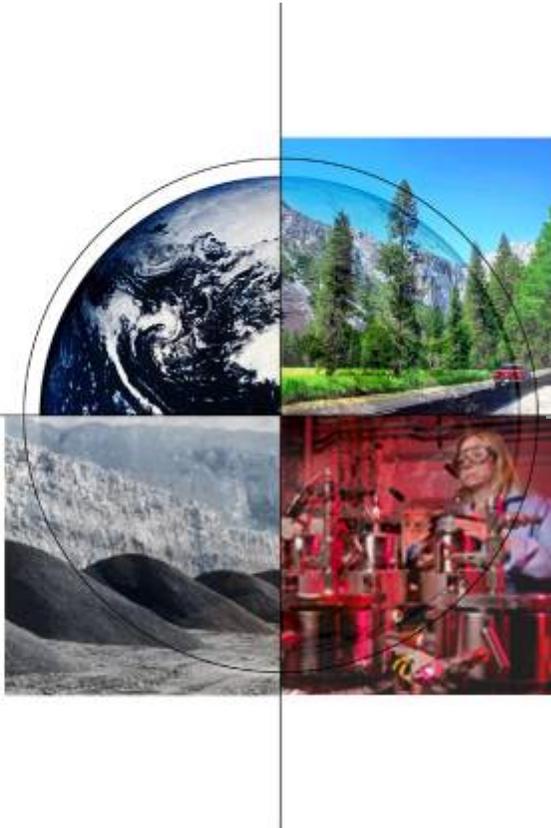


# National Energy Technology Laboratory



## *Overview*

*Steve Richardson,  
Clean Cities Regional Project  
Manager*

*June 27, 2007*

**National Energy Technology Laboratory**



**Office of Fossil Energy**



# National Energy Technology Laboratory

- Only DOE national lab dedicated to fossil energy
- One lab, five locations, one management structure
- 1,200 Federal and support-contractor employees
- Research spans fundamental science to technology demonstrations



