



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire



Current Issues In The Nuclear Industry The Regulator's Reality

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President, Canadian Nuclear Safety Commission

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nuclearsafety.gc.ca

A Lot Has Happened Last Year

- Markets collapsed and are recovering
- Crude oil and uranium prices in flux
- Wary investors
 - challenge for large projects, including nuclear sector
 - New World Energy Report by IEA: "Financing of new nuclear power plants has always been difficult and the financial crisis seems almost certain to have made it even more so"



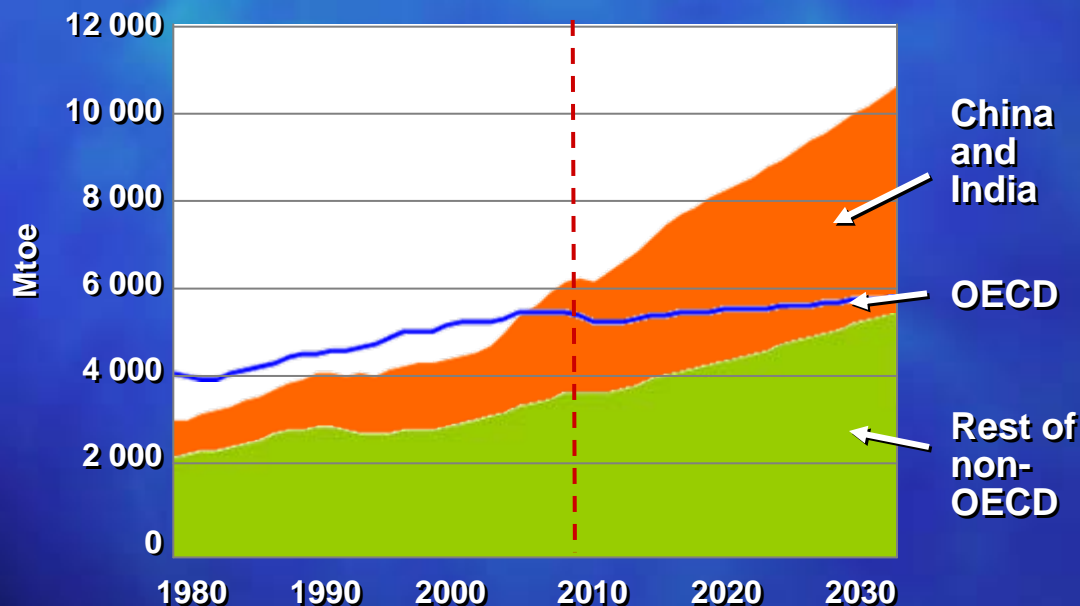
Source: globeinvestor.com



Source: infomine.com

Forecasting Is Not For Faint Of Heart

World primary energy demand



Source: IEA World Energy Outlook, 2009

National Energy Board (NEB)

- Energy demand growth slows from historic 1.6% to 0.7% per year
- Electricity generation increases 20.7% to 2020
- Nuclear at 14.5% by 2020

Source: National Energy Board, 2009
Reference Case Scenario: Canadian Energy Demand and Supply to 2020

Demand slump first since 1981 but with recovery primary energy demand 40% higher in 2030 than in 2007

Climate Change And Energy Demand...

- International pressure to reduce emissions footprint
- Drive to low-carbon economy
- Choices in mitigation
- Climate Change Summit in Copenhagen, December 2009

"...without a significant increase in nuclear power, the world will be unable to meet required greenhouse gas reduction targets."

*The Honourable Jim Prentice, Minister of the Environment,
Speech to the Council For Clean and Reliable Energy, October 25, 2009*

