

Renewable energy parks in Sri Lanka

Sri Lanka Sustainable Energy Authority

<http://www.energy.gov.lk>

A renewable energy park, or “energy park” is an evolving concept, and the definition still varies; but for the most part, it is an area used and planned for the purpose of clean energy development, like wind and solar generation. This renewable infrastructure can serve as smart and sustainable assets for areas with surplus industrial property. Renewable energy parks not only provide a source of reliable, locally produced clean energy, but they have also contributed to eco-tourism and served as an educational resource to local schools, universities, and business groups.

In the past, energy sites have been one-dimensional with a coal or gas plant producing electricity, for example; whereas, energy parks today can incorporate an assortment of technologies and purposes. For instance, generation can come from solar, wind, biomass, geothermal, nuclear, clean fossil, or hydrogen generation.

Energy Park is a concept initially proposed as an alternative strategy to accelerate wind and solar power development in Sri Lanka. Energy Parks function in the form of a public-private partnership. The main purpose of energy parks is to attract investments for renewable energy development at the optimum economic efficiency.

At present, the involvement of the private sector in wind and solar development is in relative slow progression. The main challenge faced by renewable energy developers is that the project capital costs are comparatively higher in terms of specific costs (USD/kW). This disparity is largely due to the:

- Economy-of-scale effect—10 MW projects compared to the current global trend of project capacities of 50–100 MW
- Lack of scale for competitive bidding—leading equipment suppliers are reluctant to bid for small-scale projects
- Poor engineering infrastructure involving lift and shift equipment for MW-class projects, especially for wind turbines. This situation compels to call for the hiring of such equipment from overseas at considerable additional costs.
- The need to absorb the cost of dedicated power transmission line.

The main elements of the energy park strategy consist of measures that could, directly or indirectly, contribute to reducing the cost of electricity and enabling renewable energy resources emerge as a financially viable source of energy.

- One measure is to increase the scale of wind and solar power projects from the currently allowable 10 MW capacity per project to a 75–100 MW project. A project of this

scale is most likely to result in the reduction in the capital cost due to the following reasons:

- Economy-of-scale effect
- Increased competition among equipment suppliers
- Proportionately lower balance-of-plant costs

The reduction of operation and maintenance costs due to the low level of specific manpower and spare parts stocks that has to be maintained.

- Large wind projects are often beyond the investment capacity of most local companies and local financial institutes. It is therefore proposed that a Special Purpose Vehicle (SPV) or a joint venture initiative be set up with several local private companies, with us and the CEB as equity partners, centered around an Energy Park located in a particular geographical area, deemed suitable for wind power generation.
- Several countries in Europe, e.g. Denmark, Germany, Norway, offer low-interest or low-interest credit facilities (called Mixed Credit) for projects in developing countries, which are important to the recipient country, but are financially unviable under normal commercial terms. These are however tied-aid programs in which goods and services must be financed from the donor country.
- The Government partner of the SPV would act as the Project Team Leader, undertaking the following main activities:
 - Collection of reference data and site-specific data for the particular energy resource
 - Seek soft financing including a long-term renewable energy bond, issued to local investors
 - Land survey, acquisition, and related vesting tasks
 - Local infrastructure development including rail/road building
 - Extension/strengthening of HV transmission
 - Addition/augmentation of Grid Sub Station Capacity
 - Approvals from state agencies and environmental clearance

Advantages of energy parks

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Clean Technology Fund

The Clean Technology Fund (CTF), one of two multi-donor trust funds under the Climate Investment Funds (CIF) framework, promotes scaled-up financing for demonstration, deployment and transfer of low-carbon technologies with significant potential for long-term greenhouse gas emissions savings implementation in renewable energy, energy efficiency, and clean transport in emerging market middle-income and developing economies. The CTF is at the forefront of financing promising renewable energy technologies, such as concentrated solar power (CSP). Channelled through the African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, and World Bank Group, the CTF finances 19 country programmes and one regional programme with over 90 individual projects.

