

Morocco and the European Union: bridging opportunities through the Mediterranean Solar Plan. An overlook of Morocco's perspectives

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ABSTRACT

The EU has become a world leader in the promotion of clean energies, adopting the fight against climate change as one of its identity signs in the international arena. All in all, the development of renewable energies constitutes one of the pillars of the emerging EU's energy policy, where it has committed to reach a 20 percent of renewable resources of energy in its total consumption for 2020. In this context, there has been an increasing interest in 'green electricity' imports from the southern shore of the Mediterranean in order to reach the up-mentioned objective. Morocco is probably the best positioned country within the Southern Mediterranean region to implement the Solar Plan: it already has a relatively significant solar and wind energy installed capacity and, given its proximity to Spain (14 km), it has the only relevant and functioning electricity interconnection with the EU in the whole region. This paper explores the nature of the challenges faced by Morocco to use the Mediterranean Solar Plan as an instrument in the deployment of renewable energy in its territory. It concludes with the foreseeable advantages for Morocco in the case of the MSP success.

Keywords: Morocco, European Union, Mediterranean Solar Plan, renewable energy

1. INTRODUCTION

It is known that as long as climate change has been moving to the mainstream part of the international political agenda (Harris 2008), the EU has also been reaching 'a higher gear' to improve its energy practices (Henningesen 2008)¹. The EU has become a world leader in the promotion of clean energies, adopting the fight against climate change as one of its identity signs in the international arena. All in all, the development of renewable energies constitutes one of the pillars of the emerging EU's energy policy, where it has committed to reach a 20 percent of renewable resources of energy in its total consumption for 2020. In this context, there has been an increasing interest in 'green electricity' imports from the southern shore of the Mediterranean in order to reach the up-mentioned objective. So the Mediterranean Solar Plan (MSP), developed in the framework of the Union for the Mediterranean² (UfM), has brought major credibility to these perspectives for the southern neighbours of the Mediterranean (Herranz and Zapater 2010).

Morocco has shown a strong interest in participating in this initiative. It is clear that the attainment of its goals would enable this country to exploit their solar and wind potential, increase energy supply, reduce energy dependency and diversify its energy mix. Morocco is probably the best positioned country within the Southern Mediterranean region to implement the Solar Plan: it already has a relatively significant solar and wind energy installed capacity and, given its proximity to Spain (14 km), it has the only relevant and functioning electricity interconnection with the EU in the whole region. Moroccan renewable energy resources are among the highest in the world (OME 2007; DLR 2005; REACCESS-DLR 2009) and expectations from the authorities, producer and consumers are high. Nowadays renewable energy contributes with a 4% to the Moroccan energy balance (excluding traditional biomass) and 10% of electricity generation. While the figures are rather small, they remain however significant. There are, evidently, important motivations to deploy renewable energy in Morocco even for its national interests as for the EU policy objectives. Nevertheless, there are also certain obstacles that still remain and hamper the concretion of this Plan.

The challenges for a successful MSP implementation are bidirectional, involving even the EU efforts and the south Mediterranean countries transformation. The purpose of this paper is limit to explore the nature of the challenges faced by Morocco to use the MSP as an instrument in the deployment of renewable energy in its territory. This paper is structured in four parts in the following way. Next section presents the emergence of the MSP as an integration project derived

from the Barcelona Process. Subsequently, next section analyzes the insertion of Morocco in the MSP. In the following, this paper studies the challenges faced by Morocco to exploit this project's opportunities. A final section briefly looks the foreseeable advantages for Morocco in the case of the MSP success.

2.THE EMERGENCE OF THE MEDITERRANEAN SOLAR PLAN³

The MSP is one of the six projects listed in the annex of the Paris Declaration as the so-called "Alternative Energies: Mediterranean Solar Plan". The Declaration estimates that "market development as well as research and development of all alternative sources of energy are [...] a major priority in efforts towards assuring sustainable development." Despite the precision about the Solar Plan, the sense of the Declaration calls for the mobilisation of all alternative energies to export green electricity produced in the Mediterranean Partner Countries (MPCs) to the EU.

In recent years there has been a plethora of analyses of the potential of renewable energies (basically solar and wind) in the southern Mediterranean (DLR 2005; European Commission 2007; OME 2007 and 2008; Plan Bleu 2007, 2008a and b; REACCESS-DLR 2009; REACCESS-UNED 2009; TREC 2007). The development of these projects is closely linked to the improvement of MPCs' electricity grids and intra-regional (MPC-MPC) interconnections. Electricity systems in MPCs are much weaker than European ones and connecting their grids with the EU and between themselves will enhance their systems, but this requires the modernisation of local grids. In parallel, a significant increase in the contribution of renewable energies is a challenge that calls for the improvement MPCs electricity systems, given that renewable energies are very grid-intensive and require greater flexibility of the system to be able to manage it appropriately. Moreover, the deployment of renewable energies will require establishing the necessary natural gas infrastructures in the MPCs to supplement them and act as back-up capacity.