...Will Be Major Drivers In Energy Decisions

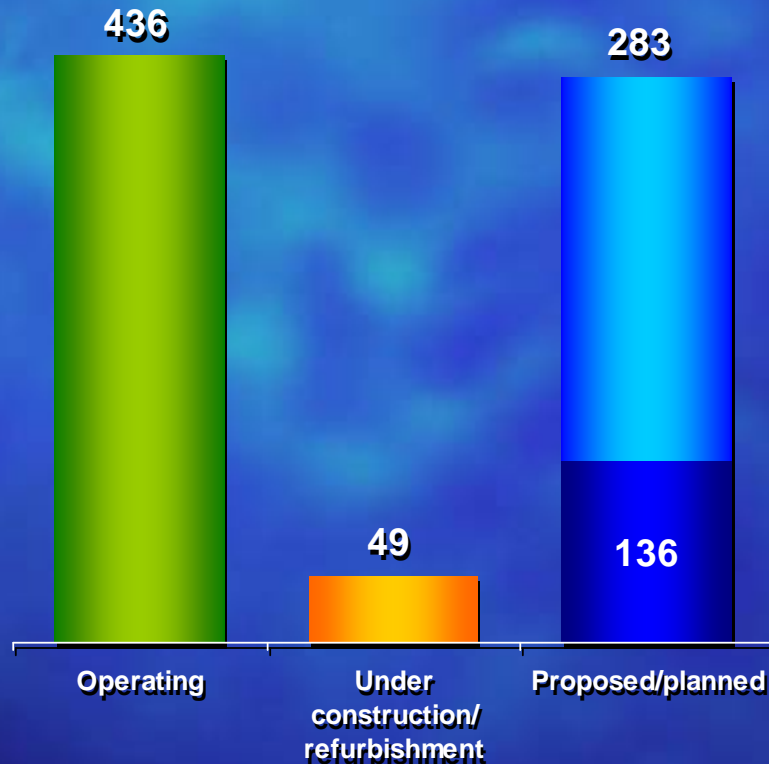
Can GHG Targets Be Met Without Nuclear?

- Countries rethinking their energy mixes
- Who doesn't like wind and solar? But they require intensive land use and can be intermittent
- Nuclear is low emissions form of electricity; good baseload, but intensive capital investment
- Costs comparisons dicey business
- IEA calls for investments of \$125 billion in nuclear projects by 2020 and \$491 billion by 2030

Not Our Decision To Make...

Nuclear Is Already Part Of The Mix...

World Nuclear Power Reactors 2009



Some countries rethinking traditional positions:

- Sweden, Italy, Germany

Others stepping up to climate change challenge with nuclear:

- China, South Korea, United Kingdom

Source: World Nuclear Association, *World Nuclear Power Reactors 2008-2009 & Uranium Requirements*, 1 August 2009

...Around The World

And Canada's Nuclear Renaissance ?

- Bruce and Nanticoke New Builds (Ontario) - Cancelled
- Darlington New Build
 - Suspended?
- Darlington
 - Life extension/refurbishment?
- Pickering
 - Refurbishment?
- Point Lepreau 2?
- Saskatchewan New Build?
- Alberta New Build?

On The Fence . . .



So...What's My Point?

*We have to be ready to respond
to whatever the future brings!*



Commitment From Government

"[The Government of Canada] will ensure that Canada's regulatory framework is ready to respond should the provinces choose to advance new nuclear projects."

2008 Speech from the Throne

"Nuclear power [is] set to play an increasingly important role in balancing the need for power with a desire to reduce greenhouse gas emissions."

*The Honourable Lisa Raitt, Minister of Natural Resources,
Natural Resource Committee, November 2, 2009*

Clear Directions And Expectations



Our Mission Is Clear

To protect the *health, safety* and *security* of persons and the *environment*; and to respect Canada's *international commitments* on the peaceful use of nuclear energy.

Canada's Nuclear Watchdog



The Commission

- Quasi-judicial administrative tribunal
- Commissioners are independent
- Commission hearings are public and Webcast
- Supported by a Secretariat and independent legal services



Transparent Decision-making

20 Nuclear Power Plants . . .

Bruce A - From refurbishment to restart

- Licence issued in October 2009, including refueling of Bruce A1

Point Lepreau

- Refurbishment delayed; projected to be completed by January 2011

Gentilly 2

- Refurbishment will begin in 2011

Darlington - New nuclear power plant

- Joint Review Panel Appointed in October 2009

... Are A Big Part Of Our Business.

Uranium Projects In Canada

Active projects

- Key Lake Mill
- McArthur River Mine
- Cigar Lake Mine
- Rabbit Lake Mine/Mill
 - McClean Lake Mines/Mills
- Midwest Mine

