Easy market access

B.C. has a very long track record as a safe and reliable energy partner and exporter to the U.S. and Asia; its geographic position means much shorter shipping distances to Asia. Establishing a Clean Energy industry on Canada's West Coast will allow B.C. and Canada to export clean energy to new customers in rapidly developing markets. B.C. holds the most regionally advantageous position among other provinces in Canada for accessing global markets, such as Asia, the Americas, Europe and Africa where demand for hydrogen remains high.

Highly skilled workforce

British Columbia has a large, diverse, and educated workforce and a strong talent pipeline thanks to its education and training programs that prepare highly specialized workers in the clean energy sector. Innovation in this sector is supported by the cutting-edge research conducted at B.C.'s universities and technical institutes, which are also training the next generation of talent working in this field, including:

- **The Institute for Integrated Energy Systems** at the University of Victoria
- **The EV Maintenance Training program** at British Columbia Institute of Technology, Okanagan College, College of New Caledonia and Camosun College
- **Clean Energy Engineering, Engineering Physics, Climate Action and Community Engagement, and Chemical and Biological Engineering** at the University of British Columbia
- **The new Centre for Clean Energy and Automotive Innovation** at Vancouver Community College *(set to open in 2027)*



Industry Profile

Biofuels

- Biofuels play an important role in reducing carbon emissions in some of the most difficult sectors, including transportation and industrial process heating.
- In B.C., the carbon intensity of biofuels decreased by 32 percent between 2013 and 2023, making these organically derived fuels even better for our climate.
- Tidewater Renewables opened Canada's first standalone renewable diesel plant refinery in Prince George, B.C. in 2023. The facility is expected to produce more than 3,000 barrels of low-carbon fuel a day, or approximately 170 million litres a year.

Biomass

- Bioenergy products including renewable natural gas, wood pellets for biomass power generation, and biochar require large amounts of feedstock and a large capital investment between $300 million and $1 billion to be economically feasible.
- The Ministry of Forests, with FPInnovations, is developing an interactive information mapping system that will provide users with an accurate and timely estimate on the amount and cost of available residual forest biomass across the province.
- Major opportunities include bio-refining technologies -bio-coal – which converts biomass into solids, liquids and gases and can replace fossil coal and chemicals, and CHP technologies which converts energy stored in biomass to heat and power and can therefore be used to heat buildings.

Currently, 98% of the power generated for B.C.'s integrated grid comes from clean or renewable resources, making B.C. the leader in North America when it comes to clean energy.

Carbon Capture, Utilization and Storage (CCUS) and Negative Emissions Technologies

- Where emissions can't be reduced, companies will have to assess the use of new technologies such as carbon capture or consider the purchase of high-quality offsets from projects offering long-term carbon sequestration, such as using negative emissions technologies.
- CCUS technologies can reduce emissions in hard-to-abate sectors such as oil and gas, pulp and paper, and cement, where emissions associated with chemical processes cannot be eliminated in any other way.
- Since they are still in the emergent phase, B.C. will develop a provincial approach to guide the deployment of CCUS and negative emissions technologies.

Geothermal Energy

- Geothermal energy is the heat contained within the rock and fluid in the earth's crust. It is a source of clean, renewable energy with a small environmental footprint.
- Geothermal energy can be used directly to provide heat or indirectly to produce electricity.
- British Columbia is situated on the Pacific Ocean "Ring of Fire" and has several volcanic regions conducive to geothermal energy; geothermal exploration has not yet proceeded to the development of a geothermal power plant.

Hydrogen

- Renewable and low-carbon hydrogen is a crucial component of B.C.'s clean and sustainable energy future.
- It is one of the only solutions for decarbonizing sectors of the economy where direct electrification is not practical, such as heavy-duty transportation or industrial heating.
- The B.C. Hydrogen Strategy estimates that B.C. could produce over 2.2 million tonnes of hydrogen annually.
- The strategy's immediate priorities include scaling up production of renewable hydrogen, establishing regional hydrogen hubs and deploying medium- and heavy-duty fuel-cell vehicles.
- Canada's first retail hydrogen fuelling station opened in Vancouver in 2018 with support from the Government of British Columbia. By early 2022, there were four public stations across the province, with more stations planned through the support of the CleanBC Go Electric Hydrogen Fuelling Infrastructure Program. This infrastructure investment has created new opportunities for entrants to invest and grow in the space.

