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2025



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Sustainable Energy
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A MESSAGE FROM AL HUMBER, BCSEA CHAIR

The past 12 months have been a time of tremendous growth for both the team here at BCSEA and the organization as a whole. Our education programs have continued to grow at a rate of about 25 per cent year over year and our corporate memberships have increased by nearly 300 per cent. But the biggest and arguably the most exciting change has been the addition of our new chapter in Prince George.

With the addition of a team in northern B.C., we are no longer a southern B.C.-centric organization, and we can now truly say that we represent the people of British Columbia provincewide.

In speaking with the Chair of the PG chapter, we quickly realized and agreed that there are gaps in the concepts of sustainable living depending on where in the province you are. It is our hope that by building a strong presence in the north, we will be able to bridge those gaps and create a more consistent language and dialogue. We are proud to be able to give a voice to the people of British Columbia that live in more remote areas of the province.

So, with that in mind, I would like to take a moment and highlight some of the important work that has already begun in Prince George to build a more sustainable future. The chapter is replicating two events that have been tremendously successful in Vancouver and plans to host regional events in Prince George in 2026.

The first of these events is our Women in Sustainable Energy (WiSE) event which aims to provide an environment for young women to learn about career

opportunities in the sustainable energy industry, and to meet and be mentored by professionals in that sector.

The second of these events is our highly successful Energy Connections conference that was reintroduced this past year. Energy Connections aims to bring together colleagues, academia, technology providers, regulators, and industry experts in the field of sustainable energy. Participants come together to share information and have meaningful discussions around past progress and future plans for B.C.'s sustainable energy needs. For the first time, a regional Energy Connections event will be held in Prince George in 2026.

Finally, in keeping with the concept of providing a voice to northern B.C., a program at the University of Victoria has kicked off a project to examine the differences in what sustainability means within a geographic and socioeconomic context. Town hall meetings are being held in northern B.C. as the first phase of this work and we are excited that our Prince George chapter is involved in this initiative.

In conclusion, I will simply say that the energy transition is well underway and will continue to play an increasingly vital part in B.C.'s sustainable energy future. To anyone who is passionate about creating a sustainable future, we urge you to consider supporting the BCSEA through donations or membership. To our donors and members, we sincerely thank you for your continued support that allows us to carry on our important work. 🌍



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BOARD OF DIRECTORS

The BCSEA Board of Directors is an all-volunteer working board, and its members work hard to fulfill the mission of our organization. We thank all board members, past and present, for their dedication to the BC Sustainable Energy Association and our vision of a sustainable energy future in the province.



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Director



Eric Smiley
Director

THE BCSEA TEAM



Fergus Kinnaird

Cool It! Program Director

and Elementary School Program Manager

Fergus has a background in environmental economics, climate change campaigning, and community organizing. Originally from Melbourne, Australia – Fergus moved to Vancouver in 2020 to get closer to snowy mountains and B.C.'s beautiful wilderness while continuing a career in environmental advocacy. Before moving to Canada, Fergus worked as an environmental economist and campaigner at the Australian Conservation Foundation, Australia's national environmental organization. In 2018, Fergus co-founded a not-for-profit community organization called Shift Australia that builds the skills, confidence, and capacity of young Australians to engage in democratic and civic processes. Fergus is passionate about helping others find their voice and gain the confidence to get active on issues that matter to them.



Cyndi Jarvis

Manager Provincial Operations

Cyndi, originally from Calgary settled in British Columbia several years ago. She has many years of experience working in the non-profit sector, both in Administrative and Human Resource positions. Cyndi joined the BCSEA in 2018 as Manager, Provincial Administration and enjoys working closely with her Board Members, colleagues, volunteers, and members as they work to achieve a 100 per cent sustainably powered B.C. 

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COOL IT!

Five years of growth and the lessons that got us here

By Fergus Kinnaird, Cool It! Program Director



BCSEA has been delivering environmental education to B.C. students for more than 15 years. In that time, we have worked with more than 80,000 students across the province. Our current offering, the Cool It! Climate Leadership Training Program has been delivered in B.C. classrooms for almost a decade. I have led the program as its director since 2020, and in that time, I have had the privilege of being a part of some truly remarkable changes.

During the 2019/20 school year, Cool It! was delivered to 130 classrooms across the province: 110 elementary classes and 20 high school classes. The high school classes delivered during this year were some of our first ever as a program. They were part of a pilot project to design, develop, and test a high school version of our program, which had historically only been delivered to elementary school students.

The end of the 2019/20 school year saw the onset of the COVID-19 pandemic and its associated impact on schooling. In a testament to the program's track record, every existing municipal partner stuck with Cool It! and continued to support us through this time. Our team did an incredible job responding to the total upheaval of our historical in-person delivery method. We created a wholly virtual version of the



program in the spring of 2020 — an offering that is a part of our program to this day. Despite the challenges presented by the pandemic, Cool It! continued to grow — both in our number of municipal partnerships and the impact derived from student participation in our curriculum.

Fast forward to 2025 and Cool It! is forecasted to be delivered in over 400 classrooms throughout B.C. during the 2024/25 school year. Our high school program now has more than 100 participating classes annually and is supported by more than 20 municipalities. To sustainably grow a program such as ours by more than 200 per cent in five years is a tremendous effort, and the result of a lot of hard work by the whole team at Cool It! and the ongoing support of the BCSEA Board of Directors. It is also the result of several key learnings made during this time.

