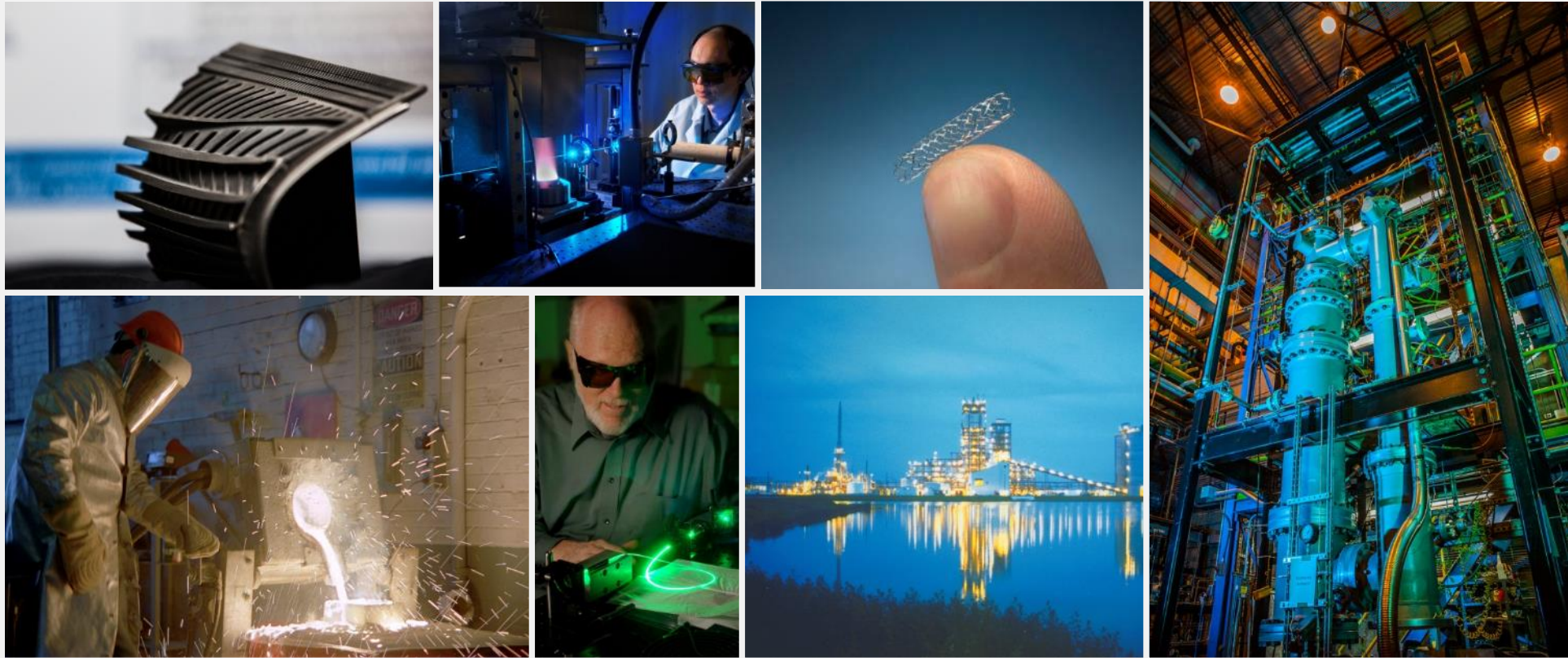




Solutions for Today ♦ Options for Tomorrow



Address to the U.S.-China Clean Coal Industry Forum

Dr. Grace Bochenek
