
BC BIOENERGY NETWORK



**BC Bioenergy
Network**

PARTNERING FOR
A GREENER FUTURE

2024 YEAR IN REVIEW

bcbioenergy.ca

ABOUT BC BIOENERGY NETWORK



BC Bioenergy Network (BCBN) facilitates strategic partnerships to identify low carbon solutions in a dynamic regulatory environment.



Partnering for a Greener Future

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MORE ABOUT BCBN



WHO

BCBN guides the development of the bioenergy sector in British Columbia as a facilitator of strategic partnerships to attract investment from private and public sources, BCBN advances the production and use of low carbon fuels in the province to displace fossil fuels, spur innovation, and support economic development.

WHAT

- Identification of Problems and Conceptual Solutions
- Commission Research and Feasibility Studies
- Project Management and Oversight
- Network Building and Event Hosting
- Investment Attraction and Funding Coordination

WHY

- **Reduce GHG Emissions:** There is a global need to reduce GHG emissions and mitigate our effect on the environment.
- **Accelerate Innovation:** There is a need to accelerate the move to low carbon solutions in transportation and other sectors of the economy.
- **Reach Government Targets:** BCBN has a critical role in supporting the Province of B.C. toward its GHG emission reduction targets in the CleanBC Roadmap to 2030.
- **Move from Planning Phase to Commercial Scale Operations:** BCBN acts as a catalyst to move projects from the planning phase into commercial deployment at scale, including efforts to attract investment and remove barriers to deployment.

HOW

- **Strategic Partnerships:** Form strategic partnerships with local, national and international entities to fund purpose-driven research and feasibility studies in the low carbon fuels sector.
- **Convene Key Stakeholders:** Convene key stakeholders in the low carbon fuels sector to enable a coalition approach to identify solutions for complex challenges.
- **Project Leadership:** BCBN leads projects from the development of a request for proposal to proponent selection, project management and completion.
- **Advisor to Government:** Use our knowledge and information from research and project activities to advise government on the strategic direction of the low carbon fuels sector in B.C., Canada and internationally to meet climate change targets.
- **Capacity Building and Training Programs:** Develop and facilitate training, education and capacity building programs through workshops, webinars, conference sponsorship, and the West Coast Bioenergy Guild to strengthen the low carbon fuels network in B.C. and Canada.
- **Event Management:** Plan and host virtual and in-person events to facilitate information exchange related to innovation and policy developments in the bioenergy sector.



NEW MICRO-CERTIFICATE: LIFE CYCLE ASSESSMENT OF CLEAN FUELS

BCBN, in partnership with the UBC Faculty of Forestry and UBC Extended Learning, proudly launched the Life Cycle Assessment (LCA) of Clean Fuels online micro-certificate program on October 14, 2024. Designed for professionals in the transportation fuels sector, the program provides participants with hands-on LCA modeling skills and the knowledge to adapt to evolving regulatory standards.

Throughout the program, participants gained practical experience with LCA tools to evaluate carbon intensity and navigate emerging regulatory frameworks, including the B.C. Low Carbon Fuels Act and Clean Fuels Regulations.

The program's three-course structure introduces LCA principles, explores clean fuel policies in North America, and applies tools like the Fuel LCA Model and GHGenius to real scenarios. Feedback from the pilot cohort highlights its success in providing actionable skills and insights that directly support low-carbon initiatives.

Following the success of the October launch, we are excited to announce the next cohort, starting on February 3, 2025. Whether you are an early-career professional, industry veteran, or seeking a career transition into clean fuels, this program provides the tools to thrive in a rapidly evolving sector. Visit our website for more information.

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**Online Micro-Certificate:
Life Cycle Assessment
of Clean Fuels**

Enrollment for Spring Cohort closes on January 31, 2025.

Icons include: RNG, SAF, H₂, a biofuel plant, a truck, a ship, a battery, a leaf, a water drop, a train, an airplane, and a recycling symbol.

KEY INFORMATION

Format: online

Duration: 7 weeks of learning

Commitment: 7-8 hours a week

Structure:

Course 1: Introduction to LCA of Clean Fuels

- Fundamentals of LCA and how they apply to clean fuels
- Clean fuel LCA and carbon intensity
- Interpretation of fuel LCA results and why they differ

Course 2: Introduction to LCA within Clean Fuel Policy, Part 1

- Clean fuel policy landscape in North America
- LCA use in fuel policy
- LCA in the Fuel LCA Model and carbon intensity under the Clean Fuel Regulations

Course 3: Introduction to LCA within Clean Fuel Policy, Part 2

- LCA in GHGenius and carbon intensity under the B.C.'s Low Carbon Fuels Act
- Areas within a fuel's life cycle that have the biggest impact on the carbon intensity
- Assessment of the value and costs of GHG reduction projects within a fuel's life cycle to support business decisions

PROGRAM INSTRUCTOR

Anna Ringsred (Beavers) is the Senior Manager, Energy Compliance Services, at Weaver. She brings over 10 years of experience conducting and reviewing fuel LCAs, including as Chief Engineer under the B.C. Low Carbon Fuel Standard, where she helped review fuel carbon intensities and establish carbon intensity requirements for the program.



INDUSTRY EXPERTS AND CONTRIBUTORS

The program benefited from the expertise and guidance of renowned contributors:

- Professor Roland Clift and Professor Tony (Xiaotao) Bi (UBC)
- Don O'Connor (S&T Squared Consultants Inc.)
- Michael Rensing (Low Carbon Fuels Advisor)

Their extensive knowledge in clean fuels, policy, and sustainability has been instrumental in shaping the course. Special thanks also go to the B.C. Ministry of Energy and Climate Solutions for their valuable support.

Read More about the Program:

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

WEST COAST BIOENERGY GUILD 2024

West Coast Bioenergy Guild is a regular educational networking event hosted by BC Bioenergy Network since 2009. Special guests share their insights and highlights from the bioenergy sector followed by a group discussion.