Flexibility

If our program had a mantra, it would be “always be flexible”. We have intentionally designed our approach, materials, and facilitator training to maximize our ability to adapt to the specific needs of teachers and their students. In doing so, we can mold our core program around the unique requirements of a classroom and say yes to as many opportunities as possible throughout a school year. Over the past five years, we have presented workshops at school fairs, incorporated our materials into class field trips, and modified our curriculum for use in specific class contexts, such as math or music.

Trust in our facilitators

As Program Director, I place a deep level of trust in my team of classroom facilitators and actively encourage them to centre their own experience of climate change and environmental action into their delivery approach. The sharing of our collective experience of climate change builds empathetic bonds between our facilitators and the students they work with. It provides for an open, safe space for students to ask questions and share their concerns about the impacts of climate change. Our facilitators also act as role models, sharing the climate actions they have taken.

Local focus

For youth, particularly younger students, some of the most tangible climate action takes place in their local communities: at school, in their neighbourhood, and with their local government. We intentionally place a local focus on our curriculum to ground it to local places and the natural spaces that they interact with. We also seek to connect them with tangible actions they can take with organizations and initiatives that are having a real impact right where they live.

As a team we look forward to many more years of growing our program across B.C. and working with many more inspiring teachers and students. If you are a teacher or know a teacher who would be interest in working with us, please reach out to cool-it@bcsea.org. 

BCSEA METRO VANCOUVER CHAPTER



The Vancouver chapter of BCSEA is keenly involved in public engagement and advocating for a more sustainable energy landscape for the province. One of the key visions within the Vancouver chapter is to engage with the public and present educational tools and awareness of how the energy industry impacts their daily lives, and vice-versa.

This year, the Vancouver chapter is excited to announce several new Steering Committee members, eager to connect with the sector and the public. Check out our

website <https://bcsea.org/vancouver-chapter/> to see who these wonderful people are.

This year the BCSEA and Vancouver chapter will be engaging in events in 2025, which include:

- Chilliwack Rotary Climate Fair – Saturday April 12, 2025
- WiSE (Women in Sustainable Energy) – October 17, 2025
- Everything Electric – September 6-7, 2025
- Energy Connections – October 23, 2025

One of the main responsibilities of the Vancouver chapter is amplifying the current events of our changing energy landscape and aiding in the transparent transfer of information regarding sustainable energy to the public.

There is consistently a high level of enthusiasm from participants that want to engage within our chapter. This brings optimism for B.C.'s energy landscape, and a positive outlook for the growth of sustainable energy in the future. In the coming year, the Vancouver chapter hopes to host smaller-scale public forums to strengthen our networks and bring the sustainable discussion to all in an accessible manner. The Vancouver chapter is composed of dedicated and industrious members, who are making a difference and enjoying the opportunity to work with and represent the BCSEA in its over 20 years, and who look forward to many more to come.

Find more information about our Vancouver chapter at bcsea.org/vancouver-chapter. If you are interested in becoming a member and volunteering on our Steering Committee or at events, contact us at vancouver@bcsea.org. 



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BCSEA OKANAGAN CHAPTER

Revitalize the Movement: BCSEA Okanagan Chapter Needs You!

In an era where climate change and energy sustainability are at the forefront of global concerns, the BCSEA Okanagan chapter is driven to become a key climate action organization in the Okanagan region. The chapter is currently facing challenges and needs passionate individuals to help rejuvenate efforts in promoting renewable energy, energy reduction, and advocating for progressive energy policies.

Why BCSEA Okanagan?

The Okanagan Chapter of BCSEA is more than just an organization; it is a community of individuals committed to creating a sustainable future. Our members have historically been the driving force behind our initiatives, from educational programs and policy advocacy to community outreach and energy planning. By joining the Okanagan chapter, you can help restore its vibrancy and actively shape the energy landscape of the Okanagan region.

The power of passionate members

The success of the Okanagan chapter hinges on the dedication and enthusiasm of its members. We are calling on individuals who are passionate about renewable energy, energy conservation, and policy advocacy to join us. Your involvement can make a significant impact in several ways:

1. **Advocacy and Policy Influence:** Help us advocate for policies that support renewable energy and energy efficiency. Your voice can influence decision-makers and drive legislative changes that promote a sustainable energy future.
2. **Community Engagement:** Participate in local events, workshops, and projects that educate and engage the community on the benefits of sustainable energy practices. Your efforts can inspire others to adopt greener lifestyles.
3. **Innovation and Education:** Contribute to our educational programs that aim to inform and empower the next generation of energy leaders. Share your knowledge and expertise to foster innovation in the renewable energy sector.

Why now?

The urgency of addressing climate change has never been greater. The Okanagan region, with its unique environmental challenges and opportunities, is a perfect model for transitioning to sustainable energy practices. By joining the Okanagan chapter, you can be part of the solution, helping to reduce emissions and promote sustainable energy practices across the region.

You can reach us at okanagan@bcsea.org. 



BCSEA VICTORIA CHAPTER

The BCSEA Victoria chapter began in late 2004, shortly after the formation of BCSEA itself as a provincial organization. The chapter is run by its steering committee which is currently chaired by long time steering committee member and former BCSEA provincial board director Paul Rasmussen.

