

National Oceanography Centre turns to the sea to save energy

May 17 2010



The heat exchanger is a key part of the seawater cooling system at the National Oceanography Center in Southampton. Credit: NOC

The National Oceanography Centre in Southampton is conserving energy and reducing its carbon footprint - by harnessing the cooling power of seawater.

The centre has unveiled a unique [seawater](#) cooling system, exploiting its dockside location to help reduce its [electricity consumption](#).

The system, the only one of its size and design in the UK, was developed by Reading-based Peter Brett Associates, and was shortlisted for a 2009

Edie Environmental Excellence Award. Only a handful of similar schemes exist across Europe.

Seawater is pumped from Southampton's Empress Dock to the NOC's energy centre where it pre-cools water that feeds into the central chiller plant. This is used to support air conditioning systems within the 1,500-room building which houses over 100 laboratories, cold stores, [computer server](#) areas and research aquaria. The water is then pumped back into the dock at a temperature no more than two degrees centigrade higher than on intake.

The process will be most effective in the winter months and will reduce the annual electricity demand of the chiller plant by approximately 20 per cent, saving an estimated 117 tonnes in [carbon dioxide emissions](#) a year.

The scheme is funded by the NOC's owners, the Natural Environment Research Council. The NOC received the ISO14001 environmental accreditation last year and the sea water cooling system is among several projects aimed at reducing energy consumption at the centre.

NOC Director, Professor Ed Hill, said: "As a major institution in environmental science, it is important that the National Oceanography Centre shows leadership in trying to operate in a more sustainable way. The seawater cooling system is one of a number of measures we are introducing to reduce our environmental impact."

Provided by National Oceanography Centre, Southampton

Citation: National Oceanography Centre turns to the sea to save energy (2010, May 17) retrieved 17 July 2024 from <https://phys.org/news/2010-05-national-oceanography-centre-sea-energy.html>

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