

Scenarios for the evolution of the Spanish electricity sector: Is it on the right path towards sustainability?

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Abstract— The Spanish energy and electricity models are clearly unsustainable: the large increase in electricity demand, a huge dependency on energy imports, and significant environmental impacts are clear reasons for concern. In this paper we take a look at the possible evolution of the Spanish electricity sector under different policy scenarios, and try to identify which are the policies that may help to achieve the desired goal, as well as the role that the different technologies may play. Results are quite optimistic in that, under the appropriate policy measures, carbon emissions of the electricity sector may be reduced in 2020 up to 37% compared to 1990, and energy imports may be also much reduced, at reasonable costs. However, this may only be achieved by strongly pursuing energy efficiency improvements and other energy conservation measures, which should then become a must for all energy plans in Spain, together with renewable energy promotion and stronger carbon reduction policies.

Index Terms— Electricity generation; Sustainability; Spain

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