



Nuclear Power in Canada: Present & Future



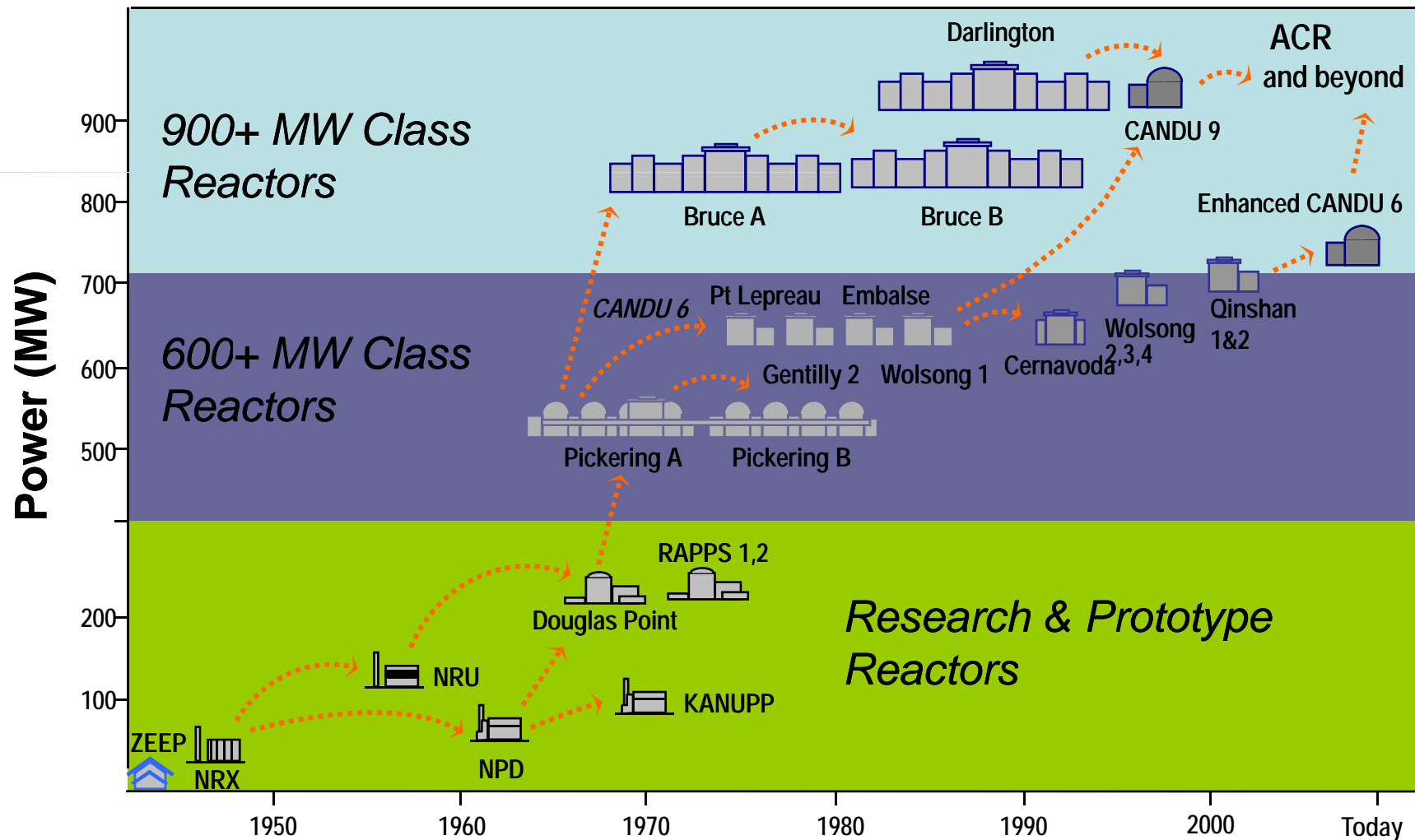
Canada's Nuclear Industry

- 60 years developing nuclear technology, 46 years generating electricity from nuclear plants.
- Nuclear technology development has been led by the Government of Canada through Atomic Energy of Canada Ltd. (AECL).
- Canada is one of the world's largest Uranium producers.
- Nuclear industry is a \$6.6 Billion per year industry and supports 71,000 Canadian jobs.
- Canadian produced medical isotopes are used in 50,000 procedures worldwide on a daily basis.
- Nuclear power produces 15% of Canada's electricity and is used currently in three provinces.
- Most of Canada's nuclear industry is in the public sector although there is a significant trend towards more private involvement.



