

**Written Submission for the Pre-Budget  
Consultations in Advance of the 2020 Budget**

**By: Air Products Canada**



## LIST OF RECOMMENDATIONS

**Recommendation 1:** The Federal Government should ensure the Pan-Canadian Framework on Clean Growth and Climate Change includes carbon capture and hydrogen projects with collaboration at all levels of government.

**Recommendation 2:** The Federal Government should invest in hydrogen production projects that are emission reducing, cost efficient and shovel ready.

**Recommendation 3:** The Federal Government should ensure the Canadian Hydrogen Strategy promotes a policy and taxation framework that allows for an efficient, market-based approach to growing the hydrogen sector in Canada.

## Introduction:

As Canada begins to reopen in the wake of the COVID-19 pandemic, governments around the world are prioritizing recovery efforts that include measures to address the climate emergency and support an economic that will both create jobs and reduce greenhouse gas emissions.

In October of 2016, Canada was among 190 parties to sign the 2030 Paris Agreement bridging the gap and creating accountability on policy development and real climate change action. One of Canada's specific obligations under the agreement is to reduce greenhouse gas emissions to 30% below their 2005 levels. This agreement to actively participate in climate change efforts, along with Canada's independent plan to achieve net-zero emissions by 2050, has sparked a race to become a leader in alternative energy production and the hydrogen economy.

Air Products Canada (Air Products) can be a partner to the Canadian Government as it identifies the policy and funding approaches needed to make hydrogen a relied upon fuel for Canadians in the mobility, energy and heavy manufacturing industries. Air Products has long been an actively engaged partner in Canada's oil and gas sector helping companies bring cleaner power and energy products to market. Since entering the Canadian market more than 20 years ago, Air Products has supported innovation and advancement of the oil and gas industry by investing in sectoral growth and backing critical industry projects such as hydrogen plants and distribution infrastructure in Sarnia (Ontario), Edmonton and Scotford (Alberta), and partnering with Canada's oil and gas industry for innovative research and development projects.

Air Products believes Canada's newly announced hydrogen strategy is an essential step in transitioning Canada to a net-zero country. Air Products is pleased to submit recommendations to the House Standing Committee on Finance as part of its pre-Budget consultation that will help Canada create the conditions for a thriving national hydrogen sector that maintains the competitiveness of Canadian industries and positions Canada as a global hydrogen technology leader. As we work towards restarting the economy and putting the country back on a recovery trajectory, it is critical that initiatives create jobs now and also create the economic conditions needed to maintain the competitiveness of Canada's resource development sectors.

### ***Recommendation 1: The Federal Government should ensure the Pan-Canadian Framework on Clean Growth and Climate Change includes carbon capture and hydrogen projects with collaboration at all levels of government.***

Canada's Pan-Canadian Framework on Clean Growth and Climate Change (the framework) was prescient in allocating funding for hydrogen fuelling stations and committing to implement a Clean Fuel Standard. Since the framework release in 2016, investments by jurisdictions including California, Denmark, and Germany have demonstrated that such initiatives are necessary, but not sufficient to support the growth and maturation of the hydrogen sector. Furthermore, global climate change leaders<sup>1</sup> have confirmed that blue hydrogen with carbon capture and green hydrogen are very likely to be components of a net zero future. If Canada is to keep up with its global neighbours and become an industry leader, a national strategy will need to include support from provincial governments and industry leaders.

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<sup>1</sup> Pembina Institute breaks down the key cost and climate benefits of hydrogen in its [2020 Climate Primer](#).

The Government of Canada has a unique opportunity to bring the provinces and territories together on projects that will benefit Canadians from coast to coast to coast. The Task Force for a Resilient Recovery recently advised government to invest \$1 billion into the hydrogen sector including \$100 million toward regional hydrogen hubs that can create some of the greenest hydrogen in the world<sup>2</sup>. Producers like Air Products are already re-tooling existing energy production infrastructure, preparing plans for new facilities, and working with partners to develop the supply chain, while others are developing consumer refuelling access points for hydrogen fuel cell electric vehicles<sup>3</sup>. In Vancouver, three fuelling stations have been constructed with the support of the Federal Government's Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative, B.C. Low Carbon Fuel Standard, and through the Go Electric BC Program. Alberta has recently announced that hydrogen will be a part of their economic recovery program as well.<sup>4</sup> It will be crucial that the framework is updated with funding programs that allow for participation at all levels of government and with partners like Air Products.

Air Products has been a trusted partner to the Canadian government over the last 20 years and ready to use innovative research, developed in Canada, to open the door on the potential of hydrogen technology. Air Products has supported the federal government's climate change agenda by working collaboratively on the Clean Fuel Standard Technical Working Group, participating in hydrogen strategy consultations and through informal briefings across a number of departments.

Air Products is ready to work with the federal government and provinces to develop net-zero hydrogen supply that will power Canadians' mobility, residential and commercial heating, and heavy industry needs.

***Recommendation 2: The Federal Government should invest in hydrogen production projects that are emission reducing, cost efficient and shovel ready.***

Hydrogen has been identified as the go-to clean energy source to replace traditional oil and gas products that will support countries like Germany, Australia, and Canada in achieving their climate change commitments. These goals are outlined in the 2030 Paris Agreement climate change framework and were further signalled by Canada's more recent commitment to strengthen existing and introduce new greenhouse gas reducing measures in order to exceed Canada's current 2030 emissions reduction goal<sup>5</sup>.

