

THE LANDFILL OF RONCAJETTE

Country: Italy

Region: Veneto

City: Roncajette (Padua)

Types of plants involved: Biogas recovery, photovoltaic plant

For additional information: www.novambiente.it

Timescale: 2010

General description:

The landfill of Roncajette was redesigned with the purpose to become a park for the production of renewable energy; thanks to its success it has attracted the media attention and several technical delegations and public officials want to visit it. The municipal waste landfill (in function from 1989 until 1999, with the final test in 2002) has been recovered by Ente Bacino Padova 2, that has foreseen the energetic valorisation of such area with the installation of a photovoltaic plant in order to integrate the energetic recovery of biogas. The realization of 1MWp photovoltaic plant has been granted by Ente Bacino Padova 2 to the Aps holding SPA of Padua Municipality (that is the society managing the public transport system and using the produced energy in order to feed the city railway system).

The annual amount of produced energy will be around of 1.200.000kWh, that is the 20% of the energy used by Padua tramway system in a year (the tram system is composed by 14 vehicles with a capacity for 180 passengers).

The plant for the recover of biogas is able to satisfy the annual need of more than 700 families (2010 estimate). For additional information about the project and the plant characteristics, please consult the Ente Bacino Padova website, www.novambiente.it.

WHAT CONTRIBUTED TO THIS PROJECT'S SUCCESS?

• Success Factors:

- The temporary association of local enterprises follows environmental sustainability objectives;
- Shared objectives among local actors in order to preserve the territory;
- Integrated waste management, which take care of all the activities, from waste collection until final disposal with energy recovery from landfill biogas)
- The marginal terrains are considered as potential platform for electricity production from renewable energy sources;
- At the end it demonstrates that the choice to invest in marginal terrains, if supported by a rational economic survey and by reliable partners, can give profits to investor and to local communities as well.



Picture 1

An high view of Roncayette area before the put down of photovoltaic plant of 1MW in the lot B and C. The initial technical and economic analysis demonstrate that the profit will be around 455.090 euro/year (expected payback time of about 7 years).



Picture 2

The realization of 1 MWp plant, with an annual production of 1,000MWh (1,175,000 kWh), will last for 30 years (a second lot is foreseen in 2012).



Picture 3

The biogas is pumped by shafts and taken to the generators engines for electric energy production (about 2.000.000 kWh).



Picture 4

The plant was finished in December 2010, with ground fixings that help in discharging static and dynamic loads to the soil and can accommodate land settlements occurring over time.
The plant, as structured, survived to the breakage of the bank of Bacchiglione river in 2010.