



U.S. DEPARTMENT OF
ENERGY

Footprint Reduction and Energy Parks “Leveraging Assets To Increase Taxpayers’ Return On Investment”

James Antizzo
DOE Office of Environmental Management

Site Specific Advisory Board Meeting
Santa Fe, New Mexico
September 15, 2010



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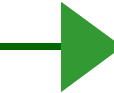
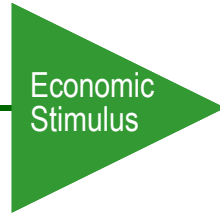
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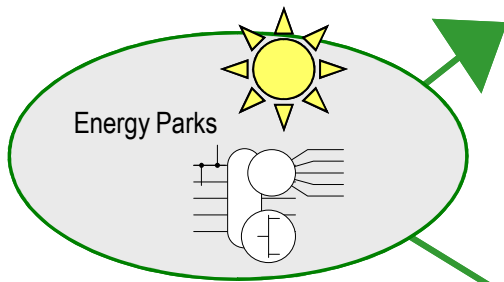
Footprint Reduction & Energy Parks

One Hundred Eleventh Congress
of the
United States of America
AT THE FIRST SESSION
Begin and hold at the City of Washington on Tuesday,
the sixth day of January, two thousand and nine
An Act
Making supplemental appropriations for job preservation and creation, infrastructure
investment, energy efficiency and science assistance to the microlevel, and
State and local fiscal stabilization, for the fiscal year ending September 30,
2009, and for other purposes.

Recovery Act

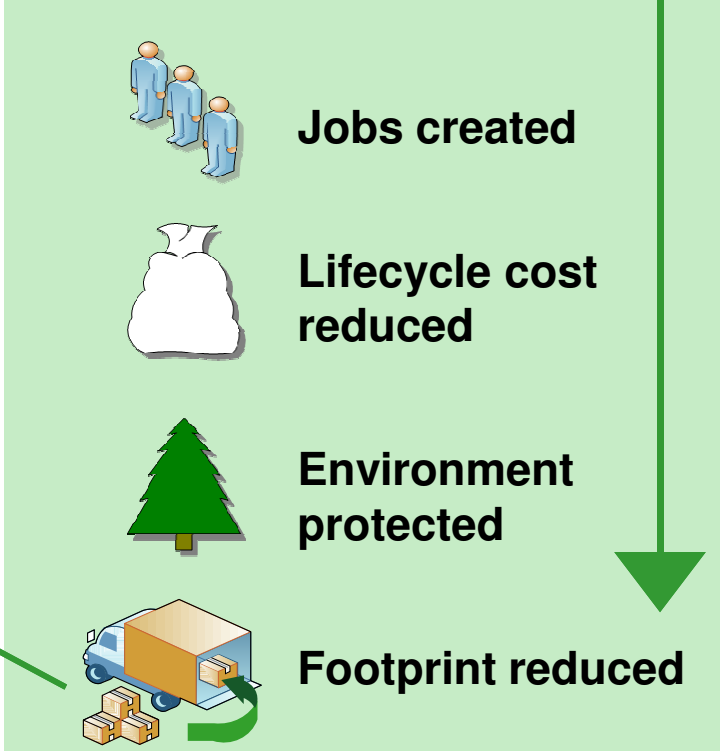
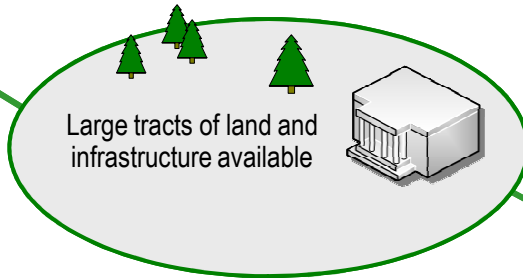


EM Footprint Reduction, small site completions, and other investment opportunities