In its long history the chapter has been involved in many undertakings. One early focus was organizing all candidates debates around energy issues during various elections. The chapter organized many successful such debates over the years including a series of debates with candidates for the 2015 federal election in the

Greater Victoria Area which drew hundreds of people to four separate events. We also organized a similar set of three debates for the 2017 provincial election but interest in this undertaking has waned due to the fact that rigid party platforms meant that many candidates began to be less willing to articulate their own visions on how they thought energy policy should be carried out at the federal and provincial levels. Also because BCSEA gained charitable status, it was required to allow minor candidates to participate in all debates which led to less chance for the audience to gain an understanding of where the realistic candidates stood on these issues.

Another area where the chapter has tried in various ways to engage over the years has been at educational events around sustainable energy. One thing we have often done is bring speakers with various levels of expertise to speak live and answer questions at our events. Another was to organize a sustainable energy transportation exposition in which we showcased bicycles and electric cars and brought in a number of speakers during the one-day event to discuss things such as the benefits



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of active transportation. We have also participated in a number of home shows in which we tried to introduce attendees to the benefits of energy efficiency, low energy appliances, solar panels and more.

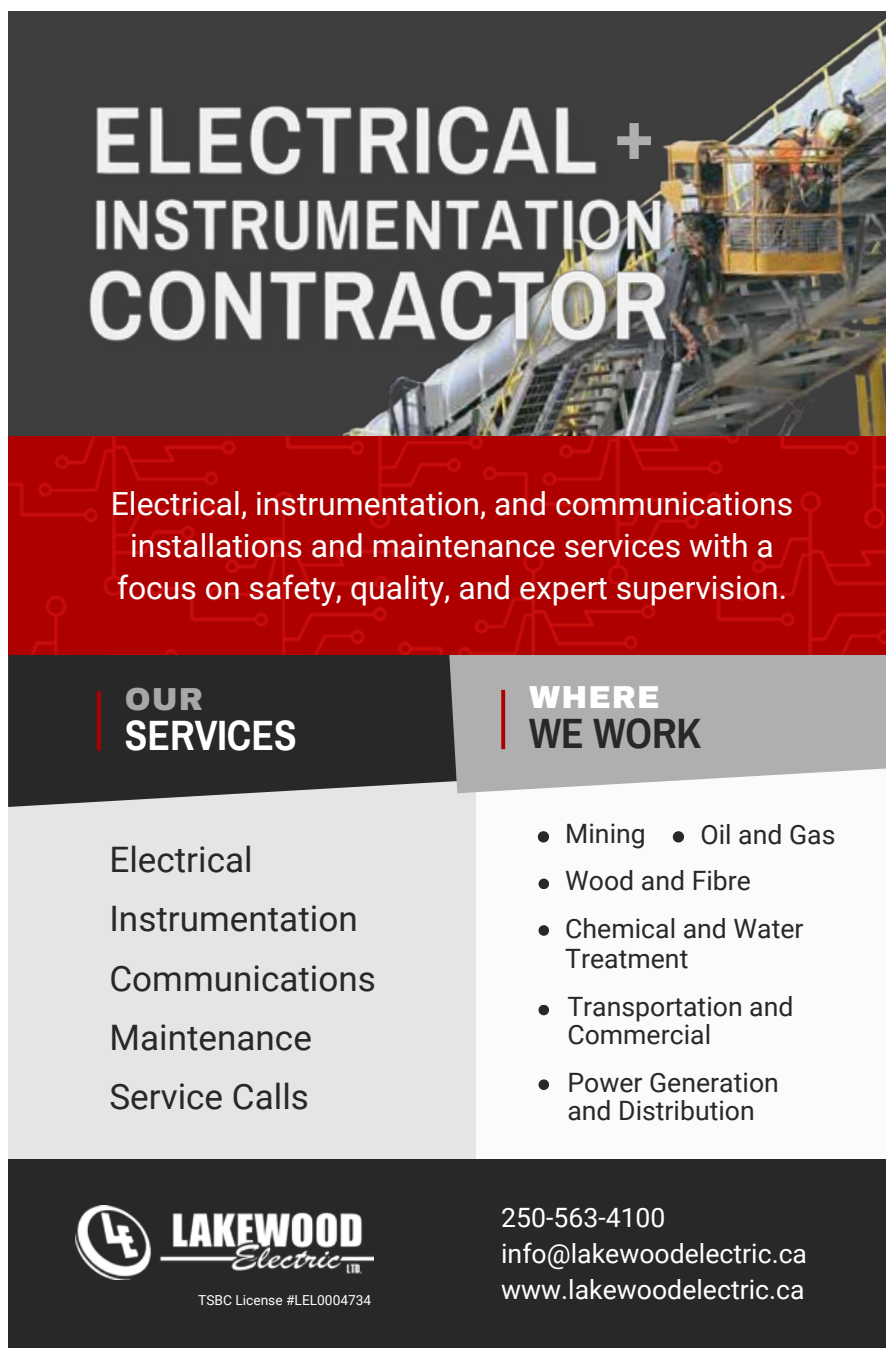
But we have recently found that our presence at these shows is not as useful as more participants become more knowledgeable about the benefits of sustainability in general and are more interested in specific details of, for example, how to find a competent heat pump installer which is something that we are not well placed to do. We would however like to figure out how to continue sustainability focused educational speaking events.

On the advocacy side, our chapter was strongly involved in the mid to late 2010s in advocating local municipalities to develop climate action plans to try to make their municipalities 100 per cent renewable by 2050. We engaged with the District of Saanich and, along with some other organizations, were successful in getting them to create such a plan. We also similarly engaged with the City of Victoria and several smaller municipalities such as Metchosin on the same issue. Since most municipalities now have such plans, this is no longer a focus of ours, but we are looking for new advocacy ideas.

