

BRITISH COLUMBIA CANADA



CLEAN



TECHNOLOGY

A hub for clean technology innovation

British Columbia, Canada is home to world-class clean technology companies. The Province offers a skilled and educated workforce, a prime location and a high quality of life.

Join leading clean tech companies including Awesense, Axine Water Technologies, Ballard Power Systems, Carbon Engineering, General Fusion, MineSense Technologies, Nexterra Systems Saltworks Technologies, SemiosBio Technologies Terramera and others. These companies are excelling in clean energy, clean transportation technology, energy efficiency, clean water treatment, and waste resource management. If you want to locate your business in an ideal environment for technology investment and partnership opportunities, British Columbia is the right place to be—it's where innovative technologies are taking off.



BritishColumbia.ca



British Columbia's clean technology advantages

With an abundance of natural resources, clean power and a welcoming business environment, British Columbia is making a cleaner future today.

CLEANBC PLAN

British Columbia is at the forefront of green innovation. The CleanBC plan strengthens the province's position as a key destination for new investment and industry looking to meet the growing global demand for low-carbon products, services and pollution-reducing technologies. By driving the province toward clean and energy-efficient solutions—ensuring that every new building is “net-zero energy ready” by 2032—CleanBC will continue to spur innovation in British Columbia's clean tech sector.

EXCEPTIONAL TALENT

Across British Columbia's (B.C.) broader tech ecosystem, a large, flexible and educated workforce of more than 114,000 is well represented by diverse and energetic talent. The clean tech sector in B.C. consists of approximately 300 companies employing more than 9,600 of these skilled individuals. British Columbia is also continuing to invest in post-secondary technology programming.

THRIVING CLEAN TECHNOLOGY CLUSTER

British Columbia has one of the highest tech sector growth rates relative to GDP in Canada, serving as home to more than a quarter of Canadian clean technology companies. Six B.C. clean tech businesses are on the 2020 Global Cleantech 100, which lists companies from around the world with the most innovative and promising ideas in clean tech.

CLEAN POWER AT LOW PRICES

British Columbia has abundant water and clean, reliable energy — 98% created directly from renewable resources — providing a steady stream of environmentally sustainable power at rates that are among the lowest in North America.

SUPPORTIVE GOVERNMENT

- ▶ The provincial Scientific Research & Experimental Development Tax Credit allows qualified companies to claim tax credits eligible expenditures while the Small Business Venture Capital Tax Credit allows B.C. investors to receive a 30% tax credit on eligible investments including in clean technology.
- ▶ The \$101 million BC Tech Fund, a venture capital fund-of-funds, invests in British Columbia's emerging technology companies and supports the development of a strong venture capital system.
- ▶ A \$40 million partnership between British Columbia's Innovative Clean Energy Fund (ICE) and Sustainable Development Technology Canada (SDTC) supports the development of precommercial clean-energy projects and technologies.

- ▶ Over the past three fiscal years (2017/18 to 2019/20), the Province has invested over \$20 million in innovative infrastructure to support clean tech research through the B.C. Knowledge Development Fund. These projects have leveraged over \$35 million from the federal government and other sources for a total investment of over \$56 million in clean tech research in British Columbia. Companies that partner with British Columbia's universities can benefit from their state-of-the-art research infrastructure, and from their researchers' and graduate students' expertise.
- ▶ British Columbia is a leader in zero-emission vehicles (ZEVs) with the highest per capita adoption of ZEVs in North America (9% of light-duty vehicle sales in 2019). The Province's CleanBC Go Electric Vehicle Program is providing funding support for the deployment of both charging and hydrogen fuelling infrastructure across the province. British Columbia has one of Canada's largest public charging networks, with plans to build more public stations by the end of 2020. The Province passed the Zero-Emission Vehicles Act on May 30, 2019, to implement ZEV standard that requires new light-duty vehicle sales in B.C. to include 10% ZEVs by 2025, 30% ZEVs by 2030, and 100% ZEVs by 2040.
- ▶ Funding allocated from B.C.'s carbon tax to the CleanBC Program for industry increased to \$105 million for 2020/2021. As part of this program, the CleanBC Industry Fund supports larger emitters to implement greenhouse gas emission reduction projects, which can include deployment of proven and potentially pre-commercial clean technologies.
- ▶ The CleanBC Building Innovation Fund provides funding for projects that accelerate low-carbon building solutions. This includes advanced building designs, new construction methods, and ultra-efficient building components.
- ▶ Clean-Tech Innovation Strategy for the Forestry sector includes an annual clean tech innovation program with funding for approximately 20 research and development projects in the forestry sector.
- ▶ Through its Venture Acceleration Network, B.C. crown agency Innovate BC funds the Foresight Cleantech Accelerator Centre to help advance B.C.'s growing clean tech industry.
- ▶ British Columbia's general corporate income tax rate is 12%. When combined with the federal rate, businesses pay an overall rate of 27%.
- ▶ British Columbia has the lowest provincial personal income taxes in Canada for single individuals earning up to \$125,000.

Find information on B.C. business advantages at [BritishColumbia.ca](https://www.britishcolumbia.ca).

Industry profile

British Columbia's diverse clean tech sector is a leader in researching, developing, and commercializing innovative new systems and products.