Special Guests

January



Dr. DAVID CLAUS

Director of Facilities Management and Capital Planning
University of Northern British Columbia

Presentation Topic: "Campus Heating: Carbon Challenges"

February



Dr. QINGSHI TU

Assistant Professor
Department of Wood Science, UBC

Presentation topic: "Applying Life Cycle Assessment (LCA) to Understanding the Environmental Impacts of Bioenergy Systems: What Can We Learn from the Current Practices?"

March



BIL HETHERINGTON

Principal
New Wave Advisory

Presentation topic: "State of Play: Canada's Clean Fuel Regulations"

April



ROB PINCHUK

Director - Low Carbon Strategy
Parkland

Presentation topic: "Parkland Coprocessing and How We Move Ideas Forward Against the Normal Human Resistance to Change: Vol. II"

May



MARK COOPER

CEO
Prairie Clean Energy

Presentation topic: "The Impending Agricultural Residue Biomass Rush"

WEST COAST BIOENERGY GUILD 2024

Special Guests

June



FRED GHATALA

Director for Carbon & Sustainability & Chair of SAF Caucus
Advanced Biofuels Canada Association

Presentation topic: "Low-Carbon Fuel Policy: What Have We Learned
Along the Way?"

July



JAMES J. SPAETH

Program Manager of Systems Development & Integration
U.S. Department of Energy Bioenergy Technologies Office

Presentation Topic: "US Sustainable Aviation Fuel Grand Challenge"

September



SCOTT TREADWELL

President
SixRing Inc.

Presentation topic: "Unlocking Nature's Energy: Reinventing Biofuels
and Sustainable Materials"

November



KATIE KACHUR

Vice-President of Government Relations (West)
Canadian Propane Association

Presentation topic: "Pathways to Decarbonize Canadian Propane"

December



DAVE BENNETT

Director, Renewable Gas and Low Carbon Fuels
FortisBC Energy Inc.

Presentation topic: "A Lower Carbon Gas System: Looking Back and
Looking Forward"

Recordings and slides are available on the [BCBN website](#).

Do you have a candidate in mind for an upcoming Guild event?

We invite you to nominate a speaker using the form available on our website.

BC SMART LOW CARBON FUELS CONSORTIUM

Project Title:

BC Sustainable Marine, Aviation, Rail and Truck Low Carbon Fuels Consortium

Consortium Members:



BCBN funded the establishment and growth of the BC Sustainable Marine, Aviation, Rail and Truck (BC SMART) Low Carbon Fuels Consortium. BC SMART leverages industry and government support to develop “software” recommendations such as policy and regulatory measures as well as “hardware” recommendations that identify supply chain and infrastructure to facilitate the production of low carbon transportation fuels in B.C.

Nearly 20 organizations including Air Canada, WestJet, Boeing, YVR Airport Authority, CP Rail, CN Rail, and Seaspan executed a memorandum of understanding to collaborate on the decarbonization of the transportation fuels they consume including gasoline, diesel, jet and marine fuels. BC SMART publishes a newsletter, hosts theme-driven workshops, and publishes reports that evaluate low carbon fuel options in B.C. for these sectors.

Newsletters:

Issue 14, December 2024

[Decarbonising oil refineries while producing low-carbon intensive fuels](#)

Issue 13, June 2024

[Biojet/SAF: a summary of the recent IEA Bioenergy Task 39 report on this topic](#)

Issue 12, April 2024

[BC-SMART Workshop “Where will we be by 2030: Biojet/SAF?”](#)

Issue 11, January 2024

[Policies used to facilitate the production and use of low CI biofuels](#)

Events:

Workshop, February 2024

Where will we be by 2030: Biojet/SAF?

Related IEA Bioenergy Task 39 Newsletters:

Issue 66, December 2024

[Biofuels Policies and Market in Canada](#)

Issue 65, June 2024

[Biofuels Policies and Market in the United States](#)

Issue 64, December 2023

[Biofuels Policies and Market in New Zealand](#)

[Read More about BC SMART:](#)

bc-smart.ca

BC BIOENERGY SECTOR AWARDS 2024



The BC Bioenergy Sector Awards recognize leaders who have made meaningful contributions to advance bioenergy research, policy and sector building in British Columbia.

On Friday, October 25th, 2024, BC Bioenergy Network announced the five winners of the 2024 BC Bioenergy Sector Awards during a virtual ceremony. This was the fourth annual celebration of the BC Bioenergy Sector Awards. These awards recognize outstanding leadership and contributions to B.C.'s bioenergy sector. Traditionally, three winners are honoured, but this year, the calibre of nominees was so impressive that the recognition was expanded to five outstanding leaders.

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BC BIOENERGY SECTOR AWARDS

OCTOBER 25TH, 2024

 		 
CHANGEMAKER AWARD <i>Matt Millard & Cory Sieben</i>	RESEARCHER AWARD <i>Shahab Sokhansanj</i>	CHAMPION AWARD <i>Ian Thomson & Doug Hooper</i>
Executive VP, Downstream Operations Tidewater Midstream and Infrastructure	General Manager Tidewater Renewables	Adjunct Professor University of British Columbia
		President Advanced Biofuels Canada

The one-hour virtual event was opened by Scott Stanners (Executive Director, BCBN) and featured inspiring remarks from last year's winners: David Claus (Director of Facilities Management and Capital Planning, UNBC) and Don O'Connor (Founder, S&T Squared Consultants Inc). After the awards presentation, the winners shared their acknowledgments and spoke about the importance of bioenergy. Tasha Booth (Project Manager, BCBN) hosted a thought-provoking trivia session, and surprise special guest Pat Guidera, accompanied by the Barnaby Banjo Boys, delivered an extraordinary bioenergy-themed musical performance.

CONGRATULATIONS TO THE 2024 WINNERS!

