



A Renewable Energy Operational Guide For Electric Services

REToolKit

At the Bonn Conference, the World Bank Group (WBG) committed to increasing lending for renewable energy (RE) and energy efficiency (EE) projects by an average of at least 20 percent per year for the next five years. The target will apply to hydropower up to 10 megawatts, solar, wind, biomass, geothermal, and EE.

In addition, the WBG also committed to strengthening its staff capacity and knowledge base to more effectively assist the client countries in developing and implementing RE/EE projects, as well as more rapidly transfer best practice across sectors and regions. This Renewable Energy Toolkit (REToolKit) is a direct response to this commitment.

Similarly, the WBG Infrastructure Action Plan called for scaling up of rural energy access, particularly to the disadvantaged majority in developing countries. Renewable energy technologies can often provide the least-cost option.

REToolKit is designed to promote faster and more effective design and implementation of renewable energy projects at lower costs and be more sustainable during implementation. REToolKit is a web-based knowledge portal that directly responds to the needs assessment conducted with the World Bank task managers.

The present REToolKit is primarily for use of Bank task managers and address only renewable energy for electric services. This is the first phase of a series planned knowledge management products that are intended to broaden its scope to include renewable energy developers, bankers, policymakers, etc., and also address renewable energy for non-electric services in the next phases.

What is the value-added of REToolKit?

Experience has shown that the information and resources contained in REToolKit can help significantly reduce the time and cost of project preparation and can increase the likelihood of project success. The value of building on prior experience and knowledge was clearly demonstrated with the Sri Lanka Energy Services Delivery and the follow-on Renewable Energy for Rural Economic Development Projects where:

- Preparation cost for the second project was only \$120,000, an order of magnitude smaller;
- Preparation time of the second project was under 6 months compared to about 2 years for the first project; and
- Implementation pace was demonstrably faster.

What can REToolKit do for you?

REToolKit provides necessary tools to assist Bank task managers and country counterparts in improving their design and implementation of renewable energy projects.

REToolKit builds upon the best practices and lessons learned that have emerged from past and ongoing renewable energy projects supported by the WBG and others. It is operationally oriented to address needs at each stage in the project cycle.

REToolKit helps Task Managers to:

- Identify what RE projects might be appropriate and feasible;
- Determine the country policies which might best support project development;
- Identify business models that promote local project implementation;
- Evaluate financing mechanisms for the projects; and
- Ensure that the best available technical standards and supporting documents are utilized in the design and implementation of the project.



What does REToolKit contain?

REToolKit contains five modules:

- Three RE System Types Grid-connected, Mini-grid, and Stand-alone: guidance on key aspects of project design and implementation, policy and regulatory options, sustainable business models and financing mechanisms, and technology issues.
- RE Rationale: supporting materials to convince decision-makers of the importance of renewable energy, such as economic viability and cost-effectiveness.
- Project cycle: steps and tools needed at each stage of project cycle, e.g. working with GEF and carbon finance.

REToolKit also provides specific tools:

- Case studies, with analysis of success factors and lessons learned
- Terms of reference
- Sample documents such as project appraisal documents, power purchase agreements, and survey questionnaires
- Economic and financial analysis methodology
- Technical specifications
- Presentations on case studies and lessons learned
- A list of resource people including task managers and peer reviewers
- Links to related websites

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PROJECT TOOLS ▾

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REToolKit provides necessary tools to assist Bank task managers and country counterparts to improve the design and implementation of renewable energy projects, incorporates best practices and lessons learned that have emerged from RE projects supported by the WBG and others, and is operationally oriented to address needs at each stage in the project cycle.

REToolKit will help you to identify feasible RE projects, determine appropriate promotional policies, identify sustainable business models and financing mechanisms, and utilize the best available technical standards and supporting documents. [more...](#)



GRID-CONNECTED RE

Wind, small hydro, biomass and geothermal power plants selling power to the grid



MINI-GRID RE

Mini-hydro, biomass and hybrid power plants selling power to an isolated community




STAND-ALONE RE

Solar, pico-hydro, and micro-wind systems providing electricity for households and cottage industry



RE RATIONALE

Materials to convince decision-makers of the importance of renewable energy, such as economic viability and cost-effectiveness



WB PROJECT CYCLE

Issues to address and tools to apply at each stage of the project cycle, such as working with GEF and carbon finance