B.C. currently has the second-lowest residential electricity rates in North America, and the third lowest commercial and industrial rates.

Renewable Electricity

- Given that electricity demand is expected to increase by 15% between 2024 and 2030, BC Hydro has issued a request for proposals to acquire approximately 3,000 gigawatt hours per year of electricity.
- This will add 5% to its current supply, providing enough clean electricity to power 270,000 homes or approximately one million electric vehicles per year.
- The development and construction of new clean-energy projects in response to the call for power will generate an estimated $2.3 billion to $3.6 billion in private capital spending throughout the province and create approximately 800 to 1,500 jobs on average annually.

Renewable Natural Gas

- Renewable Natural Gas (RNG) is emerging as a new opportunity to supply lower carbon energy made from renewable sources. As part of its commitment to reduce greenhouse gas emissions by 40 percent by 2030, Fortis is procuring RNG from inside and outside B.C. Fortis received regulatory approval to produce RNG at the Vancouver Landfill and purchase RNG from wood waste created by forestry operations and sawmills.
- Renewable natural gas will reduce B.C.'s greenhouse gas emissions, a step that FortisBC has made possible by offering residential and commercial clients the option to buy into their affordable RNG program.
- FortisBC has been working with local farms, landfills, green energy companies and municipalities to make and deliver RNG. This plays an important role in supporting B.C.'s CleanBC Roadmap to 2030 plan.

Enjoy Strong Government and Industry Support

The B.C. Government prioritizes the expansion of the clean energy sector, actively fostering investment and striving to generate market opportunities for the province.

B.C. leads the world in carbon pricing, technology and low-carbon energy. The province is modelling its successes for others and exporting its solutions to the world while growing economic opportunities at home. B.C. is encouraging its trading partners to adopt similar policies, building global climate-action momentum and combating potential competitive issues for businesses and industry.

With the first broad-based carbon pricing in North America, B.C. has proven that it is possible to reduce emissions while transitioning to a clean economy.

Tax Credits:

- **B.C. Scientific Research and Experimental Development** tax credit — a qualifying corporation with a permanent establishment in British Columbia can claim this credit for scientific research and experimental development carried on in British Columbia.
- **The Clean Buildings** tax credit is a refundable income tax credit for qualifying retrofits that improve the energy efficiency of eligible commercial and multi-unit residential buildings with four or more units. Individuals and corporations may be eligible for the tax credit.
- **The Small Business Venture Capital Program** offers tax credits to investors to encourage them to make equity capital investments in B.C.-based small businesses.

Sector Partners

Research Centres:

- **Clean Energy Research Centre** is a multidisciplinary research hub dedicated to undertaking world-class clean energy research, training, development and demonstrations.
- **Clean Hydrogen Hub** is a Canadian academic-industry clean energy infrastructure project meant to accelerate hydrogen technology innovation.
- **Genome BC** funds research and innovations that are improving the lives of British Columbians by advancing health care and addressing environmental and natural resource challenges.
- **Foresight** is a cleantech accelerator that rapidly launches, commercializes and scales climate solutions across Canada.

Industry Organizations:

- **Centre of Innovation and Clean Energy** invests in the commercial development and global scaling of made-in-B.C. clean energy innovations.
- **Clean Energy BC** is an industry association that promotes the growth of B.C.'s clean energy industry by advocating for environmentally responsible and viable power generation, transmission and management resources that serve the public by providing cost effective electricity.
- **Canadian Hydrogen Association** through collaboration, advocacy and strategic partnerships, unlock new opportunities for their members and champion the Canadian hydrogen sector.

