

# Kentucky Consortium for Carbon Storage

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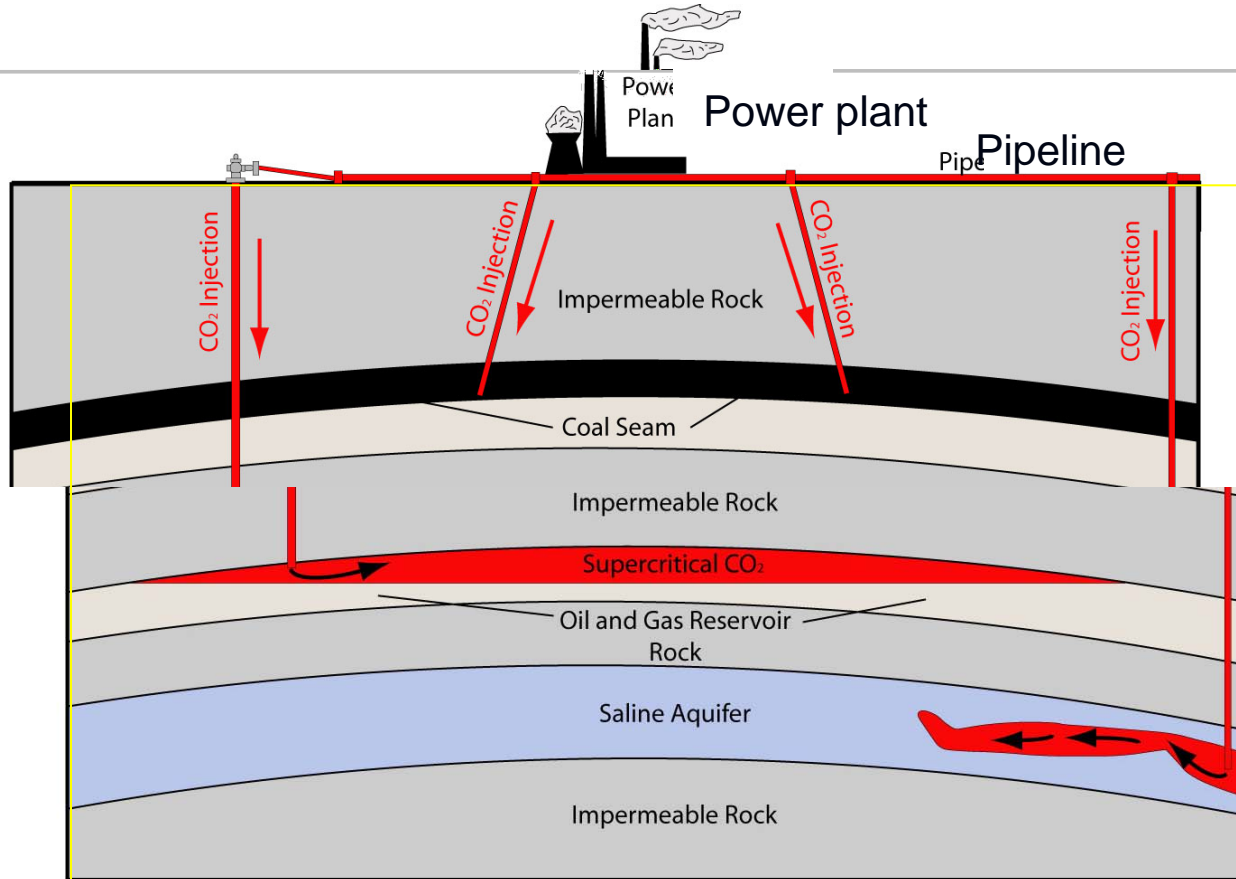
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# Acknowledgements

- Kentucky Legislature and the Governor's Office of Energy Policy
- Funding from DOE CO<sub>2</sub> Regional Partnerships: MRCSP, MGSC, and SECARB
- Discussions with industry representatives
  - KYCCS Industry Partners

