

Renewable Energy Park For the Island of Corfu

Objectives

The objectives of the "Renewable Energy Park" programme are:

1. Introduce the contribution of renewable energies in the power consumption of the local population and industry. The Municipality is committed towards demonstrating the availability of renewable energy technologies, in order to stimulate further private initiatives and projects in the island of Corfu.
2. Exploit the energy potential of biomass, wind and solar energy.
3. Provide with 100% renewable energy the communities of Acharavi, Perithia, Palea Peritheia, Laffi and Klimatia, by the year 2004-5.
4. Use of facilities for research purposes (applicable only in the case of biomass reactor for bio-oil production).
5. Introduce renewable energy technology to the local professional human resources (training of engineers and technicians).
6. Increase awareness of local population and tourists upon renewable energy sources and their benefits through information (advertising) campaign.

Corfu is an island located at the north-west borders of Greece, between Greece, Albania and Italy. The Municipality of Thinalli was formed in 1990 by the merging of the 12 pre-existing communities of the region. It covers an area of 8,000 hectares, with a permanent population of 5,500 people, which is tripled in the summer months (March-October), due to tourism.

In 1995 the Municipality of Thinalli started an initiative aiming the establishment of environmental protection projects and policies. In spring 1999 the Technical Services of the Municipality started a programme for the next 5 years. The programme is concentrated on actions that have to be taken by the Municipality and private bodies, in order to increase the Renewable Energy penetration to the local consumption of energy. The reason for this action was the fact that the electricity produced in Greece is generated by the coal-fired stations of PPC and heating is supplied by petrol-fired boilers as the natural gas introduced lately to the Greek market will not be supplied to island regions such as Corfu.

7. Stimulate the market of liquid bio-fuels in the island of Corfu.

Actions

Recording of loads

The first action to be taken is the recording of all municipal, citizens and industrial loads in the area. This will help in calculating the yearly energy consumption of the area, and therefore the requirements for installed RE

power will be quantified and determined. This will help the Municipality to set yearly targets for installation of RE systems, for the next 5 years, in order to achieve the 100% RE supply. This process has already started, and will be ended by December 2000.

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Energy efficiency

The engineers of the Technical Services Department of the Municipality have already started considering the implementation of various solutions, in order to reduce the energy consumption and achieve rational use of energy in installations and buildings owned by the Municipality (Municipality building, schools, athletic centre, water pumping stations etc). Such actions include the replacement of all the incandescent lamps with electronic, high-efficiency ones, the implementation of double glazing, the installation of capacitors at the large pumping stations, etc. These measures have already started being applied and will be ended by late 21M, they are aiming in



reducing the energy consumption of the municipality by 40%, in yearly basis.

Biomass

The main objective of the project is to build a biomass plant, for municipal and agricultural waste combustion, using advanced combustion technique for the production of bio-oil. The Municipalities covering the north part of the Wand have merged together, in order to implement an action plan, targeting the construction of the plant. using municipal and agricultural waste as combustion RW. The local authorities participating on the action are the Municipalities of Esperion, Thinalli Kassiopí, Agios, Georgios, Feakes and Palaiokastritsa, all located in the north of Corfu. The action is included in the target for "5 M tonnes of liquid bio-fuels" in the campaign for take-off. The plan is to start construction of the plant by 2001.



in order to cover the energy needs of the communities belonging to the municipality. It is estimated that a plant generating an approximated of 5 M kWh/annum will be required. Installation is expected to commence by early 2003 and will be directed by the Development Company of Thinali.

Management

The installation will be directed by the Technical Services Department of the Municipality of Thinali. The engineers of this department will also contribute to the workload to be undertaken by the Development Company of Thinali. The decision making for all the actions will be undertaken by the Mayor of the Municipality of Thinali, excluding the biomass plant, where all 6 Mayors will contribute; it is expected that after finishing the preliminary design study of the plant, a company will be formed to undertake the project. Special attention should be given to the participation of the Development Company of the Municipality of Thinali (AN.THI), which will undertake a large stake of the projects, in order to achieve a flexible platform, where a mixture of private and public investments could be exploited, for developing the renewable energy projects in the region.



PV Systems

A demonstration installation of a PV system to supply electricity for the Municipality building will be achieved, within the year 2000. This is to promote and introduce the use, effectiveness and reliability of PV technology, in

order to be adopted by citizens and industries as well.

Solar Thermal collectors

A number of solar collectors will replace the existing electric boilers of the sports centre of the municipality, in order to provide the centre with hot water. The installation will take place in Autumn 2000 and will be directed by the Municipality of Thinali.



Anaerobic digester

The Municipality of Thinali has recently started a project consisting of the installation of a waste- water network and a biological waste- water treatment plant, together with a anaerobic digester unit for methane production. The project started in 1999 and it will be concluded by late 2002. The Municipality achieved public financing for this project of 6,060,606 Euro.

Wind power

After measurements of the region's wind power have been completed (by early 2002), a decision will be made upon the potential of the wind turbines to be installed,

