

## Open Letter

### **Nuclear: A Made in Canada Climate Change Solution.**

Canadians for Nuclear Energy, a grassroots group of environmentalists, health and labour advocates, is joined by climate scientists and prominent figures from around the world in supporting Canadian nuclear energy as a keystone technology for climate mitigation and as a backbone of a green recovery in the aftermath of COVID-19.

Nuclear's role in fighting climate change should not be controversial. In 2018 the IPCC made it clear that the world needs to dramatically increase nuclear energy to meet our climate commitments. All four of the decarbonization pathways examined by the IPCC see a prominent role for nuclear power. Three pathways call for an increase of between 150-501%.

Nuclear power emits no CO<sub>2</sub> or air pollution. Its entire lifecycle carbon emissions are as low as wind and one quarter that of solar all without requiring battery or fossil fuel back up.

Nuclear has a proven track record of displacing fossil fuels. In Ontario nuclear energy provided 90% of the power needed to phase out coal. Air quality improved dramatically, with smog days dropping from 53 in 2005 to zero in 2014. The Ontario Power Authority has called this the single greatest greenhouse gas reduction measure in North America.

Beyond the health benefits of zero air pollution electricity, our nuclear fleet has played a vital role in fighting the COVID-19 pandemic. We produced enough Cobalt-60, a medical isotope specifically made in CANDU reactors, to sterilize 20 billion surgical gloves, masks or COVID swabs in 2020.

Energy density is the secret to nuclear energy's environmental benefits. Gram for gram nuclear fuel contains a million times more energy than fossil fuels. As a result nuclear requires a tiny fraction of the mining, processing, infrastructure and land compared to every other source of energy including renewables. This energy density also means that the amount of waste created is very small. All of the spent nuclear fuel produced in Canada since the 1960's would fit inside 1 hockey rink piled up 30 feet, or less than 1 telephone pole high. Nuclear is the only energy source that fully isolates its waste from the environment and our spent nuclear fuel has been safely stored without harm to a single person in over 60 years.

Canada is well positioned to be a climate leader with our homegrown nuclear technology, skilled nuclear workforce and experienced regulatory agencies. It's also good for our economy. Nuclear plants across Canada employ between 1000-4000 full time workers each, most of them in high quality, skilled, union jobs. In total 60,000 Canadians are employed across our Nuclear supply chain from our state of the art uranium mining to the skilled trades people and engineers working at our nuclear generating stations. Canadian nuclear is 95% made in Canada meaning

almost every dollar spent on fighting climate change with nuclear stays within the Canadian economy. This is truly unique.

It's time to spread Ontario's nuclear success story to high emitting provinces like Alberta, Saskatchewan and Nova Scotia. Small modular reactors (SMR) in particular will have a vital role to play in decarbonizing grids in less populated provinces and replacing air polluting diesel generation in rural and remote communities as well as in sectors like mining. The SMR roadmap is an exciting step in that direction.

We believe that Canada finds itself at a crossroads as it emerges from the economic challenges of COVID-19 into the ongoing crisis of climate change. In the context of the IPCC call for increasing nuclear energy, there is a highly effective made in Canada solution with a demonstrated track record of rapid and deep decarbonisation. It's time to build on Canadian nuclear expertise and use nuclear energy to its full extent as a vital part of Canada's climate change response.

Sincerely,

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