



# CCS as seen from Canada

Carbon Capture and Storage Workshop  
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# Canada's Energy Context



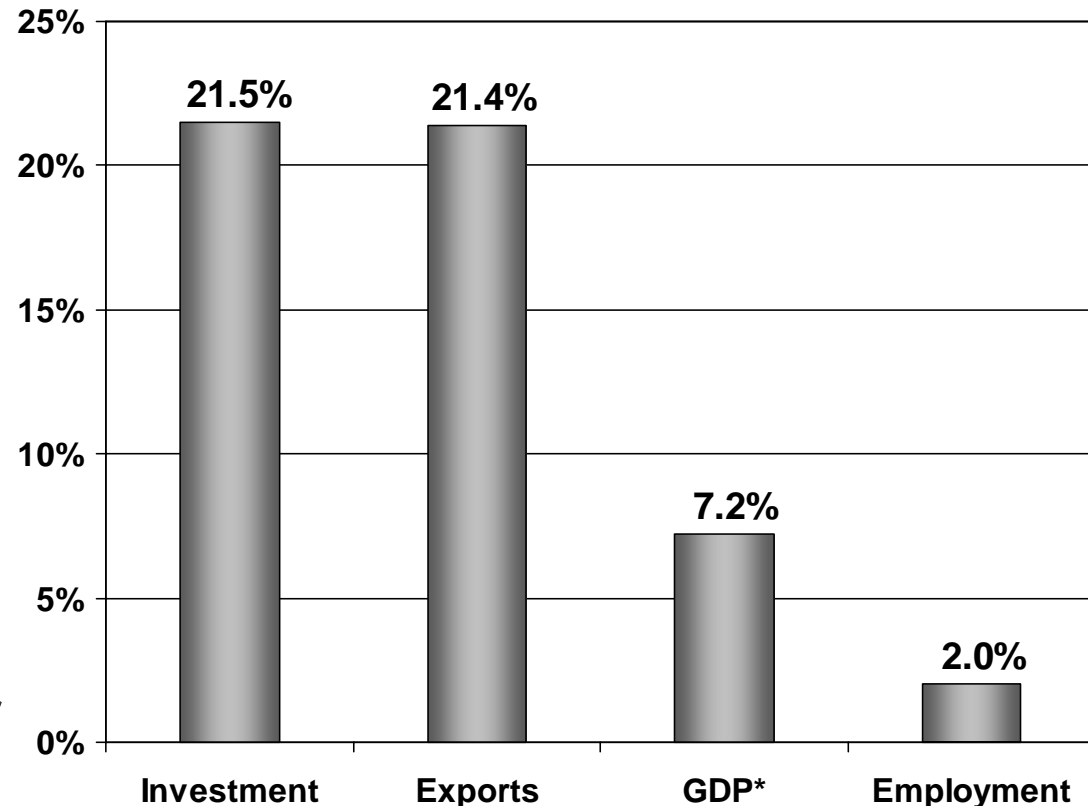
- Both in Canada and around the world, fossil fuels will likely remain the primary energy source into the foreseeable future.
- Canada is a major energy producer, including fossil energy
- Major new energy projects, especially from the oil sands, represent significant potential environmental impacts.
- Energy related CO2 emissions by over 50% by 2030 and put further strain on air/water resources.
- There is a suite of measures in place to reach our energy and environment goals
  - Energy Efficiency
  - Renewable energy
  - S&T
  - Transportation
  - CCS

# Energy Economy in Canada



- Highlights for 2007
  - \$99.6B in exports, primarily oil and gas
    - 20.7% of Canada totals
  - \$69.4B in capital investments, primarily oil/gas and electricity
    - 21.5% of Canada totals
  - direct employment of over 278,000 people
  - 7.2% of GDP (2006)

Energy as a Percentage of Canadian Total (2007)