For more information, access,

<https://climatefundupdate.org/the-funds/clean-technology-fund/>

Green ratings in India

Small Industries Development Bank of India (SIDBI), India

<http://smallb.sidbi.in>

Green rating is an estimate of an industry's environment friendliness. It assesses the adverse impact on environment caused by an industry's activities and methods adopted by an industry to minimize the damage. This assessment is done by a credible third-party evaluator. The rating is arrived at after considering industry's current processes and technology and their impact on the environment, adoption of clean technology, and various processes adopted for mitigating adverse impact on environment.

Relevance of green rating around the world

Rapid industrialization and the associated global warming have placed a question mark on the sustainability of the planet's delicate ecological balance. The "United Nations Framework Convention on Climate Change (UNFCCC)" and more particularly the "Kyoto Protocol" have placed stringent and legally binding Green House Gas (GHG) emission norms on developed/industrialized countries. Countries like the USA and those within the EU have also imposed carbon taxes on fossil fuel-based industries.

The increased awareness about environmental degradation is making environmental regulations more stringent the world over. The MSME sector cannot remain insulated from this trend. Exporting MSMEs may soon see themselves set against trade barriers such as the impending imposition of carbon taxes by European countries. In order to position themselves as responsible corporate citizens and as a preventive measure against probable censure from environmental organizations like Green Peace, MSMEs will feel the need for Green Ratings in near future.

Green rating in India

Green Rating initiatives in India are spread across various sectors ranging from buildings to manufacturing industries.

Green building initiative

In order to create more energy efficient and eco-friendly buildings, the Ministry of New and Renewable Energy in collaboration with The Energy and Resource Institute (TERI) initiated Green Rating for Integrated Habitat Assessment (GRIHA), the National Rating System for Green Buildings in India. GRIHA rating system consists of 34 criteria categorized under various sections such as site selection and site planning, conservation and efficient utilization of resources, building operation and maintenance, and Innovation points. For further details, visit GRIHA.

Green rating project

It is a nongovernment initiative launched by Centre for Science & Environment (CSE) in 1995 to guide Indian industries to improve

their environmental performance. The project mainly relied on voluntary participation of companies and depended up on the company's eagerness to avoid bad publicity as these ratings are released for public. Along with the assignment of Green Rating, the initiative charted out steps need to be taken by each industry to improve their performance. In majority of the cases, the companies have implemented the road map provided by CSE. The industries covered in this project are paper and pulp, cement, automobile, and the chlor alkali sector. For further details, visit Green Rating Programme. A larger proportion of companies rated for green credentials under this programme are large enterprises.

SMERA green ratings

In India Green Rating of enterprises is offered by SME Rating Agency of India Limited (SMERA). Green Rating is a joint initiative of SMERA and SIDBI. The Energy and Resource Institute (TERI) acts as a Knowledge Partner. SIDBI promotes and facilitates the process by offering credit at concessional rate to Green Rated companies. The Government of India (GoI) has urged lending institutions to encourage borrowing MSMEs to go for "Green Rating." SMERA is only agency that exclusively caters to Indian MSMEs' "Green Rating" needs. Read extract on Green Ratings from OPTIMISM (SIDBI bimonthly magazine).

Benefits of green rating

- **An independent third-party evaluation about environment friendliness:** It indicates that the MSME is conscious about its duty toward environment and society at large
- **Credit at concessional rate:** It will help a MSME to obtain credit at a concessional rate from lenders like SIDBI
- **Mitigation of environmental risk:** It reduces the risk associated with the stringent environmental norms that is becoming stricter
- **Confidence among value chain partners:** The rating assures lenders, buyers, collaborators, JV partners that the MSME is a responsible corporate citizen and does not adversely impact ecology
- **Self-assessment tool:** Green Rating is a self-assessment tool that can be used to identify areas of improvement
- **Creating awareness:** Green Rating awarded by an independent agency improves the visibility of MSME in the eyes of various stakeholders like buyers, suppliers, collaborators/JV partners, etc