



Decentralised Energy Applications Promoting the Uptake of Renewable Energy in Developing Countries – A Partnership Opportunity



Over 1,3 billion people across the globe do not have access to electricity, primarily in rural areas. Many of them rely on biomass or expensive, polluting fossil fuel solutions such as diesel generators.

Mini-grids are a key element to bring affordable clean energy solutions to these people.

An innovative approach

The United Nations Environment Programme (UNEP), in cooperation with like-minded organisations and leading private sector partners, has set up a new initiative to develop cost-effective, decentralised, clean-energy applications in isolated off-grid communities of targeted developing countries.

Involving public funders and potential private investors at an early stage is key to ensuring that the perceived risks to future private investment are being addressed. This will then provide the basis for future private sector investment.

Two approaches are being pursued:

- The hybridization of existing diesel-powered regional grids aiming for conversion to 100% renewable energy;
- The introduction of new clean energy mini-grid structures for currently unserved locations in developing countries.

Ensuring cleaner energy supply: a new public-private partnership

UNEP, the International Renewable Energy Agency (IRENA) and Siemens have joined forces in a public-private partnership to identify what it takes to develop commercially-viable business models for the operation of clean energy hybrid mini-grids.



Together with the private sector, the ambition is to demonstrate by the end of 2015 a range of cost-effective clean energy grids operating in eight locations in Africa, Asia and Latin America currently being supplied by isolated diesel grids.

As a first step in this process, business models have been developed by the Frankfurt School - UNEP Collaborating Centre to demonstrate the commercial viability of the clean energy grids. Assessment results concluded in 2014 provide the basis for phase 2 implementation activity to demonstrate cost-effective clean energy mini-grid operation.



Building new mini-grids for access to clean energy

UNEP also aims to introduce new clean energy mini-grid structures in currently unserved locations of developing countries. Ensuring access to sufficient energy at an affordable rate will also facilitate the development of economic opportunities in these areas.

Southern Africa has been selected as the first target region, with a focus on Botswana, Lesotho, Mozambique, Namibia, South Africa and Tanzania.

The assessment of possible target sites for building new clean energy mini-grids, and the development of relevant business plans for their lasting operation, is ongoing. Energias de Portugal, the national utility, is providing financial support and expertise for this initiative in Mozambique.

Decentralised Energy Applications Key to achieving SE4All goals

In September 2011, UN Secretary-General Ban Ki-moon launched Sustainable Energy for All (SE4All) as a global initiative to mobilize action from all sectors of society, on renewable energy, energy efficiency and energy access.

Developing decentralised clean energy solutions for rural areas in targeted developing countries is key to achieving the SE4ALL goals.

This will be followed by a demonstration programme, which is expected to show how commercially viable applications of clean energy mini-grids can be effectively implemented.

Early involvement of public funders and future private investors is paramount to ensure the development of lasting clean energy mini-grids.

The launch in June 2014 of the clean energy mini-grids High Impact Opportunity (led by UNEP, UKDFID, UNF and ARE), provides additional international awareness for UNEP's programme.

Become a Partner

UNEP is inviting public and private sector organisations to register their interest in this initiative, with the ambition to build an effective public-private partnership for sustainable, decentralised access to clean energy.

This partnership will:

- ▶ Build sustainable and clean energy access solutions for rural communities in developing countries
- ▶ Be a key contribution to the UN Secretary-General's initiative Sustainable Energy for All
- ▶ Open new markets for decentralized and clean energy applications and relevant technologies
- ▶ Provide access to new customers
- ▶ Facilitate the development of new innovative financial investment opportunities



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