



Providing climate services for the wind energy industry: a case study for the Mediterranean Region

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During the first phase of EU-FP7 CLIMRUN project, wind speed has been identified as a key climate variable of interest for the case studies on energy that cover the Greater Mediterranean region involving Morocco, Spain and Cyprus. Most of the interest concerning wind modelling focuses on the very short-range (nowcasting) and on seasonal forecasts, because the largest part of the manageable risk is concentrated on these time-scales. However, the interaction with stakeholders, especially in the energy sector, has highlighted the need for more in depth understanding of wind modelling capacities at a longer time scale, which may contribute to both site evaluation in the absence of very accurate wind atlases and on the assessments of risks that may affect the return on investments on longer time scale.

In this framework, climate experts involved in CLIM-RUN EU FP7 project are exploring the potential of seasonal to decadal climate forecast techniques (time-frame 2012-2040) and regional climate scenarios (time horizon 2040+) over the Mediterranean Region as a tool for assessing the impact of changes in climate patterns on the energy output of wind power plants. Subsequently, we will give here a brief overview of these techniques as well as first results related to wind projections for different sites across the Mediterranean Region. We will highlight that regional climate models have a large potential for enhancing the quality of climate projections in the presence of complex orography and in the proximity of coastal areas.