Los Alamos
NATIONAL LABORATORY
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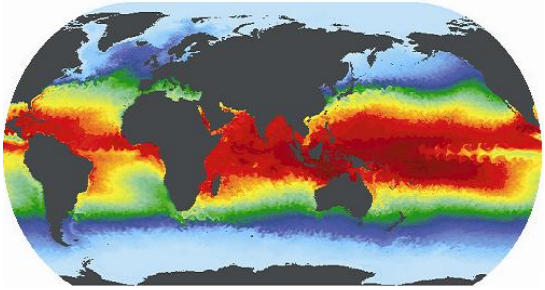
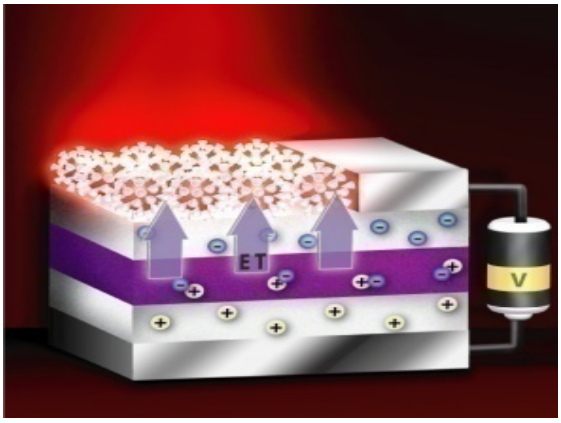
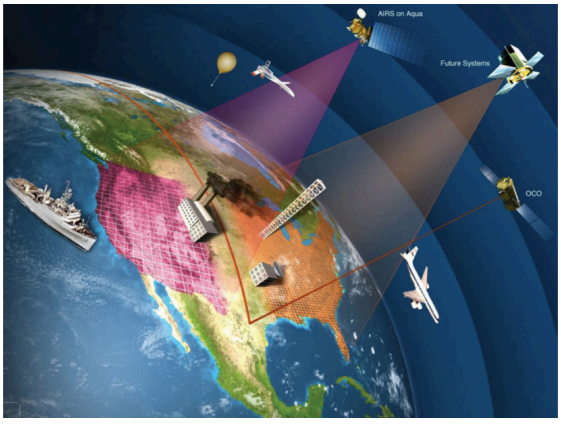


Energy Research at LANL

Building the Global Energy Future through Partnerships and Collaborations





LANL's vision is to be the premier national security science laboratory. Building a sustainable global energy future is a critical security challenge and Energy Security is one of LANL's three principal missions.

Energy research at LANL is addressing the challenge of developing transformative new energy technologies and significantly enhancing and extending the use of current technologies in a manner that is sustainable and that mitigates negative environmental, social, and national security impacts. Implicit in this challenge is the development of capabilities to measure, model, and predict, in a quantifiable manner, the impacts of energy choices on the global climate and economy, and their cascading effects on the environment and society.

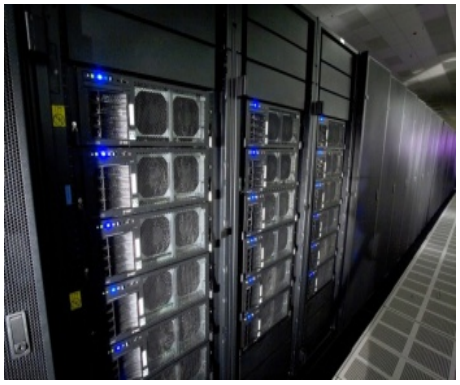
From the broad spectrum of opportunities for energy research, **LANL focuses on three areas**:

- ***Concepts and materials for clean energy:*** Research that contributes to energy security and to the reduction of greenhouse gases through innovative technology or transformational enhancement of existing technologies; emphasizing systems analysis, chemistry, bioscience, materials science, and materials integration techniques.

- ***Sustainable nuclear energy:*** Innovative approaches to fission and fusion energy generation that provide effective waste management, minimized operation and proliferation risks, very-high efficiency fuel utilization, and extended reactor lifetimes.

- ***Measuring, predicting, and mitigating impacts of growing energy demand and use:*** Science and technology to elucidate and predict (by integrated modeling and measurements) the complex interactions of energy demand and use with climate, natural, social, and engineered systems; and the development of technologies to mitigate or eliminate the negative impacts of increased energy utilization.

Partnerships and Collaborations



Solving the grand challenge of a sustainable global energy future requires diverse scientific and technical capabilities from a wide range of disciplines**.** LANL's energy solutions include global partnerships with hundreds of universities, research institutions, and industries.

LANL's partnerships build on its core capabilities in:

- Information Science & Technology enabling Integrative and Predictive Science
- Experimental Science focused on Materials for the Future
- Fundamental Measurement and Detection Science

And its special facilities for:

- Nanomaterials development and characterization
- High performance computing
- Neutron and proton scattering
- Nuclear materials research and characterization
- Superconductivity technology development
- High magnetic field research

As a multi-mission National Laboratory LANL emphasizes a collaborative partnering and team environment. LANL has an international workforce of over 10,000 employees that support a diverse research community with more than 2000 PhD's, 1200 students, and 400 post-docs.

Some of the areas in which LANL is currently partnering with industry, academia, and other national laboratories include:

- Biofuels
- Fuel Cells
- Wind Energy
- Superconductivity
- Nuclear Reactor Design
- Carbon Sequestration
- Solar Energy
- Hydrogen Storage
- Smart Grid
- Carbon Capture
- Nuclear Fuels
- Climate Measurement & Modeling

If you are interested in learning more about LANL's energy research and opportunities for collaboration contact:

Los Alamos National Laboratory
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