But not all hydrogen projects are equally as effective at reducing carbon. Some industrial hydrogen processes, coupled with carbon capture technology, can reduce over 90% of the generated CO<sub>2</sub> emissions. The federal government should work with provinces to encourage projects that eliminate the greatest amount of CO<sub>2</sub> emitted into the atmosphere.

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<sup>2</sup> Taskforce for a resilient recovery, [Preliminary Report July 2020](#)

<sup>3</sup> The Government of Canada shares the access points on a live map where end-users can access electric charge and alternative fuelling stations in Canada and the United States. This map can be found on the [NRCAN website](#).

<sup>4</sup> [Alberta's Recovery Plan](#)

<sup>5</sup> Government of Canada releases emissions projections, showing progress towards climate target, [News Release](#).

Canada has the opportunity to develop a hydrogen strategy that leverages existing technology to develop green and blue hydrogen for consumer access through projects that use the following hydrogen production methods that already exist and are in operation:

- Biomass conversion;
- Electrolysis using off-peak nuclear electricity;
- Electrolysis from hydroelectricity, wind or solar power generation;
- Industrial by-product purification; and
- World class, natural gas industrial hydrogen production with carbon capture and storage technology.

Developing a strategy that funds projects to replace conventional energy sources with hydrogen will not only help meet Canada's GHG emission reduction target, but also make use of Canada's hydrogen industry research, existing energy sector infrastructure, fuel cell technology, and highly skilled workforce. Below, Air Products has identified ways that Canada can excel beyond its international peers with stakeholders like Air Products and the appropriate investment in production and end-user distribution projects:

- Canada has the ability now to produce 3 million tonnes of hydrogen annually. Unlike some smaller countries, Canada will not require the supply from neighboring jurisdictions to fulfill end-user demand. Canada will have the capacity to sustain its own energy needs with its variety of low-carbon energy sources and become an enabler in the hydrogen economy to countries that are not able to meet their future demands. It is noted in the BC Hydrogen Strategy that if BC captured 5% of the anticipated export market for California, Japan, China and South Korea, it could generate \$15 billion annually.<sup>6</sup>
- Canada has existing low-carbon energy sources that can be put to work in supplementing energy demands and use by-products from this energy in developing additional hydrogen supply.
- Canada has a strong energy sector that accounts for 900,000 direct and indirect jobs as of 2017. This skilled workforce and the strategic infrastructure that is already built enables Canada to pivot quickly with hydrogen and develop methods for using, transporting, and storing it.

The time to act is now. Other regions of the world are advancing hydrogen strategies and making significant government investments and policies to promote a clean hydrogen energy future. Recent announcements from the European Union have demonstrated their commitment; other jurisdictions are making smaller but focused investments, as well. Canada must take action to maintain and build upon its leadership position in many hydrogen-enabling technologies.

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<sup>6</sup> BC Hydrogen Strategy highlights the economic growth and job creation potential of exporting hydrogen from the BC coastline. Additional information about the demand forecast can be found in the [report](#).

**Recommendation 3: *The Federal Government should ensure the Canadian Hydrogen Strategy promotes a policy and taxation framework that allows for an efficient, market-based approach to growing the hydrogen sector in Canada.***

Pan-Canadian energy and transportation advancements have always been supported by government. From railways to renewables, the Canadian government has been a champion of industry and set the foundations for decades of economic progress.

Canada's hydrogen economy will require similar public sector support as it matures. Funding and policy certainty will be required to help the industry emerge as a significant economic and environmental engine for Canada. The public service and the decision-makers of the day should be emboldened by the multipartisan support hydrogen investments have seen both across Canada and globally.

As Canada looks to implement clean fuel policies and increases to the carbon tax, it will be important to provide cost-efficient pathways to reduce emissions for large emitters. One of the most efficient pathways is through hydrogen production. Therefore, to facilitate hydrogen production, Clean Fuel Standard (CFS) policies should consider the following elements:

- Ensure CFS Credit Generation that promotes carbon capture for independent hydrogen producers
- Allow for a credit earning period consistent with investment economic life (i.e. 20 years)
- Ensure long-term liability policies are established for CO2 sequestration
- Allow all forms of low carbon intensity electricity generation to create CFS credits
- Allow revenue streams to be stackable
- Maintain clean tech tax rebates
- Provide financial support for clean, affordable hydrogen production
- Invest in hydrogen hubs where regions have a competitive advantage due to supply affordability and end use benefits

**Conclusion:**

The COVID-19 pandemic has done significant damage to the Canadian economy; its effects on our way of life will not soon be forgotten. A green recovery that includes investment in the hydrogen sector can help improve the lives of Canadians from coast-to-coast.

Significant and ambitious investment from government will be required to achieve the net zero target we have committed to meeting. The government is not alone, it has industry partners like Air Products that can help build solutions together. Air Products is confident that with a robust and proactive commitment to the energy sector, Canada can be successful in meeting its Paris Agreement target, slowing the effects of climate change, supporting the recovering economy, and becoming a global leader in the hydrogen economy.

We strongly encourage the Committee to consider our recommendations as it looks to the pandemic's recovery period and beyond. These recommendations aim to cement Canada's

position as a world leader in the hydrogen economy and help achieve Canada's climate change commitments for a greener future.