

Departamento de Ciências e Tecnologia da Biomassa

Model for assessing sustainability of small scale energy production



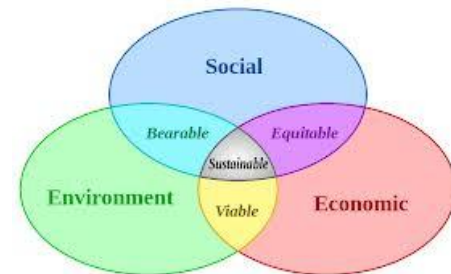
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Objectives

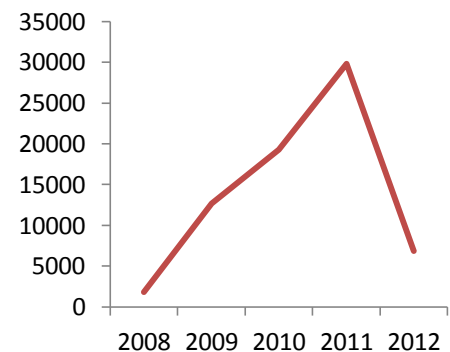
- Define a set of sustainability indicators for small scale renewable energy production in Portugal, considering the three dimensions of Sustainable Development and the technologies used
- With the chosen indicators, building a model which assesses the merits of each of the technology in accordance with the characteristics of the regions in which are installed
- Establish a scale of merit of technologies and where they are installed
- Evaluate the impact of increased penetration of small scale renewable energy production equipment



Methodology

- Selection of a set of indicators from a number of bibliographic sources, such as the International Energy Agency, the United Nations Sustainable Development Department and the European Union.
- Design of a model for quantification of the different dimensions of small scale renewable energy production sustainability.
- Testing the model for a number of different likely scenarios
- Evaluating the impact in sustainability ranking of increased penetration of considered technologies and equipments.

Microgeneration Installed Power Evolution



Expected Results

- It is expected that the model can contribute to evaluate the present sustainability status of small scale renewable energy production.
- The application of the model to other countries can facilitate the comparison between different realities, policies and strategies
- The results of the simulations can help to determine the impact of changes to the current scenario and policies.
- It is also expected that a sustainable use of renewable and endogenous energy resources could lead to a more sustainable development of energy sector.