REexplorer
MAPPING OUR ENERGY FUTURE

RE Data Explorer Is Expanding Public Access to High-Quality Data and Analytics

The Renewable Energy (RE) Data Explorer is an innovative and intuitive web platform from the U.S. Agency for International Development (USAID)-National Renewable Energy Laboratory (NREL) Partnership that enables users to easily access high-quality renewable energy resource data and applied analytics.

High-Quality Public Data Can Accelerate the Global Transition to Clean Energy

RE Data Explorer is:

- Enabling robust, data-driven decision-making
- Empowering diverse decision makers at all levels to participate in and drive clean energy transitions
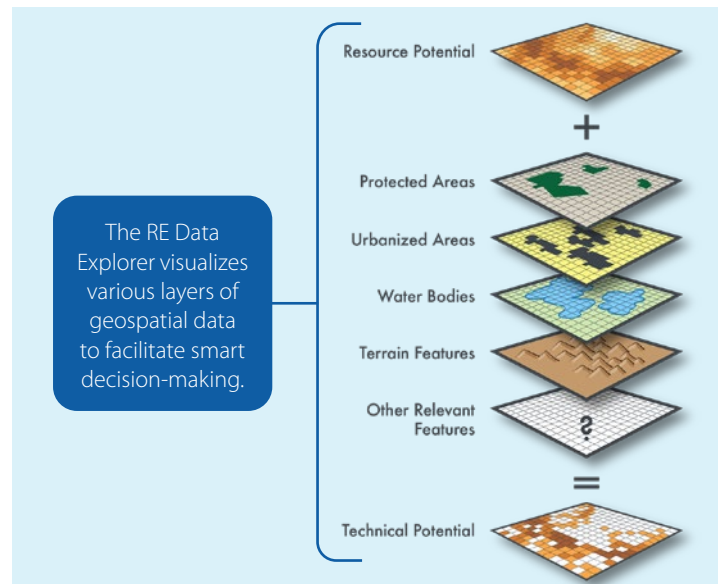- Accelerating clean energy innovation, deployment, and investment.

On-The-Ground Impact

RE Data Explorer users apply best-in-class data and tools to transform energy sectors around the world.

Setting Renewable Energy Integration Targets in Peru

Peru's Ministry of Energy and Mines (MINEM) is using RE Data Explorer to assess national and regional renewable energy resources, plan for grid interconnection, and support development of clean energy policies and regulation.

"RE Data Explorer tools and applications allow us to evaluate the renewable energy potential in Peru and use the satellite data to better understand our country's wind and solar resources," said Lucero Luciano De La Cruz, a renewable energy analyst at MINEM. By better understanding Peru's renewable energy potential, MINEM and other public agencies can design appropriate policies and programs that encourage investment in clean energy technologies.

The RE Data Explorer visualizes various layers of geospatial data to facilitate smart decision-making.

- Resource Potential
- Protected Areas
- Urbanized Areas
- Water Bodies
- Terrain Features
- Other Relevant Features
- Technical Potential

RE Data Explorer supports:

- Renewable energy **resource mapping** and **visualization**
- Early-stage **prospecting** and **technical potential** analysis
- Renewable energy **policy development**, **auction design**, and **target setting**
- **Project design** and **investment mobilization**
- Renewable energy **grid integration**
- Long-term **energy planning**
- **Net-zero** pathway development

Visit the **RE Data Explorer** website and read **Renewable Energy Data, Analysis, and Decisions: A Guide for Practitioners** to learn more about how high-quality data can support robust renewable energy decision-making.

www.re-explorer.org | www.nrel.gov/usaid-partnership

USAID FROM THE AMERICAN PEOPLE

NREL Transforming ENERGY

Launching Competitive Tenders for Renewable Microgrids in Kenya

In 2019, the County Government of Kisumu launched a competitive tender for solar-powered microgrid development. As reported by an RE Data Explorer user, county planners applied RE Data Explorer's technical potential estimator to propose solar PV capacities for hospitals, markets, and community-centered projects such as street lighting and water pumping.

Modeling Renewable Power Systems in Vietnam

Vietnam is working to achieve 42% variable renewable energy integration by 2045, including 19–20 GW of solar capacity and 18–19 GW of wind capacity by 2030. NREL researchers, in partnership with USAID's Vietnam Low Emission Energy Program (V-LEEP), used RE Data Explorer's high-fidelity solar resource data to build detailed power system models that enabled decision makers to identify the type and size of variable renewable energy generation capacity needed to meet their energy transition goals.
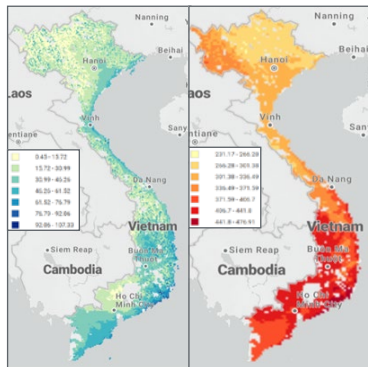
Deploying Utility-Scale Solar in Locations Around the World

More than 1,800 users in 88 countries have provided feedback on how they are using RE Data Explorer to inform project development and investment decisions, ranging from utility-scale solar to remote rural microgrids. In Nepal, for example, project developers report using RE Data Explorer to site and secure land for more than 200 MW of solar PV. High quality data continues to support project-level prefeasibility assessments and investment analyses. Developers in India, for example, have used RE Data Explorer in combination with NREL's System Advisor Model to optimize array design for more than 1.2 GW of utility-scale solar which is expected to enter the project pipeline over the next few years.

Training Recurrent Neural Networks and Artificial Intelligence Models to Predict Solar Power Production

Cess Virtusio is a master's student researching artificial intelligence and machine learning. Originally from the Philippines, Virtusio is passionate about the ability of data science and analytics to drive renewable energy investment and positive social impacts. As part of her capstone project, Virtusio used RE Data Explorer's high-fidelity solar resource data, along with other meteorological data, to train a machine learning algorithm that predicts solar irradiance for different regions in Australia. In the future, she plans to continue developing these models and algorithms for her home country.

To learn more about how RE Data Explorer users are accelerating clean energy impact around the world, watch this brief's complementing video: "RE Data Explorer User Applications from Around the World."

youtu.be/RuIktQ853mc

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Renewable Energy (RE) Data Explorer provides renewable energy data, geospatial analysis tools, and technical assistance to support data-driven renewable energy decision making. The RE Data Explorer was developed by the National Renewable Energy Laboratory and is supported by the U.S. Agency for International Development.

The USAID-NREL Partnership addresses critical challenges to scaling up advanced energy systems through global tools and technical assistance, including the RE Data Explorer, Greening the Grid, the International Jobs and Economic Development Impacts tool, and the Resilient Energy Platform. More information can be found at: **www.nrel.gov/usaid-partnership**.