Researcher Award

Dr. Shahab Sokhansanj

Adjunct Professor, University of British Columbia

Changemaker Award

Matt Millard

Executive VP, Downstream Operations, Tidewater Midstream and Infrastructure
&

Cory Sieben

General Manager, Tidewater Renewables

Champion Award

Ian Thomson

President, Advanced Biofuels Canada

&

Doug Hooper

Director of Policy and Regulations, Advanced Biofuels Canada

BIOENERGY SONG

During the 2024 virtual ceremony, we had the honour of introducing the 2024 Bioenergy Song, composed by the talented Albertan musician Pat Guidera and the Barnaby Banjo Boys. Enjoy this playful rendition set to the tune of The Unicorn by The Irish Rovers.

[Watch the Song Video](#)



[Watch the Full Event Recording](#)

BC Bioenergy Network thanks you for your nominations and participation.

We are proud to recognize the accomplishments of the award recipients and look forward to continuing support and celebrating the growth of the sector.

HIGHLIGHTED EVENTS 2024



Sponsored:

2024 Value of Biogas WEST Conference



October 7th - 9th, 2024, Vancouver, B.C.

The Value of Biogas West, Canada's premier biogas & RNG conference, returned to Vancouver last autumn. The Canadian Biogas Association hosted two full days of programming, an expanded exhibit space, and ample networking opportunities. [See Details.](#)

Other Events:

CONVERGE 2024



November 26th, 2024, Vancouver, BC

The B.C. Centre for Innovation and Clean Energy hosted CONVERGE 2024, an event that brought together leaders, innovators, and enablers of BC's business and climate-first community. [See Details.](#)

Scaling Up 2024



November 25th - 27th, 2024, Ottawa, ON

Canada's 9th Annual Industrial Bioeconomy Business Conference, themed "Delivering Low Carbon Intensity," was held in November 2024 in Ottawa. [See Details.](#)

Canadian Biomass Awards



April 25th, 2024, online

The Canadian Biomass Awards program celebrated outstanding individuals, companies and communities working passionately to advance the country's bioeconomy. Canadian Biomass hosted their inaugural virtual ceremony. [See Recording.](#)

Webinars:

Market Drivers for HVO in 2024



June 11th, 2024, online

This webinar provided a deep dive into HVO market developments in Europe and Asia. Argus' experts discussed valuable insights while covering key highlights for the two regions. Participants gained a better understanding of what's to come next with: short-term forecast on demand trends in Europe and US; and long-term outlook on global HVO/RD supply & demand. [See Recording.](#)

Potential for Methane Pyrolysis in B.C.



May 9th, 2024, online

The webinar hosted by the B.C. Centre for Innovation and Clean Energy (CICE) discussed findings from the released report, 'The Potential for Methane Pyrolysis in B.C.' It delved into the world of low-carbon hydrogen and explored how B.C. can leverage its energy infrastructure to advance low carbon hydrogen production and identify the most promising pathways for innovation. [See Details.](#)

Decarbonizing the Future: Dive into Renewable Diesel & Sustainable Aviation Fuel with OPIS

February 14th, 2024, online



Renewable diesel and sustainable aviation fuels are poised to play a major role in the decarbonization of the global transportation fuel supply, and California is at the forefront of these rapidly evolving markets. OPIS launched daily price assessments for renewable diesel and sustainable aviation fuel, bringing the same valued price transparency they established in related U.S. West Coast, California Low Carbon Fuel Standard (LCFS) and federal Renewable Identification Number (RIN) markets. [See Recording.](#)

IEA Bioenergy Webinars: Lowering Hinders for Maritime Biofuels

December 3rd, 2024, online



The maritime shipping sector is coming under increasing pressure to reduce its greenhouse gas (GHG) emissions. While biofuels are uniquely positioned to answer the call to decarbonize shipping, there are a number of barriers to introduction in larger quantities, limiting its use for propulsion in shipping to less than one percent of fuels today. This webinar analyzed the report by IEA Bioenergy Task 39 aims at identifying methods to overcome these barriers in order to accelerate the transition. [See Recording.](#)

Progress in Commercialization of Biojet / Sustainable Aviation Fuels: Technologies and Policies

October 10th, 2024, online

The IEA Bioenergy webinar focused on the latest Task 39 report on Sustainable Aviation Fuel (SAF), released in Q1 2024. Since the last report in 2021, SAF production and adoption have grown significantly, with many new facilities underway, potentially increasing SAF output exponentially by 2030. This growth is fueled by supportive policies, including the ReFuelEU Aviation mandate and the U.S. Inflation Reduction Act (IRA). The webinar also covered advancements in SAF technologies, commercialization progress, and research investments, highlighting current challenges and opportunities. [See Recording.](#)

Novel Opportunities for the Development of Biorefineries: Bio-Carbon to Chemicals and Fuels by Integration of Biorefineries and Green Hydrogen

May 16th, 7 AM PT, online

The webinar presented databases and case studies as tools to assess the biorefinery developments worldwide and future opportunities through the integration of bioeconomy and hydrogen economy. [See Recording.](#)

Chemicals and Materials from Fast Pyrolysis of Biomass

April 9th, 2024, online

This webinar explored the advancements and applications of fast pyrolysis in biomass conversion to liquid fuel, now a commercialized process for large-scale boilers. Beyond its initial success, it delved into innovative uses of fast pyrolysis products for added-value materials and chemical production. Presentations covered various development stages, highlighting the potential of these products' unique chemical properties for new applications. [See Recording.](#)

Biohubs and the Role they Play in Biomass Supply Chains

January 23rd, 2024, online

IEA Bioenergy Task 43 (Biomass Supply in Sustainable and Circular Economies) hosted a free webinar focusing on sustainable biomass supply and management as a key to the successful integration of bioenergy into the broader economy, essential for meeting climate commitments. [See Recording.](#)



B.C. BIOENERGY NEWS HIGHLIGHTS 2024



(BCBN Newsletter Dec 2024)

