



*Canadian Hydropower
Association
Association canadienne
de l'hydroélectricité*

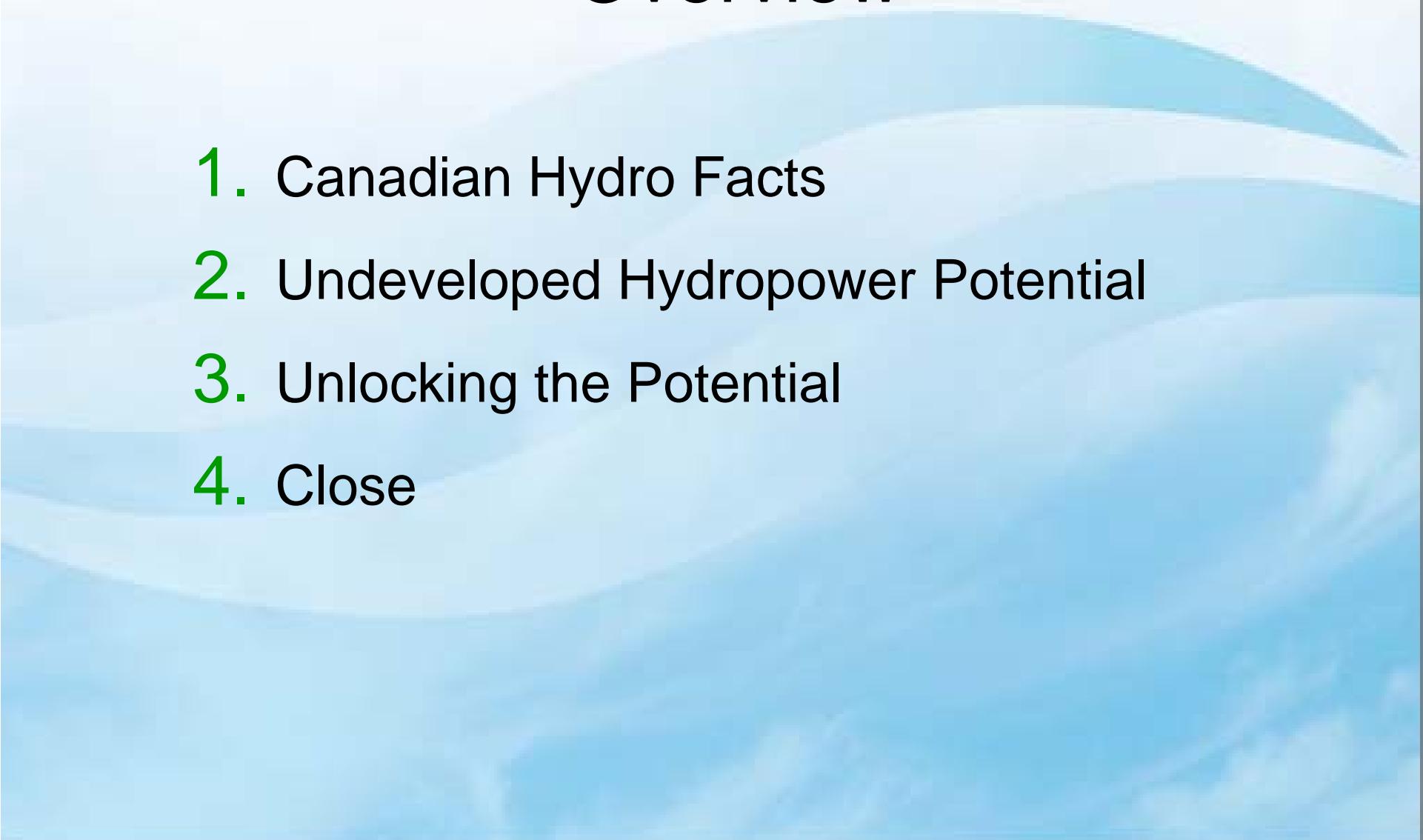
Hydropower – North America's Potential

**Plenary Session 3: Proven Clean Power Generation
Washington Energy Summit
Washington, D.C.**

**Jacob Irving
President, Canadian Hydropower Association**

Tuesday, September 27, 2011

Overview



1. Canadian Hydro Facts
2. Undeveloped Hydropower Potential
3. Unlocking the Potential
4. Close

Canadian Hydro Facts

- 129 year history
- Installed capacity over 74,000 MW
 - 4th Largest in world
- 355 TWh/year
 - 2nd Largest in world
- 40 TWh/year exported to USA
 - Each Hydro TWh exported to the USA can displace between 500,000 and 1,000,000 tons of CO₂



