Producing Wyoming’s Stranded Oil

EORI provides technical support to Wyoming operators

22 dedicated staff

Technology transfer

Field demonstrations of innovative production methods.
EORI Conference Sponsors

• ExxonMobil
• Wood Group (GE Oil & Gas)
• FabTech
• School of Energy Resources

• Denbury
• Carbon Energy
• DKRW
• Wyoming Pipeline Authority
Partner Companies

- Black Hills E&P
- CarbonEnergy
- DKRW
- Energy Expeditors
- JB Coal
- McClaren Resources
- Merit Energy
- Mountain West
- Refined Energy Holdings
- Timberline
- Underwood Oil & Gas
- Wold Enterprises

- Captain Energy Co
- Denbury Resources
- Encore Acquisitions
- Exco Resources
- Linc Energy
- Marathon Oil Co
- Nako Technology
- Osborne Energy Ltd
- True Energy
- Windsor Energy
- Wyoming Oil & Gas Conservation Commission
Oil Industry Focus

• Data searches and compilations
• Feasibility studies
• Projects with partners
  – Reservoir characterization
  – Reservoir modeling
  – Economic evaluations
  – Laboratory testing
• Research to support EORI projects
New Developments

Big upswing in development of enhanced oil recovery projects (1 to 3 billion barrels from recovery of stranded oil)

New operators come to Wyoming and new investment results ($1 billion+ in 2011)

Characterization of residual oil zones in the Bighorn Basin

Development of new sources of CO$_2$ for EOR

Carbon sequestration is a benefit of CO$_2$ EOR

Additional economic benefits to the state of Wyoming
New Projects

• ExxonMobil expanded CO₂ output from Shute Creek (350)
• Devon production in Beaver Creek Madison increases to 5,400 BOPD
• Denbury acquires Riley Ridge
• Elk contracts with ExxonMobil for CO₂ to flood Grieve Field
• Denbury announces plans to construct pipeline
• Linc acquires Rancher assets
Increase in Estimated EOR Reserves
Residual Oil Zones

• Bighorn Basin – 1.3 to 2.0 billion additional barrels of oil reserves resulting from CO$_2$ EOR
• RPSEA sponsored project for regional evaluation of ROZ in the Bighorn Basin
• Other Wyoming basins will be evaluated for ROZ
New Operators Come to Wyoming

- Denbury
- Coal Companies
  - Coal Treatment on Surface
  - Underground Coal Gasification
- Other operators
New Sources of $\text{CO}_2$

- Natural gas processing plants
  - Madison on the Labarge Platform
  - Coal bed methane
- Coal gasification
- Coal liquification
Carbon Sequestration

• Approximately ___ % of CO$_2$ injected into an oil reservoir will be sequestered.

• An estimated 19 TCF of CO$_2$ will be sequestered in CO$_2$ EOR projects in the Bighorn basin.
Results for Wyoming

• Minnelusa Initiative – 4.5 million BO reserves booked (Approx. $40 million in ad valorem and severance taxes to counties and state).
• Grieve Field – anticipate approx. 19 million BO to be recovered using CO$_2$ EOR.
• Other reservoirs are being evaluated. Anticipated lead time for results from EORI investment is 3 to 5 years.
Economic Benefits for Wyoming

• A billion barrels of oil will result in an estimated $9.2 billion of severance and ad valorem taxes to the state of Wyoming and Wyoming counties.

• Additional high paying energy jobs will be sustained or created in oil producing portions of the state.

• Additional income to the state will include property taxes, mineral royalties paid to individual land owners and the state, and sales and use taxes.
University of Wyoming School of Energy Resources

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Current CO$_2$ Infrastructure