Director

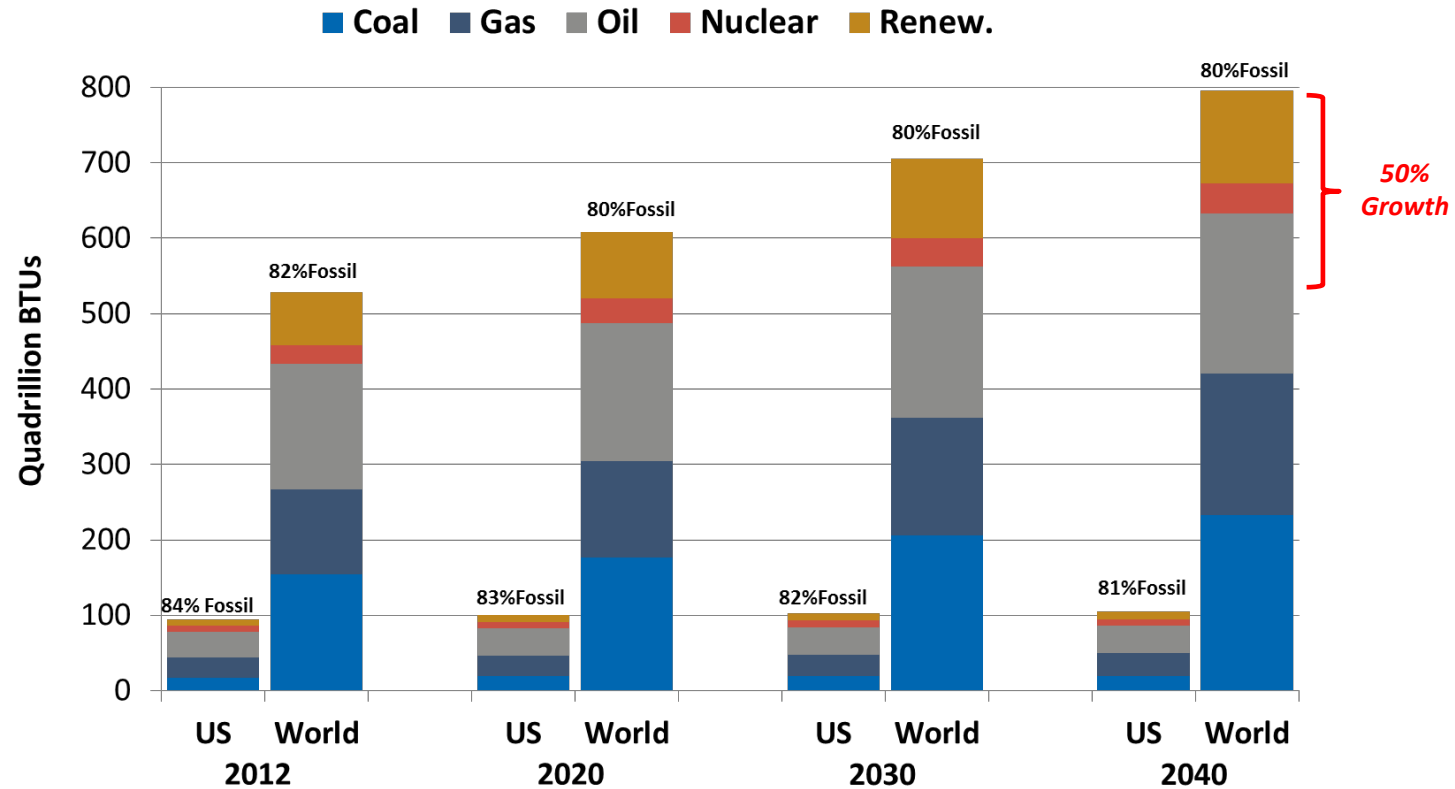
August 25, 2015



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“All of the Above” Fossil Energy Future

