



*Generation, Fuels &  
Environment  
Membership  
Advisory Group*

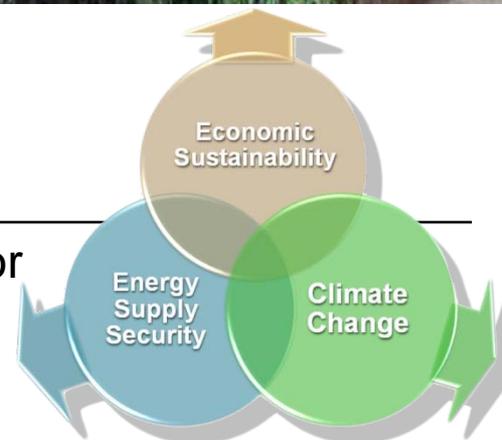
*June 15-16, 2010*



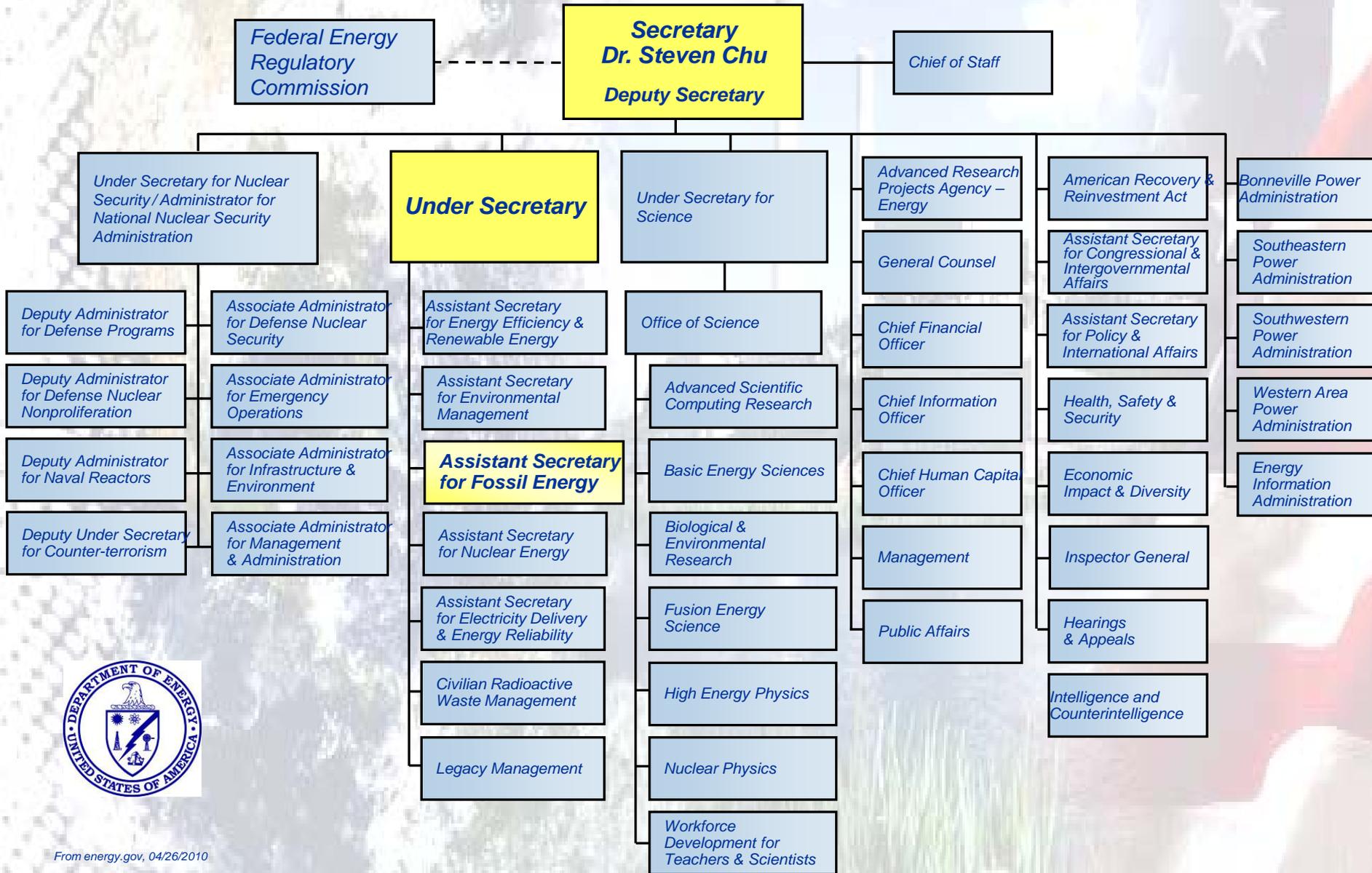
*Morgantown, WV  
Pittsburgh, PA*

## **NETL Overview**

Daniel C. Cicero, Senior Advisor  
Strategic Center for Coal



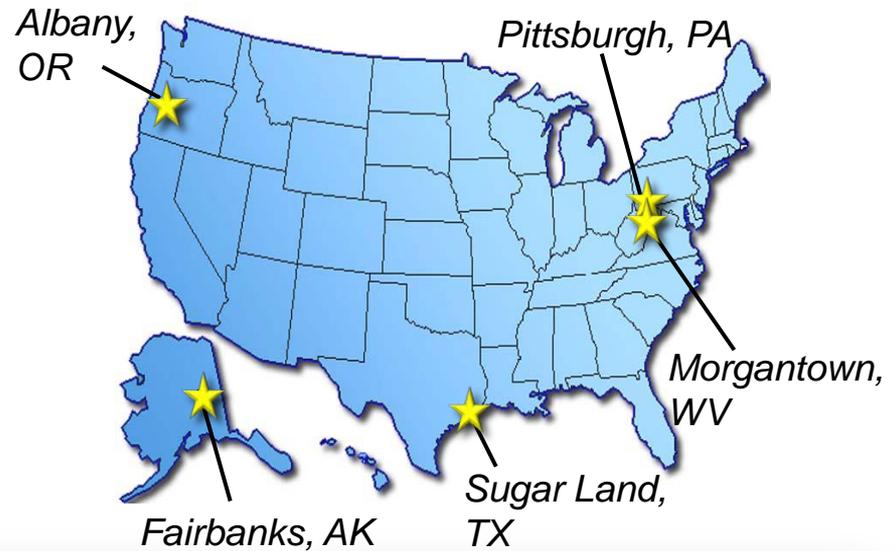
# Department of Energy



# National Energy Technology Laboratory

*Where Energy Challenges Converge and Energy Solutions Emerge*

- *DOE national laboratory dedicated to energy RD&D, domestic energy resources*
- *Fundamental science through technology demonstration*
- *Unique industry – academia – government collaborations*