AGRI-FOOD TECHNOLOGIES

British Columbia has more than 17,500 farms and produces over 300 agricultural products. This provides an ideal testing ground for the more than 150 companies offering a range of agri-food technologies that increase sustainability and reduce waste, among others. Terramera, for example, develops natural alternatives to reduce synthetic chemical loads in agriculture while increasing farm yields.

CARBON CAPTURE AND STORAGE OR UTILIZATION

Carbon Engineering, based in Squamish, B.C., is pioneering Direct Air Capture of carbon dioxide from the atmosphere. The company's "air-to-fuels" technology can combine captured CO₂ with clean hydrogen to produce synthetic low-carbon fuels, among other potential uses. Another example is Svante Inc., which provides an adsorption process to capture carbon directly from flue gas from industrial sources.

CLEAN AND RENEWABLE ENERGY

British Columbia's abundant natural resources drive the development, testing and use of clean, renewable energy technology including wind, hydroelectric and biomass. Pinnacle Renewable Energy, for example, manufactures wood pellets that produce renewable energy for some of the largest electrical generating facilities in the U.K., Europe and Asia.

CLEAN TRANSPORTATION

British Columbia leads the way in clean transportation technology. The industry's major manufacturers have already invested in and adopted B.C. innovations in fuel cell and natural gas engines. B.C.'s Westport Innovations, for example, engineers the world's most advanced natural gas engines, vehicles and long-haul trucks, reducing both emissions and fuel costs and fundamentally changing the way the world travels.

GREEN BUILDINGS

British Columbia is a hotbed of green building design innovation and adoption. For example, Structurlam of Penticton is North America's leading manufacturer of mass timber solutions including cross laminated timber and other engineered wood products.

ENERGY MANAGEMENT, EFFICIENCY AND STORAGE

British Columbia is home to innovators in energy efficiency and smart measurement, monitoring and control and energy storage. Awesense, for example, provides real-time energy analytics to modernize energy grids, while Neurio offers industry-leading energy monitoring, control technology and sophisticated analytics to manage energy usage at home.



DIGITAL AND OTHER CLEANTECH ENABLING TECHNOLOGIES

British Columbia is home to Canada's Digital Technology Supercluster. Companies of note include D-Wave, the only company in the world to sell commercial computers which use quantum mechanics to dramatically reduce the amount of time and energy required to solve complex computational problems, and MineSense Technologies, a data analytics firm that specializes in creating innovative technologies for the mining industry, such as for sorting of low-grade ore to improve efficiency and reduce use of energy, water and chemicals.

HYDROGEN AND FUEL CELL

Led by Ballard Power Systems, a global innovator in PEM (proton exchange membrane) fuel cell technology, companies in British Columbia are developing hydrogen and fuel cell technology as a clean-energy solution in diverse applications, from materials handling and backup power for portable electronics to fuelling infrastructure and transit buses. Ballard has designed and shipped 670 megawatts of fuel cell stacks, systems to power clean energy solutions and modules to date.

WATER AND WASTEWATER TREATMENT

Leading water and wastewater treatment companies in British Columbia include Axine Water Technologies, which provides onsite treatment of organic pollutants in industrial wastewater; Saltworks, which focuses on industrial desalination, brine treatment and solids production; and Acuva Technologies, which has developed an energy efficient UV-LED process with optical lensing for purification of drinking water.

BRITISH COLUMBIA'S COMPETITIVE ADVANTAGES

- ▶ Large, flexible and educated workforce
- ▶ High quality of life
- ▶ Competitive corporate and personal income taxes
- ▶ Green, low-cost power
- ▶ Excellent public infrastructure
- ▶ Expert researchers and state-of-the-art research infrastructure



Centres of Excellence

British Columbia's green centres of excellence bring experts from the public, private and academic sectors together to collaborate on applied research, development and commercialization of new technologies.

Centre of Excellence	Academic Institutions	Focus
Centre for Energy Systems Applications	British Columbia Institute of Technology	Research and training renewable energy technologies (geoexchange, photovoltaics and biomass lighting) in an integrated systems approach
Centre for Interactive Research on Sustainability	University of British Columbia	Research on Sustainable building technologies and urban development practices
Energy House	Northern Lights College	Training on wind turbines, photovoltaics, solar thermal, biomass and geoexchange
Institute for Integrated Energy Systems	University of Victoria	Research on integrated energy systems
Institute for Resources, Environment and Sustainability	University of British Columbia	Research on sustainable resource management and ecology
Pacific Institute for Climate Solutions	University of Victoria, University of British Columbia, Simon Fraser University and University of Northern British Columbia	Research on low-carbon economy, climate change, sustainable communities and resilient ecosystems
Jim Pattison Centre of Excellence in Sustainable Construction Management Technology	Okanagan College	Training on green building principles and renewable energy technologies
Carbon Capture and Conversion Institute	University of British Columbia	Private research/testing on carbon capture and conversion technologies
Bioenergy Research Demonstration Facility	University of British Columbia	Research on bio-energy
Wood Innovation and Design Centre	University of Northern British Columbia	Research on clean tech wood buildings
Sustainable Energy Engineering facility	Simon Fraser University	Research and training for smart cities, clean transportation and sustainable manufacturing



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Printed May 2020

Every effort has been made to ensure the accuracy of this publication at the time of writing. However, the programs referred to and data cited are subject to change.

All figures are in Canadian dollars.



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