



U.S. DEPARTMENT OF
ENERGY

Energy Parks Initiative

“Leveraging Assets To Increase Taxpayers’ Return On Investment”

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DOE Office of Environmental Management

Radioactive Waste and Hazardous Materials Committee
Santa Fe, NM
July 13, 2010



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

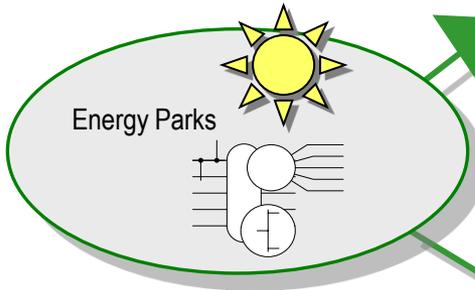
Footprint Reduction & Energy Parks



Recovery Act

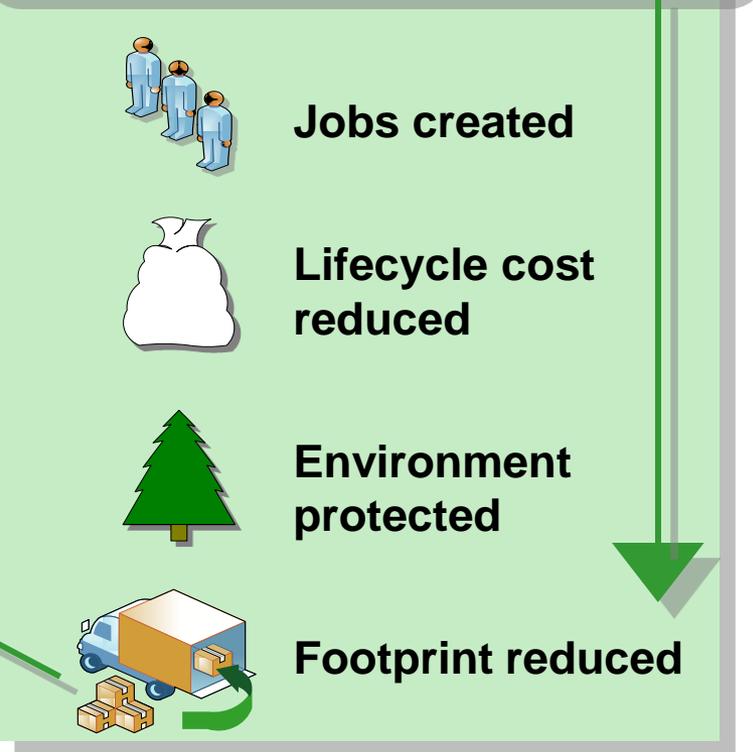
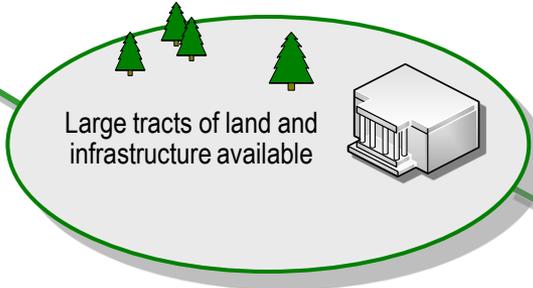


Office of Environmental Management (EM)



