



# SMRs in Canada

## Small Modular Nuclear Reactors

May 31, 2023



# Ontario Clean Air Alliance

- Formed in '97 to call for 100% ON coal phase-out
- Then turned to 100% renewables – no nukes no gas
- Conservation, water power/storage from QC, wind, solar, storage including bi-directional EV batteries
- Lift offshore moratorium on the Great Lakes



# Civil Society Opposition to SMRs

- 131 Canadian civil society orgs and Indigenous communities have signed statement opposing gov't funding of SMRs  
<https://cela.ca/statement-on-small-modular-reactors/>
- Nuclear energy is not green, not clean, too costly and too slow to build.



# Nuclear power is in trouble




- In mid '90's, 17% of global share of electricity
- Today it's under 10% of global share
- Aging infrastructure with deadly waste and no solution
- Risks: Chernobyl and Fukushima
- Bankruptcies – Areva, Westinghouse, ON hydro
- Can't compete with lower cost renewables



# Canada to the rescue



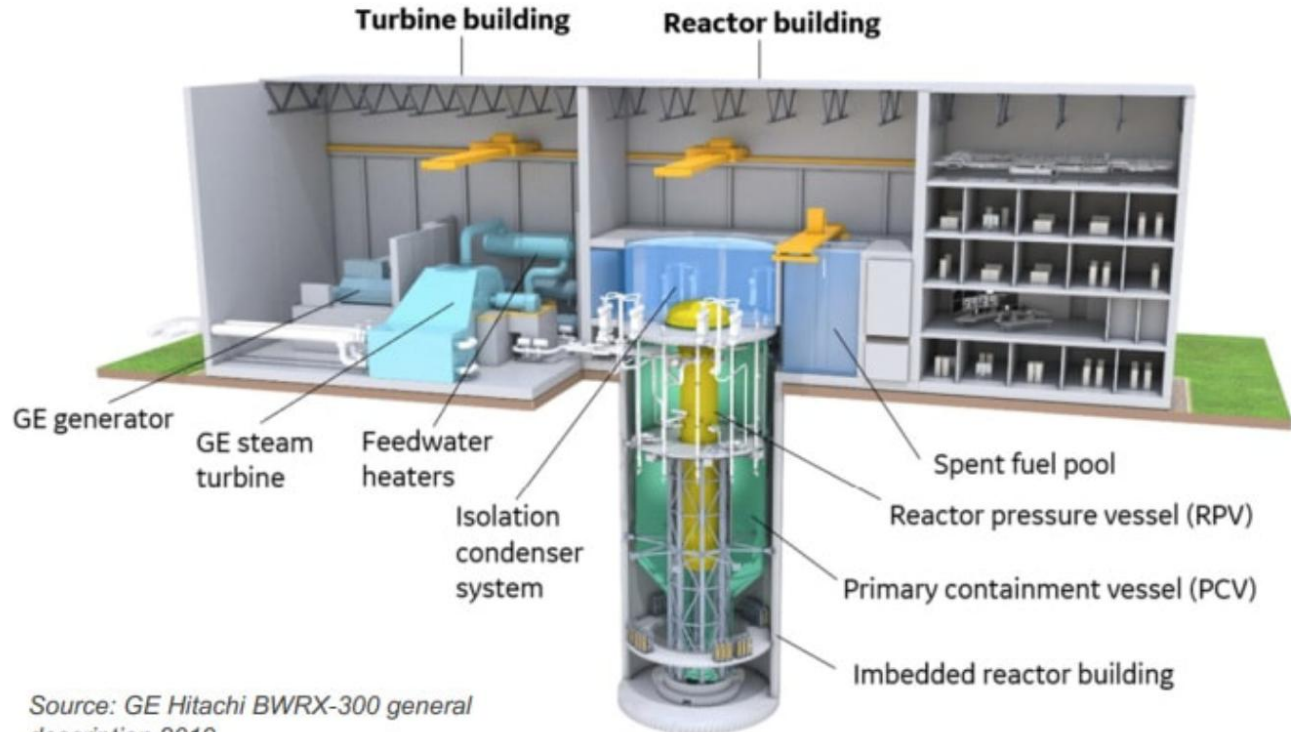
- In 2017, the feds gave Canadian Nuclear Assoc. \$1 M to map out plan to revive the industry
  - 2018 – released *Cdn. Roadmap for SMRs* to expand SMRs throughout Canada, including remote Indigenous communities
  - Strategy was to convince Cdns SMRs are a climate solution
  - Roadmap urged fed and prov gov'ts to fund SMRS; exempt SMRs from fed. IA; merge waste streams; shield operators and suppliers from liability (as are CANDUs)
  - ON, NB, SK and AB have since signed MOUs to promote SMRs
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A vertical strip on the left side of the slide shows a collage of Canadian banknotes, including a 20-dollar note and a 10-dollar note, with the words 'BANK OF CANADA' and 'BANQUE DU CANADA' visible.