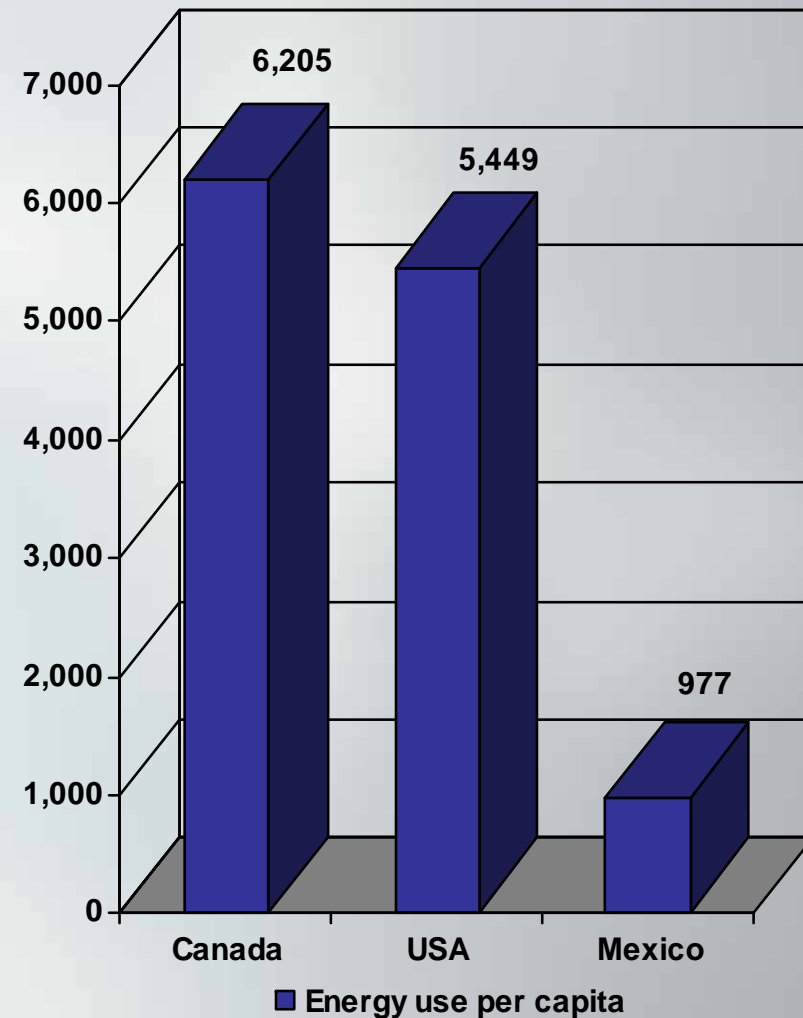
Canada's Nuclear History

Source: AECL

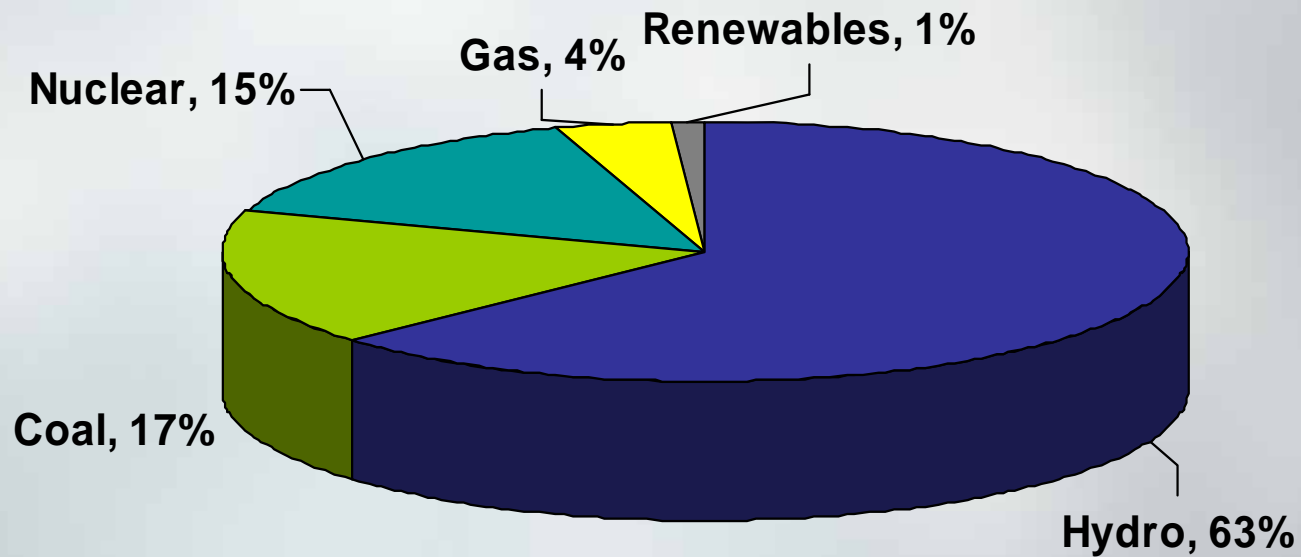


Energy Challenges Facing Canada

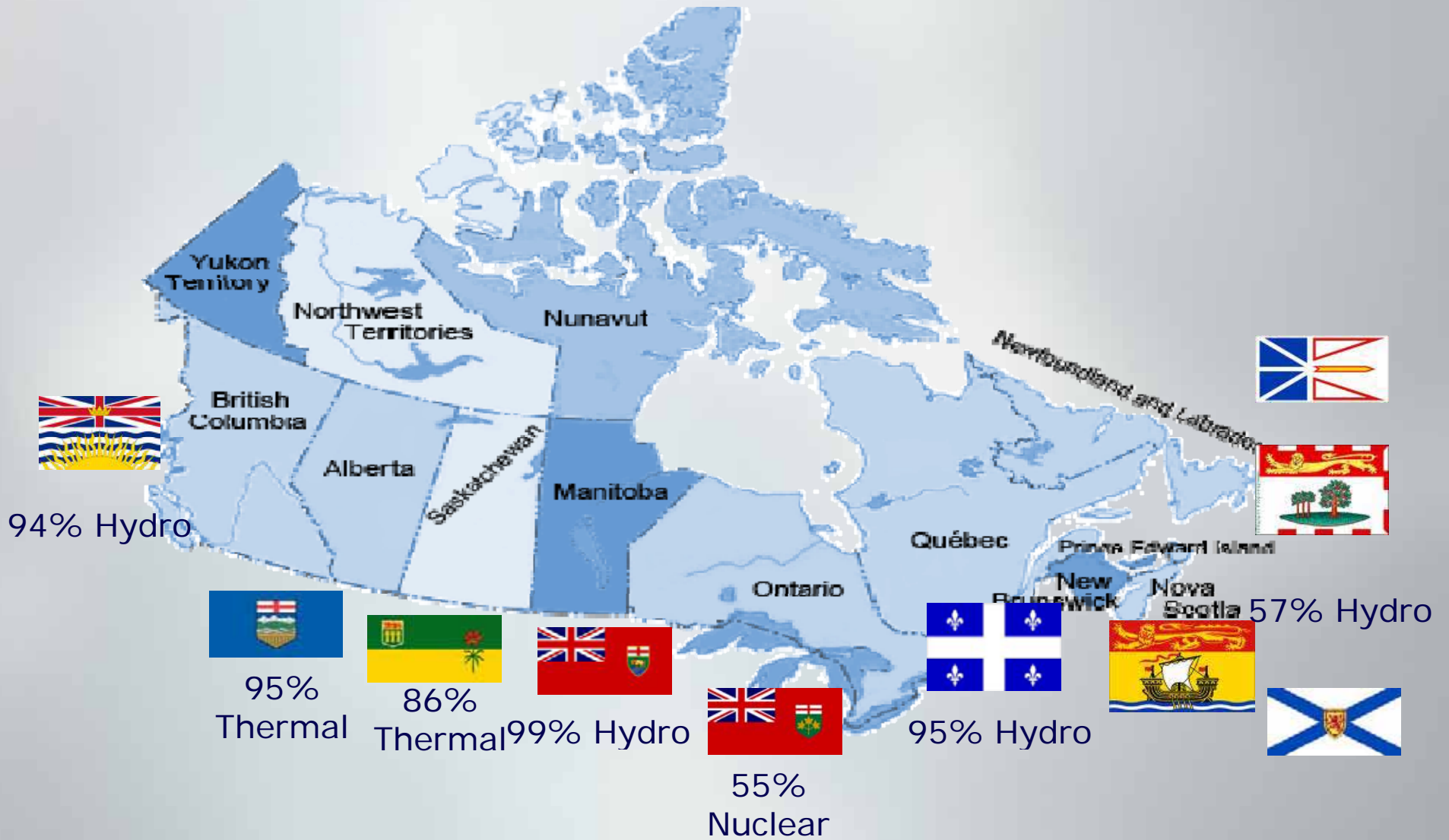
- Public concern about climate change/greenhouse gases.
- Growing electricity demand combined with aging infrastructure.
- Drastically different supply mixes throughout the country.
- Policy alignment versus government jurisdiction.
- Capital investment requirements – public versus private sector.



