



## Coalition for Responsible Energy Development in New Brunswick

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To: Environment and Climate Change Canada

Via Email [ECD-DEC@ec.gc.ca](mailto:ECD-DEC@ec.gc.ca)

From: Coalition for responsible Energy Development – New Brunswick (CRED-NB)

Date: April 15, 2022

Re: A clean electricity standard in support of a net-zero electricity sector: discussion paper

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CRED-NB is a coalition of 10 core groups, 10 champion groups and more than 100 individuals working toward a nuclear-free renewable energy future in New Brunswick.

In your draft discussion paper, the Annex A - Cost and technological readiness of important technologies contains inaccurate and highly misleading information about SMNRs (SMRs). We see that the source for your information is the IEA, 2021. Every SMR globally is at a different level of technology readiness, with a different lead time to build. It is important that your document references the Canadian situation. Below we have provided information for Canada.

The maximum size for an SMNR in Canada is 300 MW electricity, not 600 MW as the chart indicates. For example, the Moltex SMNR Waste-burner unit planned for New Brunswick is at this maximum 300 MW size.

The 'lead time' for an SMNR indicated on your chart of 6 years is completely unrealistic. Only one SMNR in Canada is promoting its pitch 'target' as 2028, the GE Hitachi planned for the OPG Darlington site.

None of the SMNR models planned for Canada have been successfully commercialized. Reasonable estimates allowing for the challenges of new technology, especially given past history of the nuclear field, range up to two decades, if successful. We suggest 20 years is more appropriate for SMNRs overall.

The fuel type indicating simply 'uranium', is only applicable to the GE Hitachi model as all other SMNRs being proposed and funded require enriched uranium, not currently available in Canada.

The Technology readiness rating for SMNRs of 6-9, is wildly non-factual. This rating would mean SMNRs are between, "Prototype proven at scale in conditions to be deployed" and "Solution is commercially available, needs evolutionary improvement to stay competitive". All currently proposed SMNRs in Canada are still computer models, not off the drawing board and do not physically exist even in an early prototype form. The more appropriate TRL, depending on the specific model, is 1 or 2.

### **Additional comments:**

This discussion paper promotes SMNRs as a source of 'clean' electricity, whereas their energy production is not 'clean' at all, given the radioactive emissions and the radioactive waste generated and the radioactive decommissioned materials. SMNRs are a dirty, dangerous, distraction from truly clean solutions to our energy needs by rapid deployment of existing reliable renewable energy with storage and smart grid technology and by implementing energy efficiency solutions.