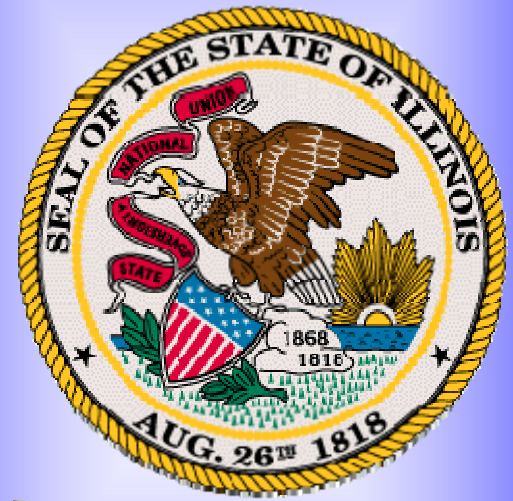


Status of the Coal Projects in Illinois

Daniel Wheeler
Office of Coal Development
Department of Commerce and
Economic Opportunity



Our Mission

- DCEO's Office of Coal Development is dedicated to the development and use of Illinois' extensive coal resources as a fuel source for the 21st century:
 - Support research, development and demonstration of CCTs
 - Provide financial incentives for new energy developments
 - Develop markets for Illinois-mined coal and coal by-products
 - Promote comprehensive, long-range energy policy
 - Promote energy education and awareness



DCEO's Office of Coal Development promotes and supports the Illinois coal industry by:

- financing **research, development and demonstration** of technologies that offer environmentally safe and economically viable methods of coal extraction and utilization;
- identifying new uses and **markets for Illinois-mined coal** and coal byproducts;
- advocating the use of proven **clean coal technologies** as a means of environmental compliance;
- developing **policies and strategies** for compliance with state and federal initiatives including the Clean Air Act Amendments, global-warming policy and electric utility industry restructuring;
- promoting comprehensive, **long-range energy policy** in which Illinois coal plays an major role;
- conducting **education and awareness** campaigns on the advantages of Illinois coal through the media, schools and special projects; and
- **changing public perception** about coal and its utilization.



DCEO Program Funding

Coal Technology Dev. Assistance Fund

- ~\$24 million annually from the Public Utility Tax
 - Coal Research & Development Program (ICCI)
 - Coal Competitiveness Program

Coal and Energy Development Bond Fund

- \$683 million lifetime authorization to finance projects with sale of General Obligation Bonds
 - Coal Demonstration Program -- \$183 M (exhausted)
 - Coal Revival Program -- \$500 M



Expenditures by Program

DCEO Program	\$ Spent to Date	\$ Leveraged to Date	FY2008 Budget
Coal Research & Development (ICCI)	\$ 87.3 M	\$ 9.2 M	\$ 5.0 M
Coal Competitiveness	\$ 138.7 M	\$ 964.8 M	\$ 15.0 M
Coal Demonstration (including \$17 M for FutureGen)	\$ 146.3 M	\$ 752.7 M	\$ 25.0 M
Coal Revival	\$ 0	\$ 0	\$ 50.0 M
			\$ 95.0 M



Coal Research & Development Program

- Administered and funded by DCEO, technically managed by the Illinois Clean Coal Institute in Carterville, Illinois
- Classic peer-reviewed university research program.
- \$4 to \$5 million is awarded annually
 - Approx. 20-25 research projects funded at 80-100%
 - Approx. 3-5 development projects funded at 50%
- \$87.3 million awarded for 813 R&D projects since program started in the mid-1980's



Coal R&D Funding Priorities

(listed in order of priority)

- Carbon Management
- Coal Gasification
 - Economics of Gasification
 - Coal-to-Liquids
 - Syngas Cleanup
 - Gasification Byproducts
- Advanced Coal Mining Technologies
- Coal Preparation and Other Production Business Practices
- Power Generation and Plant Efficiencies
- Flue-Gas Cleaning, Mercury Emissions and Other Air Toxics
- Coal Chemistry
- Commercialization and Technology Transfer
- Other Research