Canada's Supply Mix - 2009



Sources of Provincial Supply



Nuclear Provinces

Ontario



Quebec



New Brunswick



Darlington



Bruce



Gentilly



Pt. Lepreau



Pickering

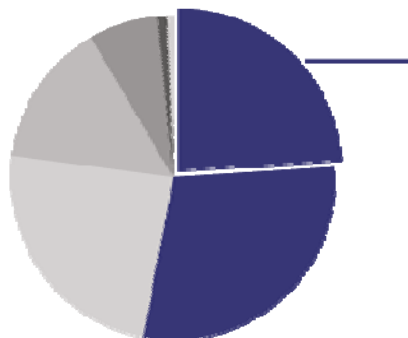
National Support for Nuclear Program



Nuclear Power in Ontario

- Nuclear power produces over 50% of the province's electricity.
- The government has identified a role of 14,000 MW for nuclear over the next 20 years. This will be achieved through:
 - Refurbishment of the entire Bruce Power Site – 6,300 MW
 - Refurbishment of the Darlington facility – 3,500 MW
 - Construction of a minimum of 2 new units – 2,200 MW
 - Managing the end of life of the Pickering facility to 2020 – 3,000 MW

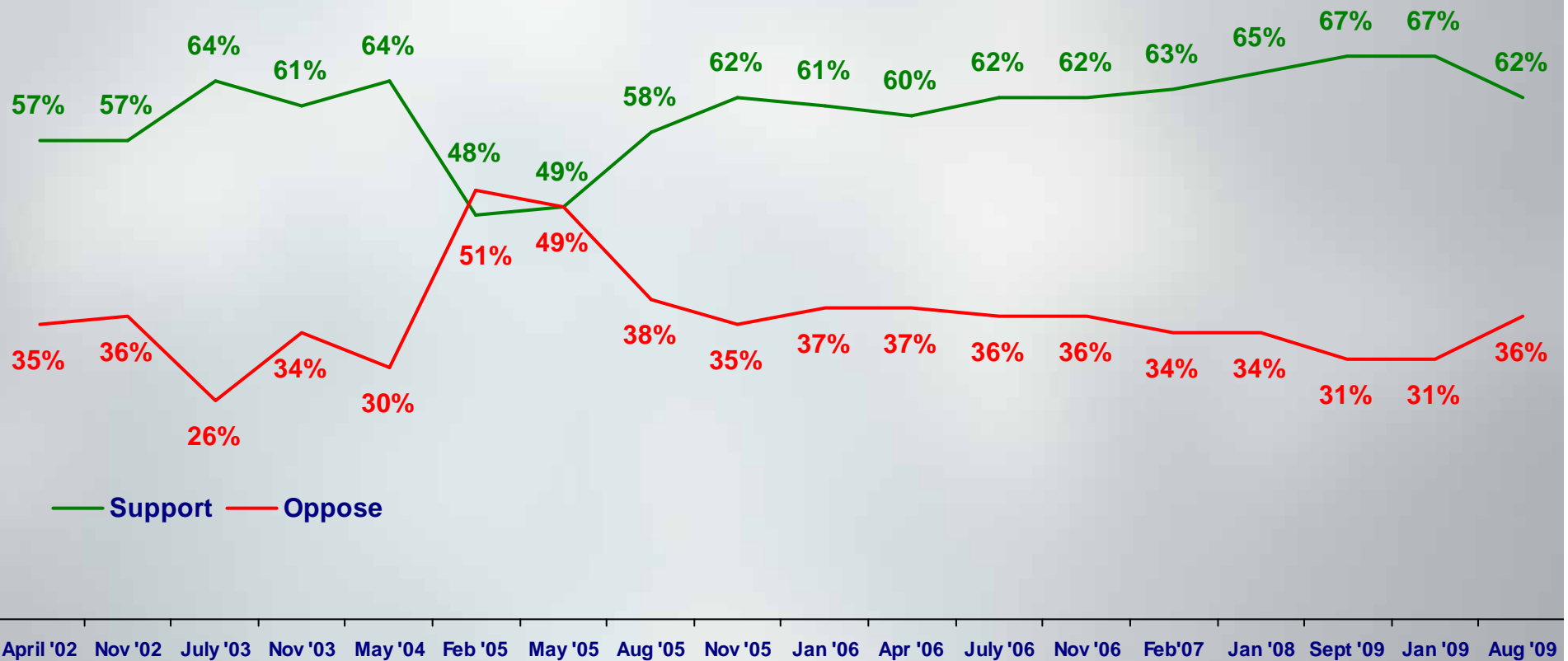
| | |
|---------------|-------|
| Nuclear..... | 53.0% |
| Hydro | 24.1% |
| Coal | 23.2% |
| Gas/Oil | 6.9% |
| Wind..... | 0.9% |
| Other | 0.6% |



