



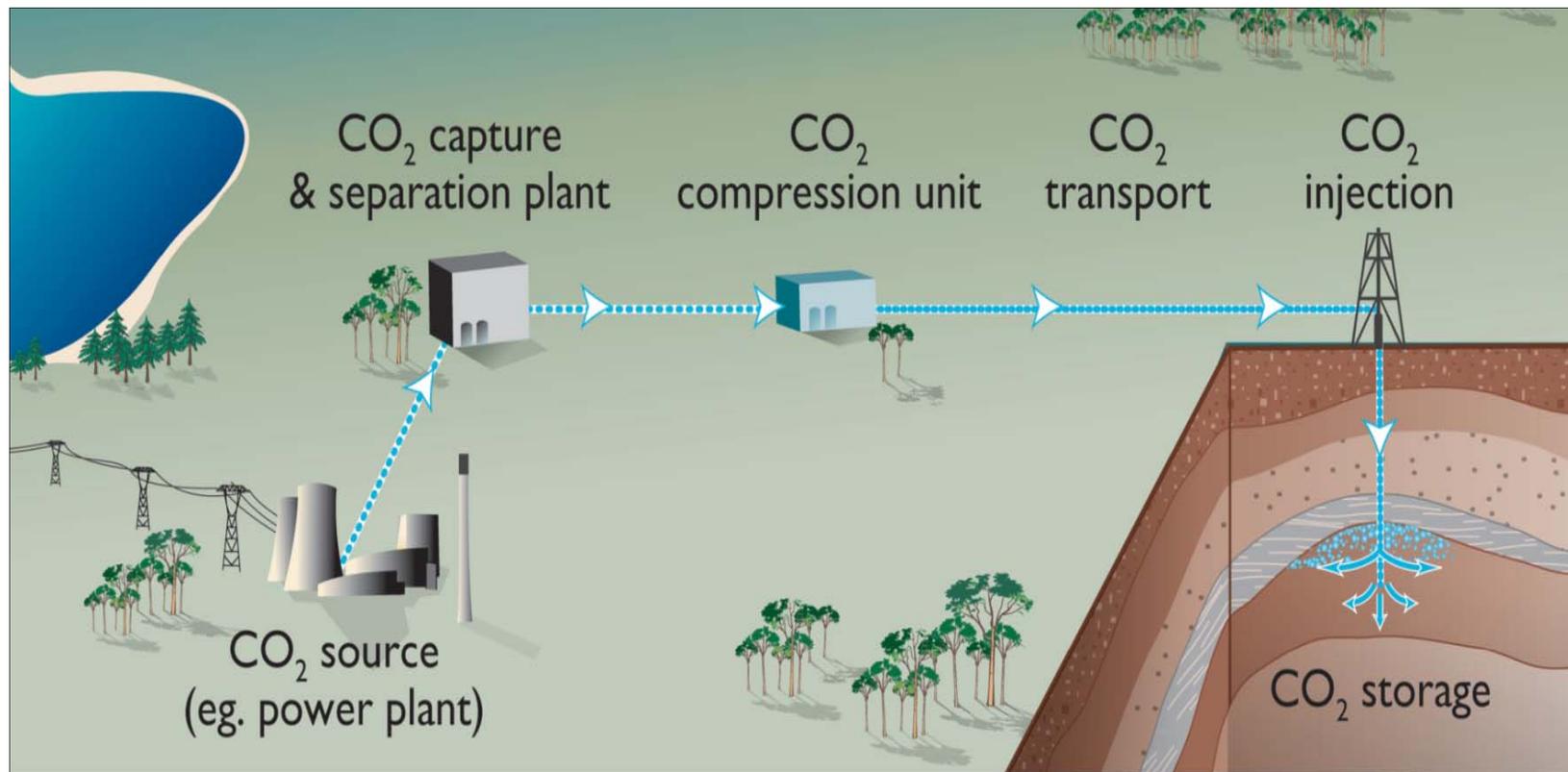
Carbon Capture and Storage: New Opportunity for Western Lands

Barclay Rogers
Ranchland Carbon Solutions
for
Western States Land Commissioners Association
June 14, 2010

Ranchland Carbon Solutions: Carbon Storage Developer

- Ranchland Carbon Solutions is a carbon storage project developer
- Unlike other companies exploring various alternative uses for carbon dioxide (enhanced oil recovery, cement, algae farms, etc.), we are a 'pure play' carbon storage company
- Headquartered in Denver, Colorado and focussed on carbon storage projects in the Western States (e.g., Montana, Arizona)

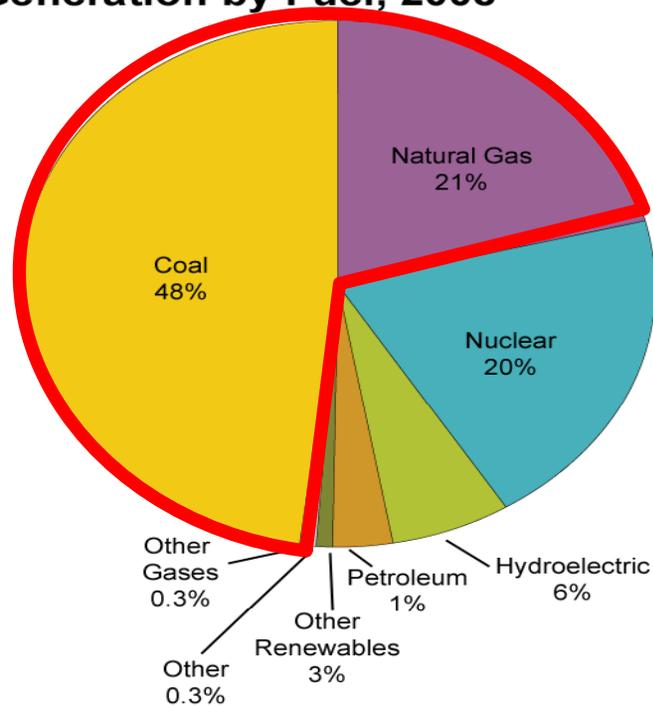
Permanently Storing Carbon in Geologic Reservoirs



