

## Lord Stern's review of the Research Excellence Framework

### Call for evidence

Submission from the Institution of Environmental Sciences and Committee of Heads of Environmental Sciences

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### Background

**The Institution of Environmental Sciences (IES)** is a membership organisation that represents professionals from fields as diverse as air quality, land contamination and education - wherever you find environmental work underpinned by science. A visionary organisation leading debate, dissemination and promotion of environmental science and sustainability, the IES promotes an evidence-based approach to decision and policy making.

**The Committee of Heads of Environmental Sciences (CHES)** is the collective voice of the environmental sciences and related programmes in higher and further education. CHES plays a leading role in the Higher and Further Education Environmental Science community and advocates for environmental science within education. After working closely together for over a decade in 2013 CHES merged with the IES and now serves as its education committee. Together the IES and CHES now accredit over 75 degree programmes in the UK and abroad, including more than 20 Master's courses.

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### Section 1

**The primary purpose of the REF is to inform the allocation of quality-related research funding (QR).**

- 1. What changes to existing processes could more efficiently or more accurately assess the outputs, impacts and contexts of research in order to allocate QR? Should the definition of impact be broadened or refined? Is there scope for more or different use of metrics in any areas?**

There is a need for adjustments to the existing process, primarily to ensure that required administration time by active researchers does not further deflect them from research activity. Any adjustments which are made in the next iteration of the REF should consider the time burden which they may place on researchers.

Although efficiency in the assessment process is important, we would caution against the increased use of metrics to achieve this. Such analytical tools are unlikely to be able to capture the nuance in, and broad range of forms that 'excellence' can take in terms of both output and impact in the UK research base. Increased metric use would also inevitably increase 'gaming' of the system and 'targetology', where researchers aim to hit the narrow metrics to the detriment of a wider set of outcomes, and may lead to perverse outcomes.

Clarification regarding the definition of impact would be helpful. This clarification should recognise the broad range of potential impacts research can have. In the environmental sciences in particular,

impact can be very broad and can include, *inter alia*, direct impacts such as enhancement of air or water quality, reduction in contamination in various systems, and more indirect impacts on, for example, human health or ecosystem services. Impacts may include: informing adjustments in policy at local, regional, national and international levels; assisting in the resolution of conflicts or controversial issues; and/or increasing awareness of environmental issues or promoting behaviour change amongst members of the public, organisations, or other groups of actors. However, it is important to specify that impact is about outcomes: actual change as a result of an intervention. The intervention itself does not necessarily represent impact, but an activity *en route* to it. For example, public engagement activities, or citation in a policy document may or may not lead to one of more impacts.

It should also be noted that impact in the real world rarely results from the atomised or linear approach assumed by the REF (i.e. where a single piece of research leads relatively simply to a change). As such, a revised definition should enable REF to assess impact through contributions to bodies of knowledge that have more influence.

In recent years, the addition of an ‘impact’ element to the REF has played a major part in the mainstreaming of the so-called ‘impact agenda’, which has begun to alter the ways in which individual researchers and HEIs think and make decisions about research. As such, recent policy proposals which would directly conflict with this agenda will be in the interest of this review, and we would encourage the panel to highlight these issues to ministers. The recently proposed ‘lobbying clause’<sup>1</sup>, to be added to all government grants, which will prevent the recipients from using this funding to influence government, parliament, or political parties, could (as an unintended consequence) prevent any researcher in receipt of government funding (a very large proportion) from engaging with the policy process, or advising government or parliament in any way. This is currently a major route to impact. We understand that it is not the intention of this proposal to restrict scientists in this way, but steps must be taken to ensure research funding is excluded. Not only would this severely restrict scientists in sharing their findings and having impact, evidence-based policy making would suffer to the detriment of all.