*Oregon*



*Pennsylvania*

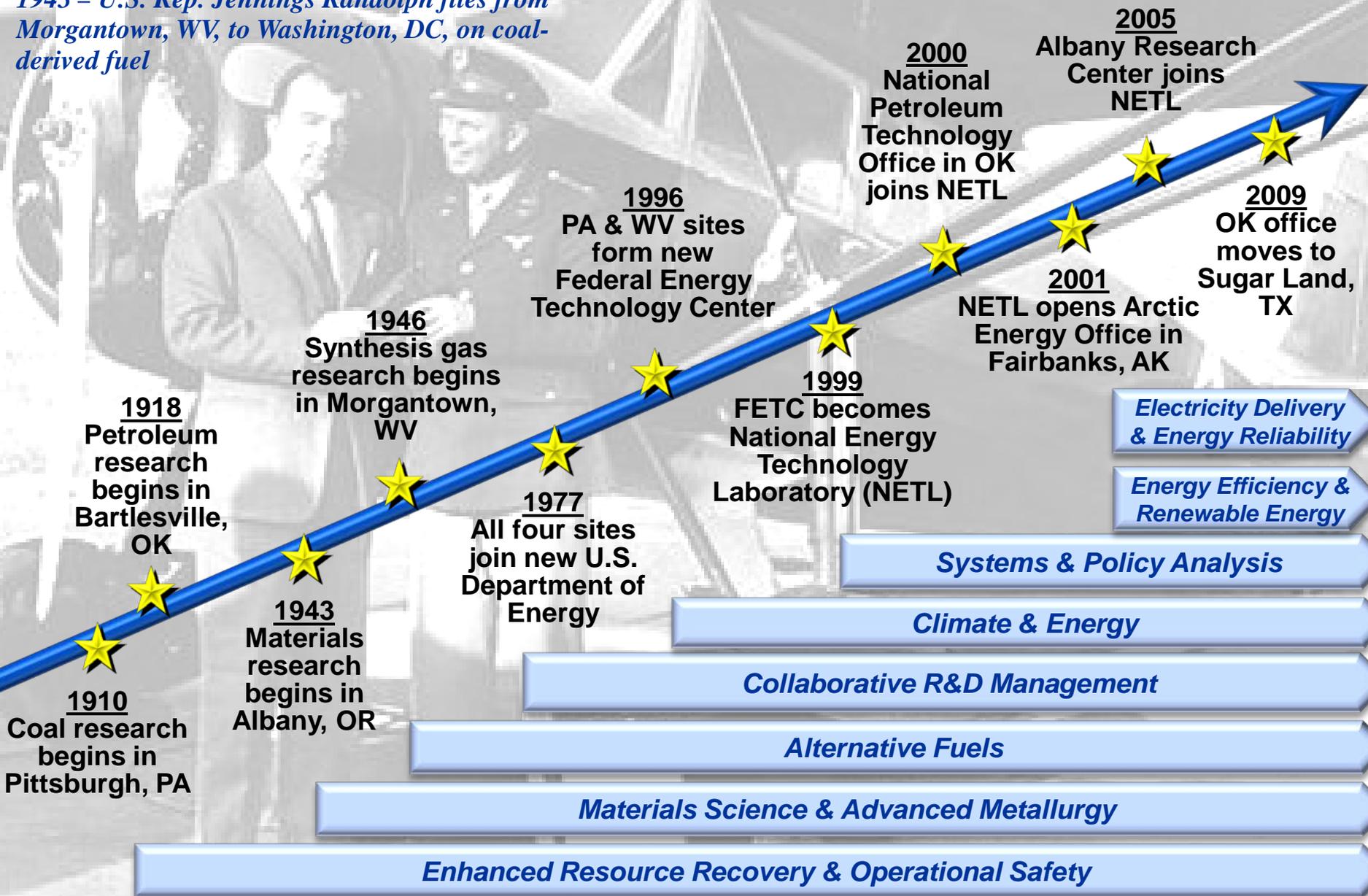


*West Virginia*

**NATIONAL ENERGY TECHNOLOGY LABORATORY**

# A Century of Energy Innovation

*1943 – U.S. Rep. Jennings Randolph flies from Morgantown, WV, to Washington, DC, on coal-derived fuel*



