

Clean fuel and electric vehicle use in Canada can reduce GHGs by over 50 million tonnes by 2030

Canadian associations call for a national 'Clean Fuel Strategy' to leverage innovation and sustainable resources to secure investment in the production and use of clean fuels.

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Canada's national clean fuels associations forecast greenhouse gas (GHG) emissions reductions of over 50 million tonnes (Mt) per year by 2030 through greater production and use of renewable energy in Canada. The associations, Advanced Biofuels Canada (ABFC), Canadian Biogas Association (CBA), Canadian Gas Association (CGA), Electric Mobility Canada (EMC) and Wood Pellet Association of Canada (WPAC), represent a significant part of the spectrum of Canada's primary clean fuel industries. Together, we share a belief that investments to increase the production and use of clean and renewable fuels and electric vehicles (EVs) to meet Canada's GHG emissions targets will stimulate clean growth, create jobs, and achieve significant greenhouse gas reductions over the next decade.

Collectively, the associations represent technologies that can, with the right policy measures in place, exceed the proposed federal *Clean Fuel Standard's* objective of 30 Mt of annual GHG emission reductions by 2030. Estimates of potential emission reductions are based on modelling work for the joint industry – federal government steering committee looking at the competitiveness of clean fuel investment in Canada.

The results demonstrate significant annual emissions reduction potential by 2030 from adopting clean and renewable liquid, gaseous, and solid fuels, and from switching to electric vehicle use. ABFC estimates that 15 Mt of reductions per year are achievable by 2030 by incorporating modest levels of biofuels and other non-fossil clean fuels into transport fuels. The CBA and CGA estimate that 14 Mt of reductions are attainable by introducing renewable gases into transportation, building heating, and industrial processes. EMC estimates that 16Mt of GHG reductions are achievable through the electrification of light, medium, and heavy-duty vehicles, including buses. WPAC estimates that 5.5 Mt of reductions can be achieved through fuel switching to wood pellets to provide heat in the residential, commercial, and institution sectors, and from replacing coal with pellets for power generation. Across all sectors, there is even greater potential to achieve stronger results. In aggregate, the estimates demonstrate Canada's potential to economically and efficiently reduce GHG emissions by fueling our economy with clean and renewable fuels made and used in Canada.

The results will not come easily. To attract the capital investments (\$ billions) necessary to support this transition, the associations have recommended that the federal government adopt a *Clean Fuel Strategy* by 2020. The strategy would include setting a clear path to clean and renewable fuel use by 2030:

1. Establishing clear market signals for clean fuels and electric vehicles
2. Aligning clean and renewable fuel regulations to meet targeted clean fuel and EV use
3. Establish clean fuel program funding to support clean and renewable fuel production capacity and infrastructure investments, and support EV adoption
4. Support research and development programs to maintain Canadian leadership in clean fuel technologies and innovation

Clean Fuels Backgrounder

Advanced Biofuels Canada/ Biocarburants avancés Canada

Advanced Biofuels Canada is the national voice for producers, distributors, and technology developers of advanced biofuels in Canada. Our members are global leaders in commercial production of advanced biofuels and technology development, with over 14 billion litres of installed annual production capacity worldwide. Advanced biofuels and synthetic low carbon liquid fuels can be made in Canada from sustainable crops, forest and agricultural residues, wastes, and carbon capture technologies. Canada has 22 biofuel production facilities, which produced 2.1 billion litres of clean fuels in 2017.

ABFC's 2018 capital projects survey identified \$6 billion of capital investment potential to 2030, representing over 50 projects with potential new capacity of 3.9 billion litres. The World Agricultural Economic and Environmental Services ([WAEES](#)) modelling of the proposed CFS demonstrated that Canada can produce 5.0 – 6.75 billion litres of advanced biofuels by 2030. Advanced biofuel production would create green jobs, improve fuel market competition, and support economic resilience for farm and forestry communities in rural Canada. GHG reductions of 15 Mt per year by 2030 can be affordably and sustainably achieved with biofuel/synthetic fuel blends of 10-15% in gasoline and diesel fuels.

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Canadian Biogas Association

Renewable gases, including renewable natural gas (RNG), biogas and hydrogen, remain an untapped emission reduction opportunity for Canada. The CBA membership includes gaseous fuel producers (farmers, municipalities, and others), technology suppliers, organic residue generators, and utilities that support the entire value chain of the biogas and RNG industry. Biogas is produced from organic waste materials that originate on farms, forests, and municipal waste streams. In order to produce RNG, the gas is cleaned to meet end use specifications for injection into the gas pipeline or compressed and liquified for use as a transportation fuel. Currently, there are over 100 operating biogas facilities in Canada.

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Canadian Gas Association

CGA is the voice of the natural gas distribution industry. Natural gas meets 35% of Canada's energy needs through over 550,000 kilometers of infrastructure connecting over two thirds of Canadians. Canada's natural gas utilities strongly support low-emission energy delivery to Canadians through the advancement of RNG and hydrogen.

With Canada's wealth of forests, agricultural wastes, and extensive interprovincial and local distribution natural gas pipeline network, Canada is well positioned to be a world leader in RNG production, use and technology export. In addition to RNG, CGA is exploring the role of piped hydrogen as a zero emission energy carrier.

In order to advance renewable gas development in Canada, it is essential to have a policy that reflects the realities of the industry and renewable gas projects. In 2018, CGA, along with representatives from the renewable gas industry, including CBA, developed the [Renewable Gas Innovation Program proposal](#). The vision for this policy is that it will stimulate a market and put Canada on course to realize between 5-10 per cent content of renewable gases in the Canadian energy system by 2030.

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Electric Mobility Canada

EMC is Canada's national electric mobility association. Our 180+ members represent the entire value chain of electric mobility in Canada, including automakers, utilities, industry, researchers, NGOs and governments. A recent report released by EMC, showed that electric vehicles represented 3.3% of all passenger vehicles sales in Canada in Q2 2019. The number of EVs has grown exponentially in the past few years.

Electricity will play a critical role in supporting clean fuel use in Canada. Powered by clean, renewable electricity, electric vehicles could reduce GHG emissions by 16 Mt per year by 2030. This forecast is based on electric vehicle penetration rates of 10% of light-duty passenger vehicles (car and pickup trucks), 30% of buses (municipal transit fleets), and 3% of medium and heavy-duty vehicles (delivery and long-haul trucks) by 2030. Together with other initiatives promoting electrification of transport in Canada, we believe electric mobility can support expanding the targeted reductions under the CFS.

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The Wood Pellet Association of Canada

WPAC represents the pellet producers, equipment manufacturers, research and development and engineering companies. Today, our members produce around 3 million tonnes of pellets per year, contributing to Canada's economy and roll-out of renewable, on-demand electricity.

There is huge potential for greater reductions of GHGs through domestic use of wood pellets in Canada. Solid biomass fuels, including wood pellets, could readily meet the full 30 Mt CFS reduction goal, and further GHG reductions could be achieved via end-use fuel switching in gaseous and liquid (stationary) class fuels. Given the maturity of the thermal generation and heat distribution technology, Canada's abundant sustainable solid biomass resources, and Canada's leadership position in certified sustainably-managed forests, solid biomass fuels can be a key pillar Canada's *Clean Fuel Strategy*.

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