

May 5, 2021

The House of Commons
Standing Committee on Natural Resources
Ottawa, K1A 0A6

Dear Committee Members:

On behalf of the Canadian Nuclear Association (CNA), I would like to thank you for the opportunity to provide our input into the Standing Committee on Natural Resources' study on the low-carbon and renewable fuels industry in Canada.

The CNA is the voice of the Canadian nuclear industry. We have nearly 100 members representing the entire spectrum of the nuclear industry, from uranium mining and nuclear power utilities to engineering, service and manufacturing companies. Our members include some of the most innovative companies in the nation and our industry is committed to helping Canada reach its climate change targets.

If Canada (and, indeed, the world) is to meet its goal of net-zero emissions by 2050, a clean energy transition is essential. The Canadian nuclear industry is central to helping Canada achieve this. The industry has already played a prominent role by helping Ontario shut down its coal fired electricity generation and innovative technologies in the form of small modular reactors (SMRs) will enable further decarbonization, not only in the on-grid electricity system but across the resource sector and in remote communities.

As you know, at the recent virtual Leaders Summit on Climate in Washington DC, Canada was among world leaders who announced very aggressive climate emissions targets to address the climate crisis. To meet those climate goals, like minded countries such as Canada, the U.S., United Kingdom, France and Japan all included nuclear in their climate plans.

The European Union is moving to include nuclear as a green technology to enable their efforts to meet their climate goals.

Canada's inclusion of nuclear in the federal government's Climate Change Plan, Hydrogen Plan and SMR Action Plan to meet climate goals enable nuclear to also support the production of other clean energy technologies such as green hydrogen production and renewables to meet net zero-emissions targets.



The inclusion of nuclear in the Strategic Innovation Fund, Net Zero Accelerator program and Clean Infrastructure strategy, in addition to tax credits for green initiatives announced in the budget will go a long way to meet Canada's climate, innovation and economic goals.

Nuclear power generation is an important component in meeting Canada's net zero emissions targets. It also supports renewable and hydrogen energy systems.

Hydrogen is seen as an essential part of this transition and as such there is a global competition to develop a hydrogen strategy and market. Nuclear power generation will be able to produce significant amounts of power to generate green hydrogen. As one of the leading producers of hydrogen, Canada is well placed to lead but we must act quickly and in a coordinated manner, which includes coordinating federal policies and programs to ensure they are complementary. The Government of Canada has recognized this through its Hydrogen Strategy and the CNA is pleased to be actively involved in this crucial initiative.

Hydrogen is an abundant fuel that, if created from non-emitting sources, can replace fuels in a variety of economic sectors including transportation, industry, and resource development. By combining Canada's existing industrial advantages, our low-cost, reliable non-emitting electricity, and our existing expertise in hydrogen, Canada has the potential to be a first mover in the large-scale generation and application of hydrogen giving the country competitive advantages in research and development, technological innovation, and export markets. These advantages could easily spill over into other industries further strengthening our economy.

Large volumes of hydrogen will be needed for Canada to become a leading, non-emitting source of energy. This need matches the ability of the nuclear industry to provide large volumes of hydrogen on a sustained and reliable basis. There is an opportunity for Canada to lead in the necessary coupling of nuclear and hydrogen to produce those large volumes. Canada has a unique opportunity to do that by leveraging the existing nuclear supply chain to serve hydrogen power's engineering, manufacturing, and field service needs. In addition, emerging small modular reactor technologies have the potential to play a significant role in developing the hydrogen economy.

Electricity and hydrogen can complement each other. Off peak electricity can be used to create hydrogen, and hydrogen can be used as a form of electricity storage. This can make a more efficient electricity system thereby lowering costs and providing resiliency. In addition, hydrogen has the potential to be deployed in sectors where electricity may not be as effective.

This can lead to significant opportunities to reduce GHG emissions in the transportation, heavy industrial and resource extraction sectors through the capacity to adopt a combination of high-temperature heat and electrification. That can only be achieved if the hydrogen, heat and electricity are generated from non-emitting sources.


Canada has been investing significant time, money, and resources over the past 20 years to create a largely non-emitting electricity sector. There is an opportunity to capitalize on that investment to generate low carbon hydrogen that can be applied to the transportation, industrial and resource sectors to further the energy transition and drive down emissions. The addition of SMRs will enable hard-to-decarbonize industry to produce clean heat, electricity and hydrogen (i.e., “tri-generation”) and contribute to Canada’s GHG-reduction targets.

Canada is a large, diverse country with equally diverse natural resources and energy systems. How hydrogen is generated most efficiently will vary by province in the short term. Ultimately, the CNA believes nuclear power will prove to be the best available source of large-scale, reliable, emissions-free hydrogen, but this will take time to emerge and government support both financially and through policy initiatives is essential to ensure this becomes a reality.

The CNA fully supports the development of a unified federal hydrogen strategy and is pleased to be an active participant in this important initiative. We encourage the government to continue to include nuclear technologies in their climate action plan to support renewable energy technologies as well as to produce clean hydrogen.

Thank you for the opportunity to provide our input.

Sincerely,



John Gorman

President and Chief Executive Officer
Canadian Nuclear Association