



House of Commons Standing Committee on Environment and Sustainable Development
Room 410, Wellington Building, 197 Sparks Street
House of Commons
Ottawa ON K1A 0A6

24 October, 2022

Subject: Brief regarding study on Clean Technologies in Canada

SUMMARY OF RECOMMENDATIONS

- 1- Recognize that low carbon, renewable hydrogen is a key component to Canada being competitive in global energy markets**
- 2- Ensure that Canadian hydrogen development is based on lifecycle carbon intensity and carbon efficiency**
- 3- Ensure that Canada is ready to capitalize on new low carbon hydrogen investments through expedited project approval processes**
- 4- Review foreign support for low carbon hydrogen and ensure that Canada is competitive with key jurisdictions, especially the United States under its *Inflation Reduction Act***

INTRODUCTION

World Energy GH2 is pleased to provide this brief to the House of Commons Standing Committee on Environment and Sustainable Development (ENVI) to inform its study on Clean Technologies in Canada.

World Energy GH2 is developing Project Nujio'qonik, meaning "where the sand blows" in local indigenous language. This will be Canada's first commercial green hydrogen/ammonia producer created from 3 GW of renewable wind electricity. Our project paves the way for the buildout of a broader Atlantic Canadian industry that so far includes nine other projects.

Project Nujio'qonik will use energy generated by wind turbines installed on the west-coast of Newfoundland, which is one of the world's best wind-resource regions. Electrolysers in nearby Stephenville will convert the electricity to hydrogen. This hydrogen will then be coupled with nitrogen – which is abundant in the air we breathe – to form ammonium, which is stable and safe to transport domestically and worldwide. The total capital investment to be made is approximately \$12B, supporting 300 ongoing full-time jobs; 1,800 full time construction jobs, and creating 3,500 indirect jobs.

Our project is slated to be producing hydrogen in late 2024, in time to help Canada meet its commitment under an accord with Germany to supply green hydrogen. Our company recently entered into an MOU with the Qalipu First Nation. Approval from local communities is an important condition for development.

DETAILED RECOMMENDATIONS

Recognize that low carbon, renewable hydrogen is a key component to Canada being competitive in global energy markets

The European Union is the first jurisdiction in the world to bring forward a policy that would apply a carbon price equivalent to its domestic price to imports known as the Carbon Border Adjustment Mechanism (CBAM). CBAM will include energy products such as hydrogen and ammonia. As such, Canada must ensure that we are building on our natural advantages – including plentiful renewable electricity – to ensure unfettered access to this vast market that is focused on energy diversification and decarbonization.

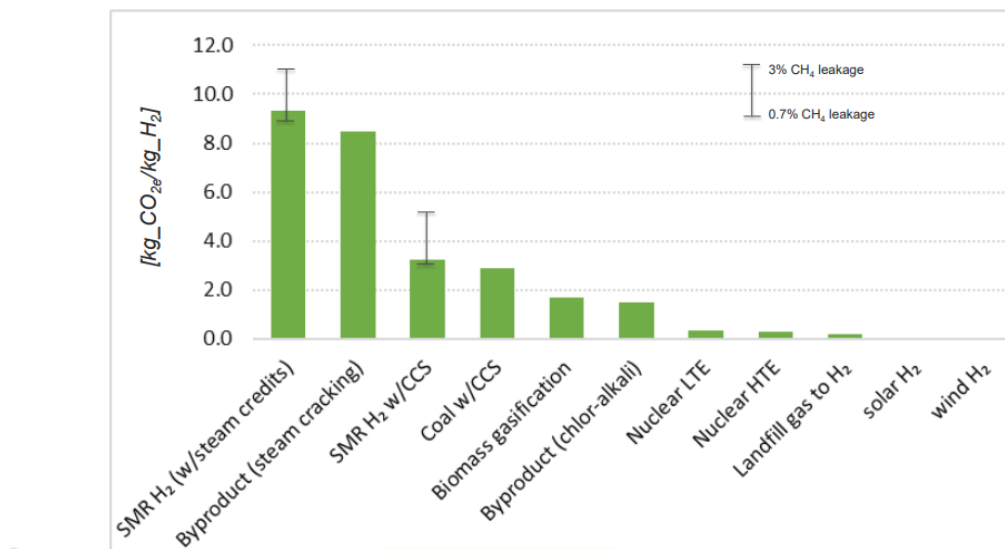
It is not just European governments that are focused on reducing their exposure to greenhouse gas emissions (GHG). Financial regulators and large corporate entities are also developing mechanisms to quantify their exposure and build in mechanisms to report on them. One of the most commonly used forms of quantifying and reporting is the Task Force on Climate-related Financial Disclosures (TCFD) accounting framework. Broadly speaking the TCFD reporting framework treats GHG emissions as a form of debt on a balance sheet – it must be quantified, labeled, and a strategy must be presented to ensure that it is managed in a proper fashion. A number of financial regulators including the United Kingdom of Great Britain and Northern Ireland's (UK) Department for Business, Energy & Industrial Strategy, and the EU's financial regulators and Canadian Securities Administrators have published or are drafting rules