# Geologic CO<sub>2</sub> Storage Concept



**Multiple options at different locations**

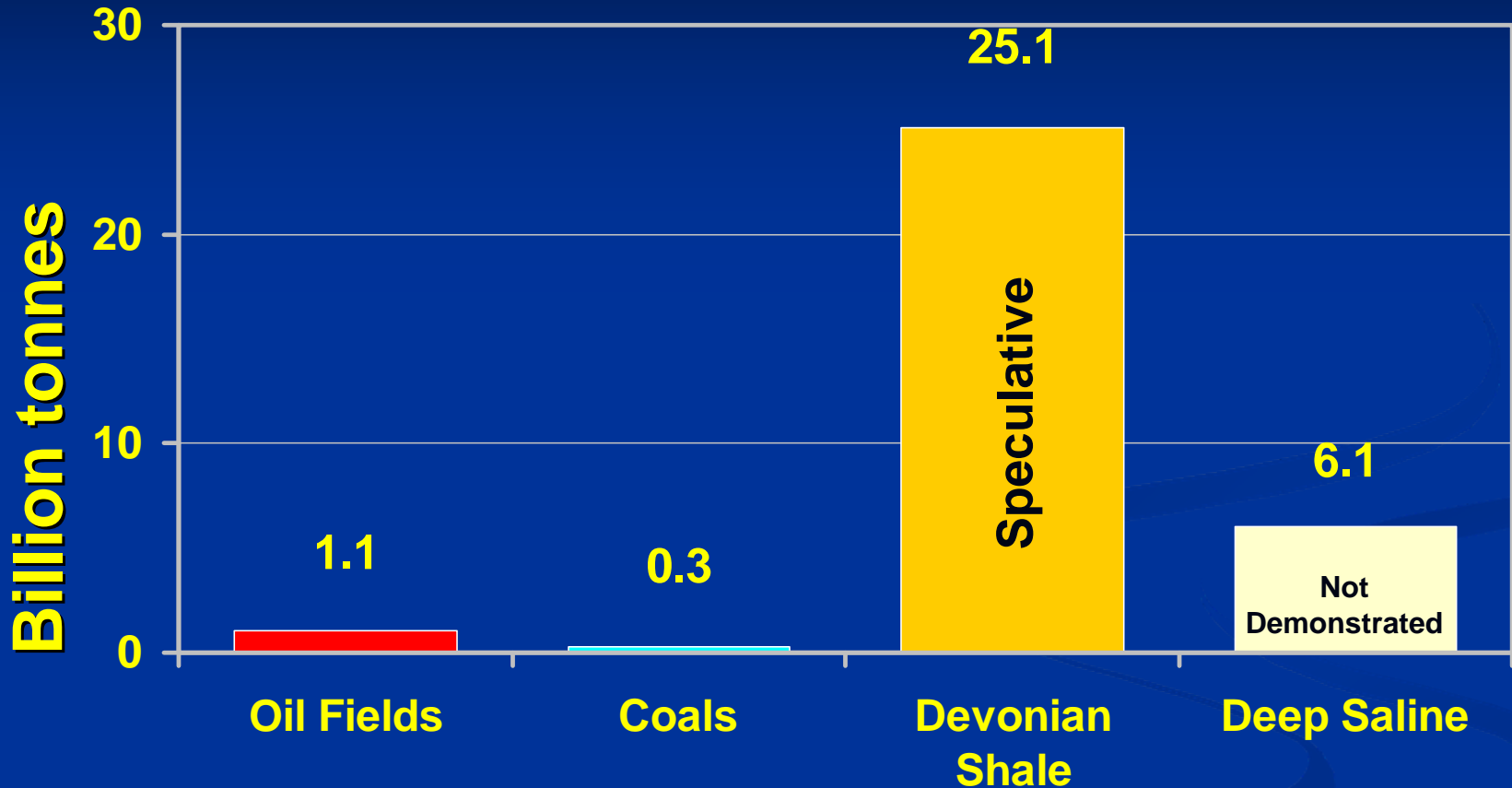
Unmineable coals  
Organic-rich shales

Oil and gas reservoirs

Deep saline aquifers

After Harper (2004)

# DOE Phase I CO<sub>2</sub> Storage Estimates



While CO<sub>2</sub> EOR potential is significant, deep saline or Devonian shale storage will be needed to handle expected volumes

