

TITLE: Renewable Energy policy implementation in Spain from a territorial perspective.

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ABSTRACT:

Climate change may be the most important environmental, economic and social challenge currently faced by the international community. As a global phenomenon, national governments worldwide have defined objectives to try to mitigate climate change through reduction of greenhouse gas emissions and adoption of low carbon energy production systems. European Member states, Spain among them, need to meet these objectives. Nonetheless, the extent to which these policies will be successful depends on the attitude and position of the stakeholders involved in the process. However, actions aimed to mitigate climate change, specifically those related to the implementation of renewable energy installations, can generate effects that may be harmful in other areas, despite their benefits in terms of reduced greenhouse gas emissions at the point of production. In terms of land use, for example, food production and the renewable energy generation may find themselves in competition for the same land areas. This may give rise to social conflicts or rejection of policies aiming to promote the development of renewable energies. Many actors are involved in the complex decision making process that surrounds the implementation of renewable energies for a low carbon future. The debate about how to achieve successful implementation of renewable energy technologies and their associated infrastructure is still open. In the WP3 of the COMPLEX FP7 project, we explore a wide range of factors and elements and the complex interactions between them from the point of view of land use and landscape, together with the adaptive processes that are emerging which may determine success or failure in the widespread implementation of these clean energy technologies. Two different approaches are used: a) an LUC analysis to measure the importance of LUC change associated with RE implementation and the establishment of what we have termed Renewable Energy related Landscape Features (RELF), especially focused on wind energy and solar energy; and b) initiation of a participatory process using techniques based on those employed in Participatory Action Research, specifically, sociograms and semi-structured interviews with selected national and regional stakeholders involved in the implementation of the RE policies. Several indicators have been developed to assess the different situations among the six Autonomous Communities studied aiming to generate a participatory modelling process in at least one of this regions. The integrated dynamic model proposed will simulate the complex interaction of the interlinked domains (economy, patterns of land-use, social cohesion and compliance) by focusing on the implementation of RELF. Thus macro-scale drivers (top-down policy decisions, economic climate, subsidy regime etc) must be considered together with micro-scale drivers (local mobilisation in support of or against RELF, local land availability, local development priorities. This macro-micro scale feedback approach is key to the integrated model design that is proposed here.

Acknowledgments:

This work was carried out in the framework of the Research Project COMPLEX, co-funded by the European Commission within the 7th Framework.