CICE Invests \$7.7 Million in 13 Climate Tech Companies to Accelerate Decarbonization Solutions

The B.C. Centre for Innovation and Clean Energy (CICE) announced significant investments in 13 climate technology projects, totalling \$7.7 million. Among these, two standout initiatives are set to propel the low-carbon fuels sector forward:

AlgaFilm Technologies Ltd. is pioneering algae-based solutions to transform wastewater treatment. This innovative approach not only purifies water but also produces sustainable biofuels. [About the project.](#)

NanosTech Environmental Inc. is developing a novel catalyst technology that converts agricultural and forestry-based oils into low carbon fuels. This breakthrough process holds promise for reducing greenhouse gas emissions in the fuel production cycle. [About the project.](#) [See Details.](#)

(BCBN Newsletter Jun 2024)

Highbury Announced Project Study to Replace Natural Gas in Pulp Mill with Renewable Fuel Gas

Highbury Energy Inc. announced a project study aimed at replacing natural gas in British Columbia's energy-intensive pulp mill process with renewable fuel gas. This is a pioneering move in the forest industry to convert waste biomass into renewable fuels while promoting fuel switching in other industries to reduce carbon emissions further. The company will conduct a comprehensive techno-economic analysis and front-end engineering design to demonstrate the economic and environmental viability of seamlessly replacing natural gas with Highbury RFG in a lime kiln and power boiler at the West Fraser kraft mill - Cariboo Pulp and Paper Mill in Quesnel, B.C. in a kraft pulp mill lime kiln and power boiler located at West Fraser - Cariboo Pulp and Paper Mill in Quesnel, B.C. [See Details.](#)

(BCBN Newsletter Apr 2024)

Tidewater: Renewable Diesel Complex Operating at Near Capacity, Work Continues On Proposed Sustainable Aviation Fuel (SAF) Project

Tidewater Renewables Ltd. on March 14 announced that its 3,000-barrel-per-day renewable diesel facility in Prince George, B.C., is currently operating at near nameplate capacity. Work is also progressing on proposed plans to produce SAF. [See Details.](#)

(BCBN Newsletter Apr 2024)

CICE Announced New CEO

CICE's Board of Directors announced that Sarah Goodman took the helm as President and Chief Executive Officer, effective March 11, 2024. Sarah's extensive background in advancing Canada's climate change policies, coupled with over a decade of executive experience in the resource sector, uniquely positions her to lead CICE's mission and play a pivotal role in fast-tracking the commercialization of British Columbia's clean energy and climate solutions. [See Details.](#)

(BCBN Newsletter Apr 2024)

NGIF Accelerator Provides \$300,000 for the Development of Clean Technology to Produce Renewable Natural Gas from Agriculture Waste

The NGIF Accelerator and its Industry Grants program have announced a \$300,000 grant to G4 Insights Inc. for the advancement and commercialization of its proprietary PyroCatalytic Hydrogenation (PCH) technology. This innovative technology transforms forestry and agricultural crop waste into renewable natural gas (RNG), boasting an 80% reduction in carbon intensity compared to conventional natural gas. The PCH technology facilitates the cost-effective, large-scale production of RNG from lignocellulosic biomass (also known as plant dry matter), enabling its distribution in forestry zones and delivery to consumers via existing natural gas pipelines. [See Details.](#)

CANADA BIOENERGY NEWS HIGHLIGHTS 2024

(BCBN Newsletter Dec 2024)

Neste and Air Canada Signed an Agreement for the Supply of 60,000 tons of Neste MY Sustainable Aviation Fuel

Neste and Air Canada signed an agreement to supply 60,000 tons (77.6 million litres) of Neste MY SAF. This collaboration is a major step toward reducing the aviation sector's carbon footprint and achieving cleaner skies. Starting in December 2024, Neste will deliver SAF, blended with conventional jet fuel, to the Vancouver marine terminal, with additional shipments planned throughout 2025. [See Details.](#)



OPIS A DOW JONES COMPANY

OPIS Launches Price Assessments for Canada Clean Fuel Regulations and British Columbia's LCFS Program

(BCBN Newsletter Jun 2024)

OPIS Launched Price Assessments for Canada Clean Fuel Regulations and B.C.'s LCFS Program

OPIS has introduced new daily price assessments for Canada's Clean Fuel Regulations (CFR) and B.C.'s Low Carbon Fuel Standard (LCFS) program. These assessments, published in the Biofuels Daily Report, aim to provide enhanced transparency and objective price benchmarks in Canada's emerging low carbon fuel markets. This service supports the CFR's goal to reduce transportation emissions by 15% by 2030. [See Details.](#)



(BCBN Newsletter Jun 2024)

EcoEngineers Achieved Milestone with Canadian Clean Fuel Regulation Scope Extension Accreditation

EcoEngineers, a consulting, auditing, and advisory firm with an exclusive focus on the energy transition, announced the expansion of its services in compliance with the Canadian Clean Fuel Regulation (CFR). After an intensive four-month period of ISO 14064-3:2019 training and aligning a cadre of life-cycle analysis critical reviewers and specialists, EcoEngineers has been granted a scope extension by the ANSI National Accreditation Board. This accreditation empowers EcoEngineers to perform CFR verifications for producers and importers looking to participate in the clean fuels market in Canada, producing renewable, bio, and low carbon intensity fuels. [See Details.](#)



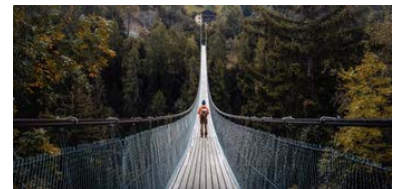
(BCBN Newsletter May 2024)

The 2024 Federal Government's Budget Supports Biofuel

Three tools were introduced to support biofuel projects in Canada:

- A newly created biofuel production fund will disburse up to \$500 million per year to offset the effects of subsidies contained in the U.S. Inflation Reduction Act,
- the retooled Clean Fuels Fund, extending for four years and pledging to deliver funding faster, a total of \$776.3 million will be available to be deployed from 2024-25 to 2029-30 to support clean fuel projects,
- the Canada Infrastructure Bank will invest at least \$500 million in biofuel production under its green infrastructure investment stream.