# State Funding for CO<sub>2</sub> Research

- Kentucky HB 1 was passed in a 2007 special session and signed into law August 30.
- Provides financial incentives for coal gasification plants
- Major energy projects will need carbon management programs
- Provides \$5 million through the Governor's Office of Energy Policy to provide data on carbon storage potential

# 2007 HB 1 Directives

- Quantify the potential for:
  - Enhanced oil and gas recovery
  - Enhanced coalbed methane recovery
- Test the Devonian shale for CO<sub>2</sub> enhanced gas recovery and CO<sub>2</sub> storage potential
- Drilling of deep wells in the eastern and western coal fields to estimate storage potential

# Kentucky Consortium for Carbon Storage

- The Commonwealth realized that \$5 million is not sufficient to accomplish all these goals
- A joint industry–government consortium formed
- **Kentucky Consortium for Carbon Storage**  
(KYCCS)

# KYCCS.ORG

Kentucky Consortium for Carbon Storage - Mozilla Firefox

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## Kentucky Consortium for Carbon Storage

A research project administered by the [Kentucky Geological Survey](#), [University of Kentucky](#)

# KYCCS.ORG

Governor's Office of Energy Policy

Oversight and funding from the [Kentucky Governor's Office of Energy Policy](#)

**XML** To keep up with project news and announcements, subscribe to our [RSS feed](#). (What's RSS?)

### KYCCS News and Announcements

**Contacts:**

- [David Harris](#), Head, Energy and Minerals Section
- [Mike Lynch](#), Public Education and Outreach

**Subproject Pages**

<a href="#">WKy Deep Test Subproject</a>	<a href="#">EKy Deep Test Subproject</a>	<a href="#">EOR and EGR Subproject</a>
Project Focus Meetings (Jan. 9-11, 2008)		

- [Introduction to project](#) (PDF, brochure)
- [Letter of Intent to Participate](#) (PDF), **Projects are underway, Letter of Intent Participate should be submitted ASAP.**

**PDF presentations are available online as PDF documents.**

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Contacts

Project Brochure

Subproject Pages





# Consortium Model

- Industry involvement is necessary for the success of this project
  - Cost sharing and well access
  - Provides expertise not available at KGS
  - Justifies the Commonwealth's investment in carbon management research

# Western Kentucky KYCCS

## Contributing Partners

ConocoPhillips  
E.ON U.S. LLC  
Kentucky Syngas, LLC (Peabody)  
Kentucky Geological Survey  
Kentucky Governor's Office of Energy Policy  
Smith Management Group  
State of Illinois Office of Coal Development  
Schlumberger Carbon Services  
Wyatt, Tarrant, and Combs

