United Nations Industrial Development Organization

UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mandate of the United Nations Industrial Development Organization (UNIDO) is to promote and accelerate sustainable industrial development in developing countries and economies in transition. In recent years, UNIDO has assumed an enhanced role in the global development agenda by focusing its activities on poverty reduction, inclusive globalization and environmental sustainability.

The Organization is recognized as a specialized and efficient provider of key services meeting the interlinked challenges of reducing poverty through productive activities, integrating developing countries in global trade through trade capacity building, fostering environmental sustainability in industry, and improving access to energy.

Industrial and economic growth is fueled by an increasing demand for energy and natural resources that strains the renewal and assimilative capacities of the natural environment. Thus it is fair to say that producing and using energy and other natural resources efficiently from sustainable sources, thereby easing the pressure on the natural environment, is a precondition for green industry and sustainable development. In this backdrop UNIDO recognizes the urgency and centrality of innovation to achieving its goals.

UNIDO's energy programme aims to promote energy efficiency and renewable energy for productive uses through:

- Promote the energy management systems in SMEs to increase their competitiveness and reduce dependence on fossil fuels;
- Create business development opportunities through increasing access to energy through **renewable energy mini-grids**; and
- Support **innovative business models**, particularly in rural areas, by augmenting the use of locally available renewable energy sources and renewable energy for industrial applications.

Selected Technical Cooperation Projects/Demonstrating Innovative Technologies

Under UNIDO's Renewable Energy programme, several innovative renewable energy technologies and business models have been demonstrated:

These include the installation of a 1MW small-hydro power plant (SHP) in the **Republic of Zambia** through a successful collaboration with the International Centre for Small-Hydro Power (ICSHP), the Government of Zambia, the Rural Electrification Authority (REA) and ZESCO (Zambia Electricity Supply Corporation Ltd.).

UNIDO and the **Government of Cuba** have supported hurricane-proof wind turbines, and the wind farm Los Canarreos is fully operational.

In **India**, UNIDO is working closely with the Ministry of New and Renewable Energy and the State Government of Uttrakhand to promote a highly innovative project on **ultra low-head micro hydropower mini-grids**.

Building on the success and the lessons learned from the "Greening of COP17" project (Clean Technology Innovation Competition component) in 2011 in South Africa, **UNIDO together with GEF** has developed a flagship programme to promote clean technology innovations in SMEs and support clean technology entrepreneurs around the world, thereby enhancing engagement with the private sector and scaling up momentum for sustainable development.

UNIDO and the Republic of Korea have partnered to promote the transfer of biogas technology between Korea and **Ghana** through piloting an industrial-scale biogas plant, and support business and enterprise development through the whole value chain, including linking farmers, energy suppliers and research institutions.

Innovative Implementation Approach

Innovative Energy Access Approach: There are still untapped resources for renewable energy to increase the access to energy. Ultra low-head micro hydropower technology is one of the innovative technologies, which has become recently available commercially. The micro-hydro project in India is highly innovative because the technology itself is at a stage of technological demonstration and dissemination. There is significant potential for developing low-head hydro-power in rural areas, which lack access to energy.

Cleantech approach for enhancing competitiveness of Small Businesses: This project seeks to promote innovations in clean technologies by using a cross-sectoral and multi tiered approach to build sustainable innovation entrepreneur ecosystems for small businesses (SMEs). It focuses on enhancing emerging clean technology start-ups in participating countries as well as strengthening policy framework. Cleantech employs a competition-based ecosystem approach to identify the most promising entrepreneurs across a country. A local business acceleration programme supports, promotes and "de-risks" the participating companies and connects them to potential investors, customers, and partners. The programme in each country is led by a local executing partner, supported by local stakeholders and advisors.

Institutional capacity building: In strengthening national technical, regulatory and commercial capacities in the areas of sustainable energy and climate change policy in Eastern Africa, two technical workshops were conducted in Ethiopia and Tanzania, targeting working level experts. As part of registration process for the workshops, the participants were asked to answer a questionnaire which identified the issue areas they were most in need of capacity building in. This allowed initial interaction with the participants in the planning stage of the workshops, increasing their interest and ownership. The workshops featured structured seminars and Q&A sessions to facilitate knowledge transfer, and also thematic group discussions, which allowed participants to engage actively in practical discussions. To ensure sustainability of the capacity building effort, an e-learning course was conducted as a follow-up to the workshops.

Evidence of results and impact

The technology demonstration of ultra low-head micro hydropower system is now under implementation in India, and UNIDO has received a lot of interests to demonstrate similar low head hydropower technology in other developing countries. In Zambia, ZESCO has contacted UNIDO to promote replication of the project, and new donors are interested in capitalizing the Renewable Energy Revolving Fund established by the Development Bank of Zambia in order to carry out further feasibility studies.

UNIDO together with GEF, Ministry of Micro, Small and Medium Enterprises-Govt. of India (MSME) and Federation of Indian Chambers of Commerce and Industry (FICCI) launched the Cleantech project in May in India. The launch was well attended by several industry leaders, heads of trade associations and prominent representatives from the civil society. In the biennium 2013-2014, UNIDO will work closely with the GEF and national partners to launch Cleantech projects in several countries, which among others will include Armenia, Brazil, Malaysia, Nigeria, Pakistan, Russian Federation, South Africa, Turkey and Viet Nam.

Costs associated with the development and implementation of the activity

- The Zambia project is supported by the GEF, and the total costs together with co-financing amounts to over US$ 8 million.
- The ultra low head micro hydropower technology demonstration project in India is supported by the Government of Japan amounting to US$ 1.3 million
- The Cleantech project is funded by the GEF amounting about US$ 1-2 million per country with co-financing from various partners.

Contacts

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