Clean, Diverse Energy Sources

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



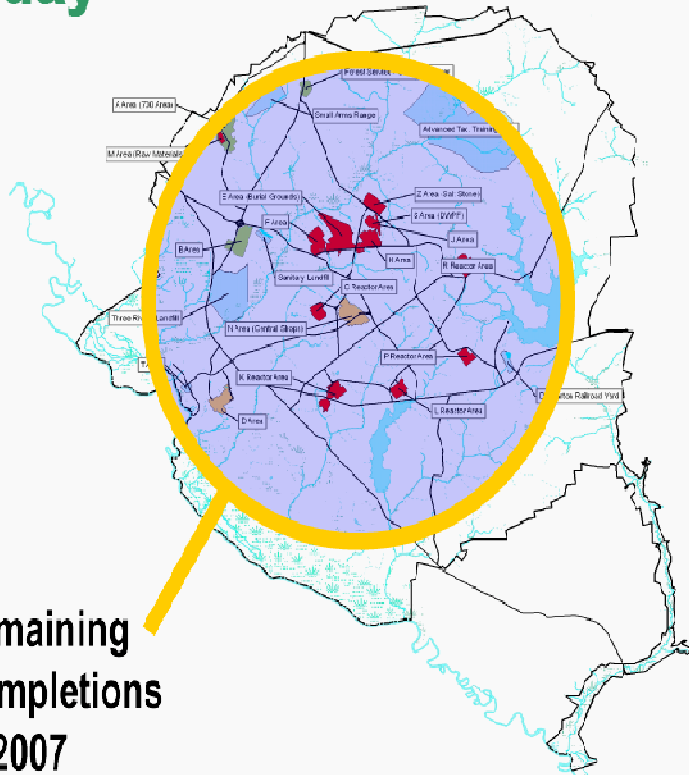
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Savannah River Site Footprint Reduction Proposal

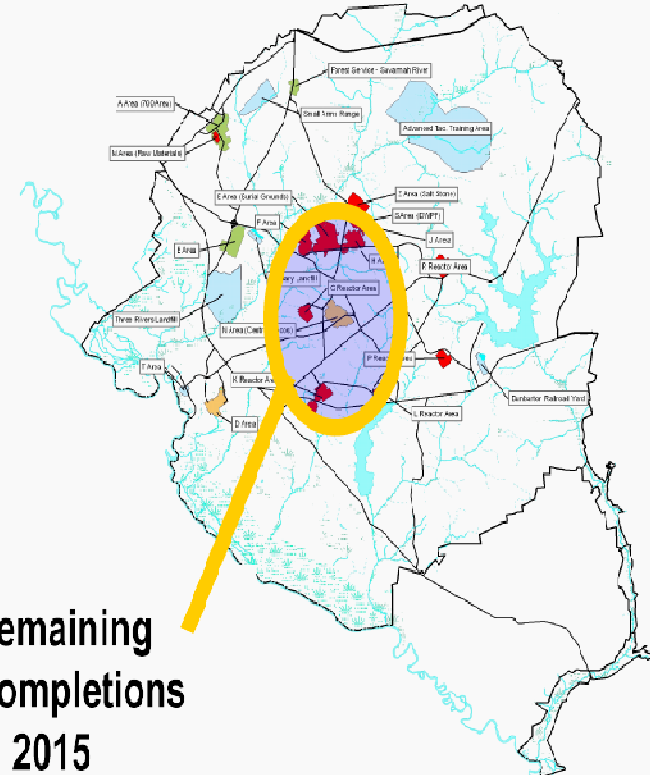
Today



Remaining Completions in 2007

263 square miles

2015



Remaining Completions in 2015

31 square miles

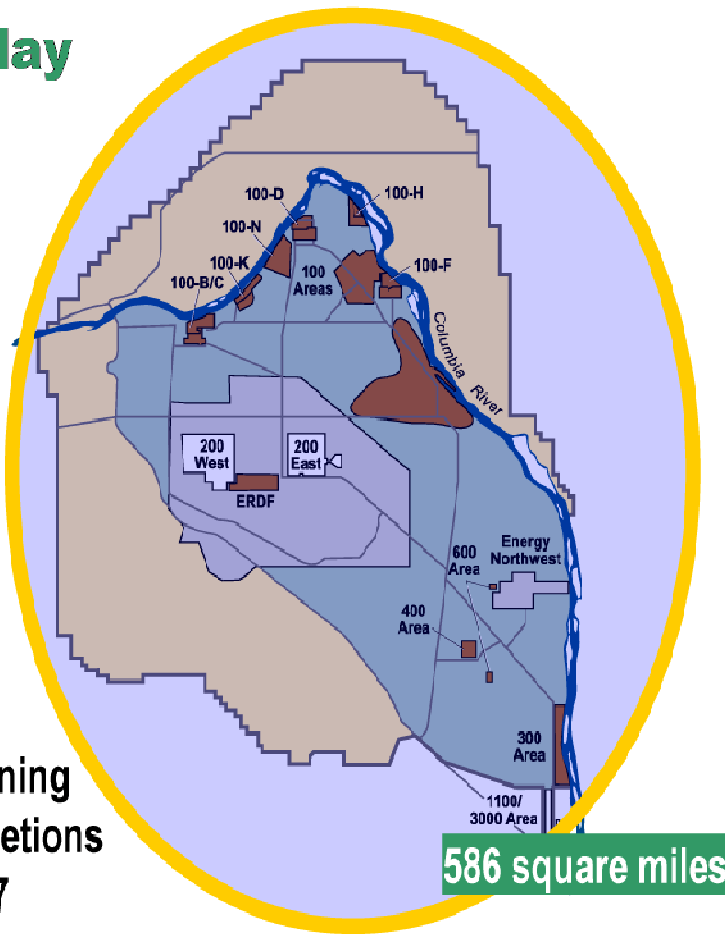


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Hanford Footprint Reduction Proposal