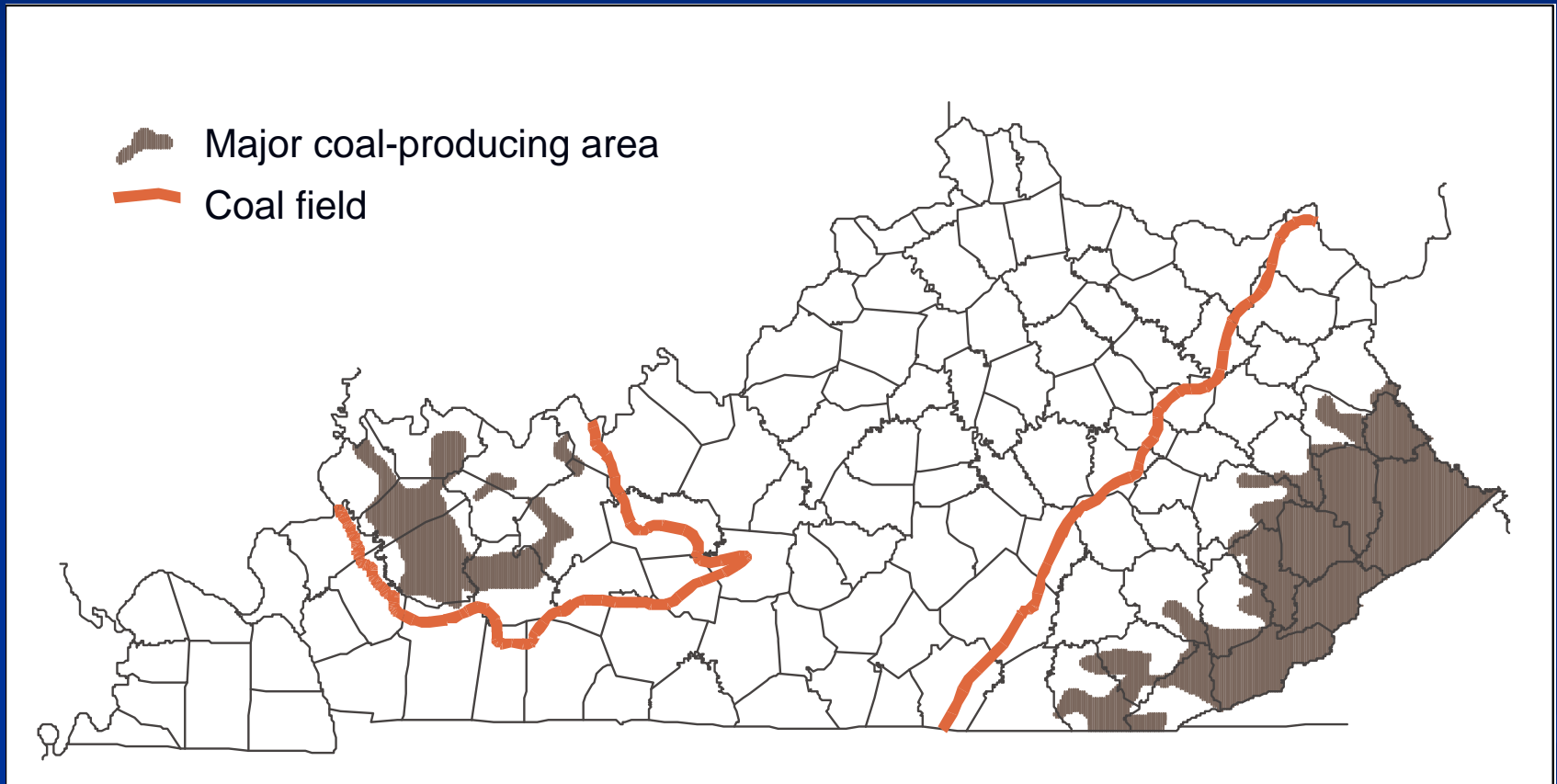
## Associate Partners

Big Rivers Electric Corp.  
GEO Consultants, LLC  
Henderson County Riverport Authority  
ICON Construction, Inc.  
Praxair Inc.  
Tennessee Valley Authority  
Sunshine Oil and Gas  
University of Kentucky CAER  
URS Corp.

# KYCCS

- Five subprojects:
  - Western deep saline CO<sub>2</sub> storage (\$1.35 million)
    - Rick Bowersox, Dave Williams
  - Eastern deep saline CO<sub>2</sub> storage (\$1.35 million)
    - Steve Greb, Warren Anderson
  - CO<sub>2</sub> Enhanced oil recovery (\$800,000)
    - Marty Parris
  - CO<sub>2</sub> Enhanced gas recovery (\$800,000)
    - Brandon Nuttall, Cortland Eble
  - Public Education and Outreach
    - Mike Lynch

# Project Areas



# Project Schedule

- Project to require 3 to 4 years for completion
- Subprojects to run concurrently
- Deep drilling to be first priority due to lead time required, identified partners, and costs
- Projects will remain open to new partners