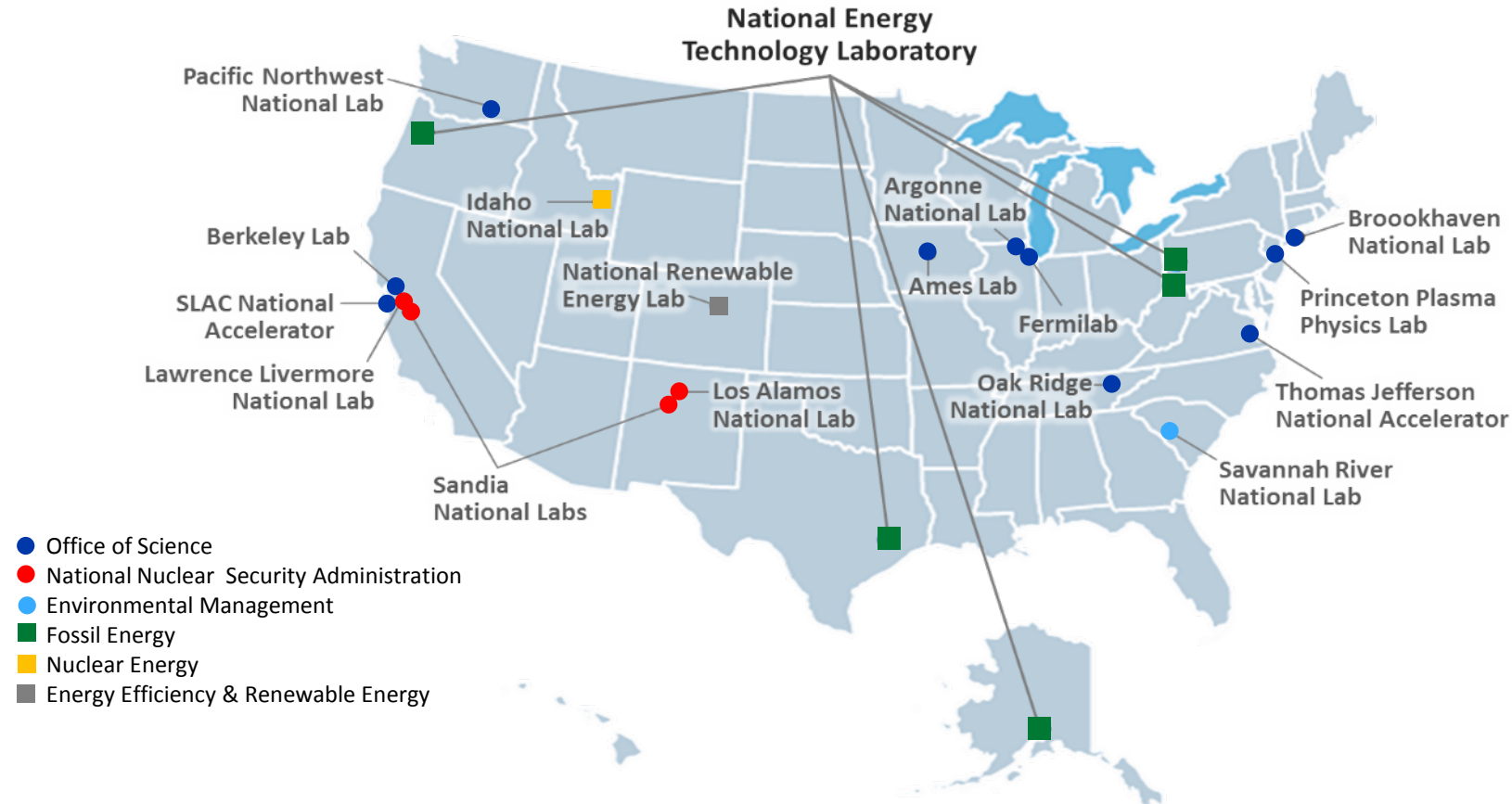


80% FE Today and Tomorrow

Dominated by Global Growth

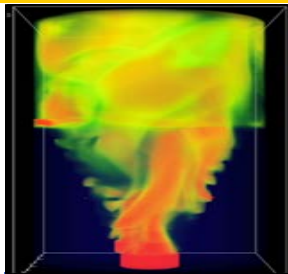


THE Fossil Energy Laboratory



NETL's mission is to discover, integrate and mature technology solutions to enhance the Nation's energy foundation and protect the environment for future generations

Core Competencies



Computational Engineering

High Performance Computer

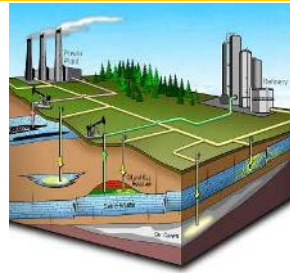
Codes & Data Management



Materials Engineering

Structural & Functional

Design, Synthesis & Performance



Environmental Engineering

Air, Water & Geology

Understanding & Mitigation



Energy Conversion

Component & Device

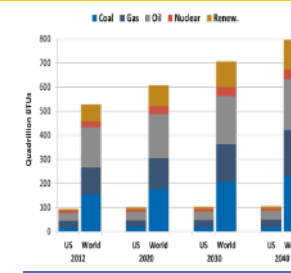
Design & Validation



System Engineering

Process & System

Optimization, Validation & Economics



Markets & Benefits

Technology & Resources

Assessment & Projections

Effective Resource Development

∞

Efficient Energy Conversion

∞

Environmental Sustainability

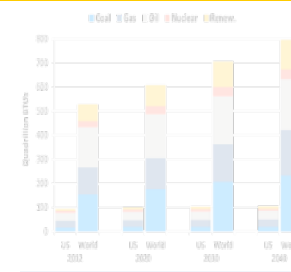
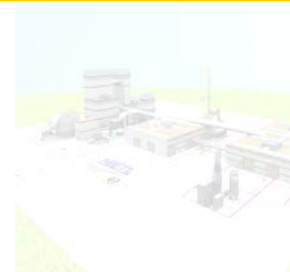
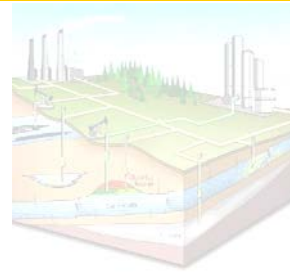
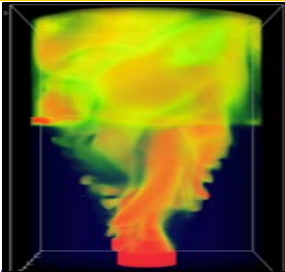


