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## The Moroccan energy model, towards the predominance of Renewables and valorization of the potential of biomass

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Energy dependency of imported fossil fuels, the commitment to the climate and the valorization of its energy resources are the driving forces to the emergence of the clean energy sector in Morocco. The valorization of its great potential of solar and wind resources <sup>[1]</sup> has led to a proactive policy to ensure a transition towards green energy. The country has one of the most ambitious clean energy targets in the world. The implementation of 10 GW leads the RE integration rate in the energy mix to reach 52% by 2030, making this achievement a historic turning point where the share of renewable electricity will exceed the share of fossil electricity.

Large wind and solar projects have been developed under the framework of the called National Energy Strategy <sup>[2]</sup>, spread over the Wind Integrated Program and Solar Plan, respectively <sup>[3]</sup>. Some world records have been achieved, such as the most competitive production cost using wind resources and the size of a multi-technological solar plant.

However, as is well known, solar and wind sources for generating electrical energy, are both intermittent, which compels the power network to acquire new performances for better integration of Renewables (smart grids). Biomass, also a part of renewables, has the specificity of not suffering from this underperformance. In addition, it allows the valorization of sources whose management is a real problem for the local communities and converts the previously called “waste” into real energy deposits.

The presentation aims to share the experience of the Moroccan energy transition model, with a focus on biomass. Giving an overview of the potential identified <sup>[4]</sup> and the dynamic around biomass, in order to endow the country with a national biomass strategy <sup>[5]</sup>, some specific obstacles are discussed, and pertinent levers which are deployed, are explained.

1. Solar and wind Moroccan Atlas
2. National Energy Strategy, MEMEE (2009)
3. MEMEE, MEMDD, MASEN reports
4. A. Zkiou (Avril 2018), "Energies renouvelables et état d'avancement de l'étude relative à la biomasse", MEMDD – Rabat
5. Workshop on “the state of progress of a study for the development of the national strategy for biomass energy recovery”, MEMDD – (Feb. 2019)

### Biography

Touria obtained her PhD (1990) from the “Institut National Polytechnique de Lorraine” and SUPELEC (France). She is also graduated engineer from SUPELEC (1980). Her career in training and research was accomplished at some engineering schools and universities in France and Morocco, where she led an engineering school. Touria contributes to some national and international programs linked to green energy and energy efficiency. She organizes and animates scientific events, related to green energy, energy efficiency and sustainable development. She is also Vice President of the “Association des ingénieurs Centraliens et Supélec du Maroc”.

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