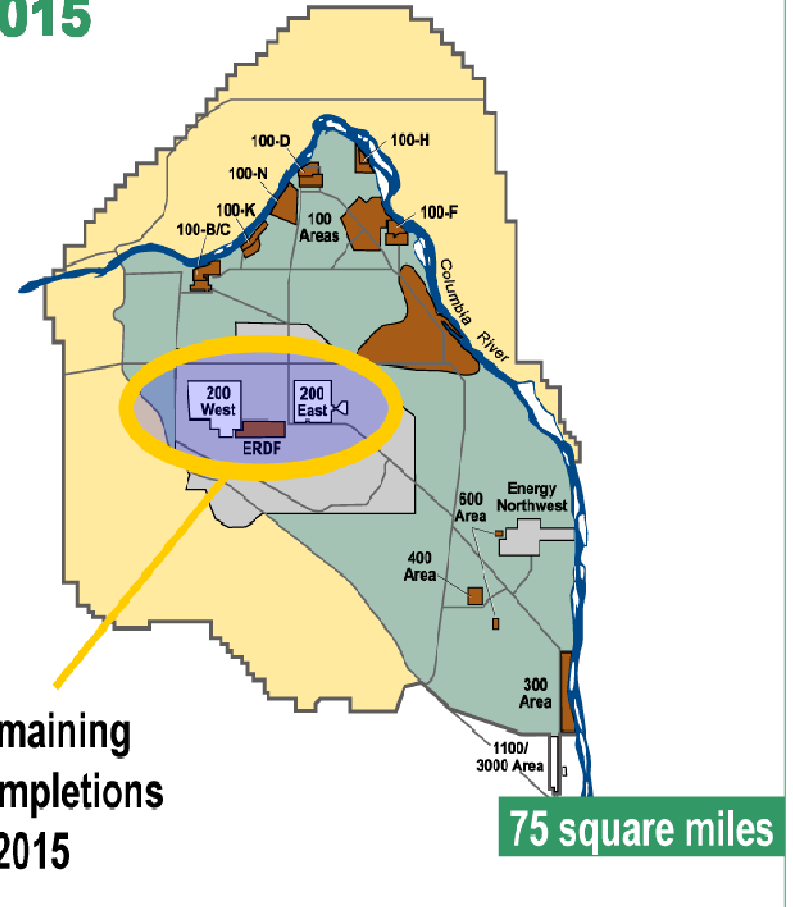
Today



Remaining Completions in 2007

586 square miles

2015



Remaining Completions in 2015

75 square miles

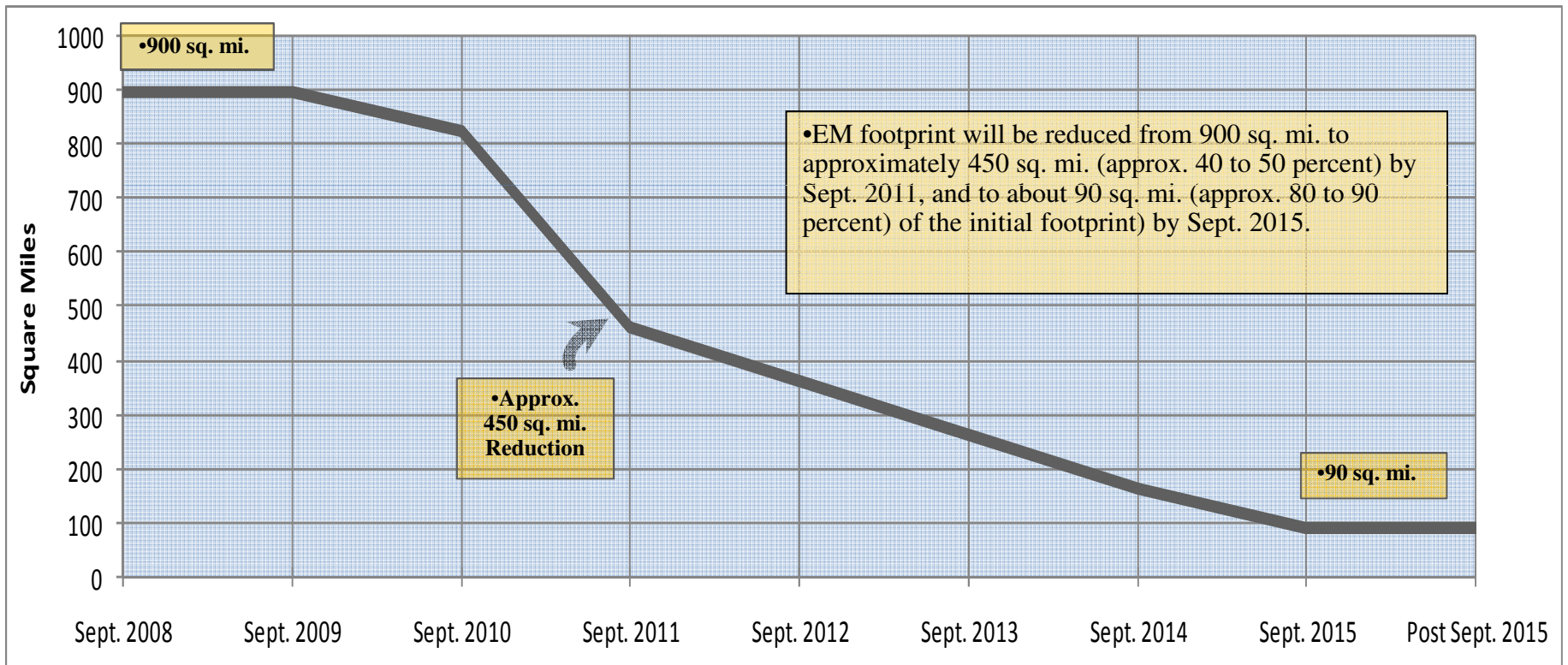


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Footprint Reduction

- *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.



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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 National Competitiveness**



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Future Land Uses

- The DOE is not directing that energy parks must be established at our cleaned up sites – but it is recommending that energy parks be considered as one of the options for future uses of cleaned up sites.
 - Other options (e.g., wildlife refuges, industrial parks, etc) may also be considered.
 - The DOE would like to consider recommendations for the “best use” of the cleaned up sites from a variety of stakeholders, including local and regional communities, States, the private sector, and others.



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Potential Assets

- Land
- Buffer zones
- Structures
- Roads
- Rail lines
- Electricity transmission facilities / grid connections
- 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)



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Potential Technologies

- **Wide range of energy technologies:**
 - Production (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.



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Potential Issues - Examples

- What assets could be made available? Under what conditions?
- How to ensure processes are transparent, equitable and timely?
- How to ensure the best return for taxpayers?
- How to encourage and empower public and private participation?
- What policy issues would need to be addressed to make energy parks a success?
- How to solicit and review best-in-class proposals?
- Indemnification?
- NEPA coverage?



Potential Evaluation Criteria - Examples

- Produces significant quantities of clean, affordable energy.
- Encompasses production, storage, distribution, efficient use & manufacturing.
- Funded largely by private sector; government support is limited in scope and short in duration.
- Produces large number of good jobs.
- Supports development of a vibrant clean energy industry, including supply chains and workforce.
- Promotes environmental sustainability.
- Reduces emission of greenhouse gases.



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Potential Evaluation Criteria - Examples

- **Supports national security objectives.**
- **Facilitates participation and cooperation among DOE, communities, the private sector, other federal agencies, local & state governments, academia and other parties.**
- **Limited water consumption.**
- **Converts liabilities into assets.**
- **Contributes to DOE mission objectives.**
- **Does not adversely affect other DOE missions at the site.**
- **Reduces EM cleanup program schedule or life cycle cost.**



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 of support**



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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



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Draft Legislation – H.R. 5136

(NDAA for FY 2011)

- **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...” by December 31, 2011.**
- **Other draft legislation (e.g., S.3454)**

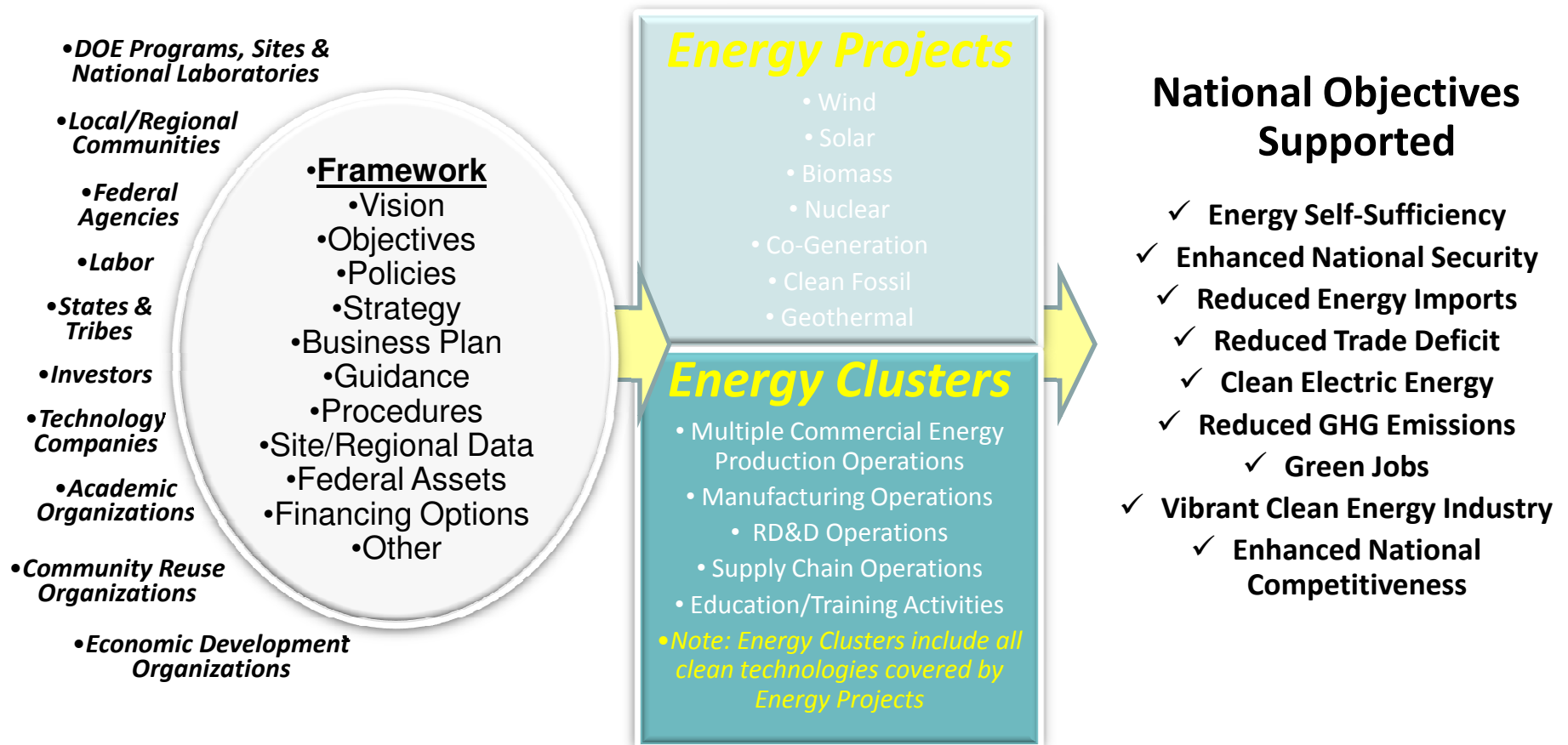


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Energy Park Initiative (EPI) Concept



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Potential Tasks – Under Consideration

- **Establish a DOE EPI Task Force**
- **Assess sites' potential for energy parks**
- **Conduct outreach to communities, private sector and other stakeholders.**
- **Identify and address policy issues (e.g., financial, procurement, legal, programmatic, procedural, etc.)**
- **Develop an EPI Strategy and Business Plan**



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EPI – Opportunities & Challenges

