



BC SMART Low Carbon Fuels Consortium



BC SMART Consortium/IEA Bioenergy Task 39 webinar:

Decarbonizing the rail sector via the use of low carbon intensity fuels

Save the date: Thursday, 12th May 2022, 8:00-9:30 PST (17:00-18:30 CET)

The world's rail sector transports 7% of global freight and represents 8% of the world's motorized passenger movements. However, it only consumes 2% of the energy used by the transport sector and is responsible for only 0.3% of the direct GHG emissions derived from fossil fuel combustion. Railways in Canada accounts for only 1.1% of Canada's total emissions (7.7 Mt of CO₂e). Although some rail freight runs on electricity, diesel predominates in many parts of the world. Similar to other long-distance transport sectors (aviation, shipping and trucking), improved fuel efficiency is the primary pathway in which the rail sector keeps reducing its GHG emissions. For example, the Canadian rail-freight sector has reduced the intensity of its GHG emissions by over 40% since 1990 by improved fuel efficiency strategies. However, these "increased efficiency" activities will not be enough if the rail sector is to meet its 2050 decarbonisation targets.

Although the sector is actively pursuing various decarbonization strategies, rail transport is capital intensive with locomotives considered to be long-term assets. Consequently, the use of "novel", low carbon intensity (low CI) fuel options will be challenging as there are significant economic barriers to large-scale fleet replacement. For example, increased electrification of Canada's existing rail will be problematic due to the need for significant up-front investments. Similarly, zero-emission technologies such as battery-electric, hydrogen and fuel cells for locomotives are still evolving and will require more testing and demonstration before they are fully commercialized.

As will be described, bio-based diesels, including biodiesel and renewable diesel, are a readily deployable, low CI options that the rail sector can use to reduce their GHG emissions. However, their high price (as compared to conventional diesel) is a major challenge plus some original engine manufacturer warranties limit biodiesel blends to 5% and renewable diesel blends to 30%. To date, most bio-based diesels have been used by the road transportation sector, primarily due to biofuels mandates and supporting policies. To encourage the use of bio-based diesels in the rail sector, the current and evolving government policy landscape needs to include this sector (i.e., allowing the rail sector to generate credits in the federal Clean Fuel Regulation). It is likely that, given the right support and opportunities, there is significant potential for the rail sector to switch to increasing use of more low CI fuels.

In the upcoming webinar, [The BC-SMART Low Carbon Fuels Consortium](#) and [IEA Bioenergy Task39](#) have invited presenters who represent some of key groups that will be needed if the rail sector is to effectively decarbonize (i.e., low carbon fuels suppliers, end users, LCA and policy development advisors). Panel members will share their insights and experience regarding the need to decarbonize the rail sector with a focus on the use of low carbon intensive drop-in biofuels.

Short bios of the panelists are attached.

To register for the free webinar, please click [here](#)



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Moderator:



David Schick, Vice President of the Canadian Fuels Association

Dave’s role at the Canadian Fuels Association includes Western Canada, Innovation and Regulatory Affairs. He works on the development of policy and regulation at the federal, provincial and local levels. Dave has worked in the downstream energy business for over 30 years. Prior to joining the CFA, he worked at Parkland and Chevron in a wide variety of roles, including managing Policy, Government and Public Affairs for the Burnaby Refinery, marketing, systems development, planning and finance roles.

List of Panelists:



Jacob Teter, International Energy Agency (IEA)

Jacob joined IEA as a transport energy modeller and policy analyst in Spring 2015, and now leads IEA’s team of transport analysts in the Energy Technology and Policy Division. Jacob is among the lead authors of the IEA’s “Future of Trucks” and “Future of Rail” reports, and has contributed to the IEA’s “Net Zero by 2050” report, to the annual Global Electric Vehicle Outlook (GEVO) series, and to recent Energy Technology Perspectives (ETP) and World Energy Outlook (WEO) reports. He completed his PhD in Transportation Technology and Policy from the University of California, Davis in 2015.



Marykate O’Brien, U.S. Department of Energy Bioenergy Technologies Office (BETO)

Marykate is a Technology Manager for BETO at the US DOE. She has 15 years of experience spearheading research projects to identify viable renewable energy sources to lessen the dependence on fossil fuels and achieve environmental decarbonization goals. Marykate manages a portfolio of R&D projects focused on lowering the risk of biofuel, bioproduct, and biopower production technologies through verified proof of performance at the pre-pilot, pilot, and demonstration-scales. She received her B.S. in Chemical and Biological Engineering and M.S. in Engineering Management from the University of Colorado.



Ben Chursinoff, Policy Analyst and Program Coordinator, Railway Association of Canada (RAC)

Ben has several areas of responsibilities at the Railway Association of Canada including the Environment Committee, Safety Culture Steering Committee, and the Proximity Initiative Steering Committee. Prior to moving to Ottawa, he spent 4 years with the Saskatchewan Association of Rural Municipalities, as a Senior Policy Analyst, in his hometown of Regina, SK. Ben holds a Master of Public Administration (MPA) from the Johnson-Shoyama Graduate School of Public Policy as well as a Bachelor of Arts in Political Science and Certificate in Economics from the University of Regina where he played university level rugby.



Adam Sander, Director, Emerging Markets, Renewable Energy Group (REG)

Adam has been with Renewable Energy Group (REG) for 15 years serving in a variety of roles. REG’s biodiesel and renewable diesel production, distribution assets and customer service uniquely position them to be the clean energy transition partner of choice as companies look to decarbonize in an efficient and cost-effective fashion. As Director of Emerging Markets, Adam focuses on developing strategic and sustainable relationships in the rail, marine and mining sectors. Adam received his undergraduate degree in Logistics and Supply Chain Management from Iowa State University, and he received a Master’s degree from Drake University.



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About the organizers:

[The BC SMART Low Carbon Fuels Consortium](#) (i.e. BC SMART) was established in 2019 with the overall goal of facilitating the decarbonization of the long-distance transport sector in BC. It achieves this by encouraging the production and use of low CI transport fuels, primarily drop-in biofuels. A key component has been the formation and facilitation of a “coalition-of-the-willing” which includes key-stakeholders from industry, government and university. The BC SMART Low Carbon Fuels Consortium will help deliver the CleanBC plan, to meet its transportation related greenhouse gas (GHG) emissions reductions by 2030.

[The BC Bioenergy Network](#) (BCBN) is an industry-led initiative that helps deploy near-term bioenergy technologies and supports research towards building a world-class bioenergy capability in BC. BCBN invests in capital and technology development/demonstration, targeted capacity building, as well as education and advocacy. These efforts promote the utilization of BC’s biomass resources towards alternative energy – specifically using waste streams in the agriculture, forest and municipal sectors to produce value-added products and energy. To date, BC Bioenergy Network has invested \$15 million in 17 capital projects; \$1.4 million in 12 capacity-building projects; and more than \$375,000 into conferences, workshops and other educational initiatives.

[IEA Bioenergy Task 39](#) is a group of international experts who collaborate in trying to commercialize sustainable and low CI transportation biofuels. Through a coordinated focus on technology, commercialization, sustainability, policy, markets and implementation, Task 39 assists its member countries and other transport biofuels stakeholders in their efforts to develop and deploy sustainable, low carbon intensity transport biofuels, particularly in the long-distance transport sector (i.e., marine, aviation, rail and trucking). Task 39 is part of [IEA Bioenergy](#), an organisation established in 1978 by the International Energy Agency ([IEA](#)) with the aim of improving cooperation and information exchange between countries that have national programmes in bioenergy research, development and deployment.