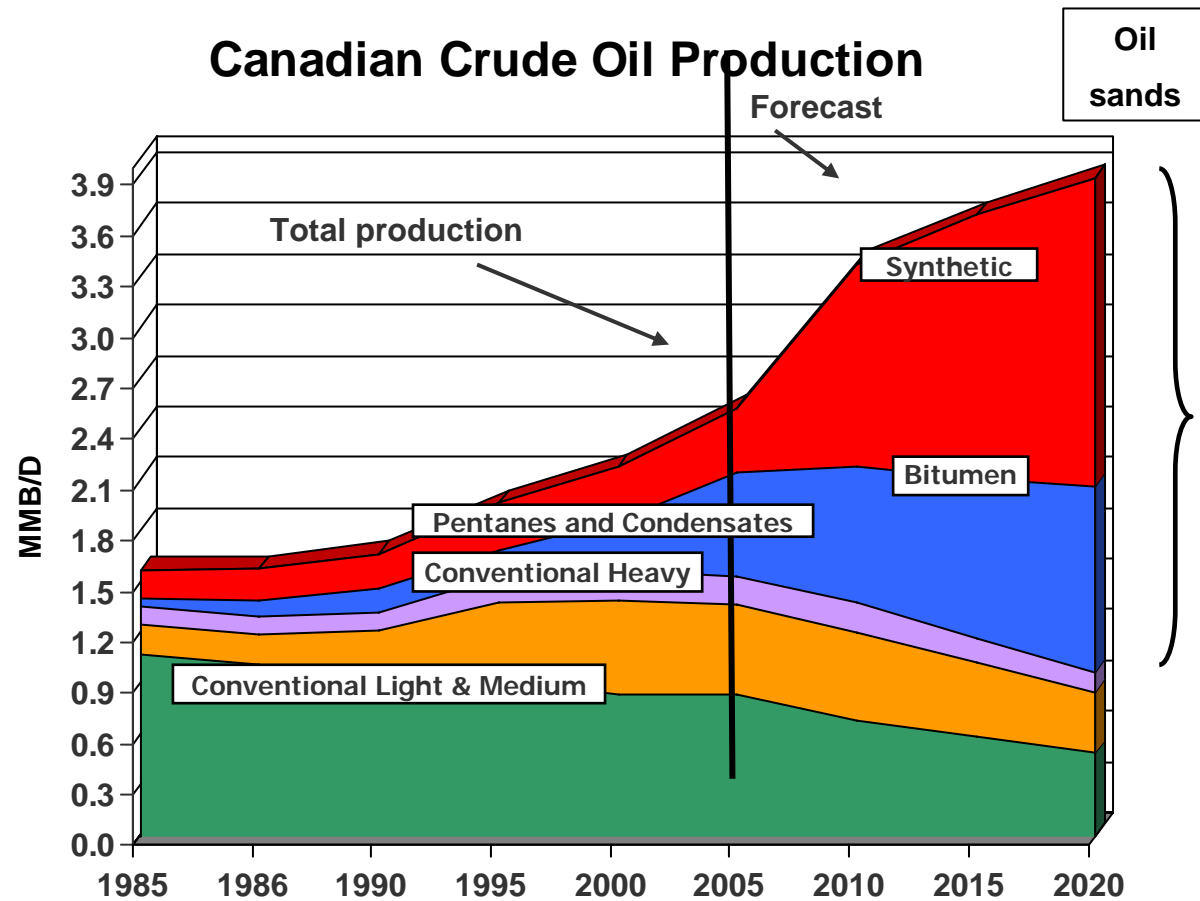


Source : Statistics Canada (2008)  
\*GDP numbers are for 2006

# Key resources: Oil



- Canada is already a large producer and exporter
  - 2<sup>nd</sup> largest oil reserves after Saudi Arabia
  - growing importance of oil sands, leading to increased air emissions