**2. If REF is mainly a tool to allocate QR at institutional level, what is the benefit of organising an exercise over as many Units of Assessment as in REF 2014, or in having returns linking outputs to particular investigators? Would there be advantages in reporting on some dimensions of the REF (e.g. impact and/or environment) at a more aggregate or institutional level?**

It is our view that the Unit of Assessment system is a reasonable way of partitioning subject areas, given the scale of the assessment exercise. However, at times the UoA structure can appear not to effectively manage the separation of certain disciplines from those they share close or complex links with. In our area, we are concerned that the separation of the environmental sciences from applied aspects of component sciences (biology, chemistry, physics etc.) can at times cause confusion. Amongst many of our members it is also a cause for concern that the environmental sciences are included in a UoA which appears to be essentially focused on the Earth Sciences. We argue that full use of the option to refer submissions to other subpanels is essential to ensure a balanced and well-

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<sup>1</sup> <https://www.gov.uk/government/news/government-announces-new-clause-to-be-inserted-into-grant-agreements>.

informed assessment is made in all cases (particularly where research has interdisciplinary aspects), and also to ensure that researchers have confidence in this process.

If the UoA system is kept for the next REF period, it is the recommendation of the IES and CHES that **the Environmental Sciences are split from Earth Systems, to form a separate UoA**. Sub-panel referrals will still be important, but this would significantly enhance confidence that environmental science research will be appropriately assessed in its own right.

Alternatively, if it is deemed that such a division is not possible, it is our assessment that the UoA structure should reflect the closer associations which the environmental sciences have with physical geography and environmental studies than with the Earth Sciences. Although earth and environmental scientists share a common interest in the functioning of earth systems, environmental science is an inherently interdisciplinary academic field, often characterised by a strong scientific focus on the interactions between humans and the environment in inter-connected socio-environmental systems. In this regard Environmental Sciences would fit better with Geography, where this approach and interdisciplinary culture is more often shared.

It will never be possible to design a set of 'perfect' UoAs, where every researcher's work has a clear home or close affiliation. Recognising this, it is therefore important that a standardised approach is developed and implemented for cross-panel referrals for assessment of both output and impact. Sub-panels must be encouraged to use this mechanism fully. This will go a long way to ensuring that, whatever categorisation or assessment structure is ultimately adopted, multi- and inter-disciplinary research will be well assessed.

With regard to the assessment of impact, it should be noted that the categorisation system of the REF means that impacts are effectively restricted to individual disciplines when in reality, societal (including policy) problems are often multi-faceted and complex, requiring insight from a range of perspectives and disciplines. Therefore, the current UoA approach is limiting and insufficient in this regard, and the panel and REF organisers should explore different ways to account for impact across broader themes or challenges, where researchers from multiple disciplines are engaged.

## Section 2

**While the primary purpose of REF is QR resource allocation, data collected through the REF and results of REF assessments can also inform disciplinary, institutional and UK-wide decision making.**

- 3. What use is made of the information gathered through REF in decision making and strategic planning in your organisation? What information could be more useful? Does REF information duplicate or take priority over other management information?**

The REF impact case studies have been very useful to the Institution of Environmental Sciences in demonstrating the positive outcomes of environmental research. These have been extensively analysed, discussed and showcased in a recent edition of our house journal, the environmental SCIENTIST<sup>2</sup>. Our analysis has particularly highlighted the range of UoAs in which research broadly considered to be 'environmental' was submitted under REF2014.

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<sup>2</sup> <https://www.the-ies.org/resources/impact-environmental-science>

With regard to the university departmental members of the Committee of Heads of Environmental Sciences, we would note that many universities have already undertaken some restructuring related to the systems and outcomes of REF2014.

**4. What data should REF collect to be of greater support to Government and research funders in driving research excellence and productivity?**

One way in which the REF could be of greater support to Government, and other non-government actors, in their work is if more research ‘users’ were encouraged to engage with the assessment process. There were 898 academic members of the REF2014 assessment panels, and only 259 members classified as ‘users of research’<sup>3</sup>. Often these ‘users’ are actually more than simply consumers of research, but are active partners in its co-production. Their important role and perspective should be recognised in the makeup of the review panels.

