



# CCS policy and regulations:

## Canadian status

Carbon Capture and Storage Workshop  
29-30 October, 2008, London, UK.

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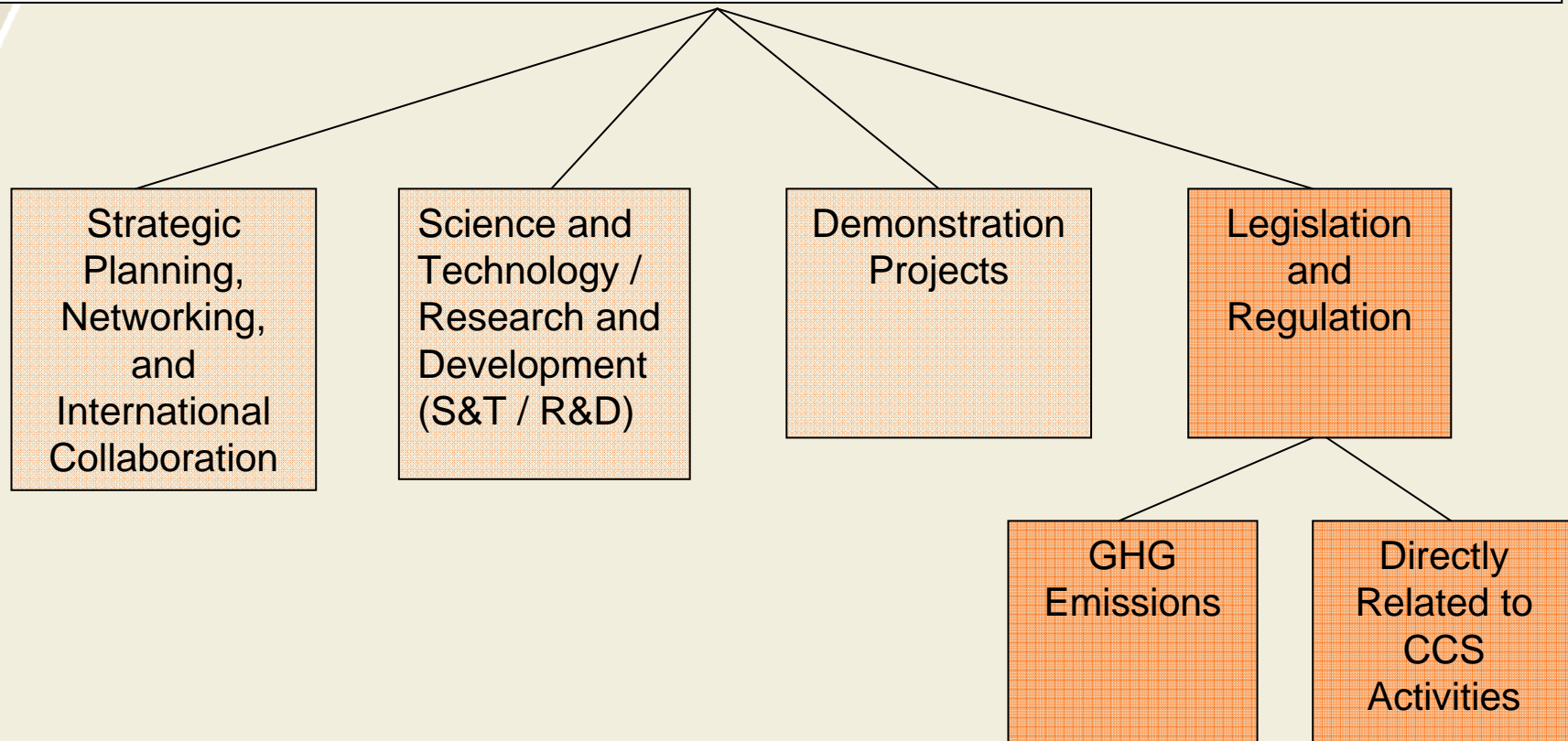
Natural Resources  
Canada

Ressources naturelles  
Canada



# CCS Policy in Canada: Overview

A suite of interdependent initiatives to create the environment for implementing CCS





# CCS policy in Canada: Two Levels of Government



**Federal Government**



**Provincial Governments**





# Legislation and Regulation: Overview

Two main categories relevant to CCS:

## Regulation of GHG Emissions:

- Federal and provincial regulations / regulatory frameworks

## Direct Legislation and Regulation of CCS Activities:

- Provincial/territorial jurisdiction unless:
  - Federal legislation trigger
  - CCS on Federal lands
  - Cross-boundary issues
- Existing provincial regimes for oil and gas adequately cover many CCS activities

Outstanding issues are being addressed





# Federal Regulation of GHG Emissions

## Aggressive targets in March 2008 Federal Regulatory Framework for Industrial GHGs

Regulations start tough and get tougher

### Tough

Existing Facilities –  
18% reduction in 2006 emissions intensity in 2010, +2%/yr improvement

### Tougher

New Facilities – after 3 yr commissioning period, clean fuel standard (e.g natural gas), +2%/yr improvement to emissions intensity

### Toughest

CCS-based emissions standard  
– for new oil sands and coal-fired electricity plants that come into operation after 2011; required to meet standard by 2018





# Federal Regulation of GHG Emissions

- **Compliance mechanisms include CCS:**
  - In-house reductions/Domestic Emissions Trading – can make use of emissions credits from CCS
  - Incentive for building “capture-ready”
  - Added incentives (i.e. emissions credits) for investing in ‘pre-certified’ CCS projects
  - Obtain emission credits by investing in a Technology Fund
    - Prescribed rate of contribution of \$15-\$20 per tonne
    - Phased-out by 2018
    - Fund to invest in demonstration projects that achieve significant emissions reductions – e.g. CCS





# Federal Regulation of GHG Emissions

## Path forward and future work

- Draft GHG regulation scheduled to be published soon, subject to plans of new federal government
- Followed by a consultation period
- Federal government will work to achieve harmonization with provincial GHG regulations
- Quantification protocols for CCS will build on existing work
- Priority: CCS under the CDM





# Provincial GHG Emissions Strategies

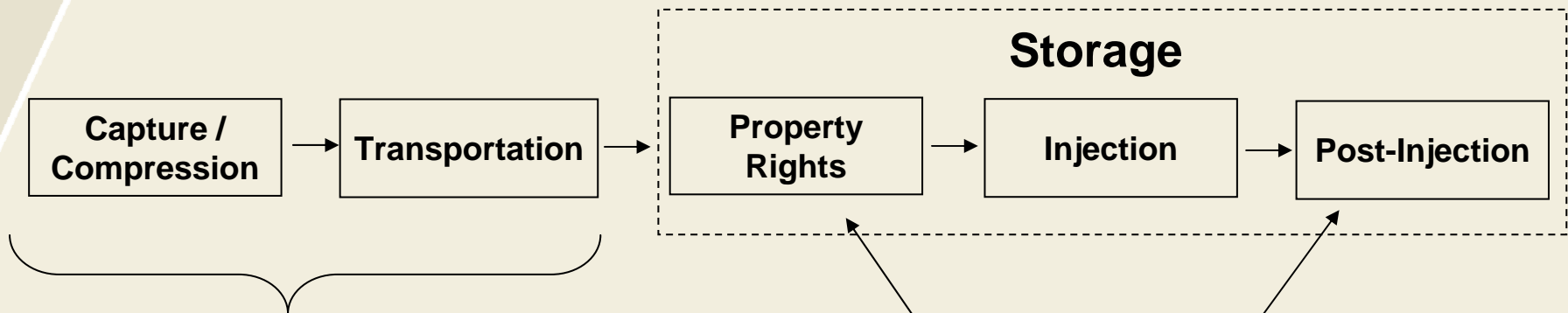
- All Canadian provinces have announced GHG reduction targets
- Most have outlined policies to achieve their targets
- Various mechanisms suited to the nature of provincial economies e.g.
  - Carbon taxes – British Columbia and Quebec
  - Commitment to regional cap-and-trade – British Columbia, Quebec, Manitoba, Ontario
- However, these measures are at various stages of implementation
- Alberta – only jurisdiction in Canada to enact GHG regulations
  - 70% of expected emission reductions to be achieved by CCS:
    - 139 Mt by 2050 (near term progression to 30 Mt by 2020).





# Direct Legislation and Regulation of CCS activities

## CCS Chain



- Existing regulations & standards apply (e.g. construction, operation, public safety, occupational health & safety, economic regulation)
- **No major gaps to be addressed**

- **Majority of outstanding CCS legal/regulatory issues.**





# Direct Legislation and Regulation of CCS activities

## Storage: Property Rights

- **Outstanding Issues** – no specific legislation on rights related to storing CO<sub>2</sub>:
  - Acquisition of sub-surface rights / pore space ownership
  - Transferring right-to-store
  - Surface access
- **Analogous regulation/legislation exists**
  - Oil and gas production, enhanced oil recovery, acid gas injection, natural gas storage





# Direct Legislation and Regulation of CCS activities

## Storage: Injection

- Existing regulations in place, including for:
  - CO<sub>2</sub> for enhanced oil recovery
  - Natural gas storage
  - Acid gas disposal
- **No major gaps to be addressed**





# Direct Legislation and Regulation of CCS activities

## Storage: Post-injection

- **Outstanding issues**
  - Remedial liability for storage sites (provincial)
  - No established measurement, monitoring and verification standards
    - e.g. for complying with air emission regulations
  - Long-term liability:
    - Health and safety (provincial)
    - In situ damage to resources (provincial)
    - Climate change – from CO<sub>2</sub> leakage (fed and prov)





# Current and Future Work: Regulation of CCS activities

## Provincial

- The Alberta CCS Development Council will make recommendations on regulations for long-term liability for stored CO<sub>2</sub>, and on tenure policy
  - Final Report proposed for end of 2008
  - Province already proceeding with some initiatives, e.g. policy for certain oil sands operations to be 'capture-ready'
- Saskatchewan is looking at extending oil & gas regulations and examining analogues in the mining sector for long-term liability
- British Columbia considering feasibility of CCS for natural gas production, and is first jurisdiction in Canada to introduce legislation specifically on rights for storing CO<sub>2</sub>





# Current and Future Work: Regulation of CCS activities

## Federal and Other Partners

- Federal government is working on permitting and guidance for offshore CCS projects
- Federal government is considering long-term liability for CO<sub>2</sub> leakage in the context of GHG regulation
- *IEA Weyburn-Midale Project - Phase II*: is addressing regulatory issues and developing a 'Best Practices Manual' e.g. measuring, monitoring and verification
- *CCS Research Group (University of Calgary)* working on: guidelines for protocols; frameworks for managing risks, including long-term liability