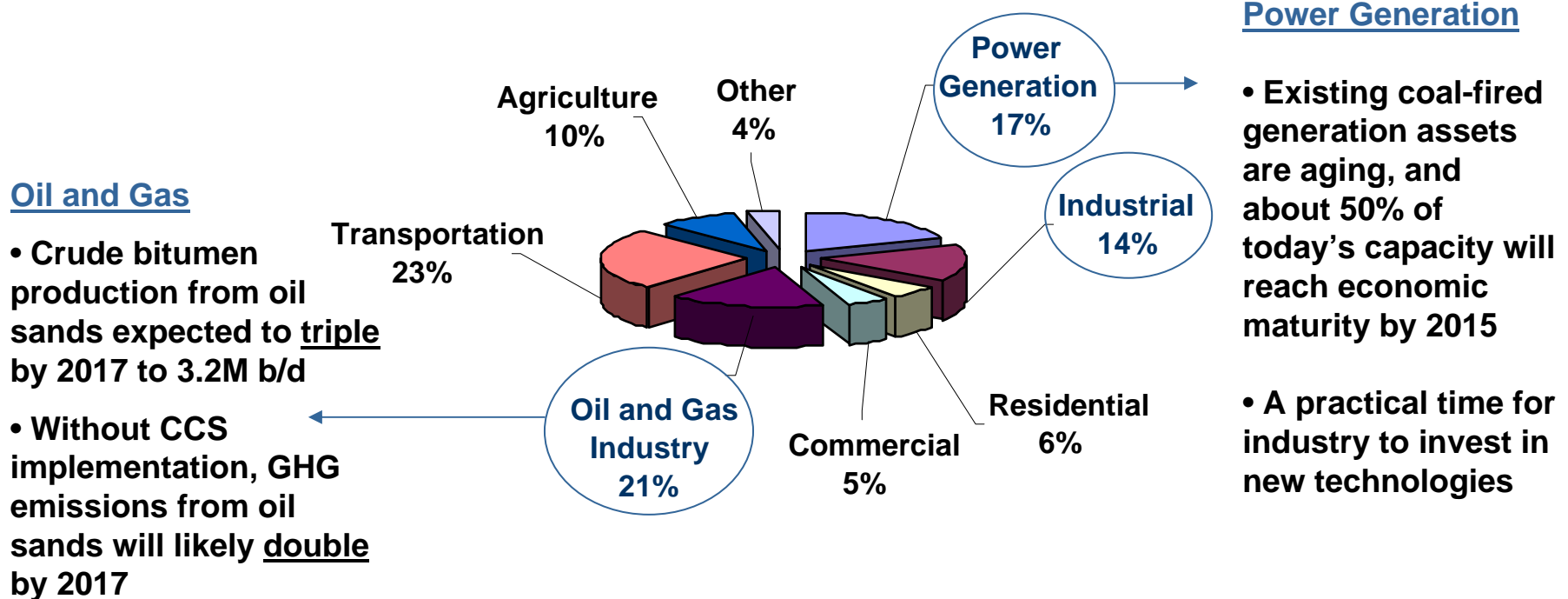
Sources: Statistics Canada (2007) and Natural Resources Canada (2006)

