

BACKGROUND

Eritrea faces major constraints in its efforts to meet the growing national demand for commercial energy. Energy is not sufficiently produced, awareness of energy conservation is low and there exists a lack of financial and technical capabilities to invest in this sector. A 1998 comprehensive survey indicated an estimated total final energy supply of 619,580 tons of oil equivalent (toe), 68% of which was attributed to the household sector, 16% to the commercial/ public sector, 13% to transport and 3% to industry. The sources of energy were 66.3% biomass based, 31.6% oil products and 2.1% electricity generated by thermal means using oil products. More than 95% of the rural population and 20% of the urban residents do not have access to electricity. Unequal distribution of the power supply within the country is due mainly to the limited concentration of commercial and industrial activities in a few major cities. Biomass energy, used mainly for cooking purposes and other basic needs, represents the bulk of the country's total energy consumption. Biomass is burnt in an inefficient manner in traditional stoves contributing to deforestation and land degradation as well as to global greenhouse gas emissions. As the country is also not endowed with natural sources of electricity generation (e.g. hydro), wise investment decisions and sustainable use of energy consumption becomes extremely important. A pilot project has been formulated and funded by the Global Environment Facility (GEF) to demonstrate the potential for wind-generated energy in Eritrea.

As replacement of wood consumption for energy purposes, the project is a practical solution to protect forest destruction. By producing a cleaner and cheaper energy, will be used in the installation of water pumps for public and school use, and electrification of health center in remote areas facilitating access to school, clean water and health services. Beyond the direct economic benefit, the renewable energy project is a strategic intervention, catalyzing the realization of multiple MDGs in particular MDG1; Extreme poverty and hunger, MDG2; Achieve universal primary education, and MDG7; Ensure environmental sustainability.

OBJECTIVES

The project aims at transforming the market for wind energy applications in Eritrea. Key components include:

- i) The installation and operation of a small wind park (750 kW) connected to an existing system in Assab;
- ii) Eight decentralized wind standalone and wind-hybrid systems in rural villages;
- iii) The strengthening of the country's capacity in terms of personnel, know how, government institutions and the private companies connected to wind energy utilization.

PROGRAMME DETAILS

Through this project GEF/UNDP is assisting the Government of Eritrea in testing the viability of the use of wind energy in favorable wind regimes. The project aims at supporting the Ministry of Energy and Mines and the private sector in building respective capacities to replicate the installation of wind farms, decentralized stand-alone wind-diesel systems and generate electricity for productive purposes.

ACHIEVEMENTS TO DATE

The main results achieved so far include:

- i) Awareness among decision makers at government, private and community levels highly promoted;
- ii) Installation of 750KW Grid-connected Wind Park around Assab area completed and commissioning of the Farm currently in process;
- iii) Foreign Supplier for the stand-alone wind and hybrid off-grid decentralized systems for 8 villages identified, contract signed and 20% of the contract price paid.