Submission to the Standing Committee on Natural Resources and the Environment concerning the Study of Clean Technologies in Canada.

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It is fascinating to note that your Committee has recently studied

- . Fossil Fuel Subsidies and
- . Nuclear Waste Governance

and has now arrived at a study of Clean Technologies in Canada.

I congratulate the Committee for the subjects on which it has chosen to focus over the past several months. They are key elements in achieving a successful political response to the issue of Climate Change in Canada.

Where is Canada at in undertaking an effective policy framework on Climate Change?

One of the most important issues is timing. Effective policies must be policies that can be made real in a short time-frame.

Subsidies to oil and gas companies to develop and implement Carbon Capture and Storage are neither technologically well-developed, nor ready for quick development.

The same is true of publically-financed support for the development of small-scale nuclear reactors. Again, the history of nuclear reactors of <u>any</u> scale has already demonstrated they are too costly to build and operate, too dangerous to supply to locations such as "remote communities", and, in the form now promoted by the nuclear industry and its associated industry supporters, SMRs would generate more nuclear waste per kilowatt hour than our large old CANDUs.

There is also the possibility that, while the oil and gas sector may muse about having SMRs supply energy for oil and gas production, the linking of nuclear with oil and gas production would simply be so dangerous as to approach wilful stupidity.

The Committee's study of Canada's Nuclear Waste Governance demonstrated the many unanswered questions about nuclear waste, and the fact that Canada mirrors other countries in struggling with both policy and practice concerning existing nuclear waste. From uranium mining, to "advanced" nuclear fuels, to development and installation of nuclear waste practices and facilities, nuclear energy is an emitter of both radionuclides and carbon. Further, in recent months Ukraine has suffered a demonstration that "peaceful" nuclear projects can be turned into a fearsome part of a determined aggressor's war tools.

On the subject currently studied by the Committee, the outlook for Clean Technologies in Canada is quite promising. With appropriate public support and clearly-shaped policies, energy-conservation, particularly in buildings and the transportation sector is ready for implementation.

So much of what needs to happen quickly can be put in place by electrifying major energy sources across Canada, and most of that can be supplied by renewable technologies -sources like solar, wind and geothermal, combined with existing hydro power. Canada is fortunately capable of quickly adopting clean technologies and providing the backup storage systems that would make a very clean provision of energy across the country.

The key to success is clear plans combined with quick implementation. This is a theme echoed by the finest energy researchers around the world. Neither Carbon Capture and Storage, nor "advanced" SMRs, can offer the lower costs, rapid implementation, and clean operation of a renewably-based electric system.

But we need to move fast. For example, Hydro Quebec is currently trying to establish long-term contracts for sale of its hydropower to New York City. All of Canada should be concerned, but most particularly, Ontario should be super-concerned.

I recommend the two attached articles to Members of the Committee.