# Significance of CCS Policy to Canada

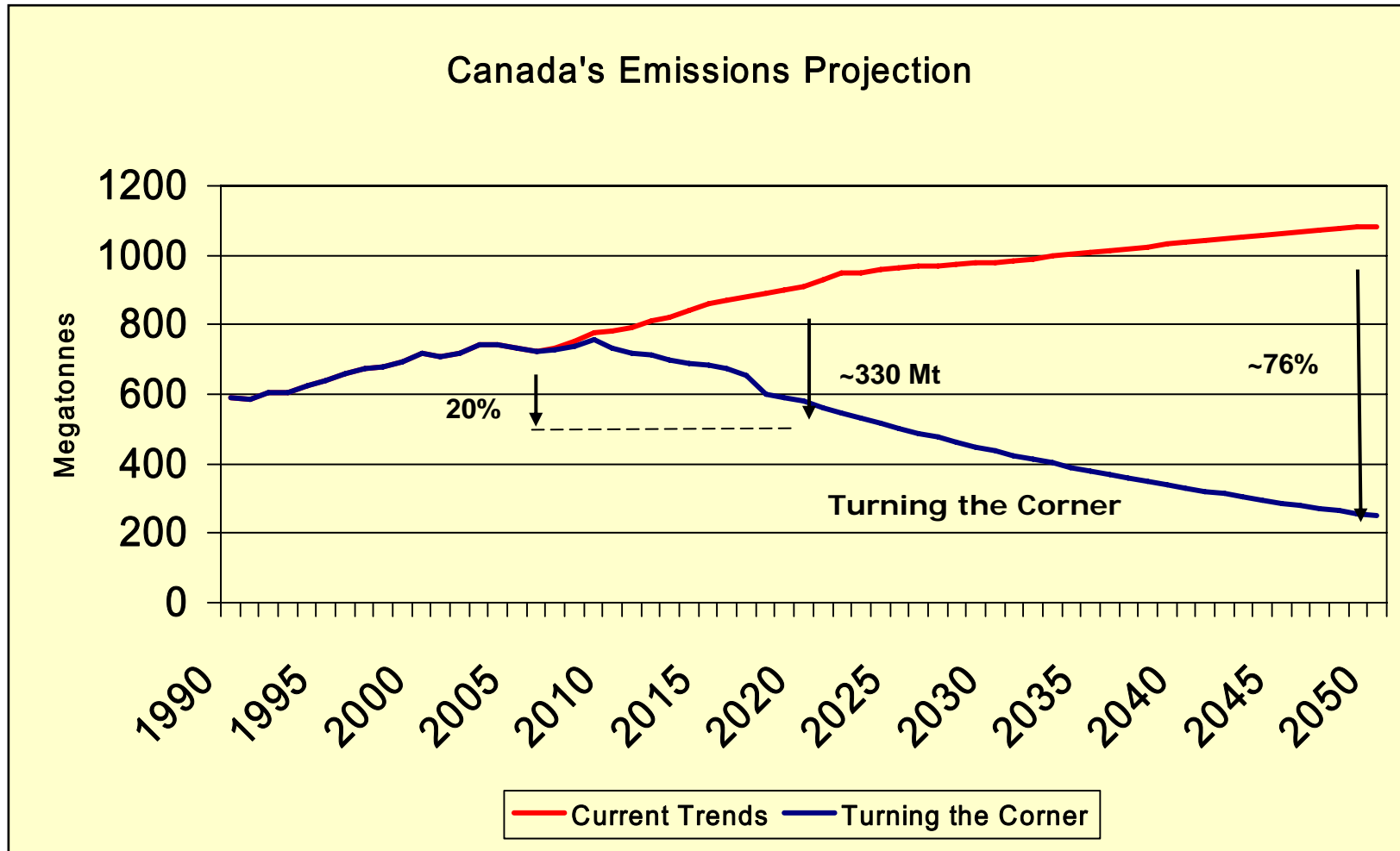


Canada's goal is to reduce GHG emissions 20% by 2020. CCS will play a critical role - it