Bruce Power supplied almost 24% of Ontario's energy in 2008.

That's one out of every four light bulbs, computers and medical devices in the province.

Ontario Support for Nuclear Power



Emerging Nuclear Provinces



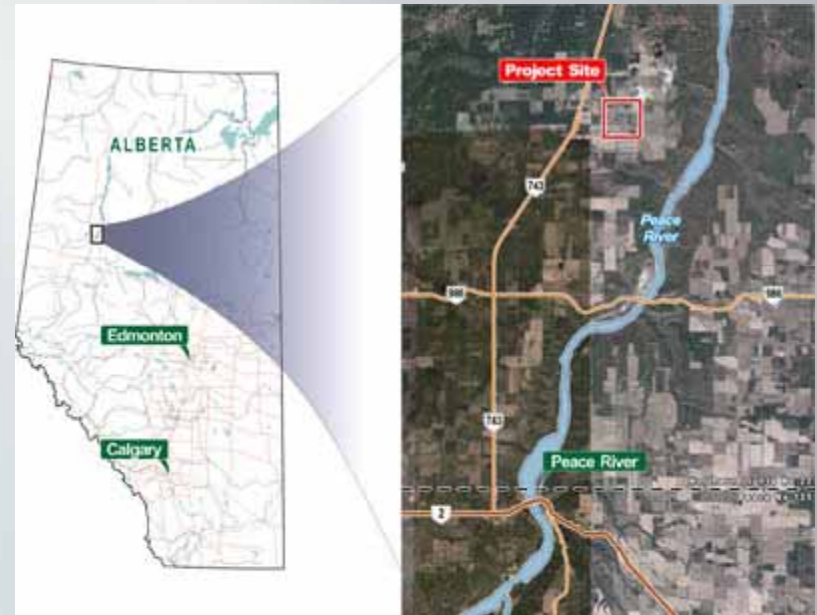
Alberta

- Significant need to reduce GHG emissions – reliance on Coal.
- Growing demands for electricity and steam supply for oil sands development.
- Bruce Power is developing a nuclear new build project in Northern Alberta.
- Public support positive.
- Government Panel has recognized the role nuclear could play.



Saskatchewan

- Significant need to reduce GHG emissions – reliance on Coal.
- Government interest in developing the full Uranium value chain.
- Bruce Power is monitoring developments and has identified a number of viable sites for new build.
- Public support positive.
- Government has stated nuclear will be considered as a long-term supply option.



The Future of AECL

- Currently owned by the Government of Canada.
- The Federal Government has launched a process to evaluate and progress private sector investment opportunities in the reactor services business of AECL, which includes refurbishment and new build.
- AECL is a major employer in Ontario with nearly 3,000 permanent staff who provide support to Canada's nuclear fleet.
- AECL owns the CANDU reactor design.



Industry Challenges

- Skills
- New Build Infrastructure
- Cost
- Financing
- Fuel Cycle Infrastructure
- Proliferation
- Safety

Nuclear power plants old and new must continue to operate to the highest safety standards.

“A nuclear event on any plant is a nuclear event at every plant”



Questions?