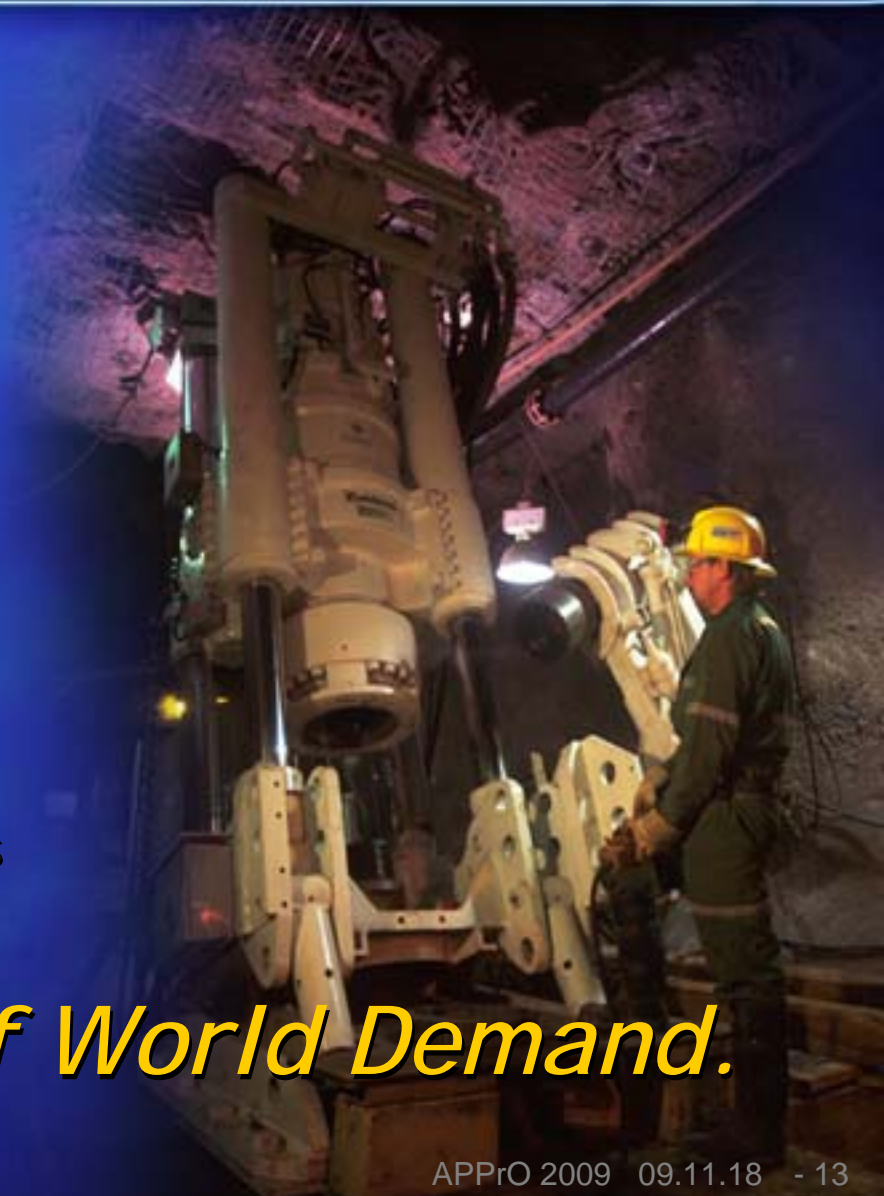
In-progress Projects

- Kiggavik Project (Nunavut)
- Matoush (Quebec)
- Millennium Project (Saskatchewan)
- Eco Ridge – Pele Mountain (Ontario)
- Michelin Project – Aurora (Labrador)

Commitment to addressing legacy sites

- Beaverlodge and Gunnar Mine Site

... Supplying 25% Of World Demand.



Waste Management

Big issue at home

- Port Hope - Legacy clean-up
 - Committed to clean-up legacy waste
 - Hearing in August and licence issued in October 2009
- Deep Geological Repository
 - Preparation of EIS and studies continue
 - Joint Review Panel projected for early 2011

And abroad

- Yucca Mountain?
- Finland, Sweden, Germany and France
 - Work underway for low and intermediate level and high level waste

... Contained And Controlled.

The Medical Isotope Story...

NRU shutdowns

CNSC responses

- *Talisman Lessons Learned Report*
- Re-licensing and re-start protocols

Government of Canada responses

- Nuclear Energy Agency international workshop and taskforce
- Canada/U.S. working group
- Expert review panel on medical isotope production

...A Fragile Supply Chain



Working To The Best Nuclear Regulator In The World

- Commitment to ongoing improvements
- Clarity of requirements
- Capacity for action
- Communications



*IAEA Integrated Regulatory Review Service
Mission Confirms We're On Track!*

The CNSC: A Transparent Regulator

- Updated public web site
- Outreach in communities
- Public hearings
- Working horizontally
- On-going Aboriginal consultation

*Accurate, Clear,
Concise And Timely*



Dealing With Myths

Nuclear power and uranium mining *are* safe

- Most heavily regulated in Canada

Nuclear industry is not a security risk

- Sites heavily guarded
- Nuclear substances tightly controlled

Environment is protected

- CNSC applies stringent licence conditions and proactive disclosure

Nuclear waste is managed and contained through regulations overseen by the CNSC

While We Strive To Be More Effective And Efficient...

**...we will not
compromise
safety...**

...It's In Our DNA!