Last but not least, the deployment of renewable energies in MPCs requires the upgrading of its regulatory institutions, grid management and capacities to absorb renewable technologies, including the generation of local skills concerning innovation and adaptation to local needs and circumstances. This is why the Mediterranean Solar Plan requires technical cooperation and training programmes in the use and development of technologies related to renewable energies and the management and regulation of the electricity sector and renewable energies itself. The

programs could incorporate, together with the local authorities, new actors such as education and research institutions, companies and eventually other civil society agents, in addition to regulators and network operators.

3. MOROCCO AND THE MEDITERRANEAN SOLAR PLAN⁴

The *Programme National de Développement des Energies Renouvelables et de l'Efficacité Énergétique* is aimed at raising renewables contribution to the Morocco energy balance to 10%, and to 20% of electricity generation in 2010. The Moroccan strategy in energy policy is broadly inspired in EU's own energy trinity: energy security, sustainable development and economic competitiveness. But as expected, the sustainable development objective incorporates as a central issue the alleviation of energy poverty as a fundamental contribution to human development.

The UfM's Solar Plan is becoming a strategic component on the renewable's picture in Morocco. Thus, the renewable energies' legal and regulatory framework is being developed and includes the following elements: (1) a law on renewable energies and energy efficiency; (2) a decree allowing for Independent Power Producers (IPPs) to access the electricity grid and increasing the production threshold from 10 MW to 50 MW; (3) a new fund to support renewable energies deployment and energy efficiency; and (4) transforming the existing *Centre de Développement des Energies Renouvelables* (CDER) in a new operational agency devoted to the implementation of the Moroccan renewable energies and energy efficiency policies.

Within the Solar Plan, the Moroccan electricity utility (ONEP) has launched a pilot project for the construction of a 5 MW photo-voltaic solar farm which could be extended to 20 MW. This project is included in the first phase of the Mediterranean Solar Plan and would generate green electricity for both the Moroccan and the European market, being exported to Spain through the existing interconnection. This will be the first significant green electricity export flow from a Mediterranean neighbour to the EU, allowing the project commercial viability. Morocco expects the Mediterranean Solar Plan to accompany its policy of renewable energies promotion in order to boost green electricity generation for both internal consumption and exports, and transforming renewable energy in a new driver for the country's economic development.

4. MOROCCO AND THE TRANSFORMATION NECESSITY

Morocco is aware that the deployment of renewable energies requires upgraded technical and management capabilities within the efforts of modernising the electricity grid, introducing natural gas and increasing green electricity generation. Furthermore, Morocco expects renewable energies to become a new source of jobs creation in the short run, mainly on constructing and maintaining the new renewable energy facilities. In the medium term, and in an addition to the jobs created in maintenance and operation, the deployment of renewable energy could mean the delocalisation of the less technologically intense parts of the industrial processes (like assembling windmills or solar panels). Both activities are labour-intensive, but require targeted formation of local human capital⁵ in order to absorb the new technologies and provide the qualified human capital needed to operate and maintain the facilities. In the long term, preparedness to absorb technology transfers could develop local innovation capabilities. Morocco has adopted a cluster-oriented industrial policy including formation of human capital as a key feature. The MSP could support that strategy in the field of renewable energies.

Another key issue of the MSP concerns the institutional aspects related to regulation. Despite the advances in recent years and the expected expansion of renewable energies in the medium term, these sources still require support schemes. They also need a stable institutional context to minimise regulatory risks and to allow the heavy investments resulting from their high capital intensity, therefore generating the appropriate conditions for the establishment of a sustainable framework for their long-term development. One of the central aspects of the regulatory framework is the incentives it provides and under which mechanism⁶. In this case, the problem is not so much about where the appropriate regulation is in force but about whom finally pays the bonus: the MPCs themselves or the EU Member States. However, perhaps the major obstacle is the high degree of subsidy from which fossil fuels benefit in most MPCs. In Morocco, these subsidies have tended to decrease slowly but continue to be considerable and harm the competitiveness of renewable energies.

Another remarkable aspect is that of technical standards, as the interoperability of the electricity systems requires its standardisation. Although the harmonisation of the technical requisites is being undertaken gradually, the need to increase technical cooperation to advance in this process should be again pointed out. Morocco has also progressed in the liberalization of its energy market. However, relevant legislation and institutions are not yet in place in an operational

manner and the energy sector remains plagued with state interventions, from subsidies to public companies, and limits to competition. The MSP calls for convergence in energy regulations and standards across Euro-Mediterranean countries, but it lacks a clear strategy to achieve it. In the Moroccan case, there is wide consensus about the need to further and deeper reforms, and the EU should conceive the way to supply sufficient incentives to Moroccan authorities to embark in the pending reforms⁷.

Finally, but probably the most significant challenge, is the regulation scheme for green electricity exports towards the EU. At the Community level, the convergence of the different models for the promotion of renewable energies seems difficult and, therefore, it could be preferable to develop a “Euro-Mediterranean” regulatory model superseding the different national models applicable to a Mediterranean plan of renewable energies. In fact, the new Community renewable energies Directive 2009/28 stipulates in Article 9 the treatment of joint projects between Member States and third countries for their consideration within the objectives established by such a directive for each Member State, always under determined conditions⁸, which have to be observed by Morocco⁹. More importantly, the new directive also permits the “physical” import of renewable energy (including green electricity) from third countries, such as wind or solar farms in Morocco, which is the only country already interconnected to the EU and able to benefit from this possibility.

5. MOROCCO'S OPPORTUNITIES

From the perspective of the southern Mediterranean countries, the development of renewable energies in their territory has a significant socioeconomic potential, mainly for MPCs like Morocco that are highly dependent upon imported fossil fuels. Renewable energies can stimulate its economies through the promotion of foreign direct investment, generation of new local energy sources, export of green energy to the EU, creation of employment and fostering of R&D and transfer of technology, which can entail the delocalisation of determined industrial processes in the MPCs, such as the manufacture and assembly of components in the wind or solar industry. In those MPCs without hydrocarbon resources, renewable energies can be a solution in the medium and long term to their economic and energy vulnerability, especially considering the major increases in domestic demand expected. Thus, the impact of these energies on economic growth could mean a driver for the development for of its Mediterranean neighbourhood.

Morocco is developing an Advanced Status with the EU, which implies Moroccan participation in the European Single Market. This could lead to a gradual Moroccan participation in the virtual green electricity market whenever the country progressively converges towards the regulations, standards and policies of the *acquis communautaire* energy-related chapters. This would be a meaningful incentive to Moroccan energy actors for reforming the energy sector along the model set up by the *acquis communautaire*. The Moroccan case clearly illustrates the case for approaching the MSP as a comprehensive sustainable development strategy. In designing regulatory, trading and financing schemes, the focus should be on Moroccan development. A main focus must be on alleviating energy poverty in rural households, for its positive impact on sustainability and human development. In sum, it results clear that renewable energy has to be a bet for Morocco's future development.

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Notes

¹ This paper is one of the results of a research agenda conducted by the Spanish Open University's (UNED) International Political Economy of Energy Research Group. The research conducive to this paper has benefited from the REACCESS Project (*Risk of Energy Availability: Common Corridors for Europe Supply Security*), VII European Union Framework Program (Subject: Energy-2007-09. 1-01; Grant Agreement nº 212011). It has also benefited from the research project *Renewable Energies as a Euro-Mediterranean Vector of Integration*, funded by the Instituto Europeo del Mediterráneo (IEMed) in the context of the preparation of the EU's Spanish Presidency. It also profit from the research conducted by the author on the "Moroccan Strategic Economic Horizon" for the Real Instituto Elcano de Relaciones Internacionales. However, its contents are the sole responsibility of the author and do not represent the opinion of the above mentioned institutions.

² The new label of the Barcelona Process created in 1995 to channel Euro-Mediterranean relations (Escribano and Lorca, 2008),

³ For a more detailed discussion on the economics of the Mediterranean Solar Plan for the whole Mediterranean region, see Marín and Escribano (2009).

⁴ For a more detailed discussion on the economics of the Mediterranean Solar Plan for the whole Mediterranean region, see Marin and Escribano (2009).

⁵ Enhancing human capabilities and skills in the domain of renewable energies is a pre-condition for Morocco to reach the benefits of the MSP. Thus, another prerequisite for renewable energy deployment is supporting the training of Moroccan manpower to attract investments. However, training should not be exclusively provided for the purposes of maintenance, which is the activity that less jobs and value added generates. A meaningful participation in the construction and operation phases should be attained in the medium terms. At the same time the EU should establish a long-term mechanism for promoting technology transfers and the enhancing of local innovation capabilities.

⁶ The most widely extended regulation mechanism for alternative energies in the EU are feed-in tariffs (FITs), which offer a bonus over the electricity market price to green electricity. However, there are other alternatives, such as tax incentives. After the Third Legislative Package, the EU gives freedom to its Member States to adopt the payment scheme of their choice, mainly FIT, trading green certificates (quotas), tax incentives or auctions. However, the FIT or bonus system seems to have greater consensus on its efficiency and is preferred by the Commission and, in fact, applied in most Member States, therefore seeming to be the most convincing scheme.

⁷ Together with technical cooperation, technology transfers and training, a reform package to modernise the Moroccan energy system could be agreed and partially funded by the European Commission or the European Investment Bank.

⁸ Directive 2009/28 on the promotion of the use of energy from renewable sources, 23rd April 2009.

⁹ One proposal is to establish a bonus somewhat lower than the one prevailing in the EU's Member State destination country. This possibility seems problematic insofar it entails what could be called 'subsidized protectionism': the fact that discriminatory FITs penalise Moroccan green electricity exports by the way of granting it a lower bonus. It is debatable if such a discriminatory scheme complies with WTO regulations concerning services, but it would not be permitted by the Single Market logic. Furthermore, according to the logic of comparative advantage, it seems hardly defensible to get protected from such a structural fact like insolation hours and wind speed. If Morocco is to fully benefit from its clear comparative advantages the trading scheme should be competitive and not intended to protect EU producers.