Clean, Diverse Energy Sources

- Energy security
- Establish long-term site mission
- Sustainable jobs

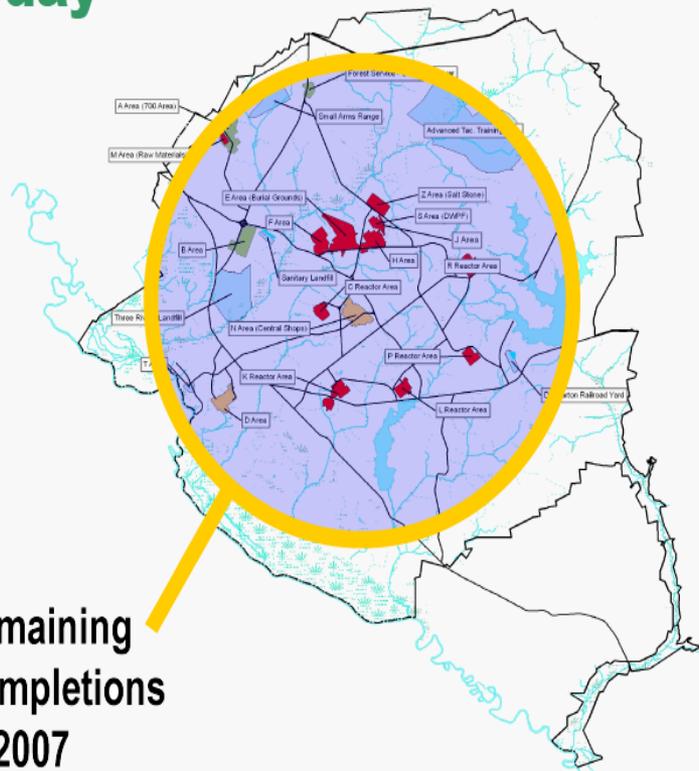


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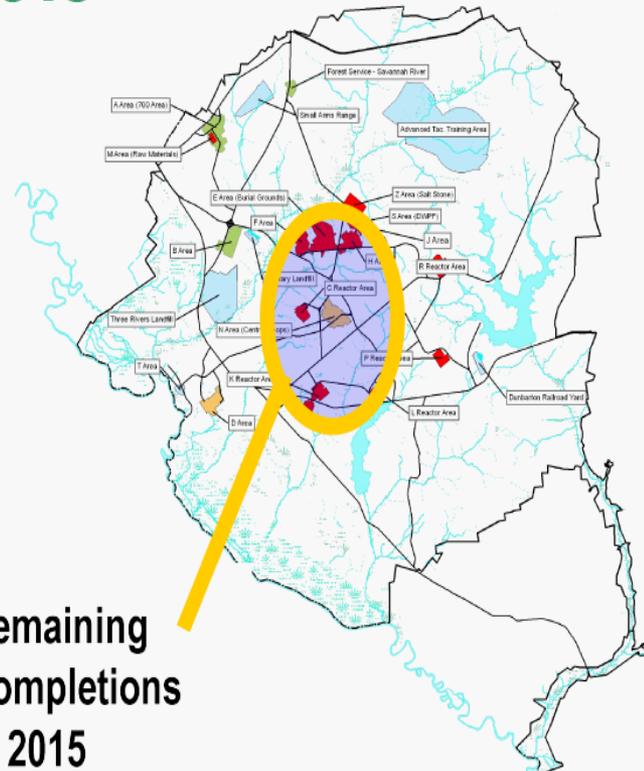
Savannah River Site Footprint Reduction Proposal

Today



263 square miles

2015



31 square miles

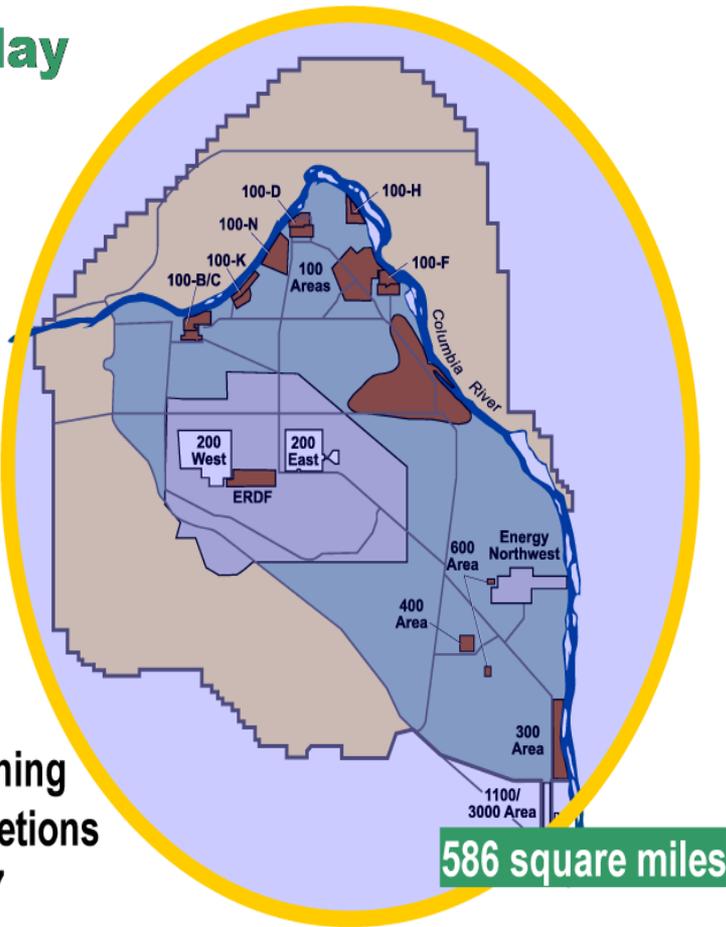


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Hanford Footprint Reduction Proposal