- **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**



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Backup Slides

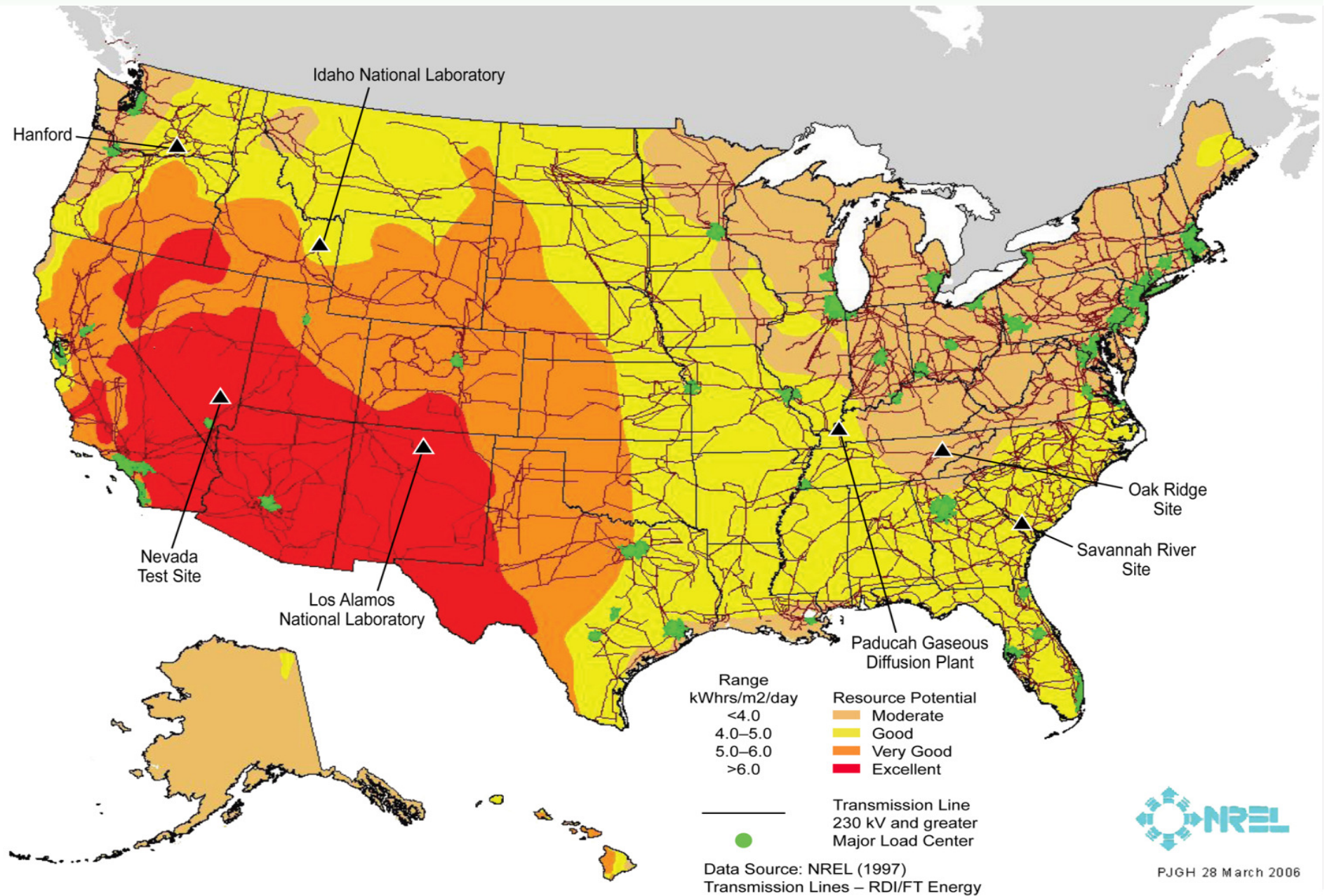


