

## Disaster Resiliency and Recovery

### NREL Experts Assist Before and After a Disaster

The National Renewable Energy Laboratory (NREL) is the nation's leader in energy efficient and renewable energy technologies, practices, and strategies. For the last 15 years, NREL has provided expertise, tools, and innovations to private industry; federal, state, and local governments; non-profit organizations; and communities during the planning, recovery, and rebuilding stages after disaster strikes.

NREL's energy disaster recovery program offers a broad range of services including whole-community energy planning, on-site technical assistance, energy-efficient design and rebuilding strategies, and clear information for decision makers. Our comprehensive energy solutions address the full spectrum of disaster recovery.

### Areas of Expertise

- Sustainable whole-community energy planning
- Resilient, energy-efficient rebuilding
- On-site energy support
- Energy analysis and needs assessments
- Energy technology demonstrations
- Grid and infrastructure resiliency
- Energy information and education
- Policy, financing, and partnership development
- Broad-application tools
- International experience



## ENERGY DISASTER RECOVERY PROGRAM

### PREVENTION AND PLANNING

*Reduce Impacts of Disasters*

- Improve resistance and resiliency
- Upgrade warning systems
- Plan for secure, sustainable, and safe communities

### RESPONSE AND RECOVERY

*Respond Efficiently and Effectively*

- Provide clear and simple information
- Dispatch available mobile/emergency power
- Deploy on-site technology demonstrations

### REBUILDING

*Rebuild for Sustainability, Security, and Safety*

- Design affordable, disaster-resistant buildings
- Provide community shelters
- Implement policies that support sustainability, security, and safety

## Leading-Edge Energy Solutions

Natural and man-made disasters have a devastating economic, social, and environmental impact on communities. NREL works directly with emergency managers, community leaders, and home and business owners to deliver technologies, tools, and long-term energy solutions for each phase of disaster recovery.

### Whole-Community Planning

NREL conducts whole-community energy planning that includes sustainable energy efficiency and renewable energy technologies and strategies to improve the safety, health, and resilience of the community.

Using comprehensive energy efficiency and renewable energy expertise, NREL offers long-term, whole-community solutions for a sustainable, energy-resilient infrastructure.

## Long-Term Vulnerability Reduction

To lessen the adverse consequences of future disaster events, NREL assesses and designs resilient and sustainable energy systems and facilities.

## Economic Recovery

Through partnerships with local stakeholders, NREL helps communities return to a healthy economic state by developing new sustainable and economically viable businesses and employment opportunities.

## Energy-Efficient Buildings

We implement resilient residential and commercial buildings solutions that effectively support the core needs of a sustainable community.

## Grid Analysis

Disasters often have a tremendous impact on grid systems, but they can serve as an opportunity for leaders to make enhancements that advance grid resiliency and security for the future. NREL has extensive resources to help communities improve grid integration while realizing significant savings from fewer power outages; lower electricity costs; and reduced electricity waste, theft, and variability of transmitted voltage.

## Policy, Financing, and Partnership Development

By assessing potential policy and financial options for energy improvements, NREL provides data-driven, unbiased recommendations tailored toward each community. We also help establish optimal partnerships and foster collaboration with key disaster response and recovery stakeholders.

## Education, Training, and Outreach

NREL leads strategic and tactical efforts to reach key stakeholders with relevant and effective information that helps generate community buy-in and ensure success.

## Client and Project Examples

### Greensburg, Kansas

After a devastating EF-5 tornado destroyed or damaged 95% of the town of Greensburg in 2007, local and state leaders decided to rebuild as a model green community. Funded by the U.S. Department of Energy (DOE), NREL provided technical expertise to city and community leaders, local business, homeowners, and builders and conducted analysis and energy modeling to demonstrate and implement successful, cost-saving energy solutions.

### New Orleans, Louisiana

Hurricane Katrina—the single largest catastrophe in U.S. history—and Hurricane Rita struck the Gulf Coast in 2005. In 2007, DOE funded NREL to help the city incorporate energy efficiency into its rebuilding efforts for K-12 schools and homes, and provided technical support and analysis on energy policy efforts.

### American Samoa

With funding from the U.S. Department of Interior Office of Insular Affairs, NREL is working with American Samoa, which is 100% dependent on fossil fuels, to rebuild after a devastating earthquake and tsunami struck the island in 2009. NREL has engaged key stakeholders in a strategic planning effort to identify an integrated approach to incorporating clean energy technologies, policies, and programs into rebuilding efforts.

### Haiti

Planning efforts are underway in Haiti to generate power for two earthquake-struck regions in the country. With USAID climate change funds, and in partnership with the U.S. Department of State, NREL is providing assistance to the U.S. Haiti Energy Working Group and its efforts to reduce the cost of fuel to generate electricity and manage the volatility of electricity costs for residents.

NREL's deployment and market transformation activities encompass the laboratory's full range of technologies, which span the energy efficiency and renewable energy spectrum. NREL staff members educate partners on how they can advance sustainable energy applications and also provide clients with best practices for reducing barriers to innovation and market transformation.

NREL's mission is to be the leader in technology innovation and to advance renewable energy efforts around the world. Let NREL help propel your organization toward a more sustainable future.

To find out how we can help your organization, contact **Eliza Hotchkiss** at **303-384-7309** or **[eliza.hotchkiss@nrel.gov](mailto:eliza.hotchkiss@nrel.gov)**.

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