

# Getting GREENER

John Emmerson reports on reducing NERC's environmental impact.

In September 2004 NERC's then Chief Executive, John Lawton, introduced a new environmental initiative – the 'Greening Project'. John stressed that NERC must not reduce its world-class science, but needed to assess its own environmental impacts and introduce practical ways to reduce them.

Two years after the launch of the project, how are we doing? In September 2005, Council approved a green fund of £200,000 a year, and our research centres were invited to submit bids for environmental initiatives. 'We were delighted with the number of imaginative bids,' said David Bloomer, NERC's Director of Finance and head of the Green Team.

Many of the projects will save NERC money, as well as

benefiting the environment. These savings will be used to fund future investment.

The successful bids included:

- Twenty-two staff at the Proudman Oceanographic Laboratory, Liverpool, and CEH Lancaster have agreed not to use their cars to commute to work but to cycle instead. New secure bike sheds are being provided. This is expected to save 30 tonnes of CO<sub>2</sub> emissions.
- Waste composting in NERC's Swindon Office will reduce the need for landfill, and there will be fewer journeys by the waste contractor.

## Plans for the future

Some of our other plans for reducing NERC's environmental impacts include:

- A new building for CEH Bangor (right), which aims to achieve an 'excellent' rating from the Building Research Establishment Environmental Assessment Method. It uses ground source heat pumps, photovoltaic panels, timber certified by the Forest Stewardship Council, and will meet stringent thermal performance standards.
- We will be replacing our Halley V Research Station in the Antarctic. The new design has improved environmental strategies for fuel, waste and material handling. The planning phase involves a draft comprehensive environmental evaluation in accordance with the protocol on environmental protection in the Antarctic Treaty.
- NERC will help the British Antarctic Survey to achieve the international environmental management standard ISO 14001 at its Cambridge site and on its two ice-strengthened ships. In July 2005, the British Geological Survey achieved ISO 14001 accreditation for its two main sites. ISO 14001 specifies actual requirements for an environmental management system.
- NERC is working with the German company SkySails (right), in a pilot study investigating the feasibility of harnessing the wind to help power NERC's research ships. If SkySails' developing technology can successfully tow diesel-engine ships, it promises massive fuel savings, reducing environmentally damaging engine emissions. On the research ship *Discovery* we are installing equipment to monitor engine emissions.





- Upgraded video conferencing facilities should also reduce travelling – we will monitor their effect over a year.
- A renewable energy management system at the British Antarctic Survey's Rothera base in Antarctica will reduce the amount of fossil fuel used and transported. Rothera, and Swindon Office will also install solar panels.
- At the British Geological Survey's Keyworth and Edinburgh offices, two small wind turbines are expected to save 38 tonnes of CO<sub>2</sub> emissions per year, and upgraded library lighting controls may reduce electrical consumption by 50,000 kilowatt hours per year.

## What else are we doing?

For the past three years, we have been producing environmental accounts, which are published in the NERC annual report. These provide the baseline from which NERC can set reasonable improvement targets and measure their effectiveness.

NERC runs the procurement organisation that serves all the UK's eight research councils and fully supports green procurement aims. These were the focus of a highly successful conference in 2005. We are also training all NERC's site managers, procurement officers and local environmental advisors at our research centres to use the new appraisal tool which will be used to assess the environmental impacts of our capital investments over £5000. The Green Team is planning more staff-training programmes and awareness campaigns.

### Want to know more?

NERC's new environmental policy and strategy is at [www.nerc.ac.uk/aboutus](http://www.nerc.ac.uk/aboutus)  
Information about our work at Bird Island is at [www.antarctica.ac.uk/Living\\_and\\_Working/Stations/Bird\\_Island/](http://www.antarctica.ac.uk/Living_and_Working/Stations/Bird_Island/)

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## Sustainable design on Bird Island

The redevelopment of Bird Island Research Station, South Georgia, by the British Antarctic Survey (BAS) has produced a first-class seabird and seal research facility that matches the best in the world. To meet the needs of the scientists as well as delivering energy efficiency, BAS, in partnership with Morrison's, applied cooperative and sustainable design principles to the concept of a partially prefabricated building,

The design uses passive features to reduce energy consumption and improve comfort. Key to the success of the buildings is super insulation and sealing the building fabric, which reduces heat loss to nearly zero and means that generators need only run for 16 hours a day. Triple-glazed, argon-filled windows are twice as efficient as standard double-glazing while sky tubes provide daylight for corridors, and ventilation uses an innovative design.

The energy system includes the capacity to easily plug in solar photovoltaic panels to charge batteries, as well as solar hot water boosting and heat recovery from the diesel engines to supplement the boilers.

This sustainable design philosophy is being applied to all BAS facilities to reduce energy use and carbon dioxide emissions as part of a sustainable energy strategy.



For information on the Bird Island project, contact William Ray, Sustainable Energy Engineer at BAS, email: [wray@bas.ac.uk](mailto:wray@bas.ac.uk), tel: 01223 221273.