is the only technology for delivering significant GHG reductions at large point sources.

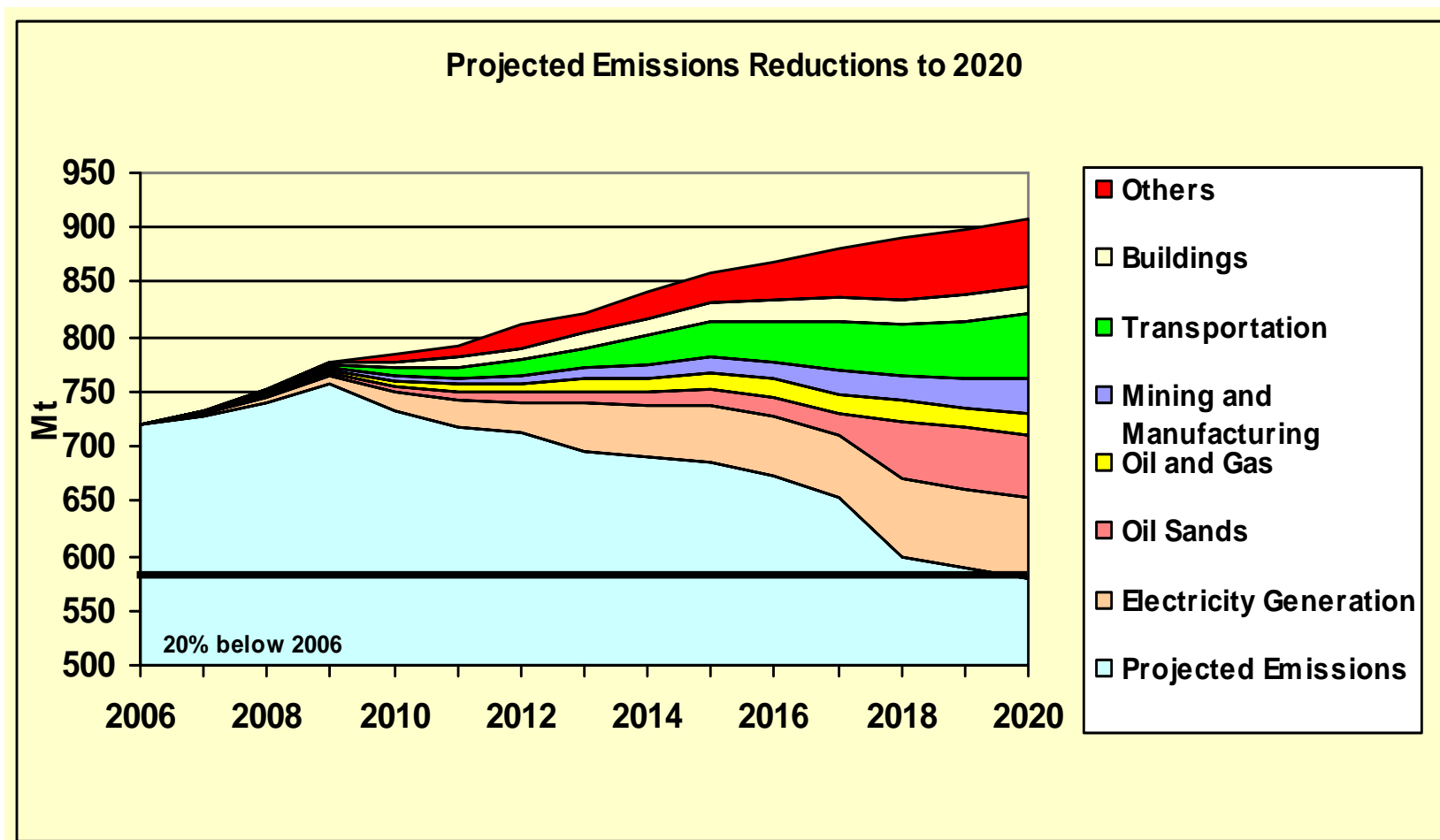
2005 GHG Emissions by Sector (747 Mt)



# Turning the Corner



# Projected Emission Reductions: Major Contributions from Electricity, Oil Sands and Conventional Oil and Gas



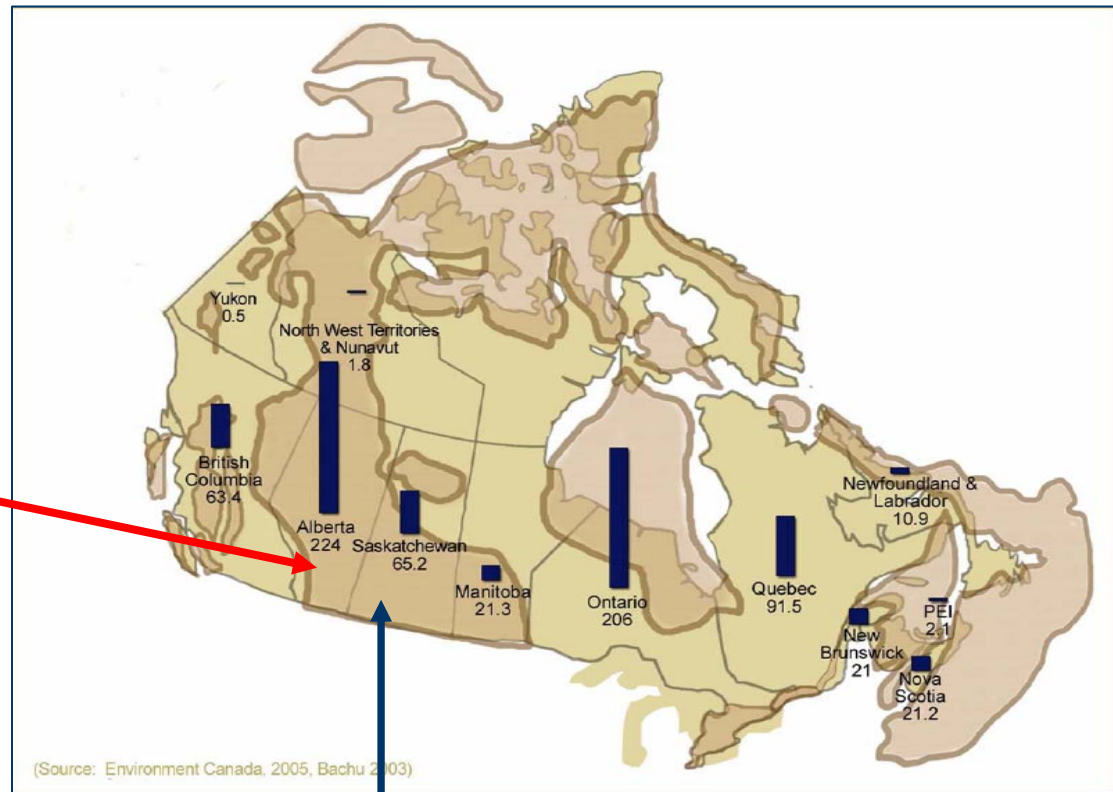
# Canadian Storage Potential



- The Western Canadian Sedimentary Basin provides a world-class storage opportunity for Canada (over 1000 Mt potential)

• Includes 50% of Canada's CO2 emissions from large industrial facilities

- Well-understood geology
- EOR potential
- Some infrastructure already in place



Western Canada Sedimentary Basin

# CCS Policy in Canada: Two Levels of Government



**Federal Government**

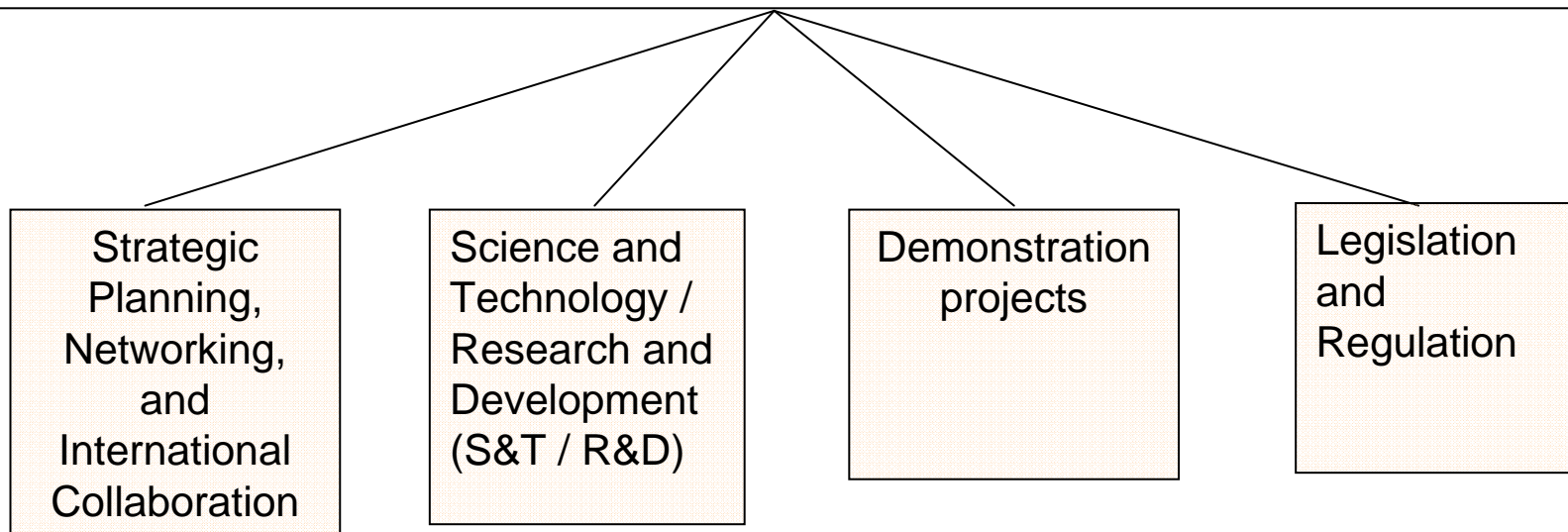


**Provincial Governments**

# CCS Policy in Canada: Overview



CCS Policy in Canada: A suite of interdependent initiatives to create the environment for implementing CCS



# Canadian Leadership in CCS

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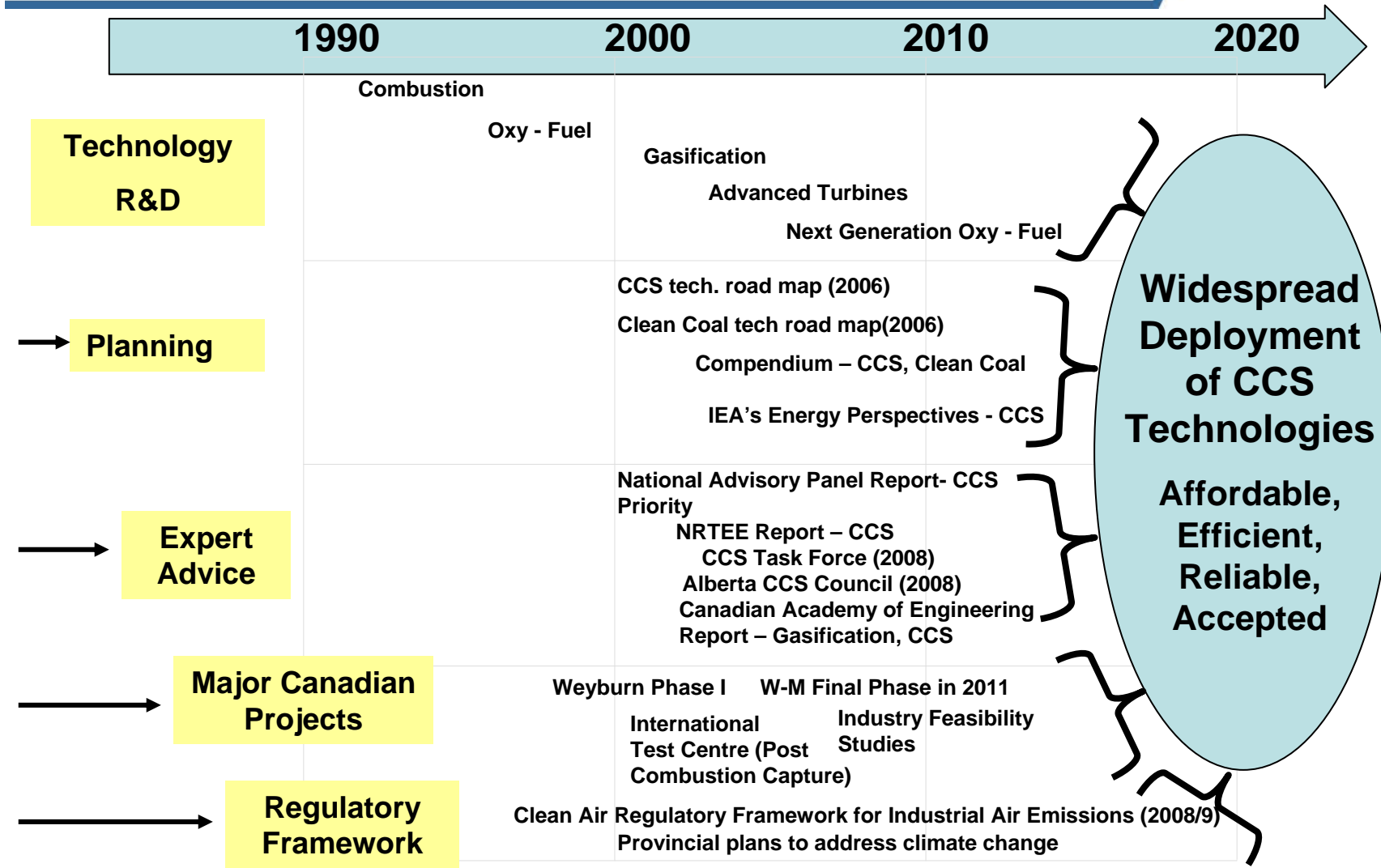


- Commitment to a CCS standard in the oilsands and power generation
- Weyburn-Midale CO<sub>2</sub> Demonstration Project
- Additional investment for research, development and demonstration activities related to CCS
- Funding to Canadian universities to undertake strategic research into the outstanding regulatory, economic and technical issues of CCS

# CCS Timeline 1990-2020

## Towards an Integrated Package

(What's needed to implement a new technology)



# The International Link

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- Significant interest to collaborate internationally on CCS
  - IEA/CSLF international objectives
  - G8 – raises profile
  - Australian Global CCS Institute – implementation
  - Norway-UK-Canada, among the leaders in CCS
- Canada is committed to working with international partners on CCS



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# Access to Canadian Information

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