Our chapter has struggled some in recent years, due to the pandemic and adapting to an ever-changing outlook in the world of sustainability and the climate crisis. But in the last year we have gained some new

volunteers with new ideas that we are excited about. We are currently testing and developing some of these ideas, but we hope to be able to share more about this soon. And of course, we are still looking for new ideas and energy. Maybe you are someone who has one of those ideas or just wants to meet up with people

in the Victoria area who are trying to make a difference in moving toward a sustainable British Columbia, Canada, and world. If so, please email us at victoria@bcsea.org and we'd be happy to tell you more about what we are doing and how you could be involved. 🌍



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BCSEA PRINCE GEORGE CHAPTER



Another month is behind us here as far as winter is concerned and our chapter is looking forward to longer days and spring on the horizon. We have been actively meeting once a month and more frequently as required. Please be in touch with the Prince George Chapter at princegeorge@bcsea.org at with any ideas or support you would like to offer.

Our chapter is actively pursuing a grant with Prince George Community Development to add to funding our chapter kick-off and the launch of the Cool-It!, Energy Connections, and WiSE conferences in the Great White

North! Wish us luck!! A shout out to the Lheidli T'enneh First Nation and the Cedars Christian School for providing support letters for this opportunity!

And finally, we are excited about BCSEA's second edition of our magazine and we'll be delivering copies to potential Prince George members! Our next edition will be out for September and if you're looking to advertise please reach out to bcsea.admin@bcsea.org. If you haven't subscribed to BCSEA to receive our newsletters and communications you can do so here <https://bcsea.org/subscribe-to-newsletter/>. 

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To be considered successful, our innovation must be applied in direct support of our customers and address opportunities and challenges in the market. Innovation typically starts with challenging the status quo and imagining a better future so it should not be surprising that our ideas are grounded in clean technology.



BCSEA MEMBERSHIP BENEFITS FOR INDIVIDUALS AND BUSINESSES



The British Columbia Sustainable Energy Association (BCSEA) is a network of action takers supporting sustainable energy policy, innovation, and education in British Columbia.

Whether an individual member or a business member, BCSEA offers a compelling value proposition.

Advocacy and influence

BCSEA is an effective and respected advocate on B.C.'s energy scene, thanks to the significant support and activity of its members, donors, and volunteers.

In the advocacy arena, BCSEA works closely with regulators and utilities to promote sustainable policies. See our Policy Corner for the latest.

We also encourage the next generation of sustainability heroes through our The Cool It! climate leadership training program and an

extensive array of resources to learn and real world ideas. This initiative empowers British Columbians of all ages to learn more about climate change and explore new actions they can take at school, home, and in their local communities.

Knowledge, networking and collaboration

Membership provides access to a network of like-minded businesses, professionals, and experts in the clean energy industry.

Whether connecting through live or virtual events, collaborating with other members can lead to valuable partnerships, knowledge sharing, and business development opportunities.

Our "members only" archive of past webinars can also be an invaluable resource of knowledge and emerging issues.

At the community level are numerous BCSEA chapters active in Vancouver, Victoria, Prince George, and the Okanagan. These chapters undertake a variety of activities such as attendance at trade shows and community events, participation in the monthly newsletter, and host networking events.

See our Events page for opportunities to learn and network and our "For Members" portal for members only access.

Environmental and social impact

By supporting BCSEA, members contribute to environmental stewardship, community health, and economic resilience by promoting the production and use of sustainable energy. BCSEA's advocacy at the BCUC (Policy Corner) and the Cool It! education programs create positive impacts at both the local and provincial levels.

"We have been a long-time supporter of BCSEA because we are aligned with its significant policy and advocacy efforts. The association has increased its online presence and communication through our website and social media, including the recent member spotlight. This allowed us the opportunity for cross-promotion and reaching audiences that have been traditionally unfamiliar with us. We have also received referrals through the BCSEA network which we always appreciate. The BCSEA advocacy results in changes to the government policies and BC Hydro programs that provide support for addressing climate change and economic development. We are proud to be and intend to continue to support the association for this reason."

Yuho Okada President, Barkley Project Group Ltd.

ADDITIONAL BUSINESS MEMBER PERKS

- With a BCSEA business membership, your organization will be proudly displayed in our Business Members Directory. Our searchable directory allows visitors to our website easily find businesses in a particular sector or geographic region.
- We regularly spotlight businesses on our website (Business Member Spotlight) giving you the opportunity to present a more detailed look at how your business is contributing to sustainability in B.C.
- Exclusive access to posting career opportunities on BCSEA’s public facing Job Board.
- As an active business member, we encourage you to highlight the BCSEA logo on your webpage to show that your business is a supporter of B.C.’s leading sustainable energy advocate.

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BCSEA AT THE BC UTILITIES COMMISSION

By Bill Andrews and Tom Hackney



A lot has happened since we published our history of BCSEA's twenty years of intervening at the BCUC in September 2024. Here are some highlights:

1. In February 2025, BC Hydro filed ten electricity purchase agreements resulting from Hydro's 2024 Call for Power. BC Hydro disclosed an average levelized price of \$74 per megawatt-hour for 5,000 GWh per year of "clean or renewable" electricity to BC Hydro's grid (subject to project attrition). This average price is substantially lower than the average price for power under BC Hydro's 2010 Clean Power Call, reflecting ongoing declines in the cost of new renewable generation. Nine projects are for onshore wind generation, and one is for a utility scale photovoltaic solar project. The BCUC recently announced an abbreviated proceeding allowing letters of comment but no interventions. BCSEA intends to weigh in when the time comes. Meanwhile, the BC government eliminated the environmental assessment process for onshore wind projects and moved permitting authority to the BC Energy Regulator. And BC Hydro's Site C electricity

generation facility is on track for completion in the Fall of 2025. Site C will provide 1,100 megawatts of capacity and produce about 5,100 gigawatt hours of energy per year.