*Alaska*



*Oklahoma*



*Oregon*

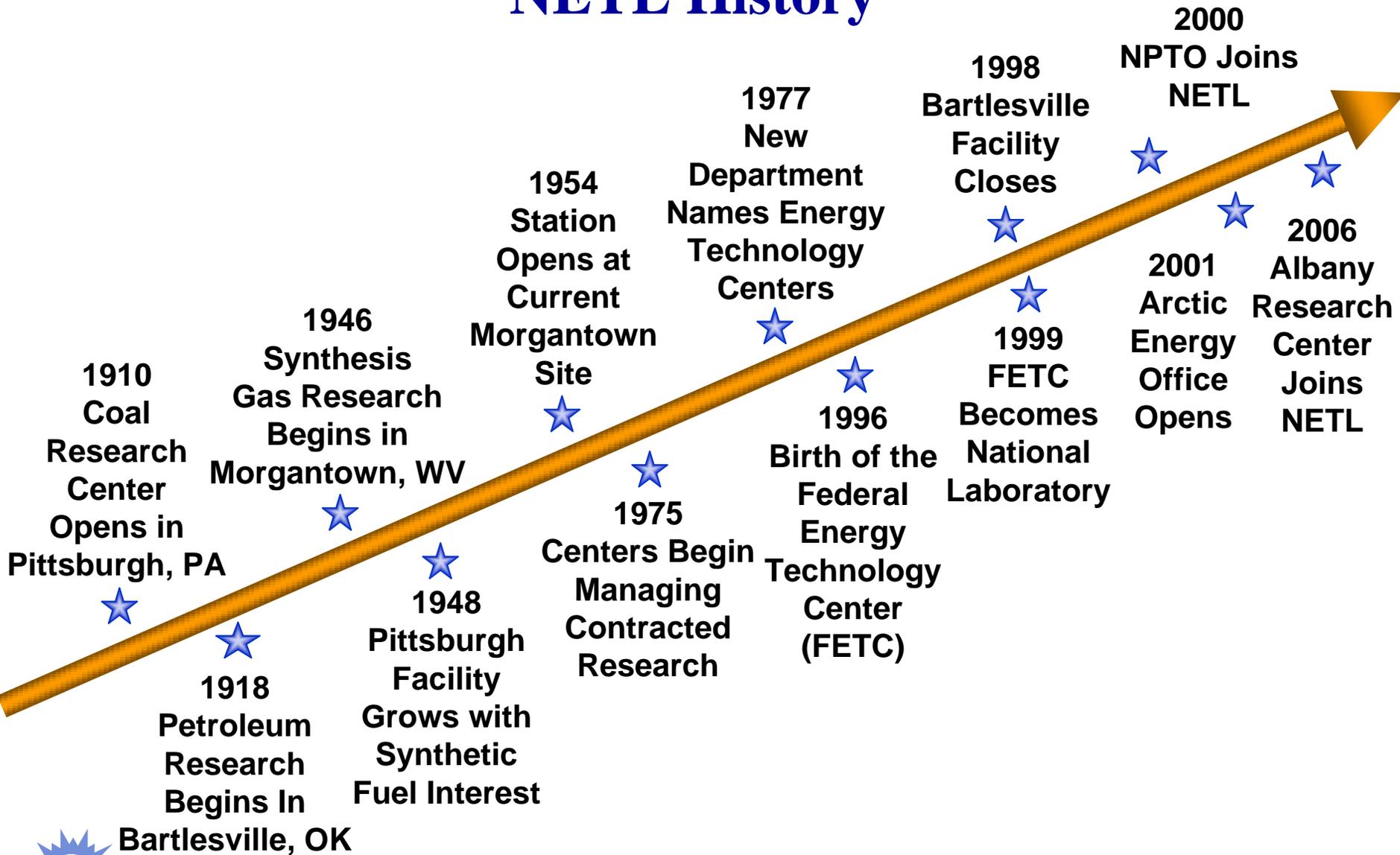


*Pennsylvania*

