

Delivering Affordable, Reliable, and Secure Energy SolutionsS

Bryan D. Morreale

*National Energy Technology
Laboratory*

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The National Energy Technology Laboratory



- One Lab, Multiple Campuses
- **THE** National Lab **dedicated to carbon and applied subsurface research**
- Only **GOGO** DOE Lab
- **One of three applied** national labs
- **Over a century** of delivering innovation and solutions
- **>1,500** Staff, **> \$1B** in infrastructure

History of Impact

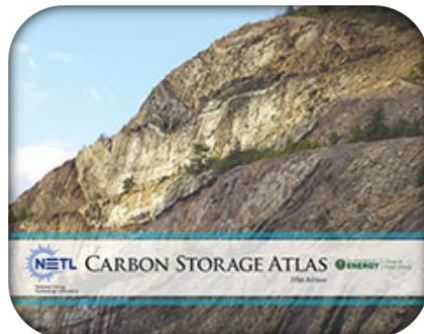
BIG ENERGY MOMENTS

**Deepwater Horizon
and Aliso Canyon**



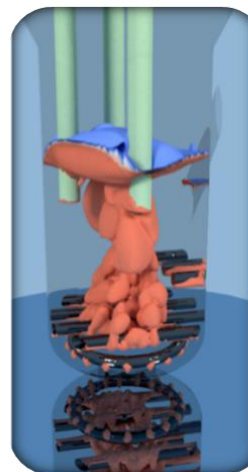
CATALYZING SOLUTIONS

**Carbon Storage
Atlas**



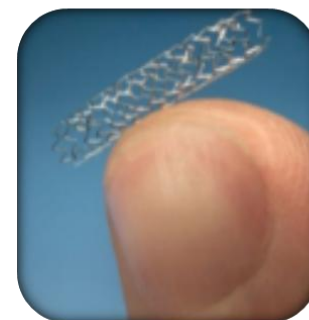
SAVING MILLIONS OF DOLLARS

**Computational
Modeling & Simulation**



SAVING LIVES

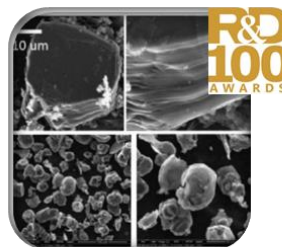
**Biomedical Alloys
Radiopaque Stent
Alloy**



Emerging Successes



NETL Discovers Li source to supply 40% domestic demand within produced waters



Patent for production of graphene-structured products from low-value carbon wastes using thermal molten salt process



EDX disCO₂ver platform accelerates CCS data access and connections



NETL created a WPI to take advantage of new, highly efficient WSE computing infrastructure



Record performing, patented membrane field testing at US Steel



Patented cost-effective Targeted Rare Earth Extraction (TREE) process to extract REEs from coal wastes

Core Competencies



Computational
Science and Engineering



Materials Engineering
and Manufacturing



Energy Conversion
Engineering



Geological and
Environmental Systems



Strategic Systems
Analysis and Engineering



Program Planning,
Execution and Integration

Centers of Excellence



Oil & Gas
Pittsburgh, PA



Coal
Morgantown, WV



**Critical Minerals &
Advanced Alloys**
Albany, OR



Geothermal
Location TBD

Accelerate the development and deployment of energy technology in partnership with industry

Centers are organized based on broad value chain segments

Centers have dedicated leadership as focal point for NETL and the NL complex

Systems analysis to guide R&D and quantify impacts

Critical Role of Sensing



Oil & Gas
Pittsburgh, PA

- Exploration & production
- Transport & storage
- Power, fuels & chemicals



Coal
Morgantown, WV

- Mining & processing
- Conversion & Products
- Power & Capture



Critical Minerals
Albany, OR

- Extraction & recovery
- Process development
- Alloys & products



Geothermal
Location TBD

- Exploration & access
- Subsurface enhancements
- Resource maximization

Partnerships & Collaborations

Ale Hakala

Center Director, Oil & Gas CoE

Nate Weiland

Center Director, Coal CoE

Scott Montross

Center Director, Critical Minerals CoE

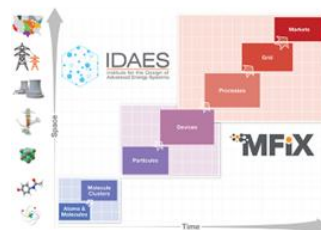
Peter Balach

Director, Systems Analysis

Cliff Whyte

Partnerships

**IDEAS
& MFiX**



**Gas Separation
Facility**



**Adv. Computing
Infrastructure**



**Pilot-scale
CFB**



**In-situ
Geo-Imaging**



**Adv Alloy
Dev. Facility**

