

Energy Management and Electric Mobility in Harbor Areas in Malta

Since thousands of years ago the Grand Harbour has been renowned as a stronghold in the middle of Mediterranean Sea. The Grand Harbour served as base for ships which embarked onto ventures in the Mediterranean. Subsequently, this strategic factor led to the flourishing of one of the most important economic activities in Malta: the Maritime Industry and other related services.

The arrival of the British Royal Navy conceived its industrialization through the availability of peninsulas which were developed into ship-repair yards which were first developed by the Knights. Eventually the Dockyards became synonymous with the social, economic and political history of the Grand Harbour and since then provided employment opportunities those who lived in the surroundings of the harbour.

Evidently the Grand Harbour plays an important role in the economic, political and social development of Malta. Without the Grand Harbour and its strategic Mediterranean location, Malta would have been reduced to the same status as Pantelleria and Lampedusa.

Transport Malta and the Ministry for Transport Infrastructure are participating in a project called PORT-PVEV standing for PORT Photo Voltaic Electric Vehicle aimed at demonstrating how to make ports sustainable as well as showing the effectiveness of electric mobility in the Grand Harbor and its surrounding.

This project contributes towards the attainment of energy efficiency and carbon neutrality in port operations. This project includes the ports of Valletta, Cirkewwa, Catania and Caltanissetta.

Port-PVEV aims to diminish port operations' dependency on fossil fuels by utilizing clean sources of power in the port areas.

Malta's Harbor Driven Economy

Malta exhibits a rich naval history due to its strategic location in the Mediterranean, in the middle between Gibraltar and the Suez Canal.

The first commercial bank was set up in Malta date back to the nineteenth century. The first bank to be set up was called "Banco di Malta" which was an Anglo-Maltese banking system. During the nineteenth century the number of British ships entering the harbour exceeded 3,000 each year. At that point in time, this industry was blooming as a result of British contraband goods which were being smuggled into Europe by the French.

The vessel registration is straightforward and exhibits numerous benefits. Malta imposes no restrictions on the ownership, sale or mortgaging of Maltese registered vessels and there are no restrictions on crew nationality. Malta is iconed as the Maritime country of choice. This is mostly owed to its membership in the European Union and its conformity with the international standards on safety and security.

Recently, the Transport Minister Hon. Joe Mizzi sustained how the Maltese Maritime industry is experiencing enhancement and growth. This progress is not just limited to the Maltese maritime register which is the largest one in Europe but also to the services being offered in the country. He went on to describe how the Maltese should not apologise for being ambitious given the possibility that Malta may be recognised as one of the most significant maritime centres in the world.



The Malta FreePort which is located in Birzebbuga

Electric Car-Charging Network in the Harbor Areas

In aim of offsetting the carbon footprint owned by electricity utilized in a port and by electric cars, it was devised that PV panels would be installed at various port administration buildings across the Grand Harbor and other harbors around Malta. A roof area of 1,460.76 m² will be covered by PV panels which will generate 296,000 kWh per annum.

The project will analyze how to best utilize solar energy in powering BEVs used within port areas. 37 BEV's which include passenger cars, light goods vans, crew vans, quad bikes, motorcycles and electric bicycles, will be purchased as part of the project to be utilized in port operations.

The charging system to power these vehicles will also make part of the project and will be installed within the port areas including solar charging stations. Subsequently they will be used to calculate what it takes to make a carbon neutral port. It was envisaged how the Solar Charging Stations will be shading structures composed of PV panels.

Moreover, solar car parks will be installed strategic and prominent car parks in port areas. These include:

1. 1 four-car solar car port at Cirkewwa
2. 1 four-car solar car port at Deep Water Quay in Marsa
3. 2 one-car solar car ports at Ta' Xhien Marina



BMW I3 which makes part of PORT-PVEV. The first mass production electric car by BMW

Carbon Neutral Berthing

The project in question comprises a feasibility study aimed at testing the option of supplying carbon neutral electricity to the boats moored in the port by means of green energy produced by photovoltaic installed within the infrastructure of port areas. This study will also scrutinise the amount of energy required to operate various electrical machinery within the scope of a harbour.

The project will also supply a fleet of electric vehicles aimed to be use for providing services in the port areas at zero emissions. Subsequently, the parking lots pertaining to the ports being involved in this project will benefit from a special charging infrastructure for electric vehicles.

This project aims to improve the cooperation and the dissemination of practices amongst the Malta and Sicily so as to put into practice the improvement of their air quality, reduce carbon emissions. Doing so, the countries in question will move towards the full implementation of the guidelines about environmental and noise pollution in port areas established at community level.



Inauguration of the PORT PVEV electric car fleet at Kind's AutoSales in Mosta, Malta



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