



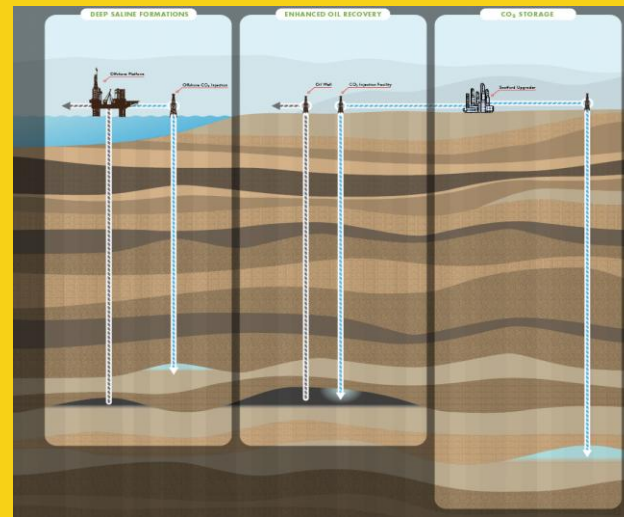
# QUEST Carbon Capture & Storage Project

## CCS Regulatory Process- Lessons Learned

IEA International

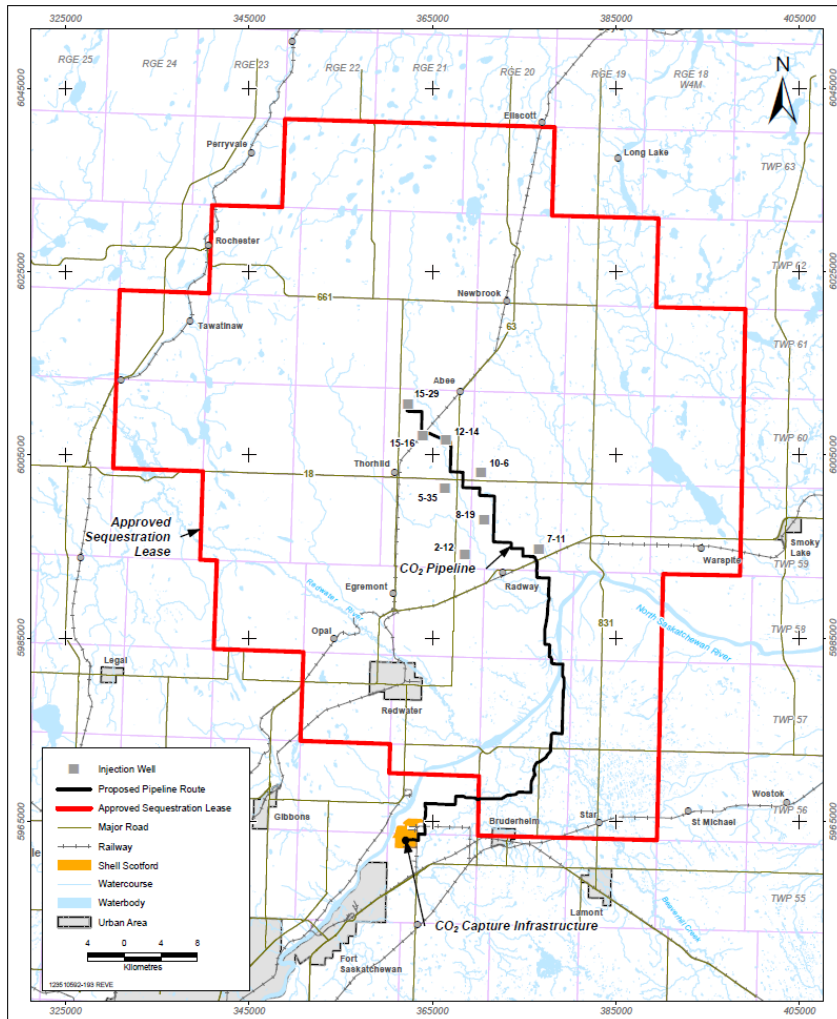
CCS Regulatory Network Meeting

June 18-19, 2013



J.P. Jepp- Regulatory Policy Advisor, Shell Canada

# Quest- Project Overview

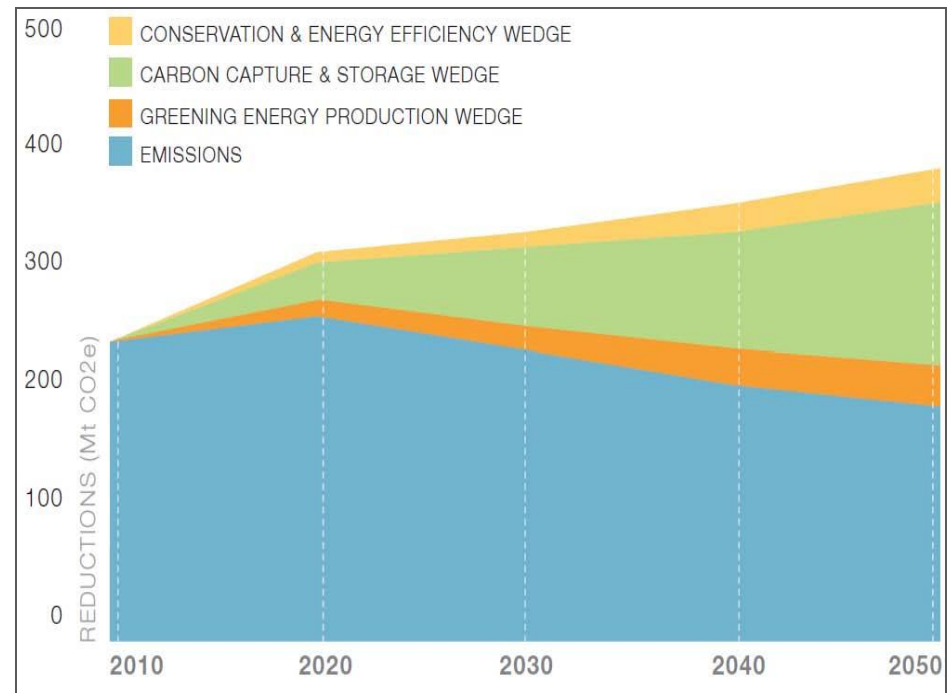


- **Capture and Compression**
  - Capture at Shell Scotford Upgrader- amines
  - CO<sub>2</sub> source 3 x HMUs (SMR technology)
  - Up to 1.2 Mtpa CO<sub>2</sub> ; CO<sub>2</sub> > 95% purity
- **Pipeline**
  - Agricultural lands with distributed population
  - 12 inch line; about 80 km length
  - Laterals pipelines from main to wellheads
- **Disposal Scheme**
  - 3-8 wells
  - Target zone is saline aquifer- over 2000m depth
  - 39+ townships Area of Interest (AOI)
- **Project Status**
  - March 2012- Regulatory Hearing
  - July 2012- Regulatory Approvals
  - Sept 2012- Final Investment Decision!!
  - Q4 2012- Construction Commenced

# Alberta – Carbon Capture and Storage

## ■ Alberta has:

- rapidly growing heavy oil sector;
- ideal geology for CCS;
- visionary government;
- forward-thinking proponents;
- excellent regulatory base (O&G);
- a “learn by doing” approach.



# CCS Regulation– Lessons Learned

- Regulatory Framework
  - specific to the technology
- Regulatory Process
  - clarity on roles, responsibilities, process
- Assumption of Liability
  - appropriate; “carrot” for good operations
- Handover Criteria/ Time Period
  - clarity guides design, MMV, and investment
- Pore Space Ownership
  - less freehold is better
- Climate Liability
  - handover with other liability
- Post-Closure Stewardship Funds
  - appropriate; specific to project risks



# CCS Regulation– Lessons Learned

- Pore Space Tenure Application
  - demonstration of site suitability
- MMV Program
  - addresses technical and stakeholder
- MMV Plan
  - iterative; updated with time/need
- Closure Plan
  - clarity on transfer information/assets
- Storage Scheme Application
  - apply for greatest project description
- Emergency Response Planning
  - for stakeholder concern and safety
- Stakeholder Engagement
  - comprehensive, inclusive, responsive



# CCS Regulation– High Level Approach

- “Learn by Doing”
- Integrate lessons learned
- Close collaboration:
  - Government/Industry
  - Government/Proponents
  - Proponents/Landowners
  - Proponents/Communities
  - Proponents/Public