Coal Research and Development

Fly ash Brick Project

- Process developed by ISGS
- Peoria plant site
- 50 million bricks/year
- 30-40% Fly ash



USDOE FutureGen Initiative

- Site evaluations
- Sequestration studies
- Legal issues



Marion Baseball Stadium

- Fly ash concrete used in walkway construction



Coal Competitiveness Program

- Program aimed at making Illinois coal more competitive in existing markets and gaining access to new markets.
- Provides cost-sharing incentives for businesses to improve and expand the coal mining, transportation and utilization systems in Illinois.
- Grant awards for up to 20% of project cost.



Coal Competitiveness Program (cont)

- Proposals received from producers, shippers, coal terminals, electric utilities, manufacturers, regional planning commissions, etc.
- Projects encompass mine, prep plant, rail, barge, road and power plant upgrades and new installations.
- 332 projects funded since program started 1996.
 - \$137 million in state funds through FY2007.
 - \$965 million in private funds leveraged, to date.



FY2008 Coal Competitiveness Program

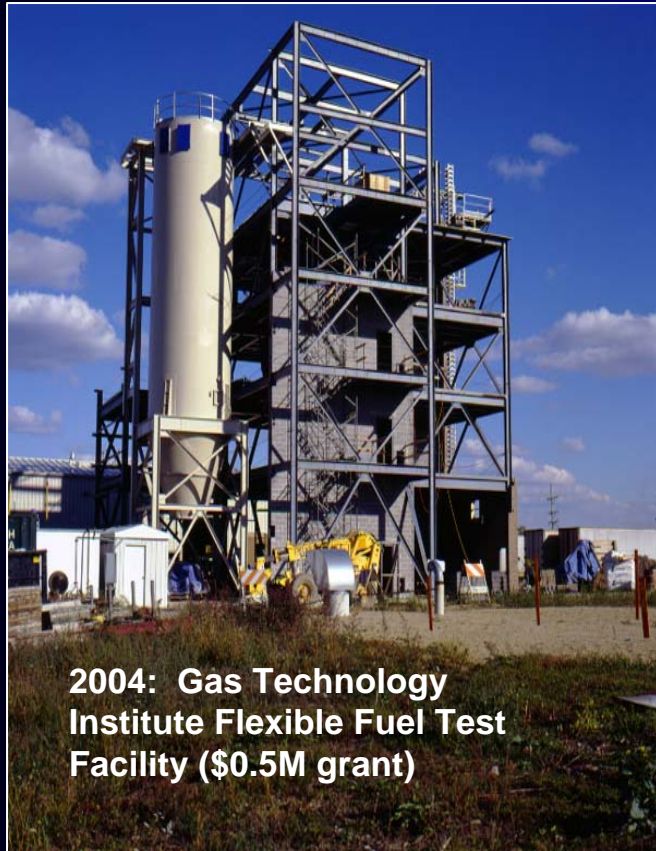
- \$15 million budgeted for grants
 - RFP mailed August 17, 2007
 - Proposals received in Sept./Oct. 2007
 - 37 proposals received to date
 - 26 companies participating
 - \$54.9 million in grant funds requested
 - \$1.4 billion in total project costs
- **FY2009 RFP to be mailed in June 2008**