2. In late February 2025, the BCUC finally finished revising its guidelines for regulating the "public utilities" that provide thermal energy systems. Over BCSEA's opposition, the BCUC imposed new complaint-based safety and reliability regulation on existing B.C. strata corporations that provide heating

and/or cooling to their own strata unit owners exclusively. BCSEA said this was unnecessary and would discourage the use of small thermal energy systems to address the ongoing energy transition and the current housing shortage in BC.

3. BCSEA participates on BC Hydro's technical advisory committee for the 2025 long-term resource plan. BCSEA was gratified to see that in March of this year the BCUC denied a request by BC Hydro for a one-year delay of the October 2025 filing





deadline. Hydro argued that its most-recent load forecasts do not “adequately capture” the potential uncertainty caused by recent events such as U.S. import tariffs, acceleration of U.S.-based natural resource industry projects, lower population growth estimates for B.C., and slackening support (our term) for GHG emissions reduction policies and investments (e.g., EV purchase incentives, carbon tax). However, the BCUC cited BC Hydro’s own argument in the 2021 IRP proceeding that “a more frequent and flexible approach to resource planning is an appropriate means of addressing uncertainty and changing circumstances.”

4. In March 2025, the BCUC approved BC Hydro’s application to flatten the two-tier Residential Inclining Block Rate over the next several years, to make a flat rate optionally available to residential customers immediately, and to charge customers in non-integrated areas the same rates as apply to grid-connected customers. The BCUC decision impacts some 1.97 million customers. BCSEA supported the application in its written argument in November 2024. BCSEA accepted that the two-tier rate no longer achieves incremental energy savings and that the step-two price is now considerably above BC Hydro’s long-

run marginal cost of new electricity. BCSEA said a flat residential rate (mid-way between step one and step two) would support electrification (e.g., electric heat pumps) and decarbonization (e.g., EV home charging). The BCUC also approved changes to BC Hydro’s distribution extension policy to increase current ratepayers’ financial contribution toward reducing new customers’ costs of connecting to the BC Hydro system. BCSEA supported this electrification initiative.

5. In March 2025, the BCUC approved FortisBC Energy Inc.’s (FEI-gas) \$50-million Okanagan Capacity Mitigation Project to truck LNG from the Lower Mainland to Kelowna, over BCSEA’s opposition. This followed the BCUC’s 2023 rejection of FEI’s \$327-million gas pipeline project due to “a lack of certainty” that the pipeline was “fully required.” The BCUC did take up BCSEA’s recommendation and directed FEI to explore a number of innovative measures to mitigate future gas peak demand infrastructure projects in the Okanagan.

6. In March 2025, the BCUC approved Pacific Northern Gas’s 2024 long-term resource plan. BCSEA argued that the plan tilts inappropriately toward consideration of costs and rate impacts and undervalues demand-side measures and GHG reduction. While the BCUC approved the plan, it did say that PNG’s next long-term “will need to go further” to reduce greenhouse gas emissions.

7. In March 2025, the BCUC approved 2025-2027 rate setting frameworks for FortisBC-gas and FortisBC-electricity. The approved terms and conditions were largely

as requested by the utilities. However, the panel did implement BCSEA's recommendation that FEI report annually on its customers' GHG emissions from using gas delivered by FEI ("Scope 3 emissions"). The panel agreed with BCSEA that understanding Scope 3 emissions "provides valuable insight into FEI's progress towards energy transition."

8. BCSEA continues to intervene in two important BCUC proceedings that are ongoing: BC Hydro's net metering program amendments, and FEI-gas's long-debated Tilbury LNG Storage Expansion proposal.

