

# Photovoltaic (PV) – Exploris Aquarium in Portaferry

Ards Borough Council

## Background:

Ards Borough Council opened the Northern Ireland Aquarium in 1987 to enable the public to view the amazingly diverse marine life that exists around Northern Ireland.

The conservation village of Portaferry was the ideal location for the Aquarium as it is sited on the shores of the Marine Nature reserve of Strangford Lough. The Lough contains nearly three quarters of all the marine species to be found in Northern Ireland waters.

## The System

The PV's comprise 26 x Sanyo modules and have been completed with 190 modules.

The total peak output of the PV's is 4.94 kW and the estimated total power produced annually is 4,450 kWhrs. This would typically provide power for:

- 167,000 slices of toast
- 243,000 cups of tea
- Total power for 1.5 three bed houses
- Lighting for 7.5 three bed houses
- Save 1.9 tonnes of CO<sub>2</sub> emissions



## How does it work?

The word photovoltaic means electricity from light. A PV cell is a small energy conversion system that converts the sun's energy directly into electricity. This is achieved by making use of the properties of semi-conducting materials, such as silicon, which release electrons when they are exposed to light. When daylight strikes the specially designed PV cell, it creates an electric field across two or more layers of silicon, and generates an electric current.

## Cost:

The Energy Saving Trust will contribute 50%\* of the costs; NIE will contribute up to a further 25%\* leaving local authorities to pay approximately £7,500 for the high efficiency Sanyo system that has a 25-year guarantee. This is a unique PV offer for local councils enabling benefits of both bulk discount and a 75%\* grant (from NIE and EST).

\*Based on the current maximum contribution per kWp.

## Useful contacts:

[www.niesmart.co.uk](http://www.niesmart.co.uk)  
[www.actionrenewables.org](http://www.actionrenewables.org)  
[www.solarcentury.co.uk](http://www.solarcentury.co.uk)  
[www.est.co.uk](http://www.est.co.uk)

## Supported by:

