Yacht Carbon Offset

## Turkey – Geothermal power

**Overview: Geothermal electricity generation, displacing use of fossil fuels**

This is the first geothermal plant to be built in the Çanakkale Province in Turkey. It has a capacity of 7.5 MW and delivers around 40,000 MWh of electricity per year into the grid. The project harnesses geological heat energy by circulating a geothermal fluid through an underground reservoir; this fluid reaches around 150°C and the heat is transferred at the surface to drive a turbine.

**Benefits: Emissions reductions and sustainable development**

This Project reduces greenhouse gas emissions by using a natural heat source to drive the turbine and generator, rather than using heat produced by burning fossil fuels. The emission reductions were quantified using the United Nations CDM methodology ACM002 version 07, and are equivalent to 0.644 tonnes $CO_2$ for each megawatt-hour of electricity generated by the Project.

Turkey's overall energy position is improved: this project contributes to diversity of power generation sources and reduces the country's dependency on imported fossil fuels thereby improving self-sufficiency. There are further air quality benefits due to the avoidance of other polluting emissions from the fossil fuelled power stations that are substituted by this clean energy source.

The Project contributes to local employment, with 13 local employees in place during the verification audit in 2013, together with several from outside the region. The project developers also contributed to essential local services by building a bazaar for local villagers.

**Project carbon credits**

In the reporting period to March 2013, just over 3 years, greenhouse gas reductions by this project totalled 50,188 tonnes of $CO_2$ equivalent and the corresponding carbon credits were verified to the Gold Standard in May 2013 by Bureau Veritas (documentation available upon request).