

'Green' Primary School in Pembroke, Malta

FOUNDATION FOR TOMORROW'S SCHOOLS, MALTA

Procurement objectives

The [Foundation for Tomorrow's Schools](#) (FTS) is the national body in Malta responsible for schools. The primary school in Pembroke was a new build project and the goal was to construct the first energy self-sufficient school in Malta that relied only on solar and wind energy produced on site for electricity and warm water. The school, which is two storeys high is fully accessible for students with special needs.

Background

Construction of the government-run primary school in Pembroke (situated on Malta's north coast) began in March 2008 and was completed in September 2009, after which 266 school children began to use its facilities. The school was constructed on the site of a former army barracks occupying 9,000 square metres and built with a budget of €4.6 million.



Criteria used

The FTS included the following criteria in the open public tendering process:

- Bidders were asked to demonstrate their technical capacity to carry out the project, either by having the expertise within the company or through co-operation with experts, to ensure an overall high environmental performance
- Effective protection of fauna and flora in the building area and its surroundings, particularly in demolition phase
- Production of own energy from renewable energy sources to become energy self-sufficient
- Measures to ensure energy and water efficiency
- Intelligent lighting system that utilised natural light
- Additional points were awarded for use of construction materials and products complying with certain environmental criteria, such as lower energy consumption than that required in the technical specifications based on the overall (net/final/primary) energy demand of the building (including heating, cooling, hot water, ventilation and electricity).

Results

- The amount of energy consumed by the building was low, with surplus energy generated sold back to the national electricity grid. 35,000kWh was produced from photovoltaic (PV) and wind turbine installations over ten months. The wind turbine takes the shape of a double helix located on the roof of the school
- Building materials used were safe and non-hazardous, and complied with international safety limits for volatile organic compounds (VOCs) and no sulphur hexafluoride (SF₆) was used
- The School was equipped with water saving installations and solar powered water heating systems.

Lessons learned

- The construction design of the school provided an opportunity for the Maltese Government to minimise the impacts of future construction projects. Design and execution ensured that high environmental standards were met. This also facilitated transparency in procurement procedures.
- The main challenges were encountered during the design phase namely: supplying the building with the energy generated on site, correctly tailoring and sizing the photovoltaic installation and setting up the wind turbine which was both laborious and required expert input.

For more information, please see the European GPP criteria for [construction works](#) and [products](#).