Canadian Hydropower
Association
Association canadienne
de l'hydroélectricité

The Hydro Advantage

- Only renewable with energy storage capacity
- Enables new variable renewables such as wind and solar power
- Makes electric vehicles clean and renewable
- Competitive, stable electricity price
- Best long term investment – Helped build Canada's strong industrial base

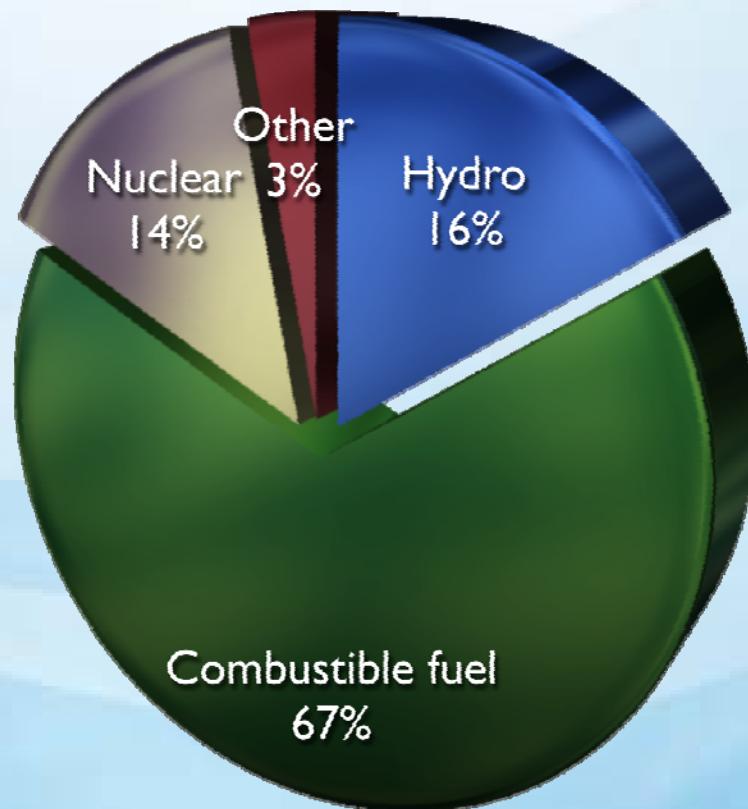
Sustainable Development

- Canadian hydropower projects are developed in an environmentally and socially sustainable manner in keeping with evolving science and societal values. Continuous improvement is pursued and has been achieved.