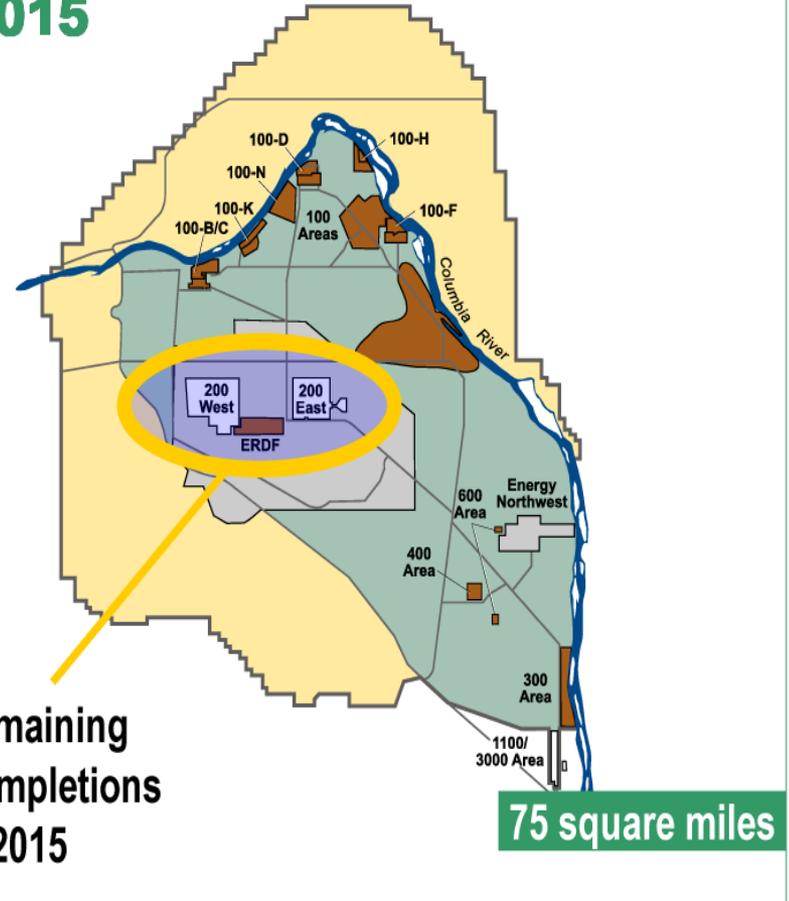
Today



Remaining Completions in 2007

586 square miles

2015



Remaining Completions in 2015

75 square miles



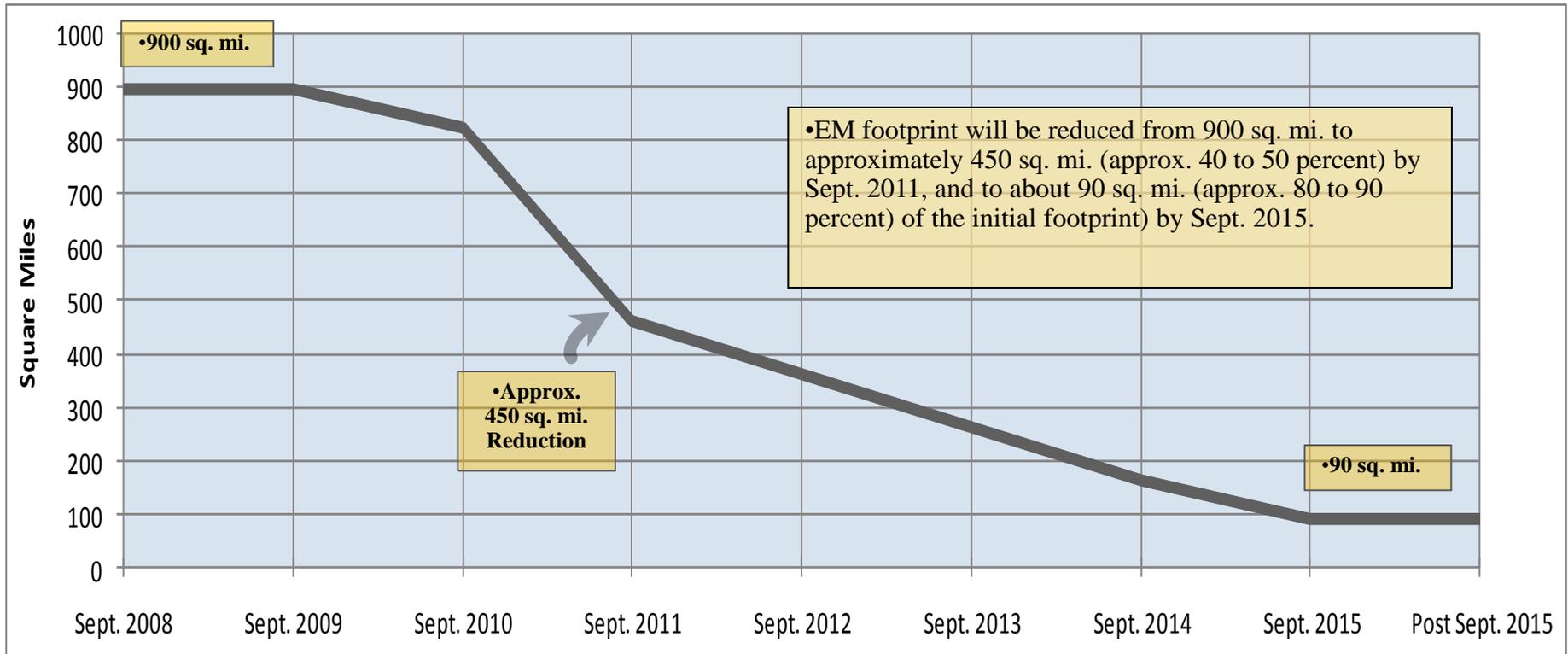
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Footprint Reduction