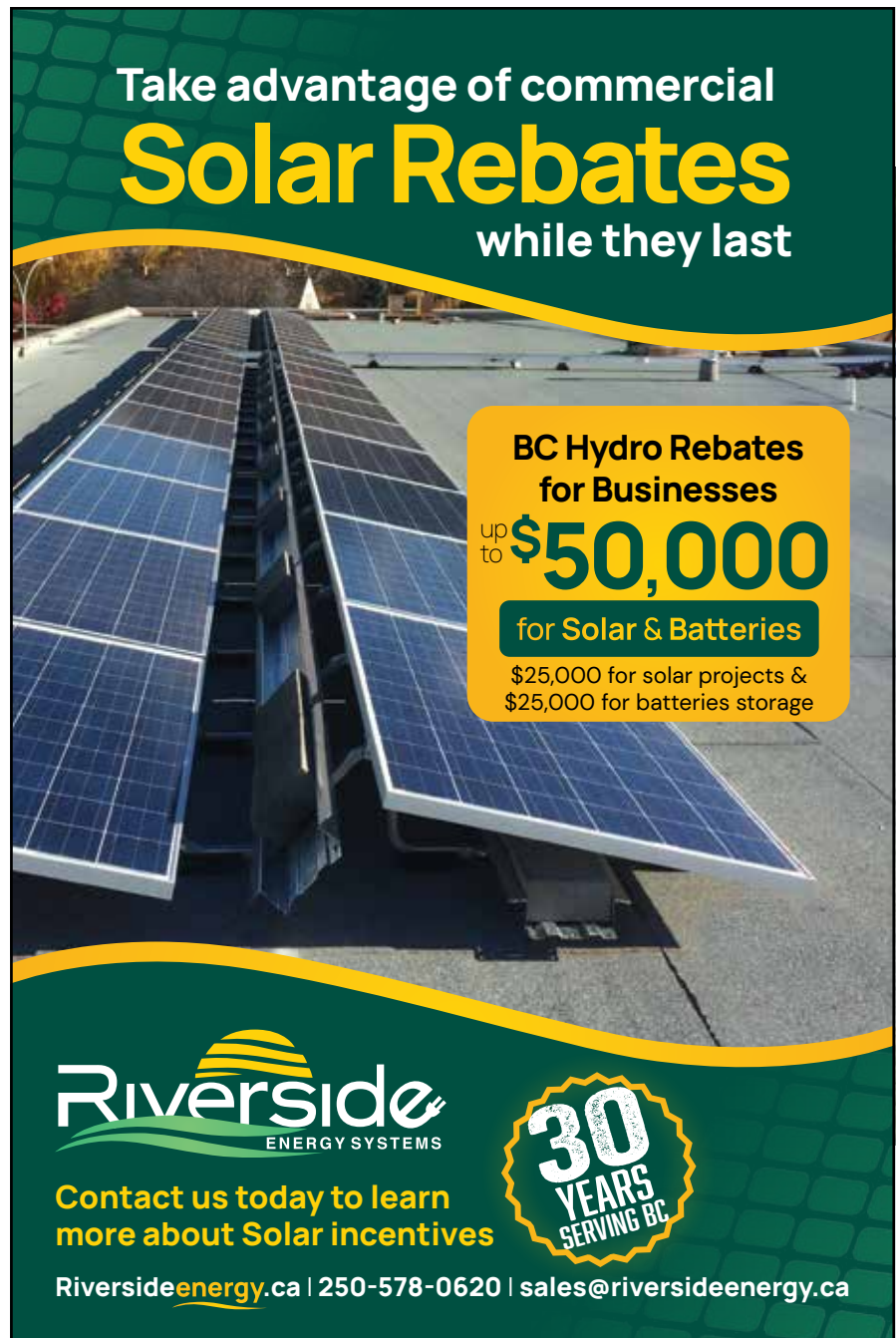
9. New proceedings that BCSEA is intervening in include Creative Energy's long-term resources plan, and PNG's 2025-2027 energy conservation funding application in which PNG seeks to stabilize its spending on demand-side measures.

10. BCSEA is participating in FEI's stakeholder workshops on the gas distribution utility's next long-term resource plan, due to be filed with the BCUC early in 2026. Major themes include the speed and extent to which FEI's service to customers will be decarbonized in the next 20 years, and the availability of "low carbon gas" to replace fossil natural gas. Similarly, BCSEA is participating in FBC's stakeholder workshops on the electricity utility's long-term resource plan, expected to be filed with the BCUC in early 2026. The big issue for FBC is the extent to which its future load will be increased by low-carbon electrification initiatives in its service area.

11. Last but not least, BCSEA wrote to the BCUC protesting the Commission's badly reasoned rejection of BCSEA's request to intervene in the proceeding regarding BC Hydro's Fort Nelson Long-Term Resource Plan. In a sign of the BCUC's recent ambivalence toward input from experienced participants, the BCUC rejected

BCSEA's request to intervene in the BC Hydro Fort Nelson Long-Term Resource Plan.

BCSEA's overarching objectives at the BCUC are energy conservation and efficiency, reduced BC GHG emissions, and clean electricity generation. BCSEA also supports low-income customers and First Nations' rights and title. 🌍



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BIOFUEL CONSUMPTION SURGES FOLLOWING IMPLEMENTATION OF CANADA'S CLEAN FUEL REGULATIONS



Advanced Biofuels Canada
Biocarburants avancés Canada

The ninth annual Bioc02fuels in Canada (BIC) report by Advanced Biofuels Canada (ABFC), developed in partnership with Navius Research, highlights a significant ramp-up in the adoption of low-carbon fuels and cost-effective strategies for avoiding emissions. This comprehensive quantitative analysis offers key insights into the evolving landscape of Canada's renewable and low-carbon fuel markets.

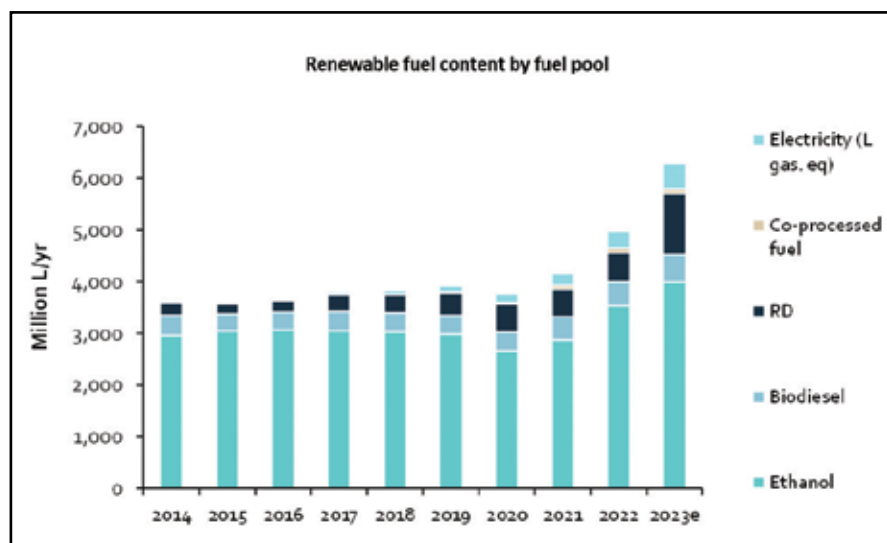
The report's highlights include:

- Biofuel consumption surged in 2023, with renewable diesel (RD) more than doubling to 1.2 BL/yr, biodiesel consumption up 14 per

cent (530 ML/yr), and ethanol up 13 per cent (4.0 BL/yr).

- Biofuel content in gasoline was 9.44 per cent, and 6.23 per cent in diesel (up 10 per cent and 68 per cent from 2022, respectively).
- In 2023, biofuels were responsible for 86 per cent of Canada's 2023 greenhouse gas emission reductions from all clean transportation fuel use, which totaled 11.4 million metric tonnes of climate change gases.
- In 2023, ethanol had 55 per cent lower carbon emission than gasoline, and biomass-based diesel had 87 per cent lower emissions than diesel.

- Electricity consumption by light-duty vehicles grew by 56 per cent in 2023, on top of 41 per cent growth in 2022.
- In 2023, biofuel blending lowered wholesale gasoline costs by \$0.055/litre and raised wholesale diesel costs by \$0.051/litre.
- Biofuel blended in gasoline (ethanol) reduced gasoline wholesale costs by almost \$1B in 2023. Since 2010, ethanol has reduced wholesale gasoline costs by \$10.4B.
- Biofuels blended with diesel fuel (renewable diesel and biodiesel) increased diesel wholesale costs by \$1.5B in 2023. Since 2010, biofuel in diesel has increased wholesale diesel costs by \$6.9B. (Greater use of lower cost biodiesel would have mitigated this premium.)
- Since 2010, biofuels use in Canada has reduced wholesale fuel costs by \$3.4B. However, when biofuels are distributed at the retail level, over-taxation results in higher costs relative to gasoline and diesel.
- Taxing biofuel based on volume instead of energy content has the effect of overtaxing biofuels. Were biofuels taxed on energy delivered, biofuels would have saved



consumers a total of \$2.5 billion, rather than costing them \$2.2 billion since 2010.

- Canadians spent \$115.1B on gasoline and diesel fuels in 2023. Biofuels blending of 8.1 per cent in gasoline and diesel (weighted average volumetric basis) in 2023 added 1.0 per cent to overall fuel purchase costs. Had biofuels been taxed based on energy, costs would have increased 0.5 per cent.

“After more than a decade of steady, modest growth in biofuels use, 2023 saw a 25 per cent surge in demand for clean fuels” says Ian Thomson, ABFC President. “The federal Clean Fuel Regulations (CFR) were a big driver, aided by a 28 per cent increase in biofuels use under B.C.’s Low Carbon Fuel Standard and a 52 per cent increase in Québec’s use due to the implementation of its new low carbon fuel regulation in 2023. In these regulations, biofuels are the most cost-effective way to reduce greenhouse gas emissions, reducing gasoline costs at the pump and modestly increasing a truck’s annual fuel bill.”

Thomson notes the greatest growth in biofuel use was in diesel-class vehicles, with a 21 per cent drop in carbon intensity—showcasing the sector’s innovation across the production chain. The 2023 results underscore how performance-based fuel regulations are delivering affordable, low-emission transport to millions of Canadians.

“Fuel regulations are very efficient and flexible, and they create new jobs and value-add manufacturing across the supply chain – they are proving their mettle in the battle to find climate action solutions that are

affordable and good for the Canadian economy.”

Now that the CFR is in place, the report helps explain the difference between a carbon tax and compliance credits used under the CFR. It points out that the CFR raises fuel prices far less—over ten times less—than a carbon tax with the same cost per tonne of CO₂. This supports similar findings from a Canada West Foundation report published in December 2020.

“Biofuels are a highly cost-effective—and in some cases, even cost-negative—tool for reducing greenhouse gas emissions,” says Tomson. “For example, ethanol delivers a net benefit of –\$116 per tonne, meaning it reduces both emissions and fuel costs. Most Canadians already use ethanol-blended fuels seamlessly in their daily lives, saving money and cutting climate emissions with every fill-up.”

The report also highlights the significance of over-taxation of biofuels in Canada. Fuel taxes are applied on a ‘per litre’ basis, disproportionately increasing the tax burden on lower-energy fuels, such as ethanol and biodiesel. This volumetric taxation—spanning excise, motor fuel, and carbon taxes—penalizes consumers for using low carbon biofuels. In 2023 alone, governments over-taxed Canadian consumers by \$560 million due to volumetric rather than energy-based taxation. Since 2010, federal and provincial volume-based over-taxation of biofuels has added \$4.7 billion to wholesale fuel costs, contributing to a net \$2.2 billion cost for biofuel use over this period.

“Biofuels are already saving most Canadians money at the pump, but these savings could be even greater with fair taxation. Traditional transportation fuels have been taxed on a per-litre (volume) basis for decades but, with the growing use of biofuels and other low carbon alternatives, this approach needs to evolve,” says Thomson. “The BIC 2024 report concluded that if taxes were charged on a ‘per unit of energy’ basis, biofuel consumption since 2010 would have saved consumers \$2.5 billion.