**1918**  
Petroleum research begins in Bartlesville, OK

**1910**  
Coal research begins in Pittsburgh, PA

**1943**  
Materials research begins in Albany, OR

**1946**  
Synthesis gas research begins in Morgantown, WV

**1977**  
All four sites join new U.S. Department of Energy

**1996**  
PA & WV sites form new Federal Energy Technology Center

**1999**  
FETC becomes National Energy Technology Laboratory (NETL)

**2000**  
National Petroleum Technology Office in OK joins NETL

**2001**  
NETL opens Arctic Energy Office in Fairbanks, AK

**2005**  
Albany Research Center joins NETL

**2009**  
OK office moves to Sugar Land, TX

*Electricity Delivery & Energy Reliability*

*Energy Efficiency & Renewable Energy*

*Systems & Policy Analysis*

*Climate & Energy*

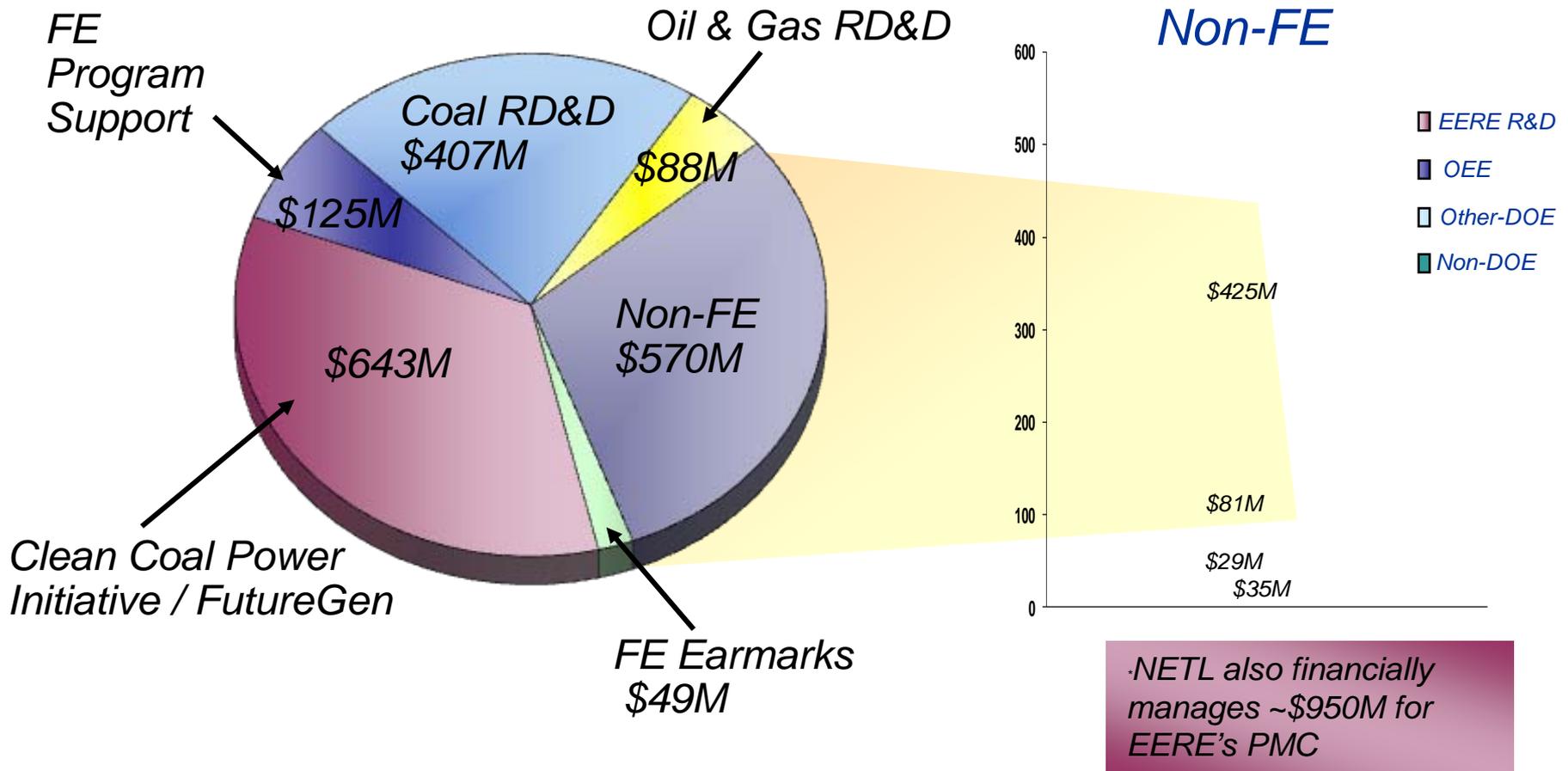
*Collaborative R&D Management*

*Alternative Fuels*

*Materials Science & Advanced Metallurgy*

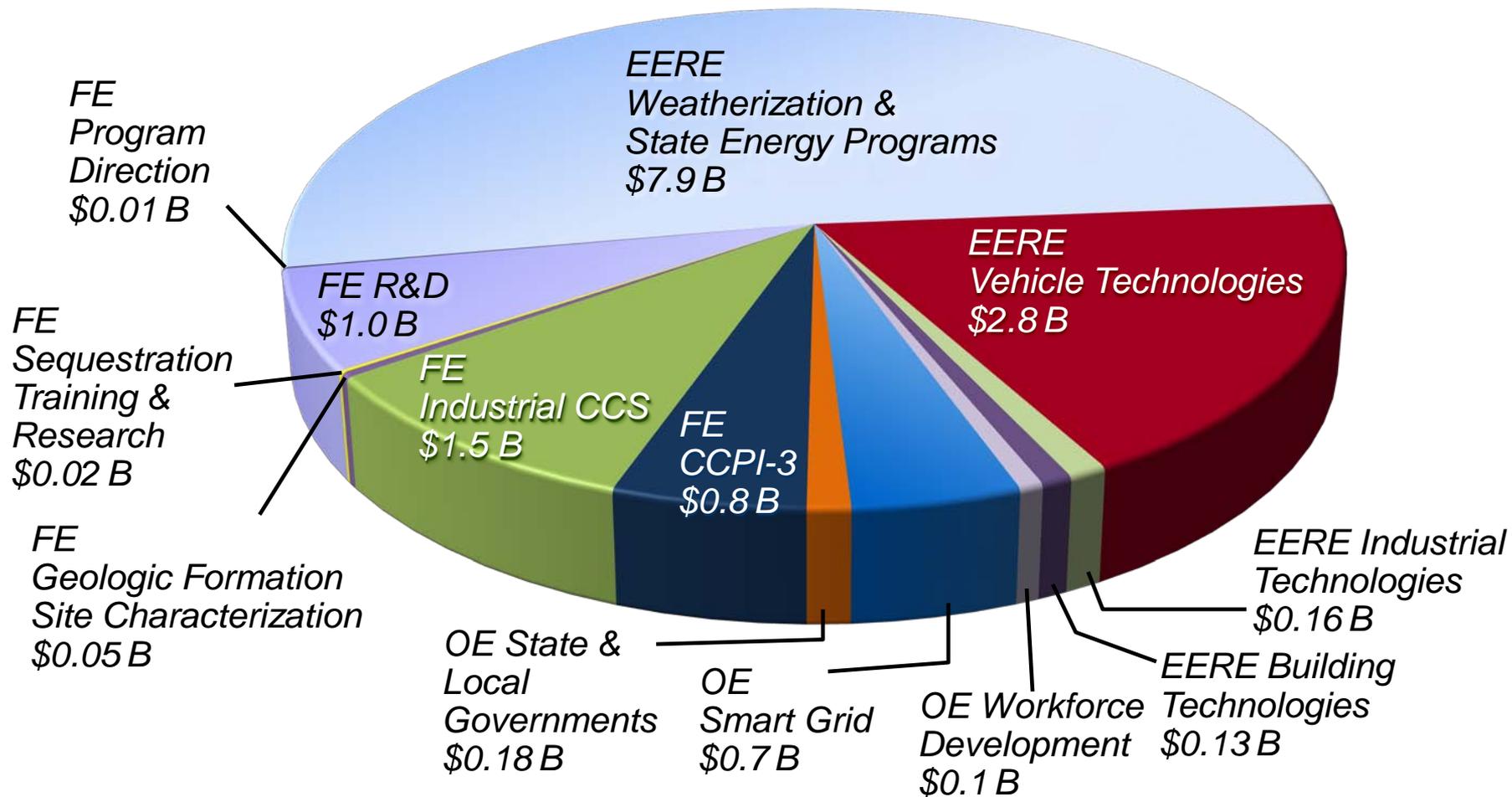
*Enhanced Resource Recovery & Operational Safety*

# NETL FY 2010 Budget: \$2.82 Billion



# ARRA Energy Funding Provisions

## FE, OE, EERE Total: \$15.4 Billion



*All funds obligated by 2010 and expensed by 2015*

# NETL Program Areas

## *Strategic Center for Coal*



## *Strategic Center for Natural Gas and Oil*



## *Project Management Center*



# Integrated Technologies Are Necessary



**Fuel Cells**



**Future Coal Energy Plant**



**Carbon Sequestration**



**Gasification with Cleanup Separation**



**Clean Fuels Production**

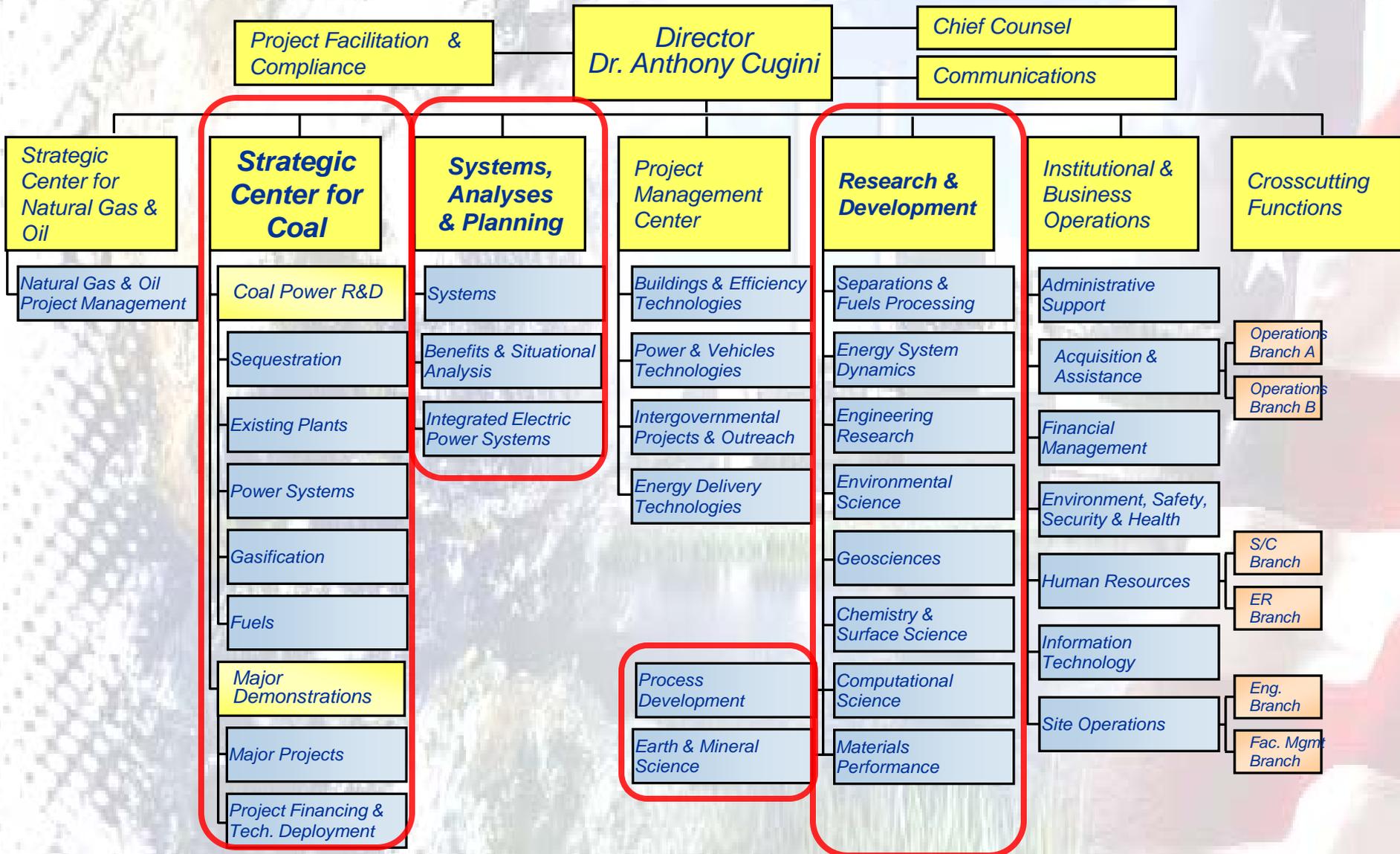


**Optimized Turbines**



**System Integration**

# National Energy Technology Laboratory



# AGENDA June 15-16, 2010

## Day 1 Morgantown

### Introduction

- National Energy Technology Laboratory
- National Rural Electric Cooperative Assn
- Integrated Gasification Combined Cycle
- Status of American Recovery Act – ICCS 1
- Status of American Recovery Act – ICCS 2
- Advanced Turbines
- Fuel Cells
- Coal to Synfuels Projects/Polygeneration

12:30 pm Lunch/Discussions

- Office of Research & Development (ORD)
- Tour of Morgantown R&D Labs

4:30 pm Depart

## Day 2 Pittsburgh

- Innovations for Existing Plants
- Carbon Capture and Sequestration
- Comparison of Economics of IGCC
- Natural Gas Supply, Demand, Price Forecast (Shale Gas Discussion)
- Tour of Pittsburgh R&D Labs

12:15 pm Lunch

1:15 pm Depart