- *Footprint Reduction* means that the active DOE EM mission is complete within a particular area in terms of decontamination and decommissioning, waste disposition, ground water remediation, soil removal, etc.



Opportunities - Energy, Environment & the Economy

- Investing in the Clean Energy Jobs of the Future
 - Creating new Jobs in the Clean Energy Economy
 - Investing in the Next Generation of Energy Technologies
- Securing our Energy Future
 - Breaking Dependence on Oil
 - Producing More Energy at Home
 - Promoting Energy Efficiency
- Closing the Carbon Loophole
 - Reducing greenhouse gas emissions
- Enhancing Competitiveness



Potential Assets

- Land
- Buffer zones
- Structures
- Roads
- Rail lines
- Electricity transmission facilities
- Natural resources (e.g., surface water, ground water)
- Energy resources (e.g., solar, wind, biomass, geothermal)
- Equipment
- Site environmental characterization data
- Highly trained and experienced workers (e.g., scientists, engineers, craftspeople)
- Safety culture
- Incentives (e.g., loan guarantees, purchase agreements, tax credits)



Potential Technologies

- Wide range of energy technologies:
 - Generation (e.g., solar, wind, biomass, geothermal, nuclear, clean fossil, hydrogen generation)
 - Distribution (e.g., smart grid)
 - Storage
 - Efficient utilization
 - Manufacturing (e.g., solar panels, wind turbines, other energy components)
- Multiple development phases:
 - Commercial using existing technologies
 - Research, Development and Demonstration (RD&D) of advanced technologies to facilitate deployment and replication across the Nation.



Examples of Interest

- Pantex Renewable Energy Project
- Tennessee Valley Energy Enterprise
- Mound Advanced Technology Center – Energy Center Initiative
- Southern Ohio Clean Energy Parks Alliance Initiative
- U.S. Energy Freedom Center – SRS
- Nevada Solar Project
- Mid-Columbia Energy Initiative - Hanford
- Numerous Letters / Resolutions of Support



Workshops and Meetings

Oak Ridge Workshop

“Corridor Partnerships in Action“ - March 12, 2009 in Oak Ridge, TN

Energy Communities Alliance Meeting

“Energy Parks Peer Exchange: The DOE EM Footprint Reduction Plan and Energy Parks Initiative“ – April 23-24, 2009 in Las Vegas, NV

Mound Workshop

“Energy Roundtable and Exhibition” – June 26, 2009 in Miamisburg, OH

Savannah River Site Workshop

“Energy Parks Initiative Workshop” August 18, 2009 in Aiken, SC

Second Savannah River EPI Workshop

April 15, 2010 in Augusta, GA

Energy Communities Alliance Workshop

“Nuclear Workforce Development Peer Exchange” April 21-23, Augusta, GA

Energy Communities Alliance EPI Peer Exchange Meeting

June 10, 2010 in Las Vegas, NV



EPA – NREL “Re-Powering America’s Land”

- Joint initiative of U.S. Environmental Protection Agency (EPA) and DOE National Renewable Energy Lab (NREL).
- Multi-pronged approach – clean up and develop renewable energy facilities on potentially contaminated land and mine sites.
- EPA estimates approximately 490,000 sites and 15 million acres of potentially contaminated property across the U.S., including Superfund, Resource Conservation and Recovery Act (RCRA), Brownfields and abandoned mine sites.
- Initiative is working to identify sites with potential for wind, solar, biomass, geothermal and landfill gas development potential and develop appropriate projects.

