



Natural Resources
Canada

Ressources naturelles
Canada

Ottawa, Canada
K1A 0E4

OCT 16 2013

Mr. Greg Vezina
Chairman and CEO
Hydrofuel Inc.
P.O. Box 37071 #B-7,
1240 Englington Ave. W.
Mississauga, ON. L5V 0B6

Dear Mr. Vezina,

Thank you for your correspondence of July 20, concerning the article, "*Dual Fuel Strategy: An Energy Transition Plan*", which has been forwarded to Natural Resources by the Honourable Leona Aglukkaq, Minister of the Environment, for consideration. The Honourable Joe Oliver, Minister of Natural Resources, has asked me to reply on his behalf.

Natural Resources Canada (NRCan) is the federal department responsible for the sustainable and economic development of Canada's vast natural resources including its fossil energy, renewable energy, and nuclear energy resources. Through a number of funding programs for technology research, development, and demonstration, NRCan supports clean energy and renewable energy technology development in the private sector, and also develops innovative clean energy technologies within its own research and development division, CanmetENERGY.

NRCan is aware that attention is increasing worldwide on anhydrous ammonia as a carbon-free fuel and clean energy currency. A well-recognized benefit from the production of ammonia using low-cost hydrocarbons, such as natural gas or coal, is the pure carbon dioxide co-product which can be used for enhanced oil recovery or for carbon sequestration.

Since 2003, CanmetENERGY has been engaged in research to develop direct ammonia fuel cells for decentralized zero-emissions electricity production and combined heat and power applications. The research team has also studied the techno-economic feasibility of renewable anhydrous ammonia from electricity as a zero-carbon fuel, industrial chemical, and energy carrier. CanmetENERGY has ongoing in-house research and development on conversion pathways and value chains for methanol, natural gas, and ammonia derived from biomass feedstocks.

Canada

If you would like further information on CanmetENERGY's research in this area, I invite you to contact Dr. Andrew McFarlan, the principal researcher on direct ammonia fuel cells and renewable ammonia at (613) 995-2376 or at Andrew.mcfarlan@nrcan.gc.ca.

I appreciate your interest in advancing the development toward sustainable clean energy solutions for Canada's future.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Frank Des Rosiers", followed by a long horizontal line extending to the right.

Frank Des Rosiers
Assistant Deputy Minister
Innovation and Energy Technology
Natural Resources Canada