The article includes comments from Doug Hooper, Director of Policy and Regulation of Advanced Biofuels Canada, and Bob Larocque, President of The Canadian Fuels Association. [See Details.](#)



Government of Canada

Gouvernement du Canada

Canada

(BCBN Newsletter May 2024)

WestJet Acquires Shell Aviation's First SAF Available for Purchase in Canada

WestJet announced that it had purchased the first SAF supplied in Canada by Shell Aviation. This marks another milestone in WestJet's mission to achieve net-zero emissions by 2050 and signifies another step forward in making Canada's aviation industry more sustainable. [See Details.](#)



WESTJET

CANADA BIOENERGY NEWS HIGHLIGHTS 2024

(BCBN Newsletter May 2024)

Meadow Lake Tribal Council to Collaborate with Carbon Alpha on Carbon Dioxide Removal in Canada

The Meadow Lake Tribal Council (MLTC) and Carbon Alpha are teaming up to build the North Star Project near Meadow Lake. North Star builds upon the existing MLTC Bioenergy Centre by adding carbon capture and storage. The bioenergy centre generates renewable power fuelled entirely by waste biomass, such as bark and sawdust, from MLTC's integrated sawmill and sustainably managed forestry operations. [See Details.](#)

(BCBN Newsletter Apr 2024)

Cargill Power Canola™ Program Helps Farmers Take Advantage of Growing Bioenergy Market Opportunities for Canadian Canola

Canadian canola growers will soon be able to benefit from new and expanding market opportunities for renewable fuel feedstocks linked to bioenergy with the new Cargill Power Canola™ program. Enrollment begins this month for the 2024 crop year. [See Details.](#)

(BCBN Newsletter Apr 2024)

Expanding Presence: Alberta Companies Join Forces on Drop-in Bio-Synthetic Fuels from Residuals

Two Calgary companies, Expander Energy, a technology provider, and Cielo Waste Solutions, a public waste-to-fuel environmental tech firm, are collaborating to introduce bio-synthetic diesel and jet fuel derived from forestry residuals and other non-food feedstocks to the Canadian and international markets. [See Details.](#)

(BCBN Newsletter Mar 2024)

Enerkem to Retire Edmonton Biofuels Facility

Enerkem Inc., headquartered in Canada and globally recognized as a leader in producing low-carbon intensity biofuels and circular chemicals from waste materials, announced the retirement of its Enerkem Alberta Biofuels plant in Edmonton, Alberta. This decision comes after considering prevailing market conditions and domestic regulatory factors, following the plant's successful achievement of its objectives. [See Details.](#)

(BCBN Newsletter Mar 2024)

Braya Renewable Fuels Commences Commercial Operations

Braya has commenced commercial operations at the Come By Chance refinery in Newfoundland and Labrador, positioning itself as a leading independent renewable fuel producer globally. This milestone completes its refinery conversion project, initiating the supply of renewable fuels for the energy transition. Braya aims to start with a production capacity of 18,000 barrels per day of renewable diesel and plans to increase capacity, introduce sustainable aviation fuel, and investigate green hydrogen production. [See Details.](#)

(BCBN Newsletter Feb 2024)

Biomass Magazine: Pathways for Carbon-Negative Biomass Fuels

Renewable fuels such as hydrogen, biomethane, ethanol and sustainable aviation fuel are promising options for replacing conventional transportation fuels and reducing CO2 emissions. Adding carbon capture and storage (CCS) to these fuel production facilities can provide even greater carbon dioxide removal. Co-producing biochar can further reduce the emissions impact of a biofuel system. Another approach involves the utilization of lignin to produce biomaterials or use as a petroleum bitumen substitute. [See Details.](#)



INTERNATIONAL BIOENERGY NEWS HIGHLIGHTS 2024



The Daily Digest's

50

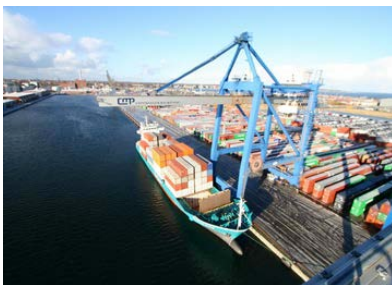
Hottest Companies
in the Bioeconomy
2024-25



IEA Bioenergy
Technology Collaboration Programme



NESTE



(BCBN Newsletter Dec 2024)

The Daily Digest's 50 Hottest Companies in the Bioeconomy 2024-25

The 50 Hottest Companies rankings spotlight global leaders in bioeconomy innovation and achievements in fuels and biorefinery development. Compiled from votes by delegates at the ABLC, the rankings feature companies advancing sustainable fuels and chemicals worldwide, with top performers hailing from India, New Zealand, Canada, the US, and the Netherlands. Top 5 Companies: 1. Gevo, 2. LanzaTech, 3. Avantium, 4. Comstock Fuels, 5. BioVeritas. [See Details.](#)

(BCBN Newsletter Sep 2024)

IEA Bioenergy Task 37 Newsletter: Key Updates in Anaerobic Digestion and Biogas

The latest IEA Bioenergy Task 37 Newsletter highlights significant advancements and updates in anaerobic digestion and biogas production. Explore innovative projects, research breakthroughs, and policy developments shaping the future of biogas and its role in sustainable energy. Stay informed on the latest trends and technologies in the biogas sector—this newsletter is a must-read for anyone involved in bioenergy. [See Details.](#)

(BCBN Newsletter Sep 2024)

