

Wind Farms Operating in North Africa

The "Abdelkhalek Torres" wind farm on Morocco's northern coast, is located on Africa's Northern most point, across the Strait of Gibraltar some 15 kilometers away from Europe's Southern tip.

With a rated capacity of 54 MW in operation since the year 2000, this facility located next to the city of Tetouan, represents one of the oldest wind farm on the continent. As this site is very productive, a repowering and extension program is currently underway.

Over 200 000 MWh/year of wind electricity are currently being produced by some 90 Wind Turbines of the 600 kW range. If this production was to be supplied by a coal fired power plant, some 230 000 tons of carbon dioxide would have been released in the atmosphere. To sequester this amount of carbon, the planting of over 12 million trees would have been necessary.

As for the natural habitat, large corridors have been provided for migratory birds to pass through. Statistical surveys have now revealed that the impact of the wind turbines on the local environment has been negligible. The more recent "Amogdoul" 60 MW wind farm started operation on April 13th 2007. Amogdoul is the ancient name of the city of Essaouira next to which this wind farm is located, some 400 Km South of the city of Casablanca on Morocco's Atlantic coast. Cap Sim near the wind farm, is among Morocco's most western cape on the Atlantic coastline where trade winds can be tapped on these Northern latitudes. Indeed, and although being located some 600 km away North of the Saharan coastline, the Amogdoul wind farm enjoys the very same favorable trade wind conditions. While remaining fairly close to Morocco's main urban load centers that are covered by a more robust grid network, the Amogdoul wind farm has a high productivity and generates some 210 GWh of electricity per year. This leads to the reduction of 156.000 tonnes of CO2 emissions per year. Configured with 71 individual 850 kW wind turbines, this wind farm also benefits from the Clean Development Mechanism (CDM) support sources associated to environmental agreements from the Kyoto protocol. Unveiled on June 28 2010, the Tangier I wind farm "Dahr Saadane" with a capacity of 140 MW is made of 165 wind turbines of 850 kW each. Located on the Northern tip of Morocco, this wind farm, alike it's "Abdelkhalek Torres" predecessor listed above, takes advantage of the extremely good wind conditions available on the Strait of Gibraltar. Built with financial support from the European Investment Bank (EIB), the German KfW and the Spanish ICO, in a very favorable site, this wind farm should be one of the most productive generating around 536 GWh per year. In terms of environmental impact, the Dahr Saadane wind farm has been fitted out with low noise wind turbine blades and sited in specific locations as to preserve the migratory bird's routes through the area. The Dahr Saadane wind farm whose Kyoto protocol related Clean Development Mechanism (CDM) support sources are currently being approved, will contribute to mitigate over 368,000 metric tons of CO2 emissions per year. Launched during the unveiling of this wind farm, the 1000 MW Integrated Wind Energy Program of the National electricity and drinking water office (ONEE), aims at establishing a local wind manufacturing industry. This program will enable North Africa's industrial capabilities to be successfully demonstrated.