# Funding Committed by Cdn gov't

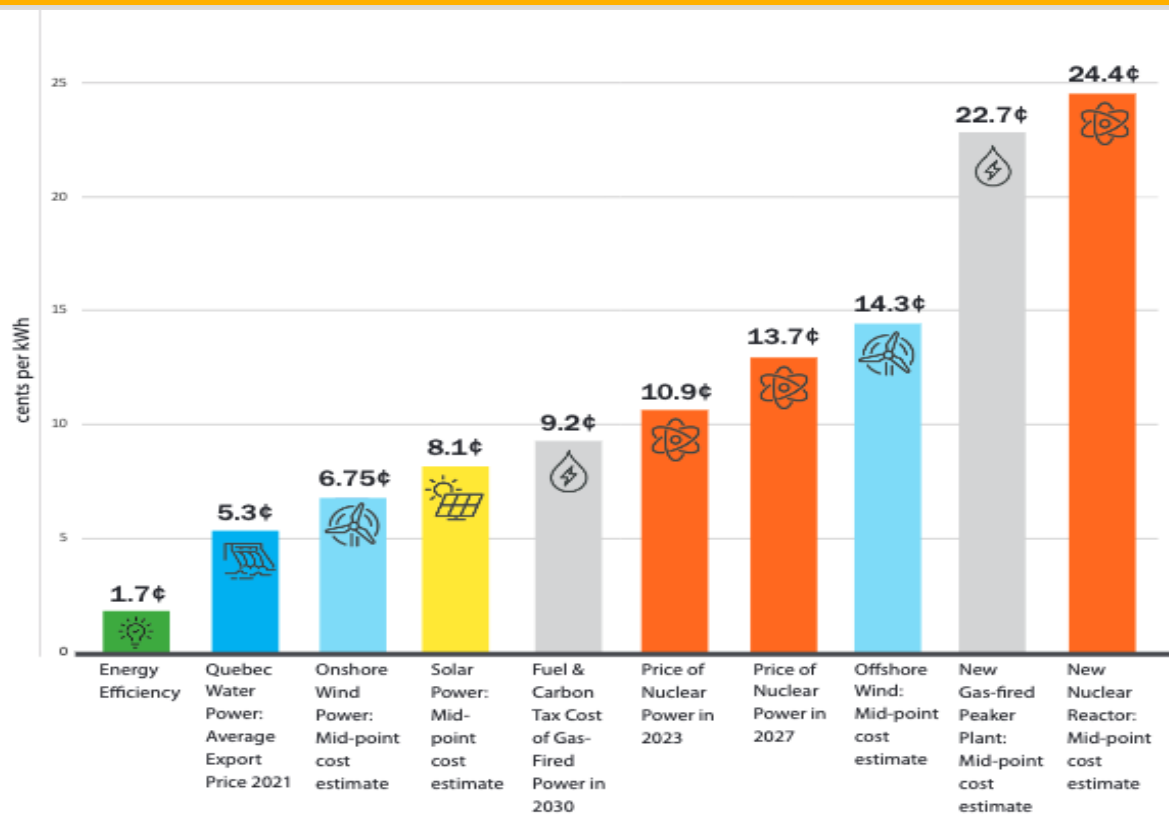
- The Dept. of Innovation, Science and Economic Development Canada (ISED) began flowing funds directly to SMR vendors in Oct. 2020
  - \$20 M to Terrestrial (US)
  - \$50.5 M to Moltex (UK)
  - \$27.2 M to Westinghouse (US)
- Recent fed. budget gave tax credits to nuclear developers
- Can. Infrastructure Bank (CIB) gave a \$970 M low-interest loan to OPG for the first of 4 SMRs in the GTA – GE Hitachi (US-Japanese). If built these BWRX-300 SMRs would be the first grid-connected SMRs in the world

# BWRX-300 – GE Hitachi



Source: GE Hitachi BWRX-300 general description 2019

# COST / kWh (US)







# Dirty Dangerous Distractions

- IPCC says we need to reduce emissions by almost half by 2030 to limit temp. rise to 1.5 degrees.
- Nuclear 10 – 15 years; wind and solar 1 year
- Untested – powerpoint reactors, not commercially viable
- Not “clean” – nothing clean about radioactive pollution (ie. tritium), accidents and long-lived waste (1 mill. years)
- Expensive – 3-4 x more than renewables
- Proliferation concerns
- Exempt from federal EA law (IA)
- CNSC captured regulator



After **50 years** of **nuclear** operations, Canada still has **no long-term storage solution** for the **mountain of radioactive waste** that the industry has created



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# The Solution

- Instead of spending on SMRs, Canada should support only renewables and energy efficiency technologies which are socially acceptable, cost effective, create more jobs, and scalable now.
- Support communities experiencing harmful impacts of our energy choices across Canada and globally. (e.g. mining and waste)







# **SAY NO to nuclear & YES to renewables and conservation**

**Tell Federal and Provincial political leaders to  
invest in renewable power, not high-cost,  
high-risk nuclear reactors.**

**[NoGTAreactor.ca](http://NoGTAreactor.ca)**