Proposed CARB Changes to Low Carbon Fuel Standard Could Cap Soy and Canola Use

The California Air Resources Board (CARB) proposed revisions to the Low Carbon Fuel Standard (LCFS), aiming to strengthen near-term carbon intensity (CI) reduction targets. One significant aspect of the proposal is the potential cap on using soy and canola oils as feedstocks for biofuel production. This move is intended to address sustainability concerns and the environmental impact of these crops. The changes may drive biofuel producers to explore alternative, more sustainable feedstocks and could reshape the biofuel industry in North America. [See Details.](#)

(BCBN Newsletter Jun 2024)

Neste Expands Its European SAF-Supply Capabilities in Partnership with VTTI

Neste announced that it has further expanded its capability to supply sustainable aviation fuel (SAF) to customers in Europe through a partnership with VTTI, a global leader in energy storage and infrastructure development. By commissioning terminal capacity at VTTI's ETT terminal in Rotterdam, the Netherlands, Neste can now store and blend Neste MY Sustainable Aviation Fuel™. [See Details.](#)

(BCBN Newsletter Jun 2024)

Copenhagen Malmö Port Teams with Green2X on One of the World's Largest Biogas Plants

In Sweden, Copenhagen Malmö Port and Green2x have entered into a partnership focused on the design, establishment, and operation of one of the world's largest biofuel plants to date at CMP's terminals in the port of Malmö. The plant will contribute greatly to the green energy transition and create opportunities for more jobs in Malmö. [See Details.](#)

INTERNATIONAL BIOENERGY NEWS HIGHLIGHTS 2024

(BCBN Newsletter Jun 2024)



Holland America Line Begins Pilot Test of Renewable Fuels on Its Flagship Vessel Rotterdam

A major cruise ship operator, Holland America Line, embarked on a long-term biofuel test on its flagship vessel, Rotterdam. The ship is utilizing "100 percent low carbon intensity biofuel" while sailing within the Norwegian World Heritage Fjords. Before departing from the Port of Rotterdam, the Netherlands, on April 27, the vessel bunkered this biofuel. During its time in the Fjords, one of the ship's four engines will run on low carbon intensity oil derived from organic waste or residues, certified in accordance with the EU Renewable Energy Directive. [See Details.](#)



(BCBN Newsletter Apr 2024)

West Biofuels Gets Funding Up to \$30 Million U.S. to Turn Forest Biomass into Renewable Energy in Rural California

West Biofuels has been selected to negotiate an award of up to \$30 million from the U.S. Department of Energy Office of Clean Energy Demonstrations. This funding aims to provide low-carbon, stable energy for the rural communities in Burney, Mariposa, and Mammoth Lakes, California. By developing a cluster of rural projects in the Sierra Nevada-Cascade region, West Biofuels' professional staff will be able to support each project's ongoing operations and maintenance cost-effectively, ensuring long-term sustainability and success. [See Details.](#)



(BCBN Newsletter Apr 2024)

Southwest Airlines Launches Renewable Ventures Subsidiary to Advance SAF and Announces Investment in LanzaJet

Southwest Airlines launched Southwest Airlines Renewable Ventures (SARV), a subsidiary focused on acquiring scalable SAF to meet its goal of replacing 10% of its jet fuel consumption with SAF by 2030. Additionally, the airline is investing \$30 million in LanzaJet, Inc., a SAF technology provider with patented ethanol-to-SAF technology and the world's first commercial ethanol-to-SAF plant, as a key part of the SARV investment portfolio. [See Details.](#)



(BCBN Newsletter Apr 2024)

Global Biochar Market Report Confirms Robust Industry Growth and Carbon Dioxide Removal (CDR) Opportunities Ahead

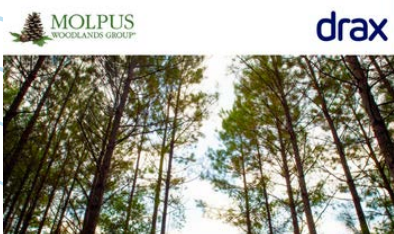
The International Biochar Initiative and the US Biochar Initiative unveiled the 2023 Global Biochar Market Report, revealing an impressive 91 percent compound annual growth rate from 2021 to 2023. This marks the first industry-produced, global research on biochar since 2015, emphasizing the significant progress and potential of biochar as a CDR technology and highlighting its growing importance in combating climate change. [See Details.](#)



(BCBN Newsletter Mar 2024)

Drax Partners with Molpus Woodlands to Fuel BECCS Operations in the Southeast US

The agreement between Drax and Molpus will provide Drax with an option to purchase sustainably sourced woody biomass to fuel its bioenergy with carbon capture and storage (BECCS) operations in the US Southeast by taking up to 1 million green tons per year of sustainably sourced fibre under a long-term fibre supply agreement. [See Details.](#)



PROVINCIAL BIOENERGY POLICY HIGHLIGHTS 2024

(BCBN Newsletter Jul 2024)

Update on B.C.'s Carbon Capture and Sequestration Protocol

The B.C. Ministry of Environment and Climate Change Strategy released a draft of the Carbon Capture and Sequestration (CCS) Protocol in September 2023, available [Here](#). The consultation period ended on December 14, 2023, but feedback is still being considered. The Ministry thanks all contributors for their valuable input. For a summary of the feedback received, read the "What We Heard Report" [Here](#).



Ministry of
Environment and
Climate Change Strategy

British Columbia
Greenhouse Gas Offset Protocol



(BCBN Newsletter Feb 2024)

Updates to GHGenius Transition Plan, RLCF-011 & CI Application Form

BC Ministry of Energy, Mines and Low Carbon Innovation announced updates to:

- [GHGenius Transition Plan](#),
- [RLCF-011 Approved Version of GHGenius and Global Warming Potentials](#), and
- Carbon Intensity Application form for applications that use GHGenius 5.02.

