

# Morocco draws on the elements for its green energy project

October 7 2010, by Anthony Lucas

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A 250-million-euro (300 million US dollar) wind farm near Tangiers after its inauguration by Moroccan King Mohammed VI. The farm in Melloussa, 34 kms (21 miles) from Tangiers in northern Morocco, has 165 turbines, with a production capacity of 140 megawatts.

Water, sun and wind: Morocco has launched an ambitious programme to harness the elements to produce "green" electricity to reduce its dependence on energy imports.

And eventually it even hopes to export the energy produced.

Lining the hills of Dhar Saadane, 126 windmills overlook the city of Tangiers, in what site manager Loubna Farabi says is the largest windmill park in Africa.

King Mohammed VI himself launched the site in June, one of the first steps towards Morocco's avowed aim of exploiting [renewable energy sources](#). It has a capacity of 140 megawatts (MW).

But to get that green energy requires a lot of money up front, especially when you are dealing with relatively new technology.

What has helped however, is the growing interest along the southern Mediterranean coastline among not just businesses but some European governments.

This has sparked interest in the Mediterranean to develop one of the region's most abundant resources: the sun.

Ten years from now, by 2020, the plan is to generate 20 gigawatts (GW) of power in solar power across the southern Mediterranean countries, a quarter of which could be exported from [Morocco](#) into Europe.

Morocco's project then, as ambitious as it is, is only part of a much larger plan put together by the 46-nation Union for the Mediterranean, which comprises the 27 European Union members and 16 Mediterranean countries.

For Mohammed Yahya Zniber, secretary general of Morocco's energy ministry, this represents a real economic opportunity for the country.

And Energy Minister Amina Benkhadra puts it this way: by diversifying its energy sources Morocco can ensure energy security.

The growing demand for energy in Morocco, on average up 6.5 percent a year, makes that argument all the more convincing.

At the moment, Morocco is importing more than 95 percent of its

primary [energy materials](#) -- oil, coal and gas -- for the country's energy needs. And it imports 18 percent of its electricity from Spain.

And while the country's leadership has not ruled out looking at nuclear power, for the moment it has set itself the ambitious goal of increasing the share of renewable energy in its total output to 42 percent by 2020.

The plan is to share that out equally between hydroelectric, wind and solar energy: the wind park at Dhar Saadane then, is just one link in the chain and not enough in itself to meet the wind energy targets.

Morocco wants to produce 2,000 MW in wind energy alone by 2020 and for the moment, its windmills are only producing 280 MW year -- and that will require an investment of some 2.2 billion euros (three billion dollars).

It will also have to build three dams to increase its hydroelectric production to 2,200 MW by 2020, said Zniber at the energy ministry.

But the real work will have to come in solar energy, a resource that until now has been underexploited.

Morocco is putting 6.6 billion euros into plans to produce 2,000 MW in solar energy by their stated deadline, said Mustapha Bakkoury, president of the Moroccan Agency for Solar Energy (MASEN).

And given the amount of sunshine the kingdom enjoys, Morocco can expect to get a good return on its investment in this area, said Bakkoury: for the yield from its site would be 20 to 30 percent than equivalent installations in Spain.

Five sites have been chosen for this part of the programme, the first of which will be developed in Ouarzazate.

Deep in the heart of Morocco, the desert city is perhaps better known for some of the films that have been shot there: from David Lean's "Lawrence of Arabia" to "Star Wars" and Ridley Scott's "Gladiator".

The plan is to have the Ouarzazate producing 500 MW by 2015. Morocco will put the first part of the project out to tender before the end of the year.

The problem with solar energy, said Bakkoury, was that it was a lot more expensive than conventional [energy](#).

"This effort could only be justified if we put it in a larger economic context: the aim of the solar plan is to establish a real economic sector."

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