

# Sustainable Energy Roadmaps

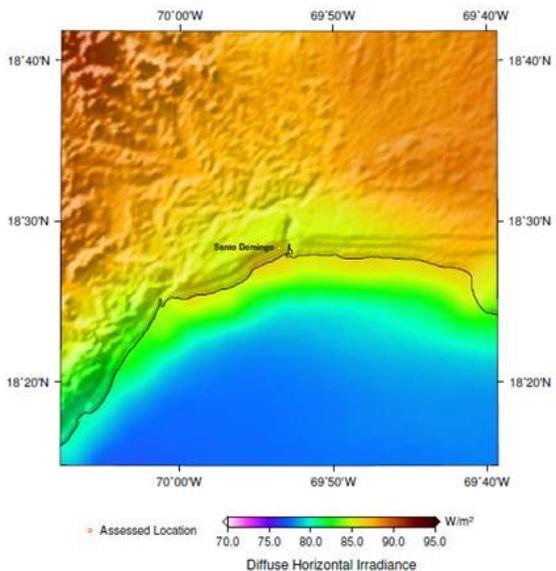
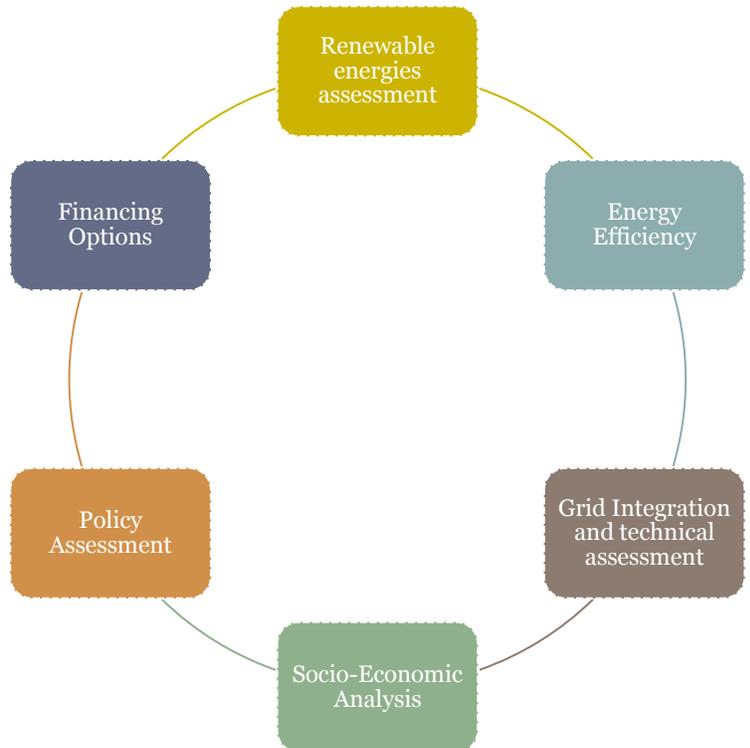
## An Integrated Approach

*The Worldwatch Institute and 3TIER, a global leader in renewable energy information, develop Sustainable Energy Roadmaps by assessing the interdependent components of a country's clean energy potential. This collaborative service provides governments with the information they need to make their countries more attractive for renewable energy development. We pair this effort with extensive capacity building and stakeholder education at all levels of government and civil society to help policymakers successfully implement our recommendations.*

Transitioning from a carbon-intensive economy to a low-carbon future presents challenges and opportunities for developing countries. Renewable energy and energy efficiency offer the promise of stable, affordable energy supplies while a growing list of investment funds and institutions offer financing for new energy options. Most developing countries lack the kind of strategic roadmap needed to take the first steps to a low-carbon energy future. Our Sustainable Energy Roadmaps help countries successfully navigate the change to an infrastructure capable of meeting the energy challenges of the 21st century.

Our approach involves examining a country's renewable resources potential for renewable energy production such as wind, solar, small hydropower and biomass. We also analyze existing energy infrastructure to identify the potential for, and hurdles to, increased efficiency and energy storage. This technical analysis also allows us to catalog the grid enhancement and extension that increased use of renewable energy could require. At the same time, we look at the current socio-economic and policy environments to identify barriers to low-carbon development and rely on international best practices to suggest how they can be overcome. Equally important, we analyze funding options that might be available from private, public, and multilateral institutions to help bring renewable energy projects into being.

We provide governments with increased knowledge of their country's renewable resources, potential for attracting funding, and global best practices for crafting and implementing supporting policies.