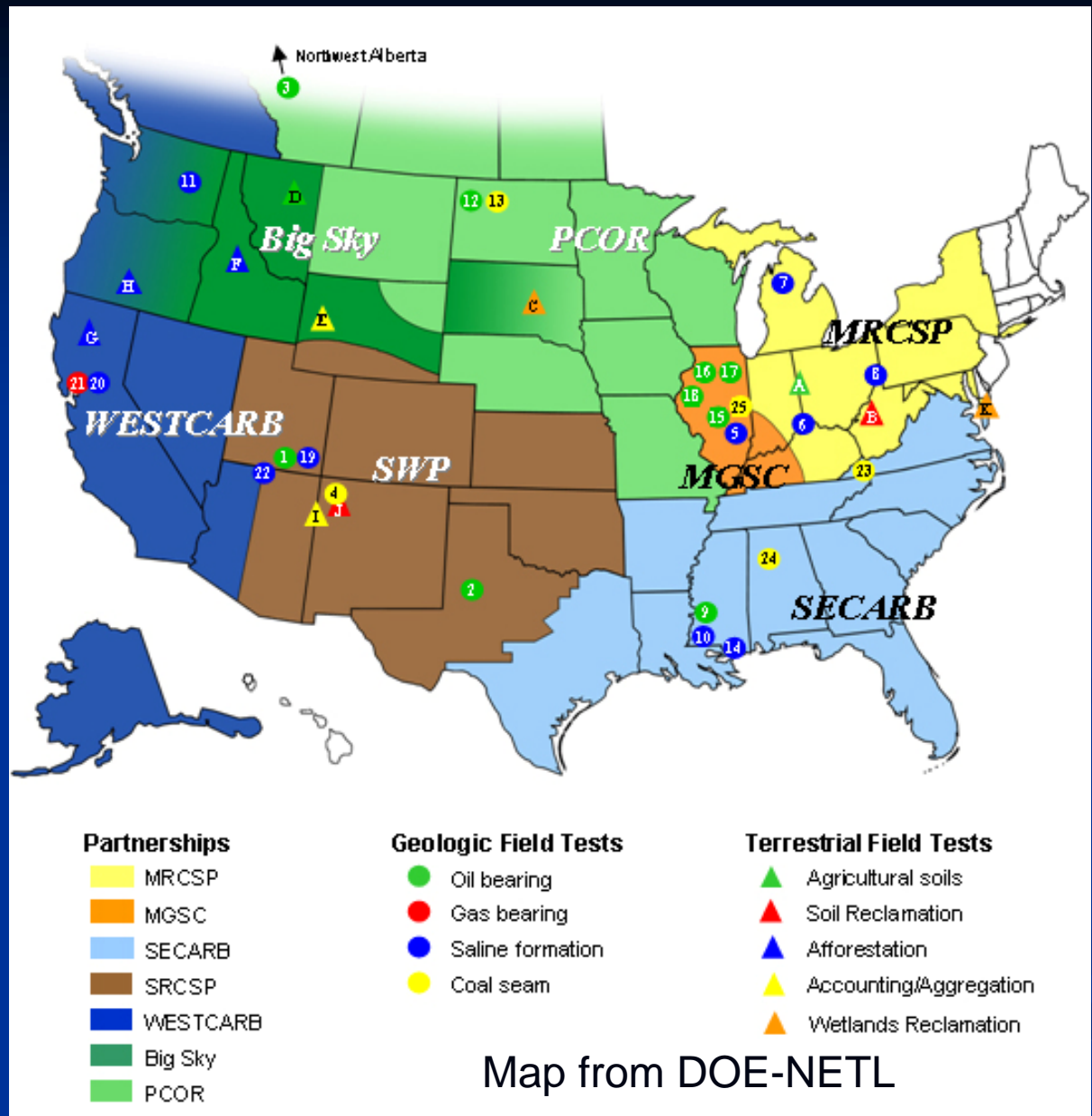
# Today's Agenda

- Short progress reports on four HB 1 research projects
- Your questions and discussion are encouraged

# Impact of Results

- Kentucky geology is not homogeneous
- Research sites will be as representative as possible, however:
  - A successful project will not prove sequestration is possible everywhere, and an unsuccessful project will not condemn the entire state
- We cannot guarantee success – there is risk involved

# DOE CO<sub>2</sub> Regional Partnerships





# KYCCS Industry Response

- Industry interest is high; financial commitment varies by region and industry
- Western Kentucky
  - Large companies, significant matching funds, broad interest in proving and developing permanent CO<sub>2</sub> storage
  - Aggressive schedule due to pending decisions
- Eastern Kentucky
  - Smaller companies and local/regional development groups
  - Interest focused on specific properties
- CO<sub>2</sub> Enhanced Oil and Enhanced Gas Recovery
  - A few companies have shown interest and offered projects