Supportive Government

Provincial Programs:

- **BC Indigenous Clean Energy Initiative** supports First Nations to fully participate in current and future opportunities in British Columbia's clean energy sector.
- **BC Manufacturing Jobs Fund** helps manufacturing companies modernize, innovate and grow by providing funding for capital projects in B.C.
- **Canada-BC AgriInnovate Program** aims to accelerate the commercialization, adoption and/or demonstration of innovative products, technologies, processes or services that increase sector competitiveness and sustainability including renewable energy projects.
- **CleanBC Communities Fund** is for clean and renewable energy projects.
- **CleanBC Industrial Incentive Program** encourages cleaner industrial operations by reducing carbon tax costs for facilities that can demonstrate their operations are among the lowest emitting for their sector compared to world-leading greenhouse gas emissions benchmarks.
- **CleanBC Industry Fund** supports the development, trial and deployment of projects that reduce greenhouse gas emissions from large industrial operations in British Columbia.
- **First Nation Clean Energy Business Fund** promotes increased Indigenous community participation in the clean energy sector.
- **Go Electric Hydrogen Fuelling Infrastructure Program** is working to expand the hydrogen fuelling network in B.C., further reducing one of the key barriers to market adoption of hydrogen vehicles: fuelling infrastructure.
- **Innovative Clean Energy Fund** supports the Province's energy, economic, environmental and greenhouse gas reduction priorities, and to advance B.C.'s clean energy sector such as bioenergy, solar, ocean tidal, geo-exchange, desalination, energy management, smart grid and waste-to-energy technology.
- **Low Carbon Fuel Standard Initiative Agreements** promote innovation, diversity, and greater uptake of lower carbon transportation fuels. Projects and activities supported by Initiative Agreements must reduce GHG emissions resulting from the use of fuels.

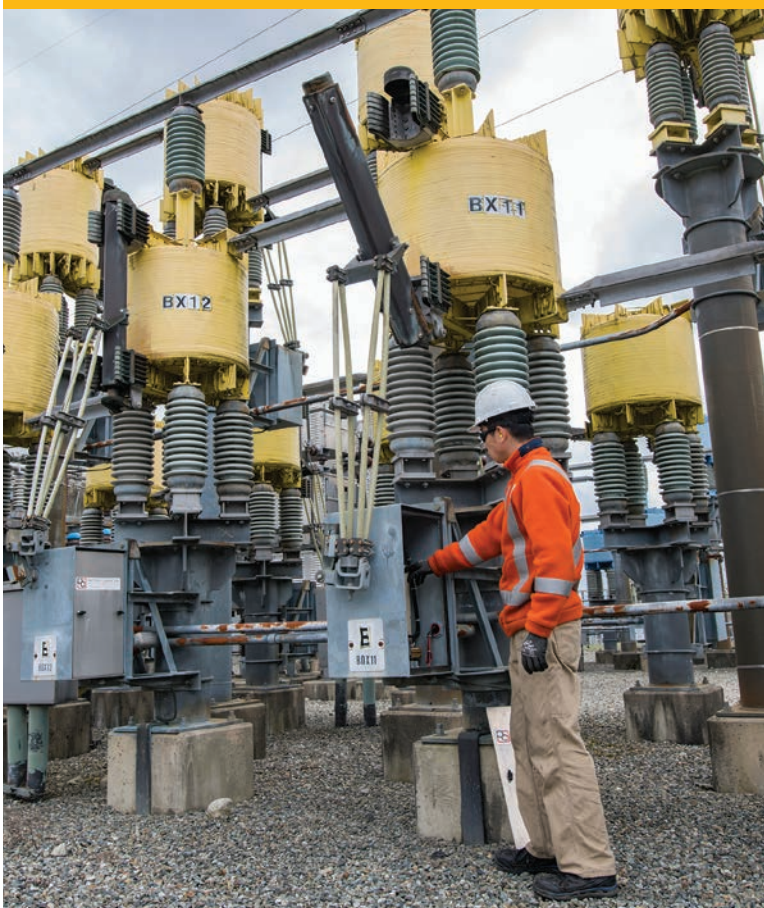
British Columbia's Competitive Advantages

- **Abundant resources**
- **Easy market access**
- **First Nations support**
- **Innovative technologies**
- **Skilled workforce**
- **Supportive governmental programs**
- **Sustainable environmental leadership**

You are in Good Company:

Join these innovative clean energy companies, including:

- Ballard Power Systems
- BC Biocarbon
- Carbon Engineering
- Ekona Power
- E-One Moli
- Hydra Energy
- Hydrogen Technology & Energy Corporation
- Moment Energy
- Powertech Labs



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