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Computational Engineering

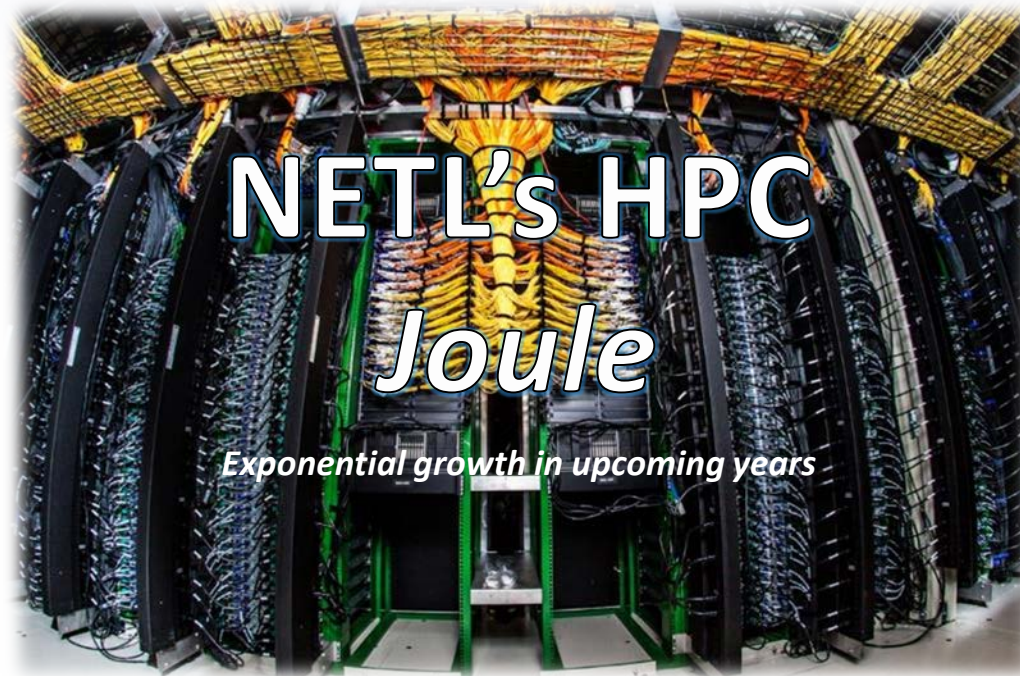


Accelerating the pace of science and technology development through advances in high-performance computing

Hardware & Network



Software & Automation



NETL's HPC
Joule

Exponential growth in upcoming years

Information Access
& Infrastructure



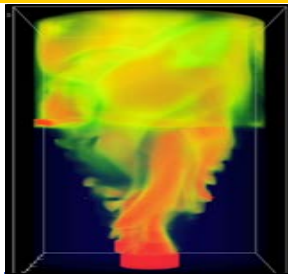
Data Analysis
& Visualization



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World Class Facilities



Computational Engineering



Materials Engineering



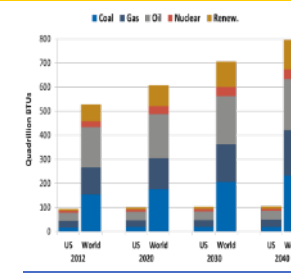
Environmental Engineering



Energy Conversion



System Engineering



Markets & Benefits

HPC – Joule



Pilot-Scale Foundry



SOFC-Turbine Hybrid



High-Pressure Combustor Water-Tunnel



Immersive Virtual Simulator



Portable Field Laboratory



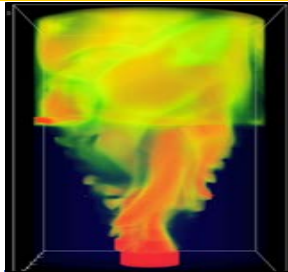
In situ CT Scanning



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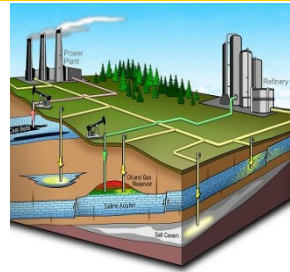
Core Competencies & Technical Thrusts