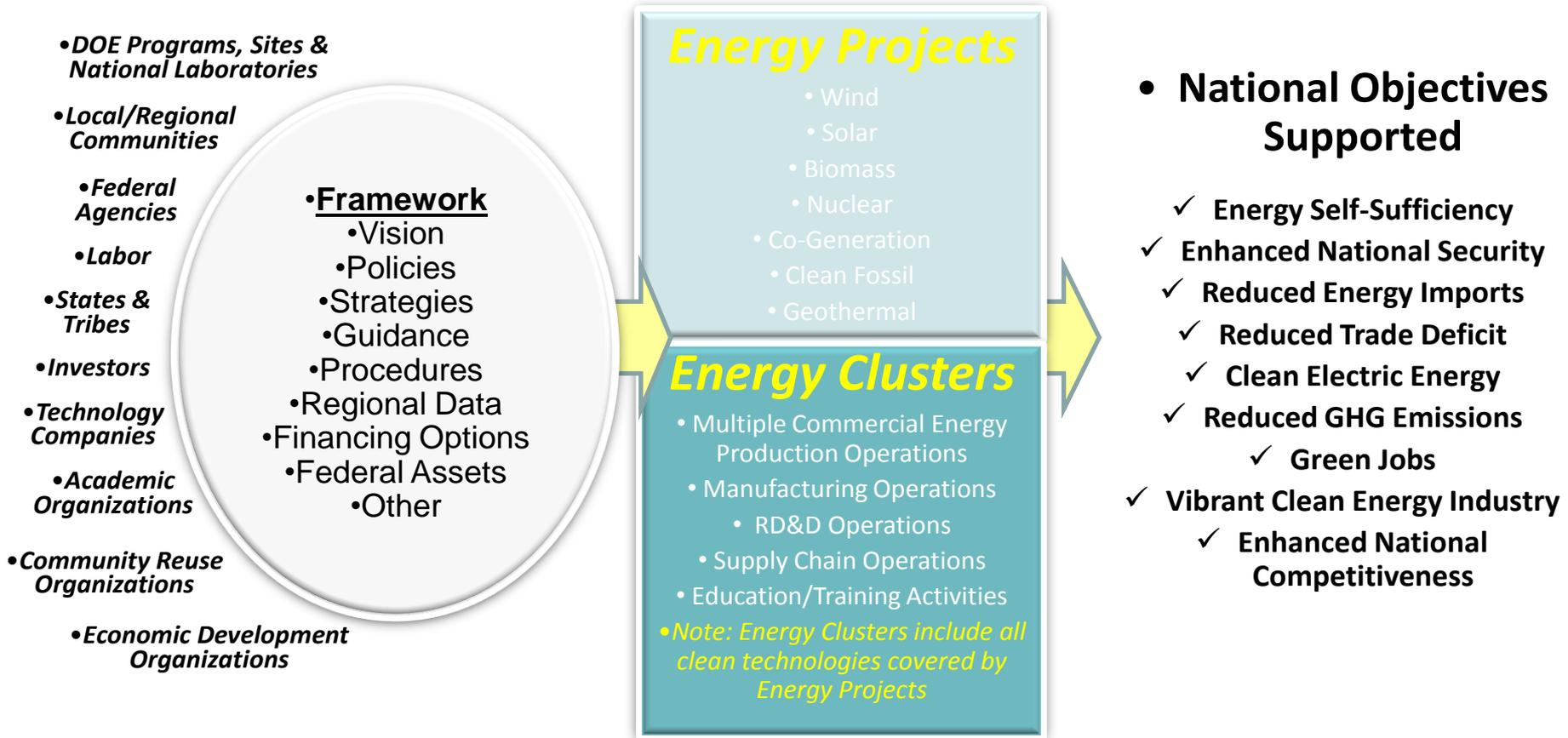


EPI - Scope

- Multiple DOE programs and sites
- Multiple external parties
 - Local & regional communities
 - Community Reuse Organizations (CRO)
 - States
 - Tribal Governments
 - Private sector (technology & financial)
 - Labor
 - Other Federal agencies
 - Other stakeholders
- Wide range of technologies and stages of development
- Complex, wide-ranging issues
- Numerous ongoing related activities
- Great opportunities and great challenges



Energy Park Initiative (EPI) Concept



Potential Tasks

- Establish DOE EPI Task Force
- Reach out to external parties
- Conduct pilot studies
- Expand pilot studies to other sites/regions
- Identify and resolve policy issues (e.g., legal, financial, procurement, programmatic, procedural, etc.)
- Develop EPI Strategy and Business Plan
- Implement Strategy and Business Plan
- Achieve near-term successes, as soon as possible



Status of Potential EPI Task Force

- EM-1 revised recommendation to establish an EPI Task Force submitted May 2010
 - Memorandum establishing Task Force
 - Business Plan
 - Task Force Charter
- EM expects to have further discussions with senior management in the near future



Potential Issues

- What assets should be made available?
- Under what conditions should the assets be made available?
- How to ensure that processes are transparent & equitable?
- How to ensure that processes are efficient and timely?
- Indemnification?
- NEPA coverage?
- How to structure the procurement process?
- How to balance sole-source proposals with desire for competition?
- How to ensure the best return for taxpayers?



Potential Issues

- Roles and responsibilities?
- How should proposals be solicited?
- What level detail should be required in proposals?
- What criteria should be used to evaluate proposals?
- How to encourage and maintain private sector participation?
- How best to encourage innovation?
- How to accommodate small businesses?
- How best to work with the myriad interested parties (e.g., communities, local and state governments, the private sector, other federal agencies, other stakeholders)?



Potential Evaluation Criteria

- Produces significant quantities of clean, affordable energy.
- Encompasses energy production, storage, distribution, efficient use and manufacturing.
- Includes RD&D for next generation of energy production.
- Funded largely by private sector; government support is limited in scope and short in duration.
- Creates large number of good jobs (e.g., construction, operations, secondary).
- Supports development of a vibrant clean energy industry, including supply chains.
- Provides significant local, state and federal tax revenues.
- Encourages eventual development of energy “clusters.”



Potential Evaluation Criteria

- Facilitates symbiotic cooperation among DOE, communities, the private sector, other federal agencies, local and state governments, academia and other parties.
- Promotes environmental sustainability.
- Reduces emission of greenhouse gases.
- Limited water consumption.
- Converts liabilities into assets.
- Gains and maintains support of communities, private sector and other parties.
- Contributes to DOE mission objectives.
- Does not adversely affect other DOE missions at the site.
- Reduces EM cleanup program schedule or life cycle cost.



Potential Evaluation Criteria

- Enhances U.S. competitiveness position.
- Takes advantage of technology “scaling” opportunities.
- Provides models that can be applied to other sites.
- Supports national security objectives.
- Offers an integrated approach to energy production, distribution, storage and utilization.



Draft Legislation – H.R. 5136

- Authorizes the Secretary of Energy to
 - “...facilitate development of energy parks on defense nuclear facility reuse property through the use of collaborative partnerships with State and local governments, the private sector, and community reuse organizations....”
- Defines energy parks as a facility or group of facilities developed to:
 - Promote energy security, environmental sustainability, economic competitiveness, and energy sector jobs, and
 - Encourage pilot programs, demonstration projects or commercial projects with respect to energy generation, energy efficiency, and manufacturing technologies that will contribute to the stabilization of atmospheric greenhouse gas concentrations through the reduction, avoidance or sequestration of energy related emissions.
- Requires submission of a Report to Congress on “....steps taken to facilitate development of energy parks...” no later than December 31, 2011.



Backup Slides

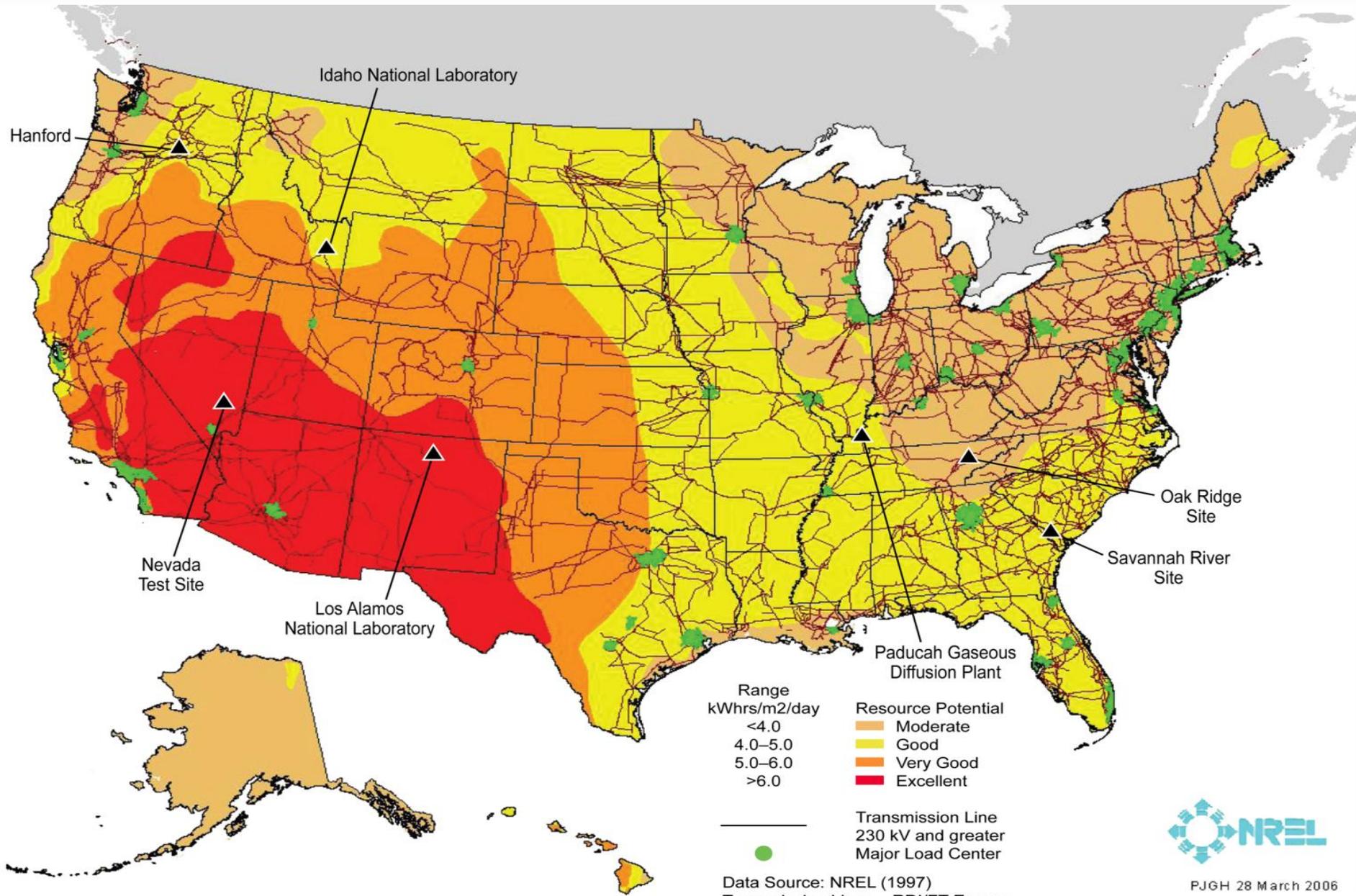


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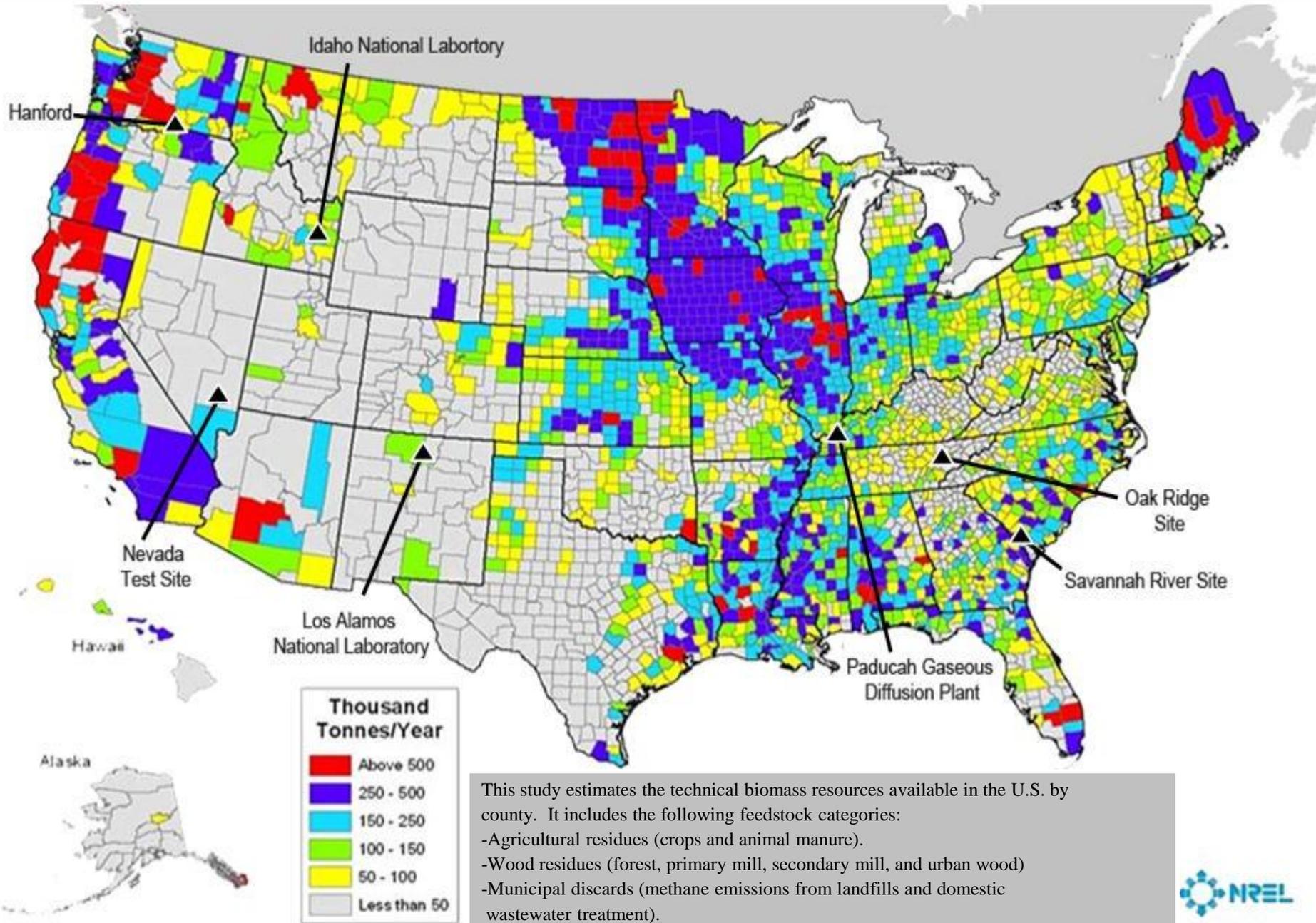
Solar Resources



