

“Wind of the coast” project

WP3 Exchange of experience and best practices

WORKSHOP 1 – THE POLICIES

Ravenna, 11th February 2010

Best practice sharing - Spain

By Diputacion Huelva

Chucena, Huelva

- Huelva, hybrid system. Spotted on motorway
- Chucena, Huelva



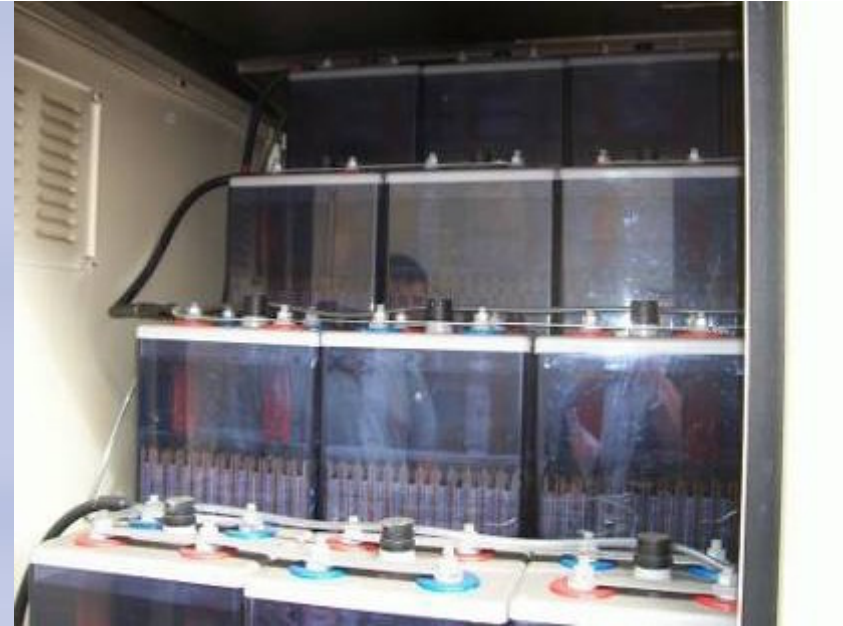
Background

- November 2008
- Relay transmitter
- Part of 5 experimental hybrid installations
- Aim to reduce time of generator where grid installation not possible



Technical Stats

- 6kW turbine, 8kW inverter
- Hybrid with PV- 10 * 185Wp
- Charge 24 batteries of 2300 Ah at 48 V
- 220v AC 3 phase
- Bridge rectifier to DC
- DC to charge batteries
- Alternator to 4kW continuous output
- Combined with diesel generator
- Type of generator- WINERCON/Bournay



Performance

- Normally starts at around 8 km/h
- At 14 km/h generates between 25 and 30A
- Has seen 88A at one point!
- Cuts down use of diesel generator from 10 to 3 to 4 hours per day for installation
- Due to proximity to the sea when the tides are coming in and out, wind is fairly constant.
- In general technician is very impressed with performance

Data

- Data collected remotely online using telematic software
- Should be able to evaluate all data using internet
- Would be good for all 5 experimental sites
- Costs: whole instalation around 70k €
- Payback within 5 years
- Costs of 800 € per month bieng spent on fuel for the diesel generator, now only 300 €

Difficulties

- No planning issues as much less impact than tower itself
- Noise minimal, much less than diesel generator
- Theft of equipment. Had been broken into at least twice. Serious issue for isolated installations.

Positives

- Little maintenance, only 1 hour every 6 months down-time.
- Saves 6 to 7 hours of generator, which consumes 8 to 10 litres per hour
- Often PV is not feasible, due to the inclination of the transmitter towers
- Miniwind a very good option
- Replicable, and being replicated.