Computational Engineering



Materials Engineering



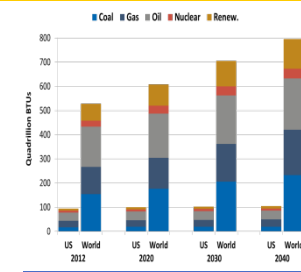
Environmental Engineering



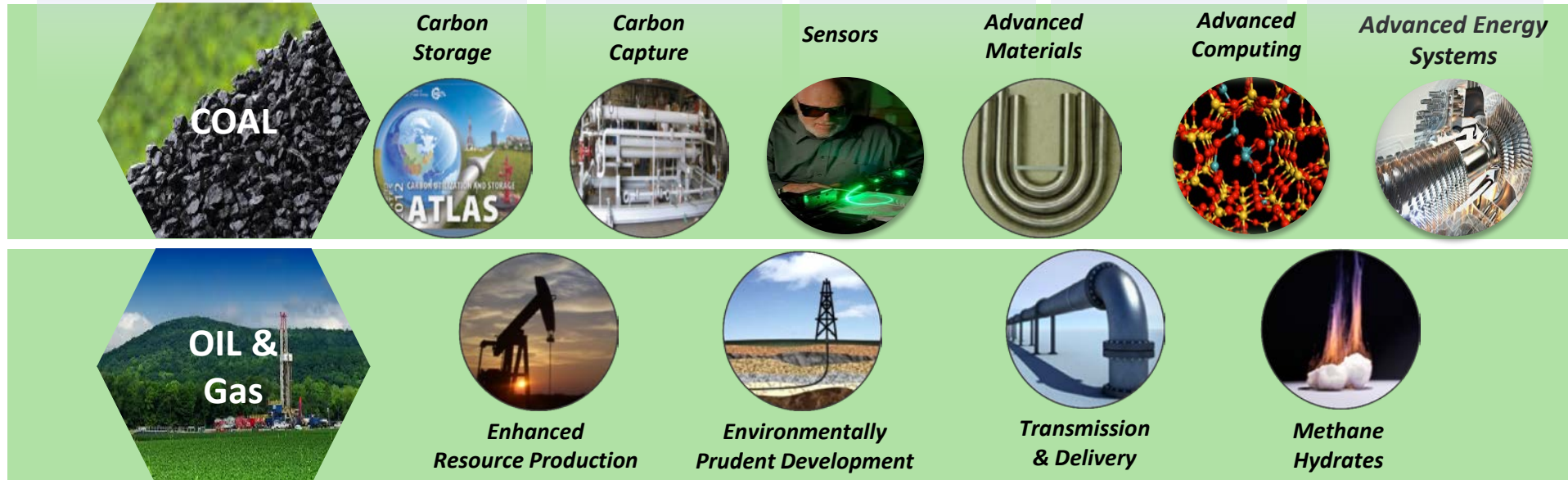
Energy Conversion



System Integration



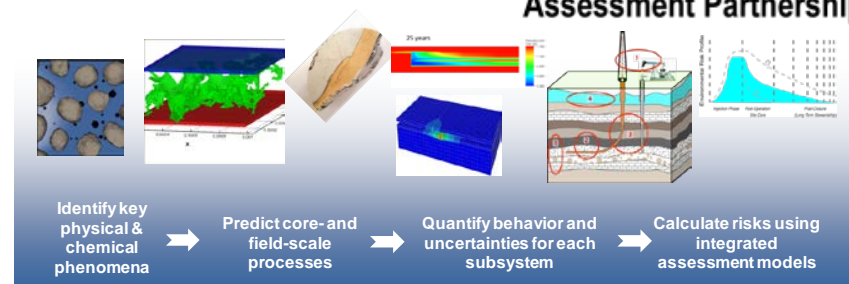
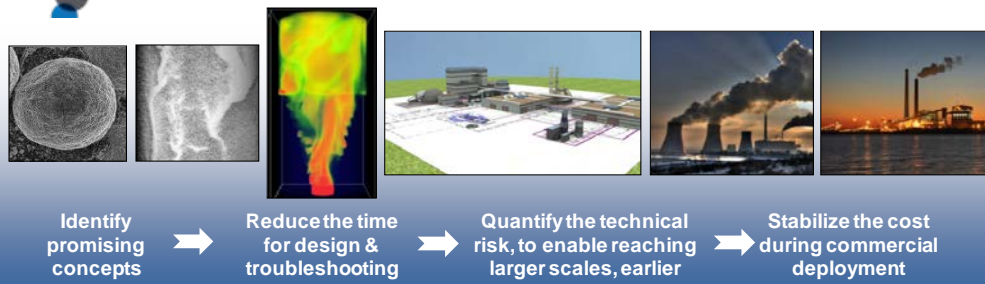
Markets & Benefits