Thomson emphasizes that advanced biofuels work with existing vehicles and infrastructure. With millions of combustion engine vehicles still on the road by 2050, low-carbon liquid fuels—both biobased and renewable synthetic—are crucial for reducing emissions, especially in hard-to-decarbonize sectors like trucking, aviation, and marine transport. Domestic production will optimize Canada’s energy infrastructure and drive a strong clean fuel economy.

“As Canada continues its transition to a low-carbon economy, advanced biofuels and fair policies are pivotal to achieving our climate goals while supporting economic growth. By adopting performance-based regulations, embracing innovation, offering fair taxation, and investing in sustainable fuel solutions, we can deliver meaningful savings to Canadians, reduce emissions across all sectors, and strengthen Canada’s position as a global leader in clean transportation fuels.”

For information on Advanced Biofuels Canada, visit

advancedbiofuels.ca. 

POWERING THE NET-ZERO FUTURE: HOW BCNZIN IS DRIVING CLEAN TECH INNOVATION IN BRITISH COLUMBIA



The British Columbia Net Zero Innovation Network (BCNZIN) is a collaborative initiative led by Foresight Canada, aiming to accelerate British Columbia's transition to a net-zero economy. By bringing together industry leaders, government bodies, and innovators, BCNZIN fosters the development and adoption of clean technologies across the province.

BCNZIN's core mandate revolves around facilitating the adoption of cleantech solutions by addressing barriers faced by both public and private sectors. Through tailored programs, the network supports organizations in implementing innovative technologies that contribute to sustainability and emissions reduction. Key components of these adoption programs include:

- **Adoption Ramp:** Assisting organizations in overcoming challenges related to integrating new technologies into their operations.
- **Innovation Challenges:** Connecting industry end-users with cleantech innovators to collaboratively tackle sustainability and operational challenges.
- **Cleantech Adoption Platform:** Providing a streamlined, de-risked process for adopting proven cleantech solutions aligned with sustainability goals.
- **Working Groups:** Facilitating collaboration among stakeholders to advance sustainability objectives through shared resources and guidance.
- **Sectoral & Regional Expertise:** Leveraging industry- and

region-specific knowledge to address unique challenges and accelerate cleantech adoption.

One notable achievement of BCNZIN is its role in fostering innovation challenges that have led to the development of practical cleantech solutions. By connecting industry players with innovators, the network has enabled the creation of technologies that address real-world sustainability issues. These collaborations facilitated by BCNZIN have resulted in advancements in renewable energy integration and energy efficiency improvements in various sectors.

BCNZIN's Cleantech Adoption Platform has streamlined the process for organizations to implement new technologies. This platform has successfully reduced the risks associated with adopting cleantech solutions, leading to increased implementation rates and contributing to the province's overall emissions reduction targets.

Through its comprehensive approach to fostering collaboration and innovation, BCNZIN continues to play a pivotal role in advancing B.C.'s sustainable and renewable energy landscape. By addressing adoption barriers and facilitating the development of cutting-edge technologies, the network contributes significantly to the province's journey toward a net-zero future.

To learn more about BCNZIN's initiatives and explore opportunities to get involved, visit foresightcac.com/british-columbia. 

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Online Micro-Certificate Life Cycle Assessment of Clean Fuels

BC Bioenergy Network, in partnership with UBC Faculty of Forestry and UBC Extended Learning, presents the Life Cycle Assessment (LCA) of Clean Fuels online micro-certificate program.

Designed for professionals navigating the low-carbon transition, this **7-week program, with additional scheduled breaks**, provides the skills to assess full life cycle impacts, analyze environmental performance beyond carbon intensity, and adapt to evolving regulations.

With sustainability at the forefront, LCA is a critical tool for making data-driven decisions that drive innovation and reduce environmental impact. Gain hands-on experience with LCA models and techno-economic assessments to support strategic business decisions.

The next program offering starts in Fall 2025.

Apply Life Cycle Assessment to Drive Clean Fuel Innovation!

Meet the Expert Anna Ringsred (Beavers)

The program author and instructor is a leading expert in fuel life cycle assessment (LCA) with over a decade of experience in LCA analysis and regulatory compliance. As Senior Manager of Energy Compliance Services at Weaver, she helps organizations navigate carbon regulations. Previously, as Chief Engineer under BC's Low Carbon Fuel Standard, she played a key role in evaluating fuel carbon intensities and shaping policy.



"I would highly recommend this course for anyone who wishes to get a firm knowledge foundation about LCA and Clean Fuels."

"The course was very useful to me as a renewable energy project developer. It helped me to understand various aspects of renewable fuels and their GHG emission reduction potential throughout the entire life cycle of that fuel and therefore, will help making informed decisions."

Key Information

Format: Online

Next Start Date: October 2025

Duration: 7 weeks of learning

Commitment: 7-8 hours a week

Program Structure

- 1 Introduction to LCA of Clean Fuels** – Fundamentals of LCA, its application to clean fuels, carbon intensity, and interpreting LCA results.
- 2 LCA in Clean Fuel Policy (Part 1)** – North American fuel policies, LCA's role in policy, and carbon intensity under Clean Fuel Regulations.
- 3 LCA in Clean Fuel Policy (Part 2)** – GHGenius modeling, B.C.'s Low Carbon Fuels Act, key life cycle impacts, and evaluating GHG reduction project costs and benefits.

Invest in Your Future!

Learn More About the Course



bcbioenergy.ca/portfolio/micro-certificate-life-cycle-assessment-of-clean-fuels/