

Strategic Environmental Science Capital Call

Summary

The Natural Environment Research Council (NERC) is looking to develop long-term processes to identify and support strategic capital priorities within the UK environmental science community.

As a first step towards achieving this, NERC conducted a pilot review of requirements for strategic capital and allocated £6.5M for investment. Eligible Research Organisations (ROs) were contacted directly and invited to submit one Proposal for up to three capital items (not exceeding a total value of £500,000).

The proposal was required to demonstrate how the capital asset(s) would support peer-reviewed environmental science activities and align with NERC remit and strategic priorities.

Items Awarded (December 2013)

Research Organisation	Item(s) Funded
Bangor University	<i>'Coupled eddy covariance and chamber system for quantifying N₂O emissions.'</i> And <i>'N₂O and isotopomer analyser for chamber-based and eddy covariance measurements.'</i>
Cranfield University	<i>'Wideband Integrated Bioaerosol Sensor (WIBS-4A)'</i>
Durham University	<i>'Identifying and quantifying fugitive greenhouse gas emissions from unconventional hydrocarbon resources – the Picarro investigator for mobile CH₄/CO₂ measurement.'</i>
Imperial College London	<i>'Thermo-Fisher Q-Exactive Orbitrap Ultra-High resolution LC-MS/MS for unambiguous structure & trace-quantitative identification of organic substances in aqueous media.'</i>
King's College London	<i>'CES XACT 625 – Highly time resolved X-ray fluorescence (XRF) measurements of up to 65 metallic elements in either PM10 or PM2.5 at a hourly or sub-hourly time resolution.'</i>
Lancaster University	<i>'Isotopic Quantum Cascade Laser Instrument for CH₄ for methane, isotopic ratios of ¹³CH₄ and CH₃D.'</i>
Natural History Museum	<i>'ASSIST – Adjustable Slide Scanner & Integrative Software Toolkit: High-throughput microscope slide scanning and informatics facility, automating the digitisation and mobilisation of slide-mounted scientific specimens.'</i>
Queen Mary, University of London	<i>'Irys platform (BioNano Genomics) for assembling genome data.'</i>
Scottish Universities Environmental Research	<i>'A Clumped Isotope Mass Spectrometer for the δ^{47} carbonate palaeothermometer.'</i>

Centre	
University of Birmingham	<i>'TECAN Freedom EVO200 robotics to fully automate the sample preparation for environmental metabolomics and genomics, significantly increasing sample throughput.'</i>
University of Brighton	<i>'X-ray Photoelectron Spectrometer Focussed beam and Monochromator (XPS FOAM)'</i>
University of Bristol	<i>'Ionplus AGE3 and GIS sample preparation facilities for radiocarbon analysis.'</i> And <i>'AV Lidar for small-scale, topographic surveys.'</i>
University College London	<i>'Riegl VZ-400 terrestrial lidar (laser) scanner (TLS) with waveform capability.'</i>
University of Edinburgh	<i>'Laser Ablation Micro-analysis for Trace Elements and Isotopes in Geosciences'</i>
University of Exeter	<i>'Picarro G2201-I Dual Carbon Isotope Analyzer – for $\delta^{13}\text{C}$ in carbon dioxide (CO_2) and methane (CH_4), with closed system and small sample analysis capacities.'</i>
University of Liverpool	<i>'Nanostring nCounter Analysis System – Quantification of microbial diversity and gene expression within complex environmental samples'</i> And <i>'2G Model 755 Superconducting Rock Magnetometer with in-line AF demagnetiser. A triple axis assemblage of SQUID magnetic sensors (noise level < 10-12 Am²), liquid helium-free cryocooler, alternating field coils, and an automatic sample handler.'</i>
University of Manchester	<i>'Aerodyne CI-MS with Filter Inlet for Gases and Aerosols (FIGAERO).'</i>
University of Oxford	<i>'Field-Emission Electron-Probe Facility'</i>
University of Portsmouth	<i>'In-Situ Benthic Annular Flume.'</i>
University of Reading	<i>'A polarisation diversity mm-wave 94GHz cloud radar at the Chilbolton observatory for better understanding of cloud, aerosol and precipitation processes in the atmosphere.'</i>
University of Southampton	<i>'Stable isotope ratio mass spectrometer with dual capability for high-throughput, high-sensitivity analysis of carbonate (O & C) and organic biomarkers (C, N & H) to facilitate diverse studies of marine cements (natural & lab), pteropods, otoliths, organic sedimentary extracts, foraminifera, corals and archaeological tooth & bone samples.'</i>
University of St. Andrews	<i>'Broadband active echosounder system for St Andrews and the UK research vessel fleet: Broadband control units for 18, 38, 70, 120 and 200 kHz, and 18 and 70 kHz transducers.'</i>
University of Warwick	<i>'High performance liquid chromatography (HPLC) electrospray ionization (ESI) equipped with mass spectrometry (MS) detector/radiometric flow scintillation analyser (RFSA)'</i>
University of York	<i>'Characterizing complex systems using GC-MS-IRMS.'</i>