to require that companies disclose their GHG emissions as part of financial disclosure reports. If we want Canadian energy producers to succeed, Canada must skate to where the puck is going and ensure that we are investing in the lowest carbon solutions – solutions that will ensure access to markets and corporate supply chains.

Ensure that Canadian hydrogen development is based on lifecycle carbon intensity and carbon efficiency.

ENVI Committee members have heard unclear and incorrect information suggesting that green hydrogen may not be the most efficient use of energy, or that it has an efficiency disadvantage when compared to hydrogen made from natural gas – commonly known as grey or blue (if carbon capture technology is used) – however, when the carbon or GHG emissions of these sources of hydrogen are accounted for this is simply not the case. The U.S. Department of Energy’s Argonne National Laboratory has found that on a well-to-gate basis that hydrogen produced from renewables has the lowest GHG emission intensity of any form of production – see the graph below for details on this study’s findings.

Well-to-gate (WTG) GHG emissions of hydrogen production pathways



Additionally, groups such as BloombergNEF have forecast that by 2030, green hydrogen will be cheaper to produce and will “outcompete blue hydrogen everywhere” – both of which make the “efficiency” of blue hydrogen from natural gas or coal largely moot since it will have a higher GHG footprint and higher costs to produce by the end of the decade. Policy in Canada should be focused on hydrogen production that will still be in use in ten, twenty and thirty years from now. Simply put, renewable hydrogen is that fuel.

Ensure that Canada is ready to capitalize on new low carbon hydrogen investments through expedited project approvals processes

Canada has a bad reputation for being able to execute on large energy projects. While large-scale fossil fuel project will continue to be controversial, it should be clear that clean energy projects, such as installing wind farms, and producing renewable hydrogen, should be prioritized so that we can fight climate change accordingly.

Our country has committed to a 40-45% GHG reduction by 2030. We have also committed to helping other jurisdictions in their fight against climate change and ending reliance upon unstable energy producing countries, such as through the accord between Canada and Germany on green hydrogen.

Simply put, Canada will not meet these important commitments without expedited approval processes for large scale clean energy projects.

In addition to the importance of meeting our targets, Canada has an opportunity to capitalize as a first mover enabling green investments. Supply chain shortages may continue for the foreseeable future, so providing certainty around project approvals will allow for companies in Canada to order the equipment they need, and establish a critical mass of clean energy investments here.

Review foreign support for low carbon hydrogen and ensure that Canada is competitive with key jurisdictions, especially the United States under its *Inflation Reduction Act*

Under the US Inflation Reduction Act (IRA), particularly Tax Credit 45V “the Credit for production of clean hydrogen” producers of low-carbon hydrogen can receive up to \$3.00 USD for every kilogram of hydrogen produced in the U.S. This drastically lowers the cost of producing low-carbon hydrogen in the U.S., setting Canadian low-carbon hydrogen like World Energy GH2’s Project Nujio’qonik, at a severe competitive disadvantage.

Canada’s *Hydrogen Strategy* notes that there is a clear need to develop long term policies that will address both the supply of low carbon hydrogen and the economics of production and end use of hydrogen. The American *Inflation Reduction Act* addresses both issues and helps even small projects become economical. Canada must follow suit, implementing policies that are similar to the US 45V tax credit for the Canadian hydrogen industry to expand and succeed - creating jobs domestically and greater energy security globally.

CONCLUSION

As the committee works to write its final report on the state of clean technologies in Canada, World Energy GH2 hopes that the above will help the committee and Canada avoid locking in higher emitting and eventually higher cost energy solutions. We strongly encourage the committee to consider the higher carbon efficiency, lower carbon intensity, and economic viability of green hydrogen given the focus on decarbonization in today’s world.