From July 1, 2023, to December 31, 2023, carbon intensity applications that include carbon intensities calculated using GHGenius 4.03, 5.02, 5.02a and 5.02b can be submitted to the Ministry, providing they meet the requirements of our GHGenius Transition Plan. Starting January 1, 2024, only applications using GHGenius 5.02 version b will be accepted. [See Details](#).

What We Heard
Report



Ministry of
Energy, Mines and
Low Carbon Innovation

(BCBN Newsletter Jan 2024)

New Low Carbon Fuels Regulation in B.C.

BC Ministry of Energy, Mines and Low Carbon Innovation released a new regulation, the [Low Carbon Fuels \(General\) Regulation](#), effective from January 1, 2024.

The new regulation shares similarities with the existing Renewable and Low Carbon Fuel Requirements Regulation but introduces some noteworthy changes, such as requirements for renewable and low carbon jet fuel, prescribed non-transportation fuel end uses, updated provisions for penalties, a supplier exemption threshold for jet fuel, and a volumetric exclusion for electricity.

A second regulation, the Low Carbon Fuels (Technical) Regulation, is in the works and will be published in the coming weeks. This second regulation will focus on the technical details of the Low Carbon Fuels Act, incorporating both updated and new variables for calculating compliance units (credits and debits).

To provide further clarity and updates on these changes, the Low Carbon Fuels Branch hosted information sessions.

[Access the Presentation Slides Here.](#)

[Read the Regulation Here.](#)



FEDERAL BIOENERGY POLICY HIGHLIGHTS 2024

(BCBN Newsletter Dec 2024)

**Approved Carbon Intensities Published
Publication of Training Material on the CI Calculations and a New Addendum to the Specifications**
[Details Here.](#)

(BCBN Newsletter Nov 2024)

Approval Process for Verified Carbon Intensity Applications Update
[Details Here.](#)

(BCBN Newsletter Sep 2024)

Biogas and Renewable Natural Gas Pathways Update
[Details Here.](#)

(BCBN Newsletter Jul 2024)

First Credit Market Report for CFR Published
[Details Here.](#)

Update on Used Cooking Oil Feedstock
[Details Here.](#)

New Version of the Government of Canada's Fuel Life Cycle Assessment Model
[Details Here.](#)

(BCBN Newsletter May 2024)

Information Bulletin on Verification Body (VB) Accreditation Update
[Details Here.](#)

(BCBN Newsletter Apr 2024)

**New Version of Credit and Tracking System (CATS)
New CFR Factsheet Available: Credit Adjustments Based on Carbon Intensities**
[Details Here.](#)

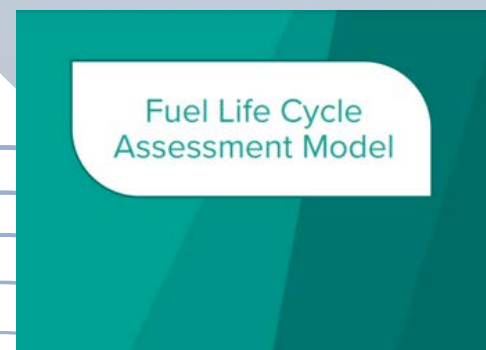
Fuel LCA Model Update: Three New Prepublications Available to Comment
[Details Here.](#)

(BCBN Newsletter Mar 2024)

Submission of Agreements to Create Credits for the 2024 Compliance Period Update
[Details Here.](#)



Clean Fuel Regulations



PODCASTS 2024

TOPSOE: Fuel for Thought Podcast

The Fuel for Thought Podcast is the world's first podcast about renewable fuels. Sylvain Verdier and Mikala Grubb from Topsoe, together with a series of key industry players, look into some of the most pressing topics about renewable fuels, covering the whole value chain of renewable fuel production, including feedstock supply, conversion technology, legislation, sustainable aviation fuel and much more.

Recommended Episodes:

- S5E3: New perspectives on the feedstocks of the future
- S5E5: Latin America's role in shaping the global renewable fuels market
- S5E6: Back to science: why analytical chemistry is the hero of your renewable fuels production
- SAF Special #1 of 3 From combustion to contrails: Unveiling jet fuel mysteries
- SAF Special #2 of 3: Sky-high ambitions: Investing in the future of Sustainable Aviation Fuel
- SAF Special #3 of 3: Fast-tracking SAF! Your complete guide to co-processing
- S6E1: Renewable fuels 2024: A year of progress and promise

[Listen to the Podcast Here.](#)

TOPSOE: SAF TALKS

Sustainable Aviation Fuel (SAF) is vital for reducing aviation emissions but still accounts for less than 1% of global jet fuel use.

To explore what it takes to scale SAF, Topsoe presents Season 2 of SAF Talks™, filmed at the SAF Summit in Copenhagen. These eight short episodes feature industry leaders sharing the latest trends, innovations, and developments in SAF.

Recommended Episodes:

- SAF Talk 2E6: The Potential of Certification
- SAF Talk 2E7: Flight plan to net-zero 2050
- SAF Talk 2E1: The ideal policy approach for ramping up SAF

[Listen to the Podcast Here.](#)

ARC Energy Ideas Podcast

Peter Tertzakian and Jackie Forrest from the ARC Energy Research Institute explore trends that influence the energy business, including financial, political, environmental, technological, social and economic forces.

Recommended Episodes:

- [E235: Demystifying Canadian Levies, Markets and Beyond](#)
- [E240: Canadian Biofuels: Clean Fuel Regulation, Competitiveness and Budget](#)

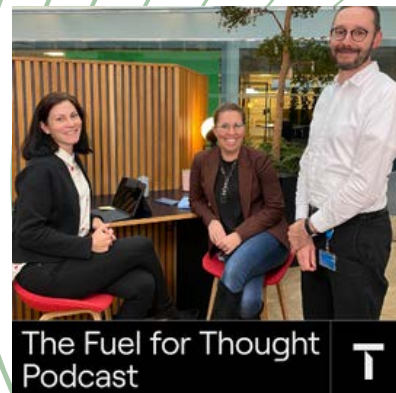
Biomass Magazine Podcast

This podcast explores the hottest topics in the biomass industry, hosted by Anna Simet from Biomass Magazine.

