



Windmills and mirrors: living in the vicinity of windfarms and solar power stations

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The project

- Title: **Socio-technical consensus and controversies regarding renewable energies**
- Institutions: ICS-UL, Univ. Aveiro, CRIA
- Funding: FCT Foundation for Science and Technology (PTDC/CS-ECS/118877/2010)
- Duration: March 2012-August 2014
- Main tasks: analysis of the political, social and scientific framework of renewable energy production in Portugal; media and public opinion analysis; case studies of wind farms and solar power plants

Renewable energies

- **Consensus:** “clean”, “green”, “natural”, endogenous, inexhaustible, low risk (unlike nuclear), low environmental impact (unlike hydroelectric dams)
- **Controversy:** siting of energy generating facilities impacts (environmental, landscape, health, noise, tourism)



“Green-on-Green” controversy

Global benefits vs. Local impacts

(Warren et al 2005)

Renewable energies

Social attitudes towards RE vary:

- Technology (wind, solar, biomass...)
- Perceived impacts and risks
- Ownership
- Location
- Social and economic interests
- Planning procedures
- Distribution of benefits
- Community dynamics
- Place attachment

Methodology

Case studies

- Windfarm in Alvaiazere
- Solar power plant in Amareleja (Moura)

Site visits (ethnography) and semi-structured interviews with local authorities, NGO, and residents

(Work-in-progress, exploratory analysis)

Windfarm



Solar power plant



Windfarm

- One of 250 windfarms in the country
- 18 MW
- 9 aerogenerators
- On top of the mountain range of Alvaiazere, a Natura 2000 site
- Started operating in 2010
- Owned by Finerge, part of the Spanish group Endesa

Solar power plant

- The largest solar power plant in the country (total of 21)
- 45,8 MW
- 2520 solar trackers
- Occupies 250 ha of land (a former airfield), close to the village of Amareleja
- Started operating in 2008
- Owned by Acciona, a large Spanish electric company



Planning

Windfarm

- Environmental Impact Assessment needed (Natura 2000)
- Public consultation: unfavourable comments from 3 ENGOs (environmental impacts, archaeological site, bat colony)
- No participation from residents

Solar power plant

- No EIA needed (no specific legislation, falls under urban planning laws)
- Just 1 resident contests the planning proposal
- Low level controversy in local government
- 6 public debates at the local theatre

Economic benefits

Windfarm

- Increase in local trade during construction work
- Job creation: some, during construction, no permanent
- Electricity prices remained the same
- No impact on tourism

Solar power plant

- Increase in local trade during construction work
- Job creation: 350 during construction, 15 permanent
- Solar panel assemblage factory (jobs)
- Electricity prices remained the same
- Small increase in tourism

Use of income (local authority)

Windfarm

- Improve infrastructures
- Rebuild old schools as environmental interpretation centres

Some local controversy (low level disputes in local government, lack of information on the uses of income)

Solar power plant

- Creation of a technological park (solar panel factory, laboratory for testing photovoltaic materials)
- Microgeneration (public and private buildings)

Use of income (local authority)



Landscape

Windfarm

- It's only seen from a village in another municipality
- *"It doesn't look at well in the landscape(...) I still can't see what the advantages are"* (woman, 38 years old)
- *"I'd rather not [have the windfarm there](...) I'd rather see the mountain in a natural state"* (woman, 69 years old)

Solar power plant

- It's seen from the south side of the village of Amareleja (less affluent neighbourhood)
- *"We get there and we see something that is completely out of place in the landscape (...) the visual impact is brutal"* (hotel owner)

Environment

Windfarm

- Noise: *"pretty they are not. They make noise at certain times. A little of the zuzuzu gets here. Not always, but it gets here"* (woman, 67 years old)
- Wildlife: *"There is a national bat colony that is being monitored (...) it's early to tell if it has an impact"* (local environmentalist)

Solar power plant

- Low environmental impact: *"In ecological terms, the impact over biodiversity is not significant"* (hotel owner)

Heritage

Windfarm

- Archaeological remains:
"We are in a region of acknowledged heritage: biotic, abiotic, archaeological, cultural, landscape. Why should we be degrading that heritage?" (local environmentalist)

Solar power plant

- Two local coral groups wrote songs about the solar power plant
- Use of the sun in local iconography

Heritage

*Rises the sun behind the hill
And with it comes the new day
Spreads the light in the horizon
Rises the sun behind the hill
You're our energy*

*So many hours, so many days
So much sun, a vastness
To renew the energies
So many hours, so many days
It's the best solution*

*Amareleja you're talked about
In heat you have no equal
Beautiful blessed land
Amareleja you're talked about
For the power plant is born*



Hotel Passagem do Sol
Moura - Alentejo