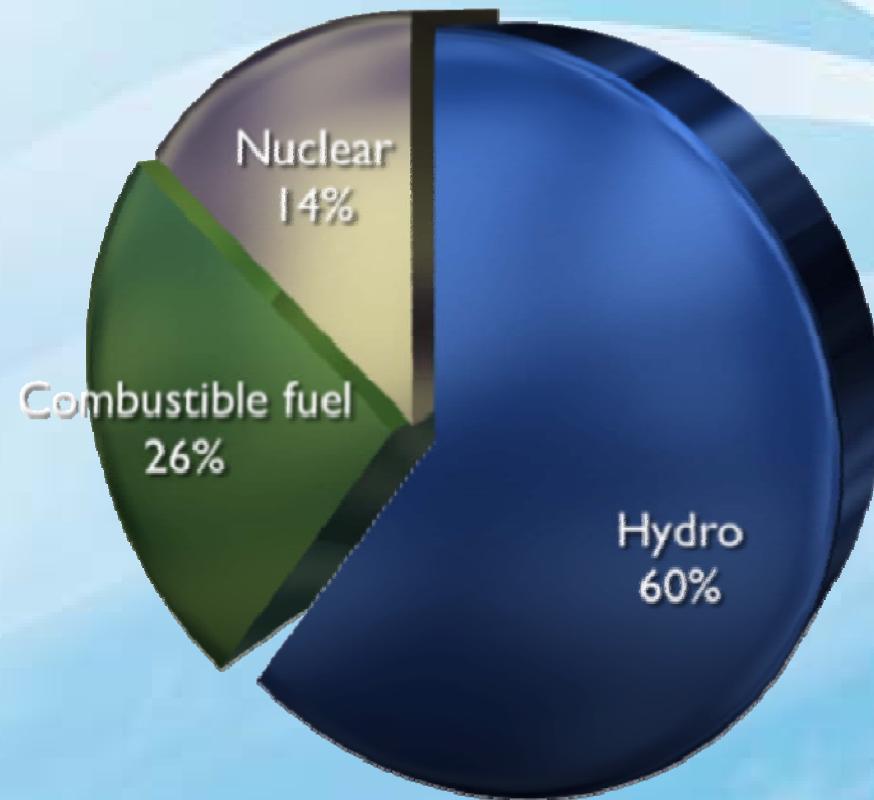


- Canadian hydropower is regulated federally and provincially – strict environmental protection
- It takes 8-14 years to build a hydro project in Canada compared to 3-5 years for a thermal project
- Formal environmental impact assessments and public consultation processes
- Low impact design: flooding, operation, fish, land, etc.
- Particular consideration to aboriginal peoples – hydro projects should seek to offer a net benefit

