Comment on Nuclear Waste

A better term than 'nuclear waste' would be ***spent nuclear fuel***. Most of today's large, water-cooled reactors use only 5-10% of the available fuel before the reaction runs its course and the residual fuel is laid aside, cooled, and safely stored in dry casks near the site. Many of the next generation small modular reactors (SMRs) - within ten years - will be capable of using this spent, stored fuel and extracting 90% of the remaining fuel in the nuclear reaction. It must be kept in mind that there is still a lot of energy in 'nuclear waste' that can be harnessed for low-carbon energy which the world desperately needs. So, let's not "throw out the baby with the bath water". Please disregard the ill-informed environmental 'hype' that everything nuclear is dangerous.

I recently indicated to the Canadian Nuclear Safety Commission (CNSC) my support for New Brunswick Power's 25-year license renewal for its CANDU nuclear reactor at Point Lepreau. My interest in nuclear energy started when I was a University of Alberta summer student working at Eldorado's mine site, mill and concentrator at Beaverlodge, northern Saskatchewan in 1965. I experienced the operation of uranium oxide extraction as a millwright assistant underground, and as a helper in the grinding, flotation, and filtration circuits of the mill.

The IPCC has elevated its warning that the world must transition to low carbon energy in the next ten years to avoid a climate catastrophe. Nuclear power is an energy source with one of the lowest greenhouse gas footprints and offers a wonderful potential in that transition.

For the past 15 years as a retired professional engineer with an extractive metallurgy background in the aluminum smelting industry, I have intervened in opposition to several large British Columbia fossil fuel energy proposals in the north coast region where I live including a twinned crude oil pipeline to a proposed oil export port in Kitimat. I welcome the opportunity to support a promising nuclear energy future for Canada.

Since Germany has shut down most of its nuclear power, the country is now reconsidering that decision as the shortfall from its domestic wind and solar energy output has forced an increased reliance on natural gas and coal-fired energy. Germany's energy options now rely more heavily on Russian oil and gas supplies at a time when the Russian invasion of Ukraine has seriously complicated this dependence.

Canada has very large uranium resources and nuclear power is necessary if we are to remain self-sufficient in low carbon energy. Germany's experience is one we would be very unwise to repeat.

Next generation Small Modular Reactors can augment the larger conventional nuclear reactors and much more efficiently reuse the spent CANDU fuel already stored on the New Brunswick Power site. The Moltex stable salt reactor employing 'waste to stable salt' processing also proposed at Point Lepreau would be a step in the right direction for Canada's low-carbon energy self reliance.

While it is important that spent nuclear fuel be stored safely, please ensure that nuclear energy be retained as a very important energy source and that there remains a place for existing spent nuclear fuel to be used in next generation modern SMRs.

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