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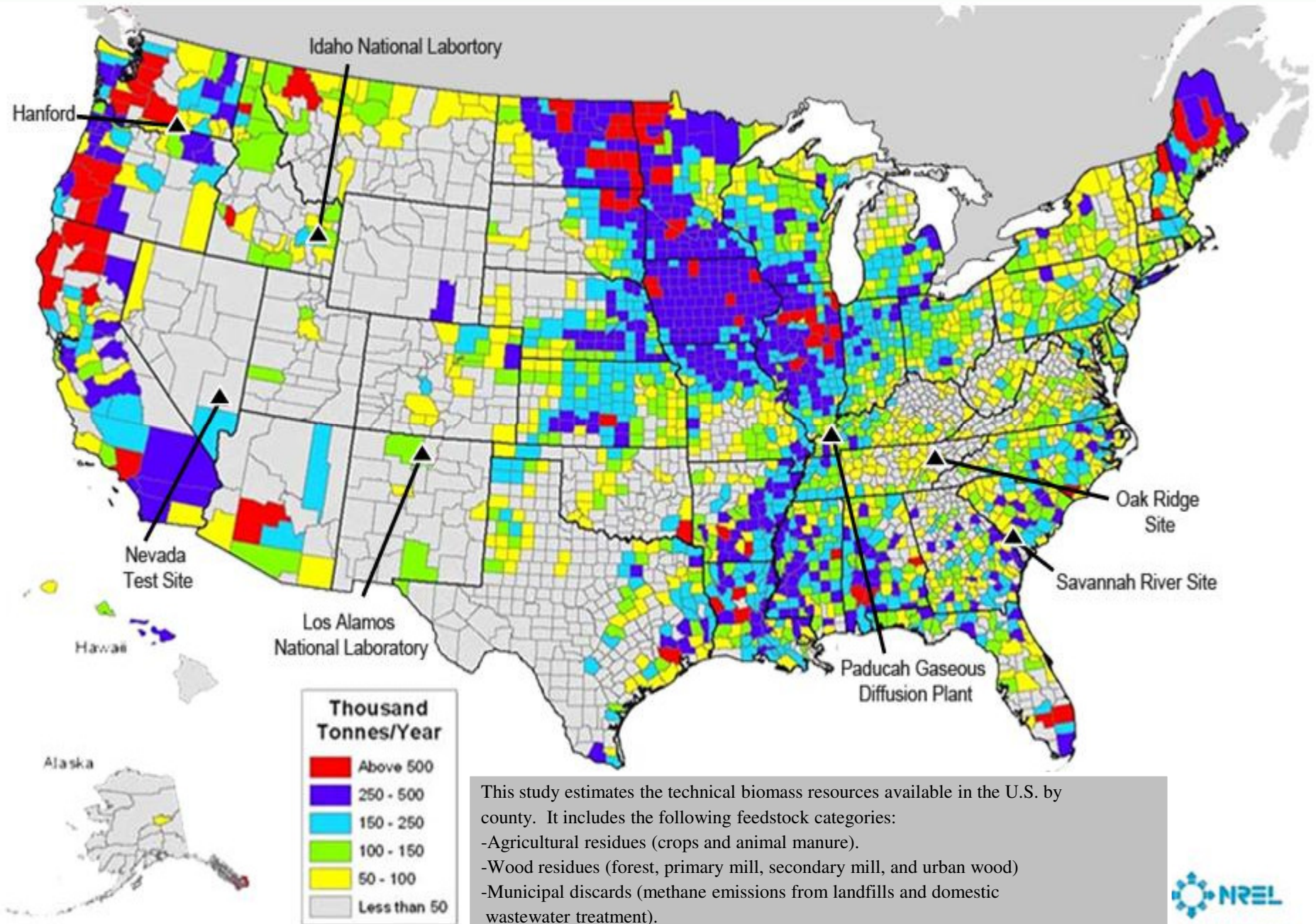
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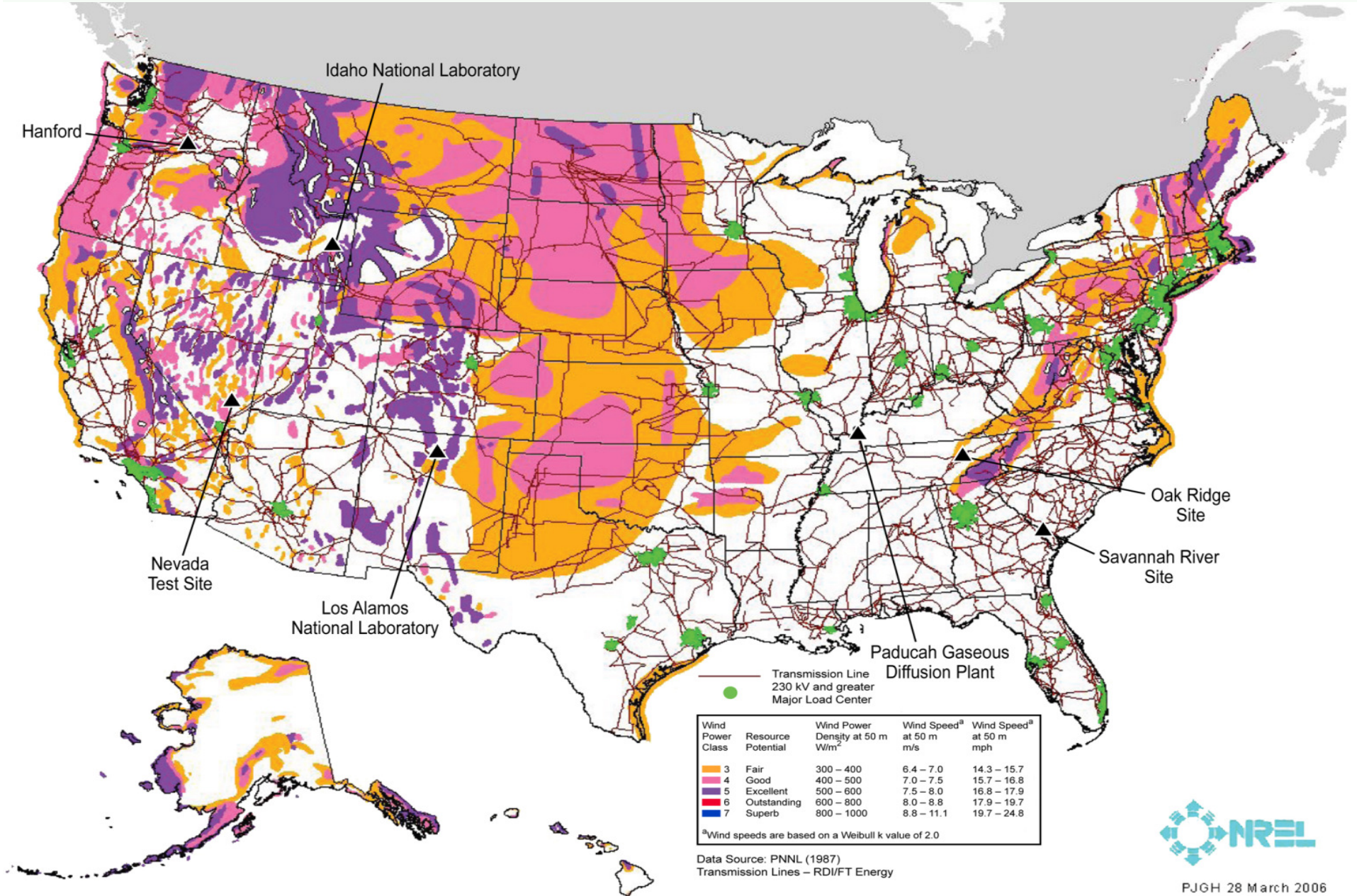
Solar Resources