Electricity Globally

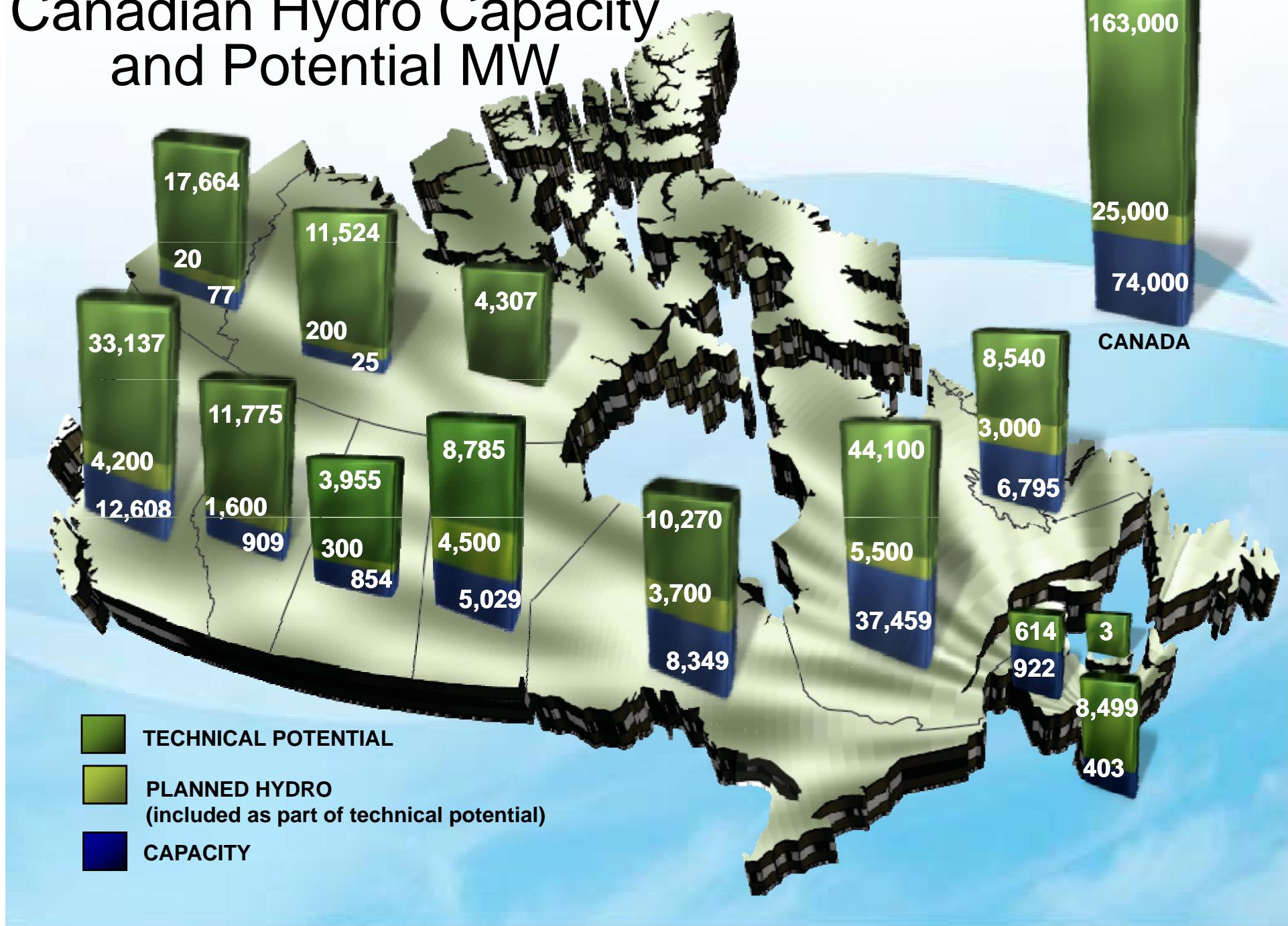


Canadian Electricity



Canadian Hydropower
Association
Association canadienne
de l'hydroélectricité

Canadian Hydro Capacity and Potential MW



Summary of Canadian Ocean Tidal, Wave and Kinetic Technical Potential

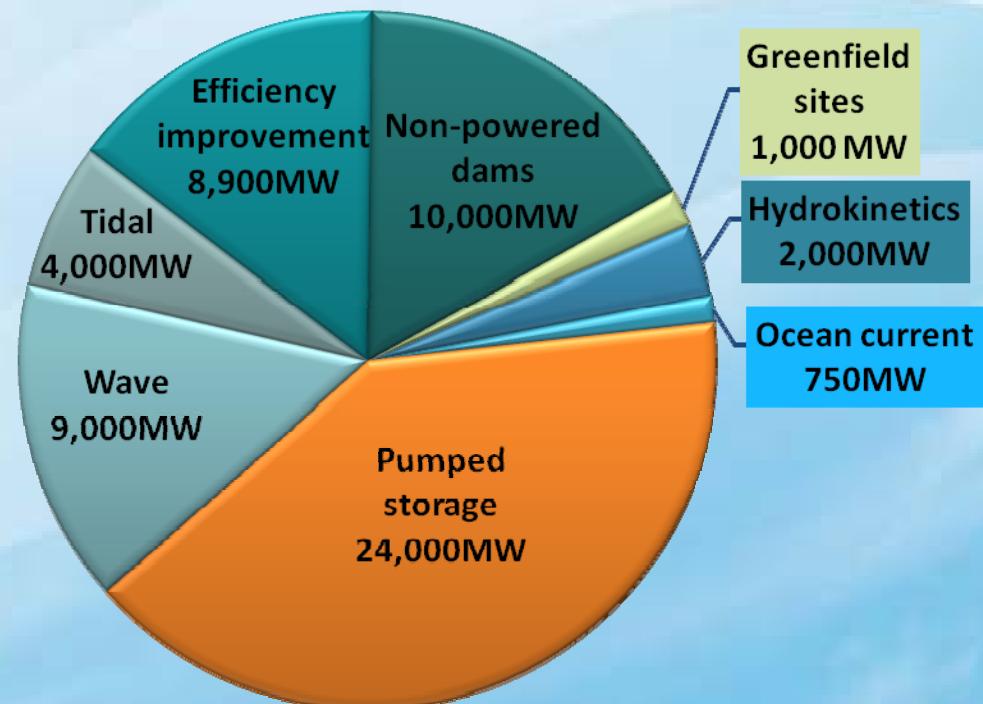
Tidal	42,000 MW
Wave	29,000 MW
Kinetic	Unknown 2,500 MW by 2050
TOTAL	73,500 MW