“Typical” Coal Competitiveness Projects



Recent Coal Competitiveness Projects



Competitiveness Projects Underway

Pratt & Whitney @ GTI

- Rocketdyne gasifier pilot plant

Headwaters @ GTI

- Fischer-Tropsch pilot plant

SIUC Stoker Retrofit

- w/ Babcock-Riley Power's oscillating grate feeder system



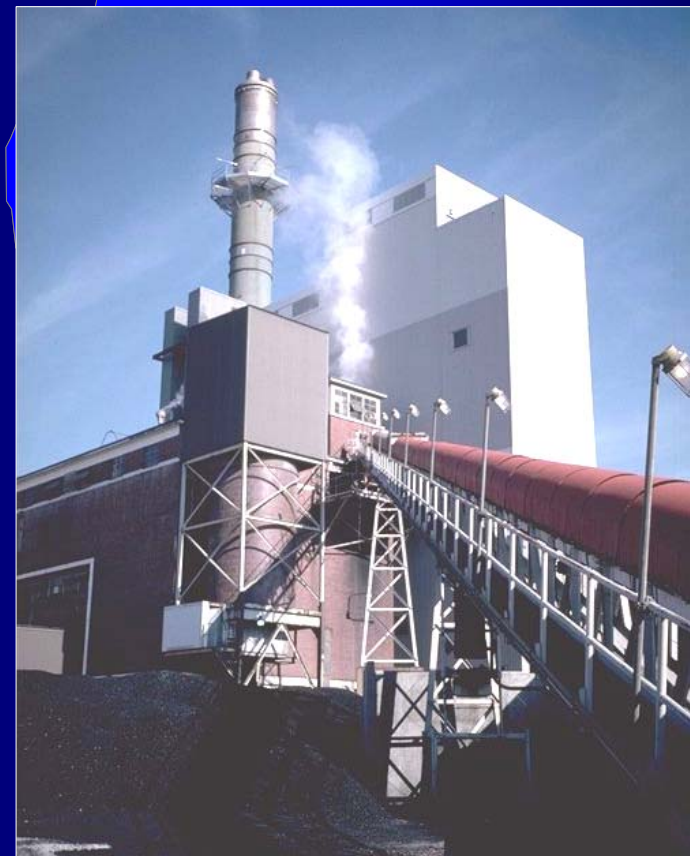
Coal Demonstration Program

- \$183 million bond authorization to demonstrate and deploy clean coal technologies in Illinois
 - \$122 million in Coal Demonstration Program funds expended on 31 projects since 1982
 - \$35 million reserved by statute for Baldwin scrubber
 - \$17 million appropriated for FutureGen in FY2008
 - \$5 million Ameren grant at GOMB for bond release
- Project selection based on technical feasibility, economic benefits, Illinois coal use, Illinois site
- Program shares in the financial risk of demonstrating new technologies



Past Coal Demonstration Program Highlights

- 1998: Fluidized Bed Combustion Boiler w/3 MW Cogen., SIUC/Steam Plant
- 1995: Gas Reburning-Sorbent Injection, IP/Hennepin & CWLP/Lakeside II Plant
- 1991: 150 MW Circulating Fluidized Bed Boiler, ADM Decatur Plant
- 1989: 40 MW Chiyoda CT121 FGD, U of I Abbott Plant



Recent Coal Demonstration Projects:

2001: Springfield's City Water, Light and Power Scrubber Installation (\$17M grant)



2003: Repowering Southern Illinois Power Cooperative's 120-MW Marion Power Station (\$6M grant)



2005: Oil-Dri Corporation's SO₂ Scrubber installed at its Mounds plant (\$1.4M grant)



Illinois Incentives for New Energy Facilities

- Coal Revival Program (20 ILCS 605-332)
 - \$500 million bond authorization for grants to new electric generating or coal gasification facilities:
 - Generators of 400 MW, creating 150 Illinois mining jobs
 - Coal gasification facilities: SNG, chemicals and CTL products
 - Up to \$100 million per project
 - Revenue neutral – through recapture of coal sales tax
 - No grants issued to date
 - \$50 million appropriated in FY2008
 - \$14 million Secure Energy grant at GOMB for bond release



Illinois Incentives for New Energy Facilities (cont.)

