



Wind Power in Malta

1. Policies and Regulation

Malta is 99.5% dependent on fossil fuel imports to supply its energy needs. However, the Maltese islands have vast solar resources that remain largely unexploited¹ and a reasonable wind power potential.

Mostly due to recent and large tourism surges, the country's electricity demand has been steadily rising over the past few years. As a result, the Maltese overreliance on foreign resources is increasingly endangering the country's energy security and electrical grid reliability.

In this context, the Ministry for Resources and Rural Affairs and the Malta Resources Authority have developed a *Proposal for an Energy Policy for Malta* (April 2009) and the *National Renewable Energy Action Plan for Malta* (July 2010) with the aim of fostering sustainable economic growth and energy independence. According to the *European Union Renewables Directive 2009/28/EC* (the 20-20-20 Targets for the EU), the binding national overall target for the share of energy from renewable sources in gross final consumption in 2020 for Malta is 10%.

Wind energy can play a leading role in achieving the European mandatory target and, in particular, offshore wind is expected to give the largest contribution (95 MW and 216 GWh)². As far as incentive policies are concerned, for urban wind turbines up to 3.7 kW an investment subsidy of 25% is available for private consumers, while excess electricity generated and fed back into the grid is purchased at EUR 0.07 per kWh².

2. International Benchmarking

Currently, the Maltese Islands generate just 2% of electricity from renewable energy sources, a rather poor performance compared to its European fellows. As the following table shows, other countries are doing much better averaging around 20% as a whole. Spain, Italy and Germany, the largest European markets in the solar and wind power industry, prove to be by far the best performers in the EU. This is the result of strong renewable energy incentive programs and favourable policy frameworks available for both national and foreign investment.

¹ A mean daily irradiance of 5 kWh/m² (MEREEA, Energy Profile for Malta, 2007)

² Interactive Euroobserver Database, 2010



Country	Current Share ¹ %	Target %
Spain	19,0	29,4
Italy	16,0	25,0
France	10,9	21,0
Germany	11,5	12,5
United Kingdom	4,1	10,0
Malta	2,0	10,0

¹ values as of 2010

Source: Wikipedia, 2010

As a consequence of the small land area (316 km²) and the extremely high population density (1350 people per km²) of the Maltese Islands, the offshore wind option has long been considered one of the best solutions to meet the 2020 target despite the high capex requirements due to deep waters around the Maltese land.

So far, the Maltese Government has planned the development of two small onshore wind farms in the 2013-2015 period: the Wied Rini project (10.2 MW) and the Hal Far project (4.2 MW). However, the greatest contribution towards the 10% target would be from a large offshore floating wind farm at Sikkal-Bajda, 1.5 km from L-Ahrax tal-Mellieha (95 MW), which is expected to generate 40% of the Maltese 2020 renewable energy share.

3. The world's largest floating wind farm

As mentioned above, offshore floating platforms represent one of the best available choices in a heavily built up area like Malta. In fact, such technologies enjoy a relatively high resistance to strong winds and have the potential to exploit whichever wind directions without having to be reoriented continuously.

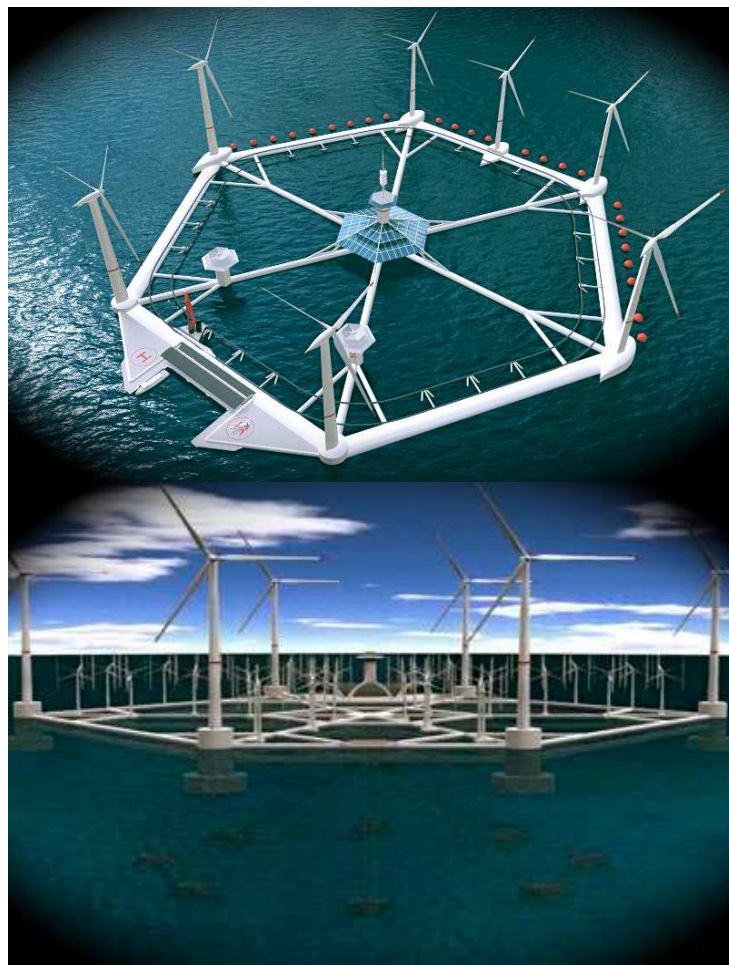
Hexicon Corporation, a Swedish offshore wind farms operator, filed a Project Description Statement with the Swedish Energy Agency, the Malta Resources Authority and the Ministry of Agriculture, Natural Resources and Environment of the Republic of Cyprus, for a large floating offshore wind plant with 36 turbines based on a 460 meters hexagonal platform (see the image below).

In case the project is approved, it will be eventually funded (4.5 bn EUR) via the *Ner300 Programme*, a financial instrument adopted by the European Commission and the European Investment Bank with the aim of subsidizing state of the art renewable energy

technologies using the capital raised through the sale of 300 million European Emission Allowances (i.e. rights to emit one tonne of carbon dioxide, each sold for 10 EUR) on the carbon market.

The gigantic 54 MW floating plant will be located 11 nautical miles from the northeast shore of Malta where water depths are between 150 and 300 meters.

A cable would link the wind-farm to an offshore substation. The platform is anchored by cable, but is able to turn 360 degrees within 30 minutes. The Swedish company says in the Project Description Statement that its floating wind farm, supplying 9% of Malta's electricity, will enable Malta to meet its EU commitment to generate 10% of its energy from renewable sources by 2020 (assuming that this is in addition to the two small onshore wind farms mentioned above producing the other 1%).³



Source: Hexicon Ltd

³ Green prophet, *Malta to Get State of the Art Floating Wind Farm from Hexicon*, Feb 2012

However, offshore wind floating technologies like the Hexicon one are still at an experimental stage and not yet 100% viable. So far, only three floating wind platforms have been installed all over the world because of the considerable cost of investment, the long payback periods and the high-risk profile which characterizes these kind of projects.

The Hexicon plant has been already approved by the Swedish and Maltese authorities, but it has not been financed yet. In general, once the financial process is concluded, a further two to or three years are needed in order to make the plant fully-operational