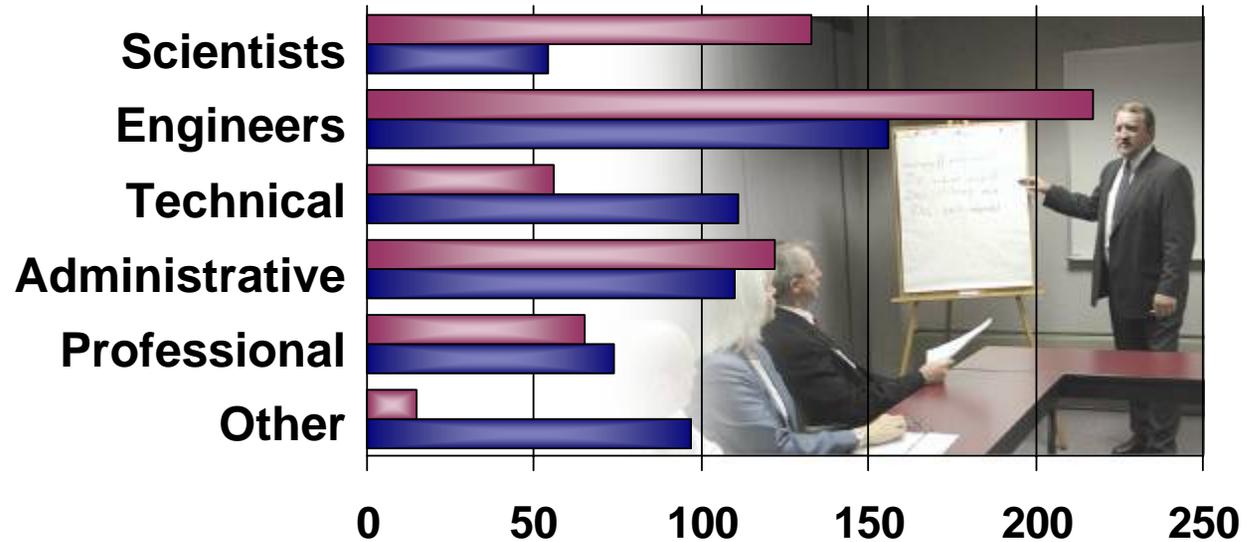
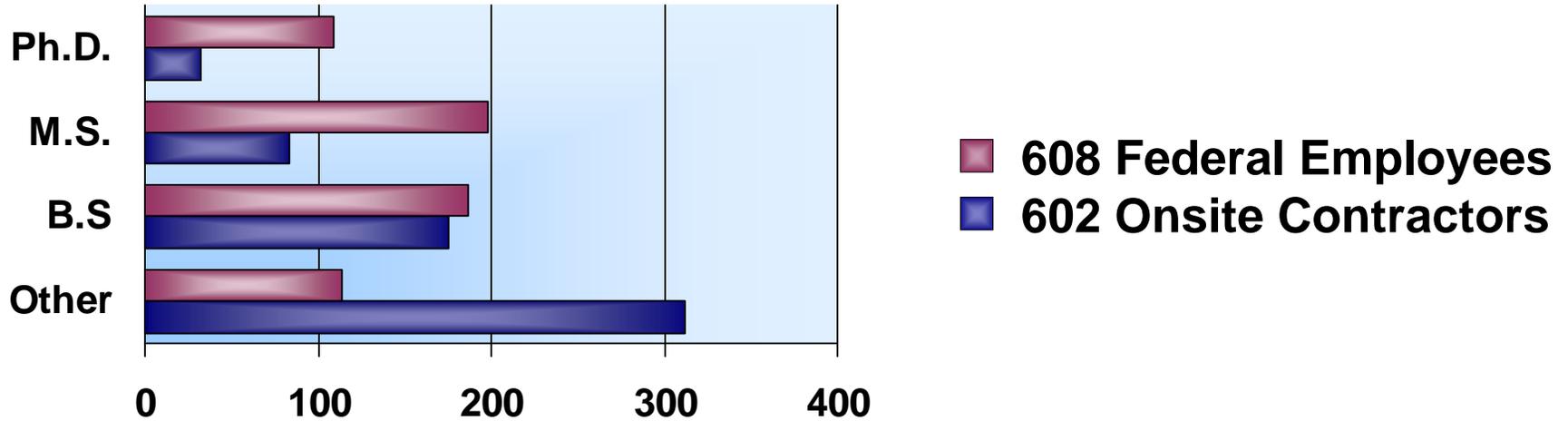