- High-Impact Business Tax Incentives
 - Illinois sales tax exemption on building materials and equipment
 - 0.5% investment tax credit
 - Exemption from the Public Utility Tax
- Property Tax Abatement for eligible project
- Revenue Bond Financing. Up to \$450 million per project through the Illinois Finance Authority including low-interest Moral Obligation Bonds



Prairie State Energy Campus

- \$2 billion project by Peabody Energy
- 1600 MW Pulverized coal plant
 - State-of-art flue gas cleanup
 - Twin-810 MW electric units
 - 6 MT of coal per year from adjacent mine
- Air permit issued 4/28/05
 - Env. Appeals Board denied appeal on 9/1/06
- Contractor and energy partners (were) in place
- \$ 1.5 M in state grants to date
- Construction initiated late 2007



Taylorville Energy Center

- 630 MW IGCC facility with future SNG production
 - 2 GE radiant gasifiers
 - GE combined-cycle power block
 - 2 7FB turbines, 1 GE D-11 steam turbine
 - 2 heat recovery system generators, 2 SCRs
 - 2 Selexol acid gas removal trains
 - Activated carbon beds for 95% mercury removal
- Ownership: 50% Tenaska / 50% ERORA Group
- \$1.5 billion project, 1.8 M tons/yr coal use
- Construction/PSD air permit issued 6/5/07
- \$5 M in state grants to date for FEED study
- \$31 M Coal Revival Grant available
- Construction to start in 2008?

Taylorville



Secure Energy Decatur Gasification Plant

- \$330 million conversion of a former Caterpillar power facility to a coal-to-synthesis natural gas (SNG) plant
- 67 mcf/year pipeline-quality SNG
- Siemens to provide two gasifiers
- Will use 1 to 1.5 MT of coal used annually
- Air permit issued on April 6, 2007
- Eligible for \$14 million Coal Revival Grant
- Construction to start in 2008



Decatur



Power Holdings

- \$1.3 billion coal-to-synthesis natural gas (SNG)
- GE-Global gasification technology
- 135 mcf/day pipeline-quality SNG
- 4 to 5 MT of coal used annually from nearby source(s)
- Air permit applied for
- \$5 million in state grants for development (DCEO, CCRB)
- Project is not eligible by statute for Coal Revival Program
 - “A new gasification facility does not include a pilot project located within Jefferson County or within a county adjacent to Jefferson County for synthetic natural gas from coal.”
- Gas purchase agreements in place to Ameren Energy, Nicor, Oneok


Waltonville



Ameren Duck Creek Scrubber

- Existing 336 MW PC plant built in 1976
 - Existing scrubber is inoperable
- New Wet FGD System
 - \$208 million project
 - Construction/PSD air permit issued
- State incentives in exchange for long-term Illinois coal use commitment:
 - Enterprise Zone
 - \$4 million Coal Competitiveness Grant
 - \$5 million Coal Demonstration Grant



Bartonville



FutureGen Project



- A \$1.8 billion public-private partnership to produce energy, hydrogen, and capture CO₂ and store it safely deep underground.
- 275 MW zero-emissions Integrated Gasification Combined Cycle (IGCC) prototype.
- \$17 million Coal Demonstration Grant promised.
- \$2.025 million Coal Competitiveness Grant promised



FutureGen Status

- Two sites in east-central Illinois – Mattoon and Tuscola
- Environmental Impact Studies evaluations were completed
- On December 18, 2007 the FutureGen Alliance announced the selection of the Mattoon site
- On January 29, 2008 Secretary of Energy, Sam Bodman pulls funding commitment.
- OCD remains committed to project

Tuscola



Mattoon



For more information on
DCEO coal programs,
visit our websites at:

www.illinoiscoal.biz

www.futuregenforillinois.com/

www.icci.org

www.isgs.uiuc.edu/

www.sequestration.org/

Or, contact me at:

dan.wheeler@illinois.gov

Thank You.



ILLINOIS
COAL
Discover the Power



DCEO Office of Coal Development