A 3TIER image of Diffuse Horizontal Irradiance for Santo Domingo, Dominican Republic.

This knowledge-sharing is achieved through local capacity building which is offered throughout the process. Through regularly schedule workshops, Worldwatch and its partners provide training that increase local stakeholders' ability to translate the Roadmap into a tool they can utilize for planning and implementation.

The project strengthens government and civil society capacity, enhances stakeholder engagement, and advances policies that combat climate change. By collaborating with local stakeholders in each country, Worldwatch produces concrete Low-Carbon Energy Roadmaps that empower them to reduce dependence on fossil fuel imports, local pollution, greenhouse gases, and long-term energy costs. At the same time, the roadmaps lead to new business opportunities and high quality jobs.

# Sustainable Energy Roadmaps

## An Integrated Approach

---

### CAPACITY BUILDING

Throughout the project, Worldwatch and its partners engage stakeholders from all sectors of the economy to understand the interests and goals of particular countries and build them into our analysis and recommendations. As the project progresses, the focus shifts to educating those who will be implementing the roadmap’s recommendations on how to effectively use the roadmap to strengthen the case made to investors, funders and financial partners. Worldwatch then stays engaged with in-country partners to provide any guidance or advice required. Worldwatch believes countries should use the roadmaps in whatever way they see fit and is committed to remaining a useful resource to policymakers and stakeholders. This ongoing involvement will ensure that our roadmaps have continued relevance to the policy discussion and stimulate development.

### RESOURCE ASSESSMENT

Trusted by top renewable energy developers and financiers around the world, 3TIER uses leading-edge science to characterize a country’s renewable energy potential. The resource assessment identifies regions with the greatest wind and solar energy opportunity and includes reports and resource data upon which sound economic models can be built.

### POLICY ASSESSMENT

For more than 3 decades, Worldwatch has been a pioneer in the field of sustainable development and is ideally positioned to evaluate current policy environments in target countries. Our thorough understanding of international climate policy options and global best practices for low-carbon development enable us to put concrete information in the hands of local decision makers.

### TECHNICAL ASSESSMENT

Our approach includes partnering with expert firms that can thoroughly assess the current technological barriers to additional renewable energy deployment. We will provide recommendations for overcoming these hurdles and additional thought on what problems might occur going forward.

### EFFICIENCY ASSESSMENT

We work with local experts to thoroughly review current electricity grid structure and opportunities for efficiency gains. We also factor major electricity users into our review to identify opportunities to increase end-use efficiency and create a comprehensive plan for implementing efficiency measures.

### SOCIO-ECONOMIC ASSESSMENT

Worldwatch conducts a comparison of various renewable energy and energy efficiency scenarios which are evaluated against a business-as-usual approach to determine costs and savings, preliminary estimates of the potential for domestic job creation and manufacturing expansion through low-carbon development.

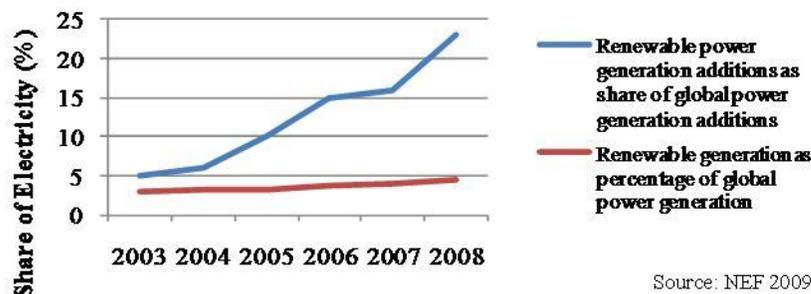
### FINANCIAL RESOURCES

Worldwatch works with the banking sector and energy investors in target areas to identify barriers to renewable energy investment and transform our roadmap’s suggestions into tangible results. The Worldwatch Institute’s expertise in energy policy and finance enables us to provide best practice recommendations to ensure that low-carbon development goals are backed up by robust financing options.

### ONE MORE THING...

In the last decade, renewable energy has played an increasing role in global electricity generation. More and more, countries are realizing the benefits of replacing widespread use of fossil fuels with more sustainable sources like solar, wind and hydropower for running their economies. Sustainable Energy Roadmaps help countries navigate that change so they can demonstrate individually that which has to happen globally.

**Global Electricity from Renewables (2002-2008)**



Source: NEF 2009