### Section 3

**The incentive effects of the REF shape academic behaviour, such as through the introduction of the impact criteria.**

**5. How might the REF be further refined or used by Government to incentivise constructive and creative behaviours such as promoting interdisciplinary research, collaboration between universities, and/or collaboration between universities and other public or private sector bodies?**

We reiterate our point under question 1, that to encourage and properly assess the excellence and impacts of interdisciplinary research a standardised approach to subpanel referral must be developed and this mechanism must be used fully by the UoA panels.

On the whole, it is the view of our members that REF2014 appropriately recognised, rewarded and encouraged inter-institutional collaboration. However, some consider that the REF2014 assessment system has had a negative impact on collaboration between departments within institutions. For instance, many environmental scientists found that the outputs of collaborations with colleagues in other scientific disciplines (such as chemistry, engineering, physics etc.) were submitted under these UoAs, devaluing the contribution of other departments and with potentially damaging consequences for future collaboration. There is concern that within institutions, if this continues, contributing departments whose research was submitted under different UoAs may receive credit which does not equate with their true contribution to the research output and impact.

### Section 4

**Previous studies have focused on the costs of REF with respect to the time and resources needed for the submission and assessment processes. The Review is also interested in views and any associated evidence that the REF influences, positively or negatively, the research and career**

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<sup>3</sup> [http://www.hefce.ac.uk/news/newsarchive/2014/Name\\_100775.en.html](http://www.hefce.ac.uk/news/newsarchive/2014/Name_100775.en.html).

choices of individuals, or the development of academic disciplines. It is also interested in views on how it might encourage institutions to 'game-play' and thereby limit the aggregate value of the exercise.

- 6. In your view how does the REF process influence, positively or negatively, the choices of individual researchers and / or higher education institutions? What are the reasons for this and what are the effects? How do such effects of the REF compare with effects of other drivers in the system (e.g. success for individuals in international career markets, or for universities in global rankings)? What suggestions would you have to restrict gaming the system?**

As stated under question 5, where research is submitted under UoAs which do not align with the researcher's own departmental affiliation, there are concerns that the academic discipline from which the work truly emerged may not be recognised appropriately in subsequent strategic planning or resource allocation.

Regarding gaming of the system, if full use of subpanel referral is made and if this informs both the grading of submissions and ultimately the funding allocated, this should reduce the impact of gaming in terms of choice of UoA submission.

As stated above, we would also caution against the increased use of metrics, which are likely to increase 'game-play', and reduce the ability of assessors to recognise excellence across the full breadth and complexity of the UK's research base.

- 7. In your view how does the REF process influence the development of academic disciplines or impact upon other areas of scholarly activity relative to other factors? What changes would create or sustain positive influences in the future?**

The aim of the REF should be to encourage and recognise excellent research, which has positive impacts for society. However, we would caution against the development of an overriding corporately or politically motivated narrative in which some blue skies research is discouraged, and where researchers with ideas that do not fit the current agenda are not supported - this would ultimately hinder innovation, and the ability of scientists to truly push the boundaries of existing knowledge.

Where academic disciplines thrive and progress, there is often a strong interrelation between research and teaching. If we are to inspire the next generation of researchers, and equip them with the skills they will need to follow this path, it is important that students are not isolated from the research being done in their institutions. As such, it is important that measures are taken to ensure that the REF and TEF assessment processes do not encourage such separation. There is concern that where some institutions do not perform well in the REF they may pull staff away from research, which would have a polarising effect on the UK's research base, rather than driving excellence across the board. This potential outcome should be carefully considered – over the long term, where teaching is not linked with research in some way, courses may begin to degrade unless precautions are taken.

## Section 5

**Much of REF focuses on the retrospective analysis of success achieved by institutions either through output or impact. Yet the resources provided anticipate continued success based on that track record. Are there means of better addressing forward-looking institutional plans and priorities, and how these might feed in to national policy?**

**8. How can the REF better address the future plans of institutions and how they will utilise QR funding obtained through the exercise?**

It is important that research planning, including the use of funding received, remains the domain and responsibility of the universities in question, and is not influenced by the REF except, of course, in terms of quality. Although the outcomes of the REF assessment exercise may be of use to some institutions in their planning, the Government should not seek to use the REF to gain greater direct influence in this area.

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