Future availability – United States

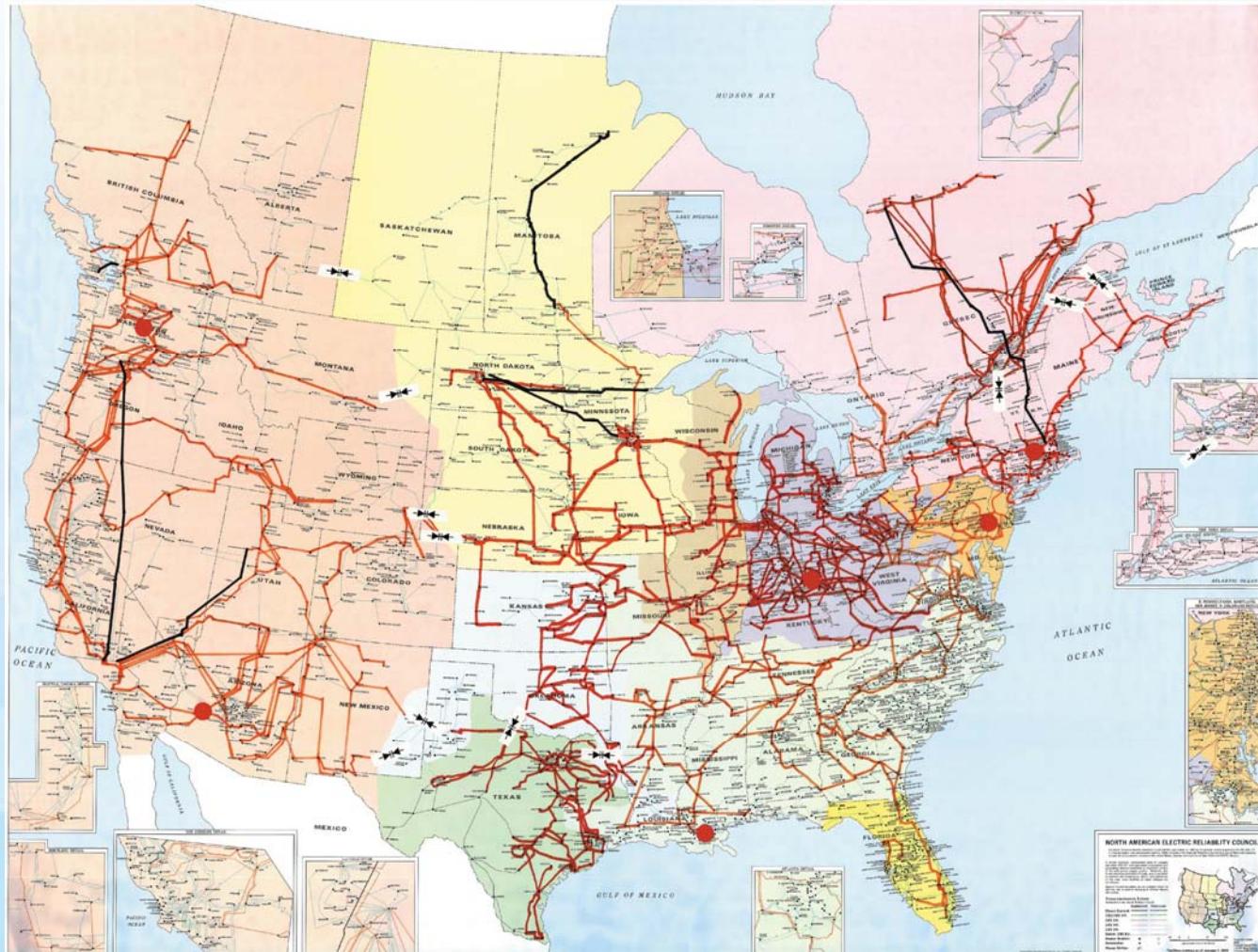
With the right policies in place, the U.S. could add **60,000 MW** of new hydro capacity by 2025.

New assessments are showing this could be a conservative estimate.

Hydro Capacity Growth by Technology



US/Canadian Transmission System is Strongly Integrated North-South



Canadian Hydropower
Association
Association canadienne
de l'hydroélectricité

Unlocking North American Hydro Potential

- More efficient regulatory policies that protect the environment and encourage the development of hydropower
- Strong climate policy e.g. price on carbon or incentives
- Position hydropower development as economic engine and employment generator
- Position hydropower as key to North American Energy independence



Canadian Hydropower
Association
Association canadienne
de l'hydroélectricité

Unlocking North American Hydro Potential

- Better recognition of Hydropower as a North American resource
- Communicating Hydropower better through its end use
- Help customers tell our story
- Greater North American adoption of electric vehicles powered by North American clean & renewable energy



Canadian Hydropower
Association
Association canadienne
de l'hydroélectricité