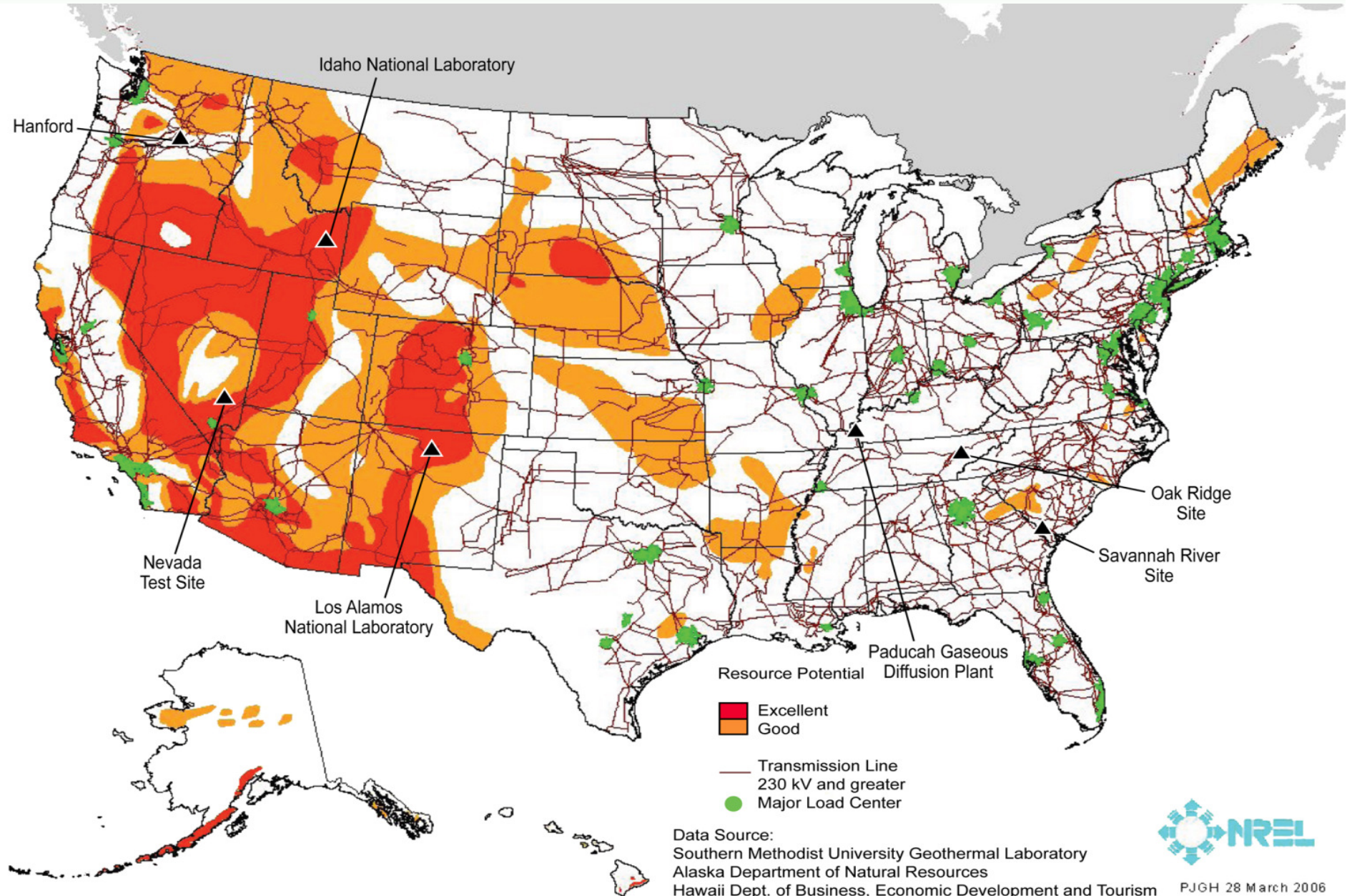
Biomass Resources



Wind Resources



Geothermal Resources



Data Source:
Southern Methodist University Geothermal Laboratory
Alaska Department of Natural Resources
Hawaii Dept. of Business, Economic Development and Tourism
Transmission Lines – RDI/FT Energy



PJGH 28 March 2006