Partnering for Success



National Laboratory



Industry



World Class Expertise + Unique Facilities + Deployment Pathway = Real Solutions



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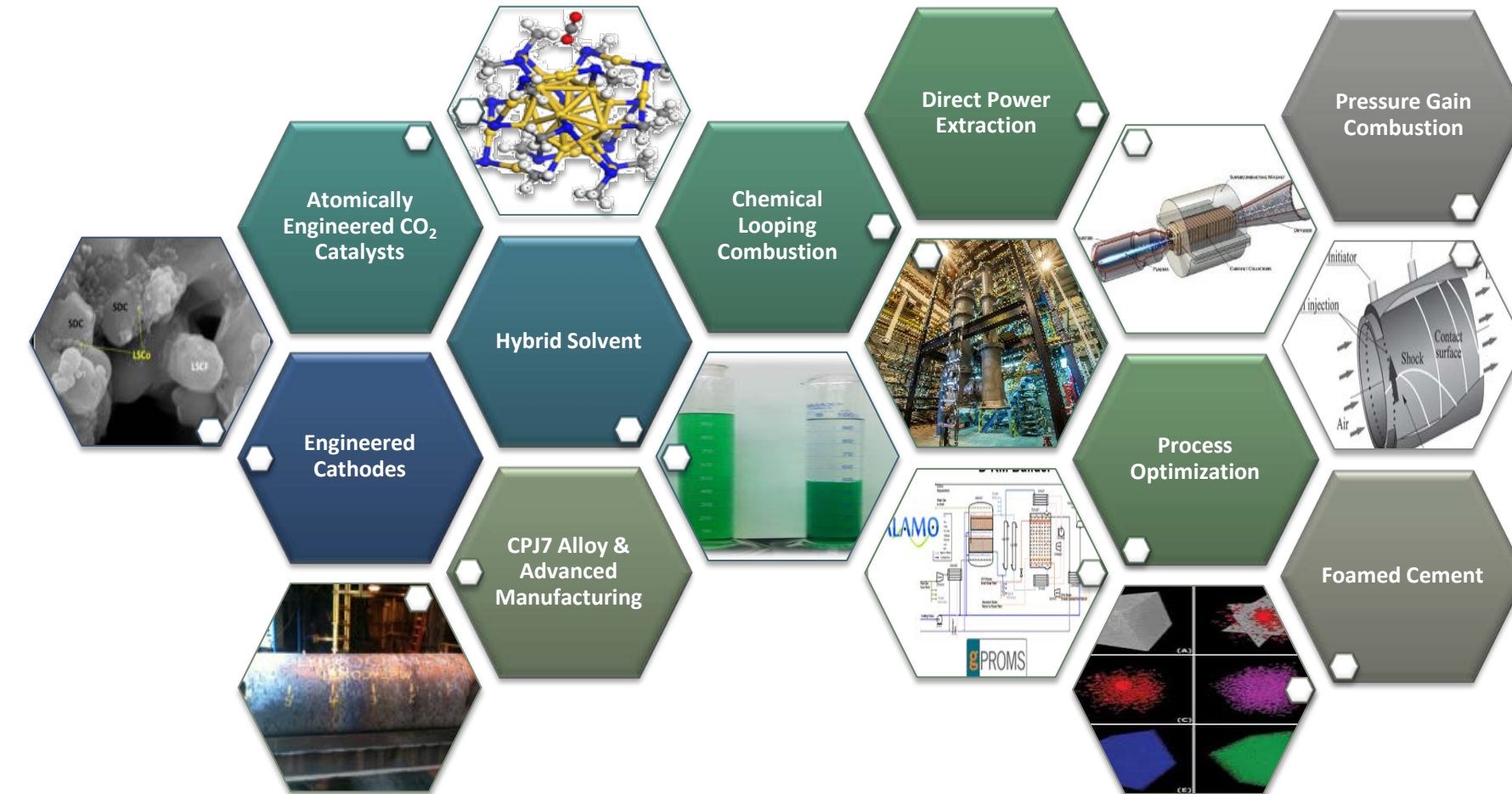
FE's Most Valuable Asset



- Expertise poised to address challenges of today and tomorrow
- Dominated with advanced technical degrees
- Award winning staff



Emerging Technologies



Understanding ∞ Materials ∞ Processes ∞ Tools



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Solutions for Today...

Options for Tomorrow



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