REexplorer
MAPPING OUR ENERGY FUTURE

The Renewable Energy Data Explorer:

Mapping Our Renewable Energy Future

The Renewable Energy (RE) Data Explorer, developed by the National Renewable Energy Laboratory, is an innovative web-based platform that allows users to visualize and analyze renewable energy potential. The RE Data Explorer informs prospecting, integrated planning, and policymaking to enable low emission development.

The *RE Explorer* provides renewable energy data, analytical tools, guidance resources, and technical assistance to developers, policymakers, and decision makers in developing countries. RE Explorer and the RE Data Explorer are developed by the *National Renewable Energy Laboratory* and supported by the U.S. Agency for International Development.

Accurate and up-to-date renewable energy resource data and other geographic information system (GIS) data can facilitate smart decision-making. Data-driven decisions enable ambitious, cost-effective, and achievable renewable energy deployment.

Geospatial Analysis for Renewable Energy

Geospatial analysis provides a distinct perspective of the physical world; a unique lens through which to examine events, patterns, and processes that operate on or near the surface of our planet.[1]

Renewable energy geospatial data science can examine, for instance, the spatial relationship of wind speed—or wind resource—to other pertinent information, such as locations of environmentally sensitive areas and transmission lines. Recognizing these spatial relationships is a first step toward fundamentally understanding renewable energy potential: how much energy a renewable technology can produce. That understanding can guide decision-making, attract investment, and ultimately reduce greenhouse gas emissions.
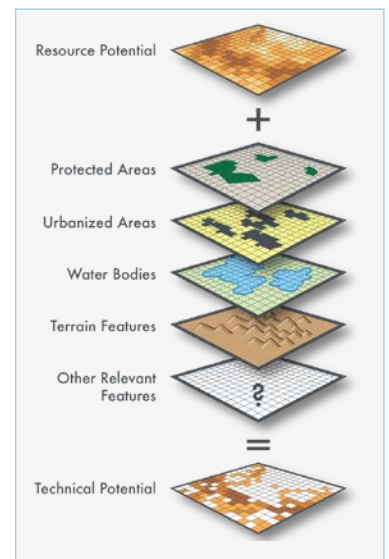
The RE Data Explorer visualizes various layers of geospatial data to facilitate smart decision-making.

[1] Michael de Smith, Paul Longley, and Michael Goldchild, Geospatial Analysis: *A Comprehensive Guide to Principles, Techniques and Software Tools,* 5th edition (Leicester, UK: Matador, 2015).


RE Data Explorer tools are currently available for more than 10 countries--Afghanistan, Bangladesh, Ghana, India, Indonesia, Kazakhstan, Kenya, Mexico, Nepal, Pakistan, and the Philippines--plus the Lower Mekong region of Asia. Find the tools at www.re-explorer.org

RE Explorer: From Data to Decisions

Decision makers—including policymakers, investors, and system planners—can improve the impact and outcome of their decisions by using renewable energy resource and other geospatial data as inputs into their decision-making process. Renewable energy data and analysis can support decisions including (but not limited to):

- **Target setting**. Targets may be short-, medium- or long-term national or subnational renewable energy deployment goals. Geospatial data and analysis are crucial components of an integrated assessment that links renewable energy resource, geographic, and economic considerations for data-driven renewable energy target setting.

- **Power sector planning**. Power sector planning for integration of variable renewable energy is informed by in-depth data-driven analyses, for which geospatial data provide the fundamental starting point.

- **Policymaking**. Geospatial data can serve as the foundation for technical and economic potential analysis that feeds into renewable energy policy development. These analyses inform development of smart policies and incentives appropriate for specific local and national contexts.

- **Investmen**t. Geospatial data and analysis can support the public and private sectors in making informed renewable energy investment decisions. As investors and developers consider where to place their projects, they rely on renewable energy resource data to evaluate return on investment and overall project risk.
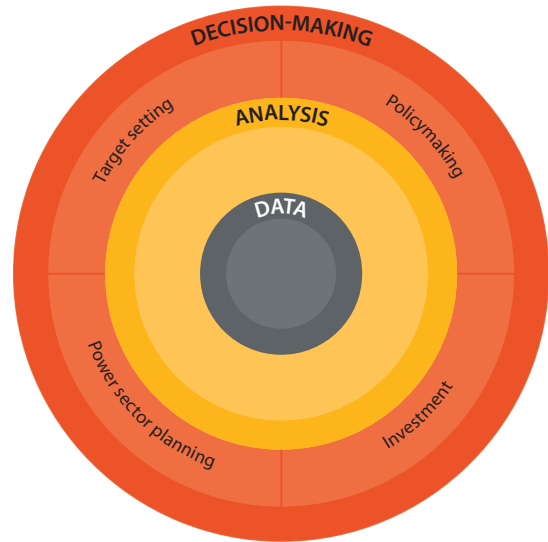
Quality data are at the core of many renewable energy decisions

RE Data Explorer and Geospatial Analysis Support Resources

The RE Explorer portal, *re-explorer.org*, provides training materials and information on data-driven decision making and the RE Data Explorer tool. In addition, RE Explorer experts can provide targeted technical assistance to support geospatial analysis for low-emission development. Visit *re-explorer.org/expert* to learn more.

For more information:

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