



**W**hat this issue of *Planet Earth* reminds us about is the tremendous public, policy and business impact of NERC-funded research. By impact I mean the demonstrable contribution that excellent research makes to society and the economy. We have much to gain from being better at realising and describing the impact of research.

To add clarity to what the public investment in the research base is for, on 19 October 2009 Research Councils UK (RCUK) launched a framework for the future around the theme of Excellence with Impact. Research investments by RCUK produce impacts that will help to create a more productive economy, a healthy society and a sustainable world. Research is the engine of the UK economy.

The RCUK framework has examples of how research investment sustained over years from research student training, to the researcher making a discovery, to the discovery winning an

international prize, to its societal and economic impact being realised; see [www.rcuk.ac.uk/framework](http://www.rcuk.ac.uk/framework). These timelines cover examples like the internet, mobile phones, rapid manufacturing, budget analysis and the green economy within the Productive Economy category.

Within the Healthy Society category they cover examples like child development, stem cells, smoking, flu, childhood leukaemia and MRI. And within the Sustainable World category they cover areas including the ozone hole and the Montreal Protocol that addressed it, the Thames barrier, climate change, crime, and carbon capture and storage.

**We have much to gain from being better at realising and describing the impact of research.**

The message is that sustained investment in research in universities and institutes is the only way to find solutions to the problems and exploit the opportunities associated with having a productive economy, a healthy society and a sustainable world. These problems are urgent and the research reported in this edition of *Planet Earth* makes that point loud and clear. Indeed environmental science plays a key role in all three sectors.

Why is the Research Councils UK vision 'Excellence with Impact'? 'Excellence' because we fund only the best research and the UK is world leading in many research fields. For example, the 2009 citation analysis shows that in terms of citations per published research paper, the UK is number one in the G8 in environmental sciences. It is this UK research

excellence that persuades business and other investors to come to the UK. 'Impact' because the research generates social and economic benefit time after time.

This is a tremendous good news story, and it is a story we must promote as we head into

choppy waters ahead for the UK economy. It is certainly not a given that the taxpayer will continue to invest in research in the UK to the tune currently of over £3 billion a year – at either the same level or at a higher level. The research community needs to make the case – not just me, but all of us; not just to ministers and MPs, but to the public; not some time soon, but now!

**Alan Thorpe** *Chief Executive, NERC*