*West Virginia*

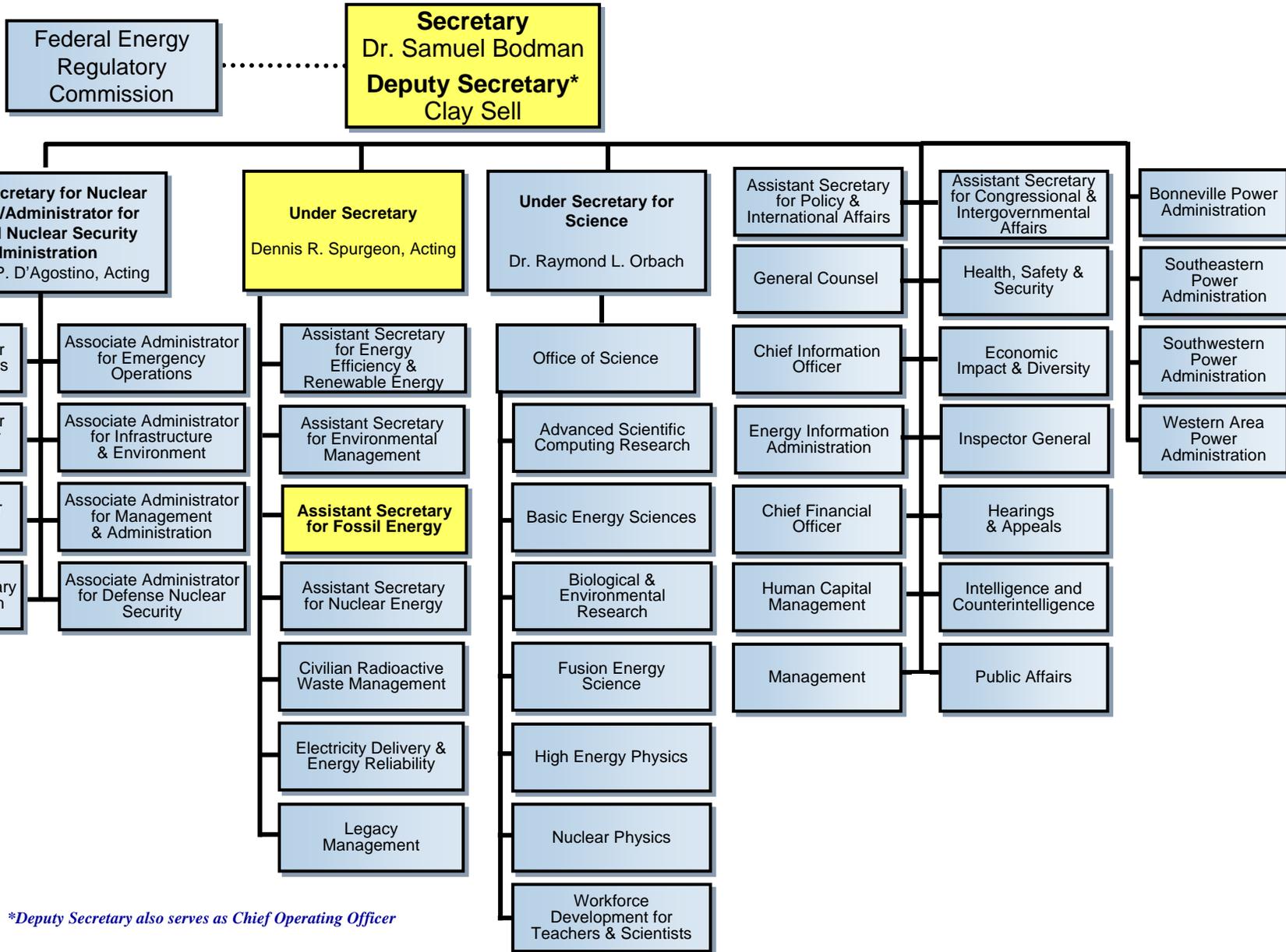
# NETL History



# A Well-Trained Workforce

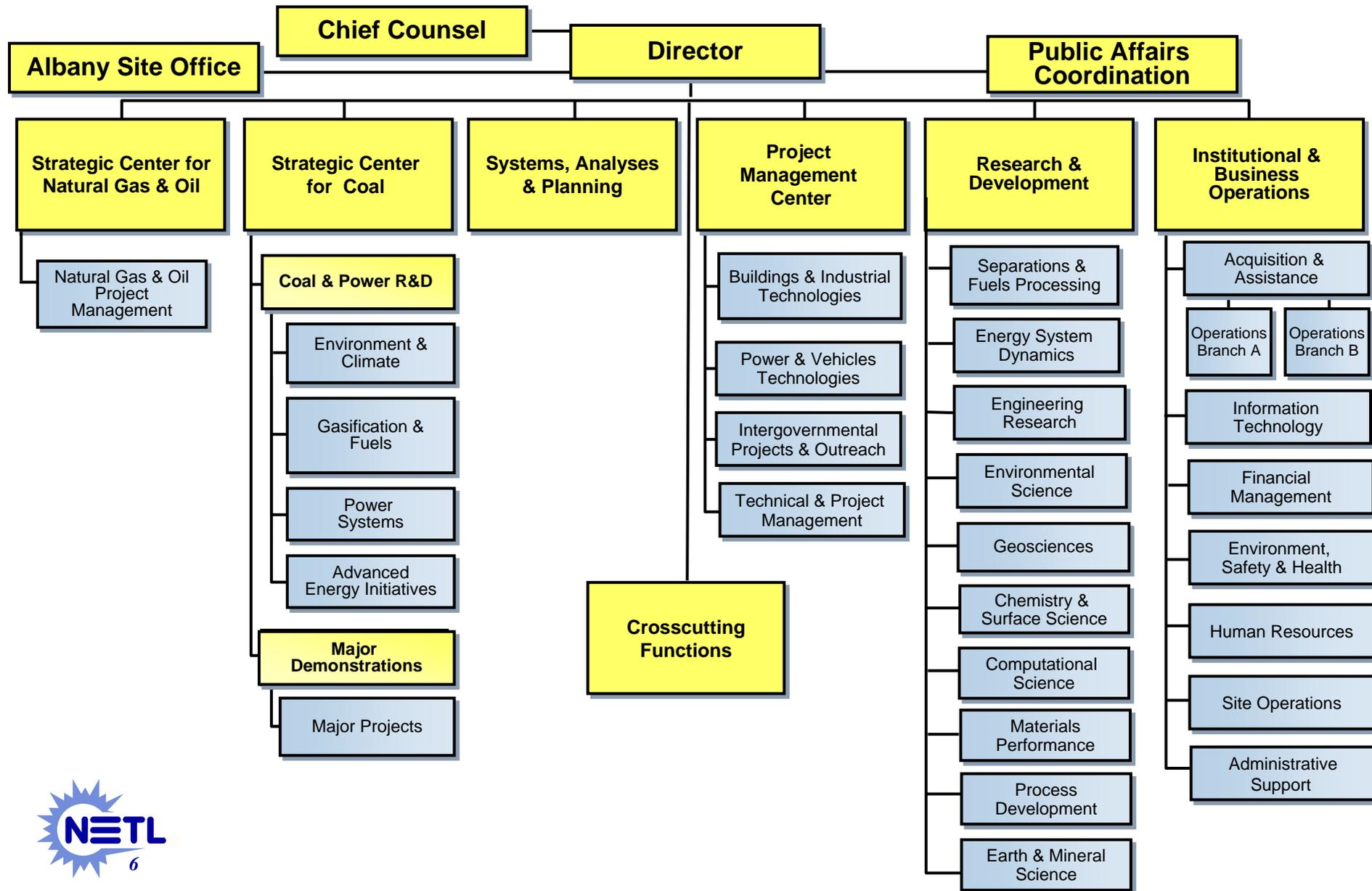


# U.S. Department of Energy



\*Deputy Secretary also serves as Chief Operating Officer

# National Energy Technology Laboratory



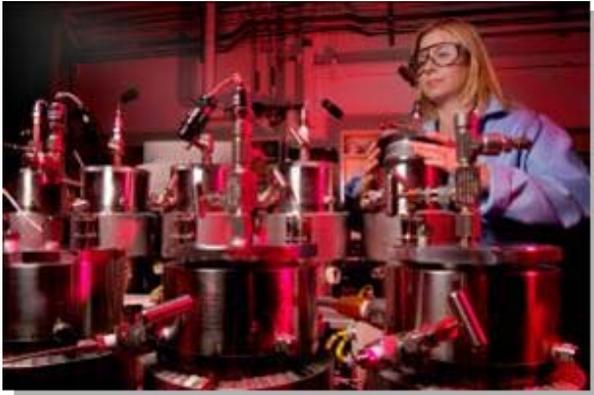
# Fossil Energy Mission

*Ensuring that we can  
continue to rely on clean,  
affordable energy from  
our traditional fuel  
resources*



# NETL Mission

*Implement research, development, and demonstration programs to resolve the environmental, supply, and reliability constraints of producing and using fossil resources*



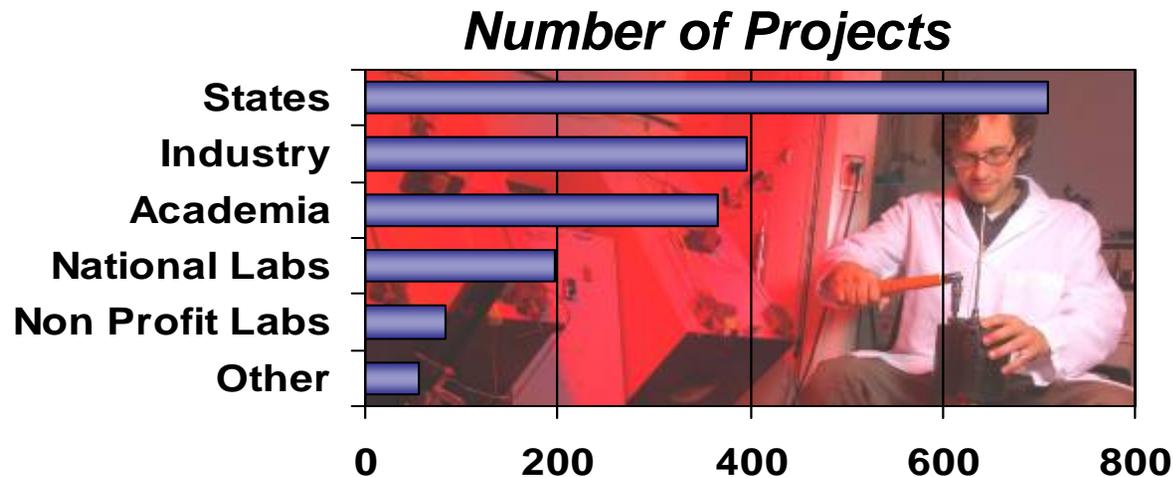
# Accomplishing Our Mission

- Implement and manage extramural RD&D
- Conduct onsite research
- Support energy policy development



# NETL Implements and Manages Extramural RD&D

- Over 1,800 research and deployment activities in U.S. and more than 40 foreign countries
- Total award value over \$9 billion
- Private sector cost-sharing over \$5 billion
  - Leverages DOE funding
  - Accomplishes mission through commercialization
  - Ensures relevance



# Office of Research and Development

## *Creates and Transfers Innovative Fossil Energy Technologies*

- Provides experience for tomorrow's energy leaders
- Conducts collaborative research with universities
- Generates direction and new ideas for future energy systems
- Operates unique fossil energy research facilities

### Key Initiatives

- Advanced carbon management technologies
- Predictive computational tools ranging from atom-scale to full-scale virtual power plants
- Advanced combustion control and simulation
- Developing enabling technologies for extreme deep resources development
- Advanced materials processing and development