Keeping the Lights On

Coal and natural gas supply 70% of US electricity

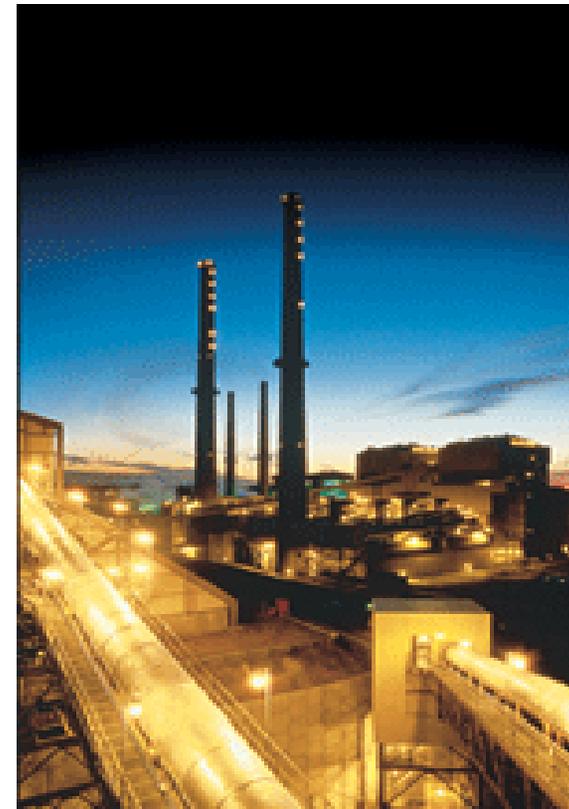
U.S. Electric Power Industry Net Generation by Fuel, 2008



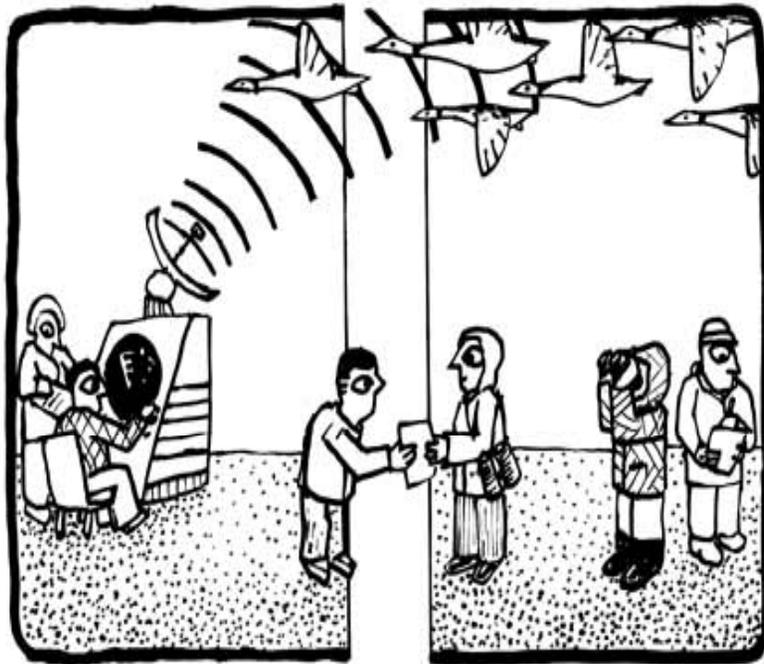
Source: U.S. Energy Information Administration, *Electric Power Annual* (2010).

Reducing Greenhouse Gas Emissions

- Ensures the long-term viability of coal and natural gas as the affordable, reliable, domestic (and perpetually-cleaner) bases of the US energy sector in a low-carbon future
- Provides safety backstop for coal and gas power producers if/when carbon limits come along



Practical and Commercial Solutions



- Focused on identifying and developing commercial-scale carbon storage solutions
- Finding appropriate geologic reservoirs near significant carbon sources (e.g., power plants)
- Securing storage rights

Land is Critical

- Carbon storage is a new economic use of the land
- Work with private landowners and public land agencies
- State lands are an important part of sequestration projects
 - Because of the need for relatively large project sites to accommodate large CO₂ volumes from power plants, state lands are likely to part of many projects- even those which are predominantly privately owned
- Working in a few western states, and are helping work through the issues with the land commissioners arising from this new use of land



Similar to Natural Gas Projects



- Widely-spaced wells over tens of thousands of acres
- Agreements resemble other energy agreements
 - Upfront Payment
 - Site characterization and environmental analyses
 - Royalties during operations, etc.

Get Along Well With Others

- Work with landowners to secure storage rights
 - Most states, including Montana, are assigning pore space rights to surface owners
- Compatible with multiple uses
 - e.g., ranching

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"Knows right from left, can skip, plays well with others...I'm very impressed!"

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Happy To Meet



- Industry is just starting out, rules are now being written
- We are happy to have follow-up meetings with any of the state offices to provide a carbon storage developer's perspective