Enterprise Systems Modeling for Energy Systems

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Complex Energy Systems Analysis

National Need and INL Focus Areas

• Complex energy systems analysis is multi-disciplinary research integrating social, economic, legal, policy and systems-level strategic insights to provide timely, quantified, and unbiased data to inform global clean energy investment and policy decisions.

Potential University Collaboration Areas

• Multiple areas as this is interdisciplinary
**Complex Energy Systems Analysis**

**Potential Funding Sources**
- Multiple

**Potential Outcomes**
- Identification of critical interdisciplinary challenge questions with energy and energy-related systems (e.g., water-energy nexus)
- Identification of current limits of practice – what tools, capabilities currently exist to give insights?
- Identification of gaps with respect to current tools, capabilities
- White paper proposing how we will address gaps for specific energy-related systems of interest
Optimizing Energy Generation Sources Across the United States

A look into traditional and modern energy distribution: from generation to consumption.
“The good part of the story about Katrina is that the nuclear plant was not the story.”
Tax credits, exemptions, and deductions largely favor renewable energy sources (Peaking Plants).

Baseload Plants are fading. The risks associated with this transition are extremely precarious.

At the end of the Day:

Customers want power and want it easy on the pocket
Securing a Future for Energy Reliance

- Inform Stakeholders and Policy Makers
  - Create a database of information
  - A user friendly interactive tool showing the LCOE:
    - Visualizing impacts based on:
      - Proposed and Existing Policies
      - Reliability
      - Resiliency
      - Economic infrastructure