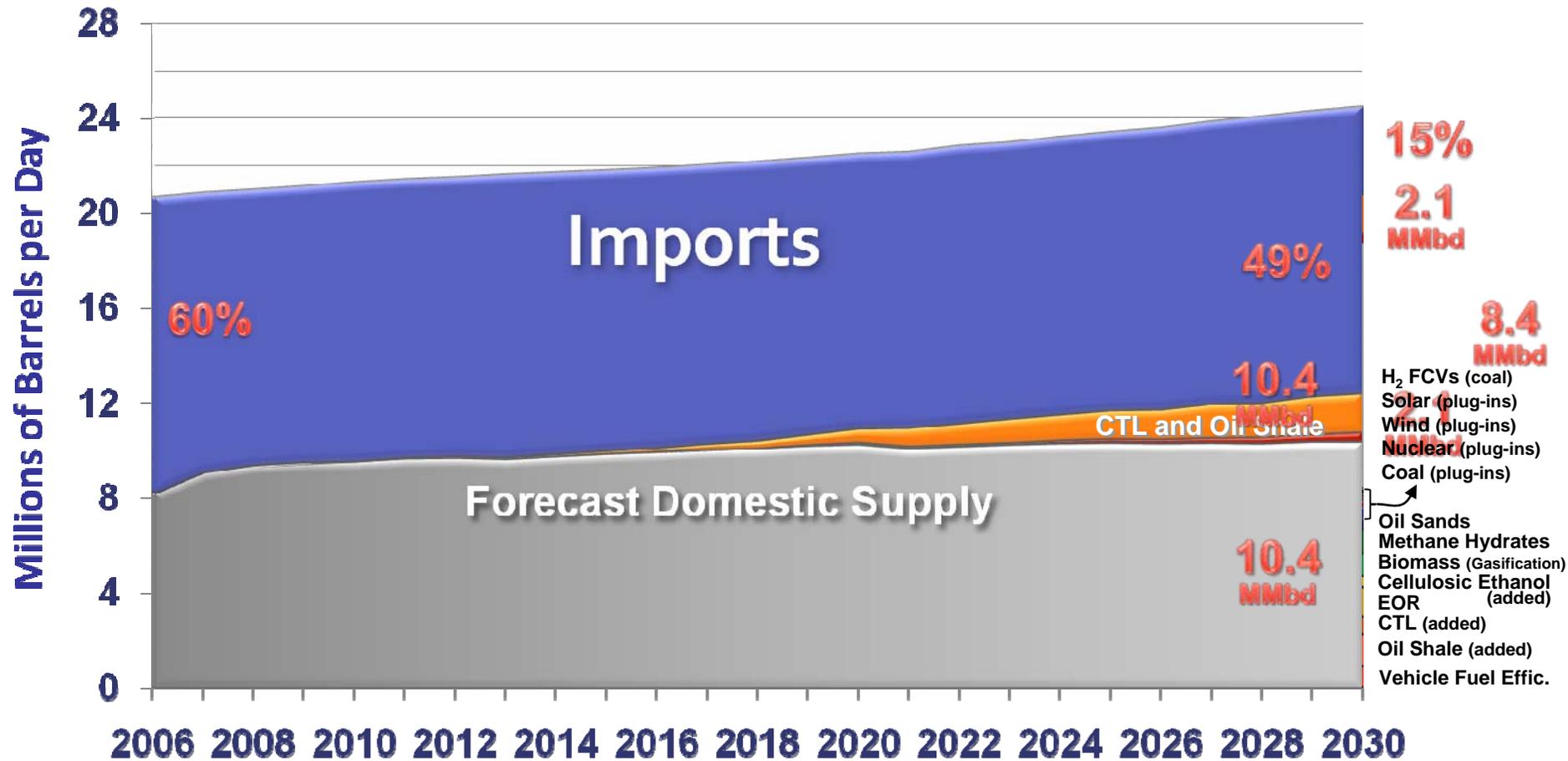
# Office of Systems, Analyses and Planning

## *Employing an Interdisciplinary Approach to Guide R&D and Support Energy Policy Development*

- **Systems analysis**
  - Technical and economic feasibility
  - Integrated operation requirements
  - Setting cost and performance targets
- **Life cycle analysis**
- **Benefits quantification**
  - Advanced technologies deployment
- **Forecasts and trend analysis**
- **Technology-regulatory implications**
- **Assessment of natural resource requirements**