Recommended Episode:

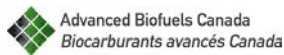
- [S3E7: A Mission to Commercialize Wood to Gasoline](#)

TOPSOE



BIOMASS
MAGAZINE

REPORTS 2024



Advanced Biofuels Canada: 2024 Report

The Biofuels in Canada 2024 Report showcases remarkable growth in Canada's biofuel sector. Key highlights include:

- Renewable diesel consumption doubled to 1.2 BL/yr in 2023,
- Biofuel content reached 9.44% in gasoline and 6.23% in diesel,
- Biofuels delivered 86% of Canada's 2023 GHG reductions from clean transportation fuels,

Canada's Clean Fuel Regulations were a major driver of this progress, according to Advanced Biofuels Canada's President Ian Thomson. [See Details.](#)



Carbon Accounting for Sustainable Biofuels



International Energy Agency (IEA): Carbon Accounting for Sustainable Biofuels

Sustainable biofuels are crucial for decarbonizing the transport sector, offering significant potential to reduce emissions in aviation and shipping while complementing electric vehicles and energy efficiency in road transport. However, the large-scale deployment of biofuels brings challenges. The climate benefits of biofuels depend on their carbon intensity, highlighting the need for sound regulatory frameworks and transparent, science-based calculations to attract investment. A recent study for Brazil's G20 presidency explores the complexities of biofuel carbon intensity across regions and emphasizes the need for policies that encourage continuous improvement in sustainable biofuel practices. [See Details.](#)



IEA Bioenergy Task 39, Magazine, Issue 65: Biofuels Production and Development in the United States

The IEA Bioenergy T39 Bioenergy News features an article on biofuel production and development in the United States, along with more information on the upcoming BBEST & IEA Bioenergy Conference scheduled for October in Brazil. Over the past few decades, emissions from transportation have steadily risen, increasing by roughly 19% from 1990 to 2021. The transportation sector stands as the largest contributor to greenhouse gas emissions in the U.S., constituting 29% of total emissions in 2021, according to data from the Environmental Protection Agency. [See Details.](#)



2023 Billion-Ton Report: An Assessment of U.S. Renewable Carbon Resources

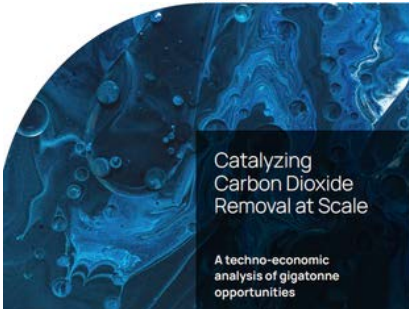
March 2024



US Department of Energy Bioenergy Technologies Office: 2023 Billion-Ton Report

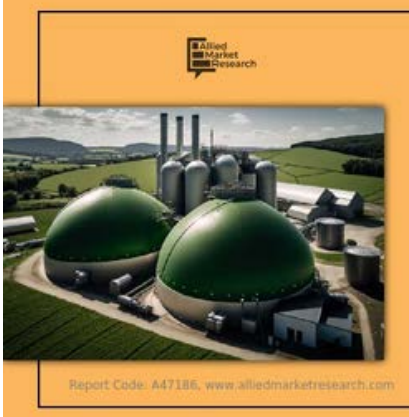
The report "2023 Billion-Ton Report: An Assessment of U.S. Renewable Carbon Resources" is the fourth in a series of assessments of potential biomass resources in the United States since 2005. It shows that the U.S. could sustainably triple its production of biomass to more than 1 billion tons per year. [See Details.](#)

REPORTS 2024



CICE: **Catalyzing Carbon Dioxide Removal at Scale**

CICE released a techno-economic analysis of pathways to remove carbon dioxide (CO₂) from the atmosphere at a multi-gigatonne scale. The “Catalyzing Carbon Dioxide Removal at Scale” report confirms that big-impact strategies for carbon removal are needed to meet 2050 net-zero targets and remain in line with a 1.5°C future, including biomass CO₂ removal. Bioenergy with Carbon Capture and Storage (BECCS) and pyrolysis are the most mature engineered CDR approaches and show potential for near-term scaling. [See Details.](#)



Allied Market Research: **Biogas Upgrading Technology Market**

Biogas upgrading technology plays a pivotal role in the sustainable utilization of biogas, transforming it into a cleaner and more versatile energy source. This technology involves the removal of impurities and the enrichment of methane content, enhancing the quality of biogas for injection into natural gas grids or utilization in various applications. [See Details.](#)



Wood Pellet Association of Canada: **Wood Pellet and Bioenergy Safety Summit Report**

More than 50 participants – wood pellet producers, operators, suppliers, and regulators – from across Canada met in Prince George, B.C., in November 2023, to discuss evolving trends and regulatory topics. The summit provided an update on current safety initiatives creating a safer foundation for the industry. Live polling was conducted throughout the summit to capture participants’ observations, recommendations and experiences. [See Details.](#)



Canadian Fuels Association: **Fuelling Change: An Update to our Driving to 2050 Vision**

Three years ago, the Canadian Fuels Association (CFA) released Driving to 2050, their vision for decarbonizing the transportation sector in support of Canada’s goal of Net Zero by 2050. Since then, they have put words into action with member projects from coast to coast spanning the full range of decarbonization pathways, including biofuels, hydrogen, carbon capture utilization and storage (CCUS) and electrification. Many of these projects are featured in this year’s Update. [See Details.](#)

MEET THE TEAM

ON BEHALF OF BCBN, WE THANK ALL OUR PARTNERS
AND STAKEHOLDERS FOR A WONDERFUL 2024.
WE LOOK FORWARD TO A PROSPEROUS 2025.

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