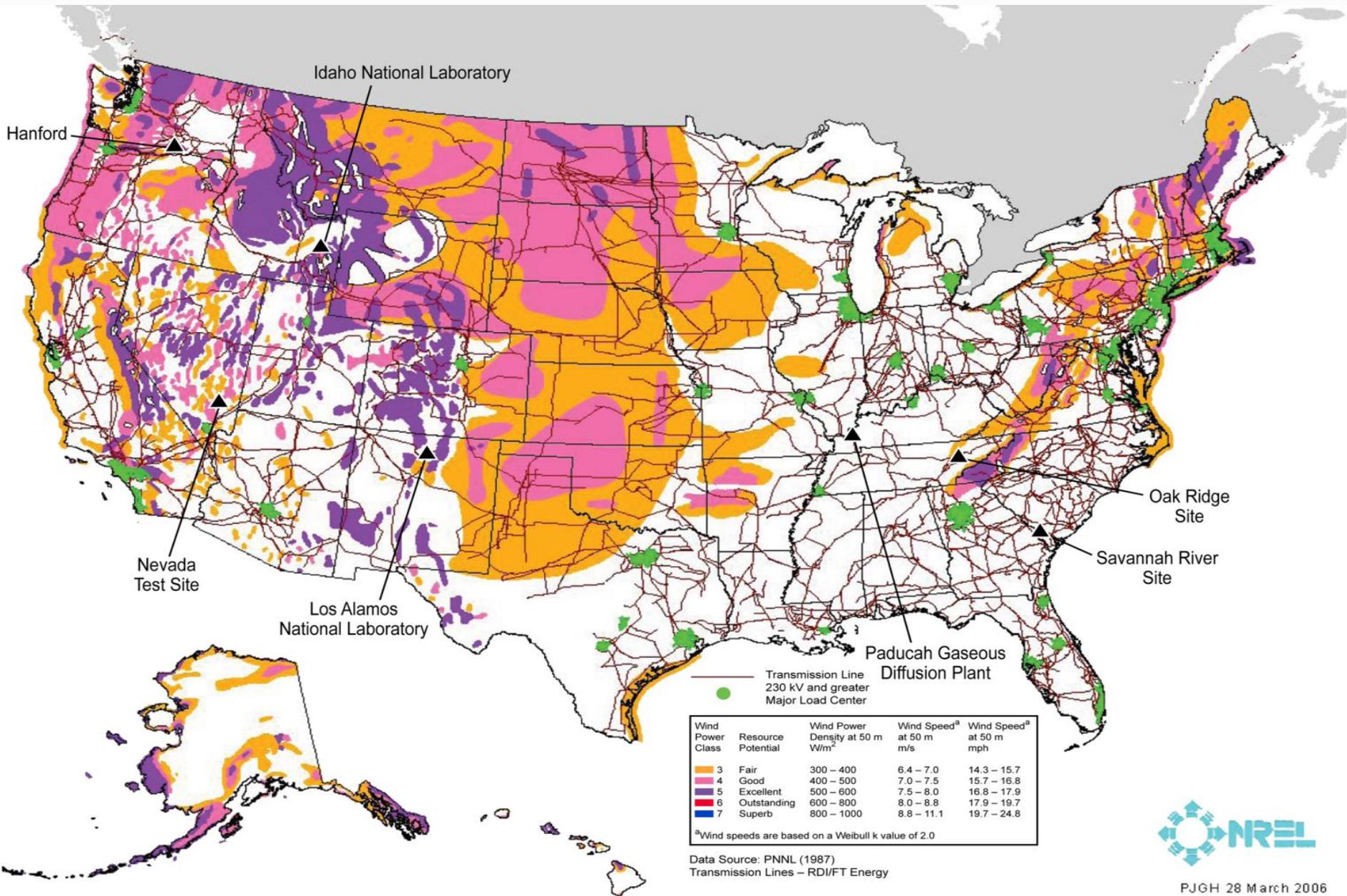
Data Source: NREL (1997)
Transmission Lines – RDI/FT Energy



Biomass Resources



Wind Resources



Geothermal Resources