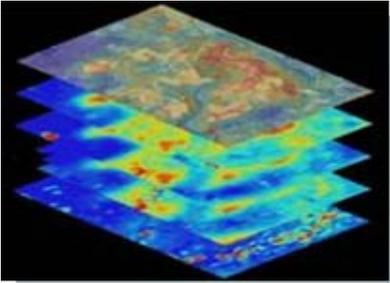


# Diverse Domestic Energy Alternatives Support U.S. Liquid Fuel Supply



*Significant Potential for Reduction in Import Reliance*

# NETL Supports Non-Fossil Infrastructure and Energy Activities



## Energy-Related Water

Growing issue in siting energy infrastructure and resource extraction

## Homeland Security

Energy & other infrastructure protection projects



## Energy Efficiency & Renewable Energy Project Management Center

FreedomCAR  
Building Technologies  
Weatherization & State energy programs

## Electricity Delivery & Energy Reliability

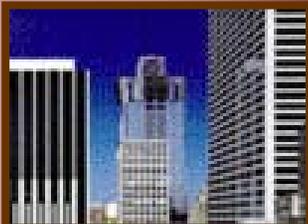
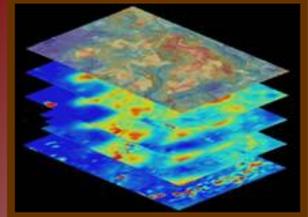
Grid modernization  
Distributed energy  
Reliable & secure energy supplies



# Project Management Center

## *Non-Fossil Infrastructure and Energy Activities*

- **Energy-Related Water**
  - Growing issue in siting energy infrastructure
  - Impacts related to fossil resources extraction
- **Electricity Delivery and Energy Reliability**
  - Security of domestic energy distribution and transmission
- **Homeland Security Infrastructure Protection**
  - Infrastructure protection projects
- **Energy Efficiency & Renewable Energy**
  - EERE Project Management Center



# EERE Project Management Center

- **EERE PMC formed by NETL & Golden Field Office**
- **Dedicated field capability to provide same management services for all EERE Programs**
- **NETL's responsibilities**
  - FreedomCAR and Vehicle Technologies
    - Clean Cities
  - Weatherization and State Energy Programs
  - Building Technologies
  - Mining Industries of Future
  - Biomass (e.g., black liquor)
  - FEMP / Biomass Alternate Methane Fuel (BAMF)



# Clean Cities Regions and PMC Assignments

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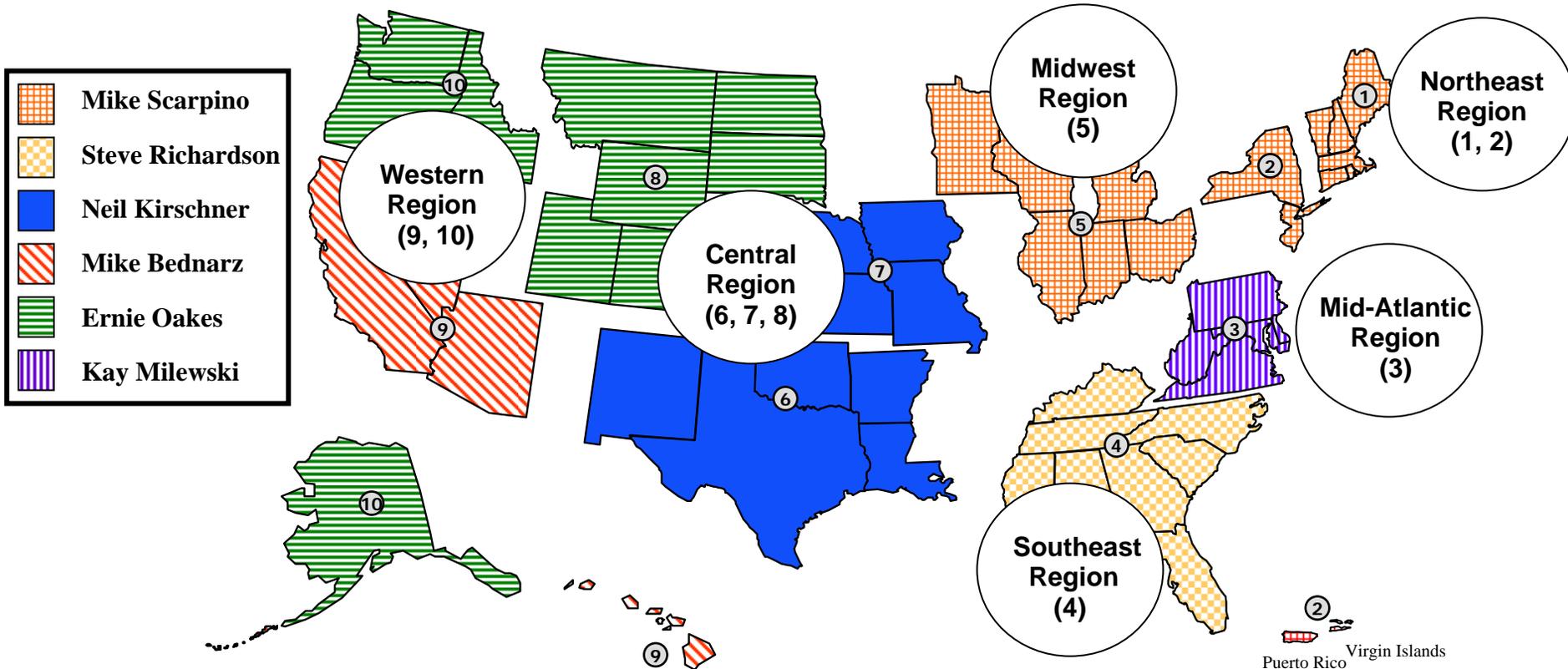
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Fossil Energy NEWS SPOTLIGHT

**New DOE Report Gauges Future Freshwater Needs for Power Plants**  
DOE's National Energy Technology Laboratory has updated its groundbreaking 2004 study estimating future freshwater requirements for the U.S. thermoelectric generation sector. Bringing a much-needed regional focus, the new report identifies a dichotomy between national and local freshwater needs and pinpoints where critical water issues could develop. [Read more >](#)

OFFICE OF FOSSIL ENERGY

Recognizing that we can continue to rely on clean, affordable energy from our traditional fuel resources to the primary mission of DOE's Office of Fossil Energy, fossil fuels supply 85% of the nation's energy, and we are working on such priority projects as reducing the coal plants, more productive oil and gas fields, and the continuing readiness of federal emergency oil stockpiles.

Read more about:

- Fossil Energy Organization
- Business & Funding

*Fossil Energy website:*  
[www.fe.doe.gov](http://www.fe.doe.gov)

National Energy Technology Laboratory

Site Map

NETL

THE ONLY U.S. NATIONAL LABORATORY DEVOTED TO FOSSIL ENERGY TECHNOLOGY

ABOUT NETL  
KEY ISSUES & MANDATES  
ON-SITE RESEARCH  
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**Tackling U.S. Energy Challenges**

**Secure and Reliable Energy**  
Domestic coal, oil, and natural gas resources can contribute enormously to our Nation's economic strength, energy security, and quality of life through the 21st century.

[View Results & Results Energy Resources](#)

2005 NETL Accomplishments Report / We are proud to announce the release of NETL's [2005 Accomplishments Report](#), a summary of the results of NETL's work over the past fiscal year.

A Clarification: In order to ensure that the public is presented a clear understanding of the U.S. Department of Energy's perspective on the current state of mercury control technologies for coal-fired power plants and their associated costs, DOE/NETL, in cooperation with the RA, Federation of Environmental Clubs, has issued the signed clarifications to the FWPCA April 18 press release titled U.S. Department of Energy Says Mercury Control Technology Available. [Click Here](#) to Sponsor Urges Legislators to Protect Pennsylvania's

NEWS & FEATURES / [All](#)

- Preliminary Economic Analysis of Airborne Carbon Dioxide (PCEA-1) Study
- Solidation for "Flow" Technology & Commercial Feasibility Assessment for CO<sub>2</sub> Capture & Separation for Petrochemical Feedstocks
- Solidation for "Flow" Technology & Commercial Feasibility Assessment for CO<sub>2</sub> Capture & Separation for Petrochemical Feedstocks
- Solidation for "Flow" Technology & Commercial Feasibility Assessment for CO<sub>2</sub> Capture & Separation for Petrochemical Feedstocks
- NETL to Release "NETL Research in Focus" Booklet
- Tax Credit Certification Summary

EVENTS CALENDAR / [All](#)

- 2005 International Technical Conference on Coal Utilization & Fuel Systems
- 2005 International Coalbed Methane Symposium
- Technical Workshop Conference 2005
- Society of Petroleum Engineers 2005 Annual Technical Conference & Exhibition
- 2005 Environmental Control Conference

PUBLICATIONS &

*NETL website:*  
[www.netl.doe.gov](http://www.netl.doe.gov)

