

# Consultation on the second Research Excellence Framework

## Page 1: Respondent details

Q1. Please indicate who you are responding on behalf of

Subject association or learned society

**Please provide the name of your organisation**

Royal Society of Chemistry

## Page 2: Overall approach

Q2. 1. Do you have any comments on the proposal to maintain an overall continuity of approach with REF 2014, as outlined in paragraphs 10 and 23?

We agree with the proposal to maintain an overall continuity of approach with REF 2014.

Any changes to the REF should be considered in light of impact on the continuity and clarity of the process, as well as knock-on effects for institutions, disciplines and individuals.

## Page 3: Unit of assessment structure

Q3. 2. What comments do you have about the unit of assessment structure in REF 2021?

Chemistry should remain as a Unit of Assessment in the REF 2021.

## Page 5: Staff

Q10. 7. Do you have any comments on the proposal to use HESA cost centres to map research-active staff to UOAs and are there any alternative approaches that should be considered?

HESA data is not collected specifically to identify research-active staff. Allowing institutions to map their research active staff to UOAs would be more likely to ensure that research is assigned to the appropriate panel and assessed correctly.

Q11. 8. What comments do you have on the proposed definition of 'research-active' staff described in paragraph 43?

Research-active staff should be identified institutionally rather than using HESA data.

HESA data has not been collected solely for the purpose of identifying research-active staff for assessment within a particular UOA.

In some institutions staff are allocated to HESA cost centres based on teaching structures rather than based on research activity. The teaching staff for a discipline and the research-active staff for a unit of assessment (UOA) are not necessarily aligned. HESA data may therefore not identify the correct cohort of staff for research assessment.

We support the proposal that a measure of independence should be included in any definition of research-active staff as in REF 2014.

Q12. 9a. The proposal to require an average of two outputs per full-time equivalent staff returned?

An average of four outputs per full-time equivalent staff returned should be required for UOAs with high publishing rates such as chemistry. This may be different for other UOAs.  
We welcome the proposal to include all research-active staff in REF 2021.

An average of four outputs per full-time equivalent staff returned should be retained for disciplines, such as chemistry, with high publication rates to ensure a meaningful assessment. Even an average of four outputs is considered low by many members of our community but we recognise the practical limitations associated with time required by panel members to review research outputs.

Submission of an average of only two outputs per FTE for UOAs with high publishing rates would also risk the assessment exercise failing to differentiate between departments at different institutions and therefore not fulfilling its benchmarking component.

Including all research-active staff in REF2021 has the potential to increase workloads for some panels but analysis of the number of eligible staff submitted in REF 2014 suggests that a high percentage of staff was in fact returned within chemistry (1). Anecdotal evidence from our community also suggests that high levels of eligible staff were returned. Therefore in addition to being inadvisable, decreasing the average number of submissions per staff member from 4 to 2 for chemistry is unnecessary as the total volume of submissions should be broadly similar if an average of four per FTE is retained.

(1) <https://www.timeshighereducation.com/sites/default/files/Attachments/2014/12/30/a/b/i/subject-ranking-on-intensity.pdf>

**Q13. 9b. The maximum number of outputs for each staff member?**

The outputs submitted within a UOA must reflect the breadth of research within that UOA. The maximum number of outputs submitted for each staff member should not be higher than 1.5 times the average number of outputs required per FTE.

We recommend submission of an average of 4 outputs per FTE, which would mean a maximum of 6 outputs for each staff member.

If the average outputs required per FTE is lower than 4, then the maximum submitted per staff member should be lower than 6. We suggest the maximum should be 1.5 times the average number of outputs required per FTE. Our rationale for this is the concern that flexibility in the number of outputs submitted per FTE will be used to 'game' the system. Setting a maximum will go some way towards ensuring submissions reflect the breadth of research within a UOA rather than primarily reflecting the output of a small sub-group of researchers

Clear guidance will need to be given on how co-authored papers are counted within the maximum so that the limit does not significantly impact intra-departmental collaboration.

A degree of flexibility in the number of outputs submitted for each FTE will enable departments to take into account e.g.:

- individual staff circumstances
- research staff on part-time or mixed contracts
- early career researchers
- people who join/leave during the assessment period

The distribution of outputs amongst individual UOAs should be assessed after REF 2021 to gauge the impact of introducing flexibility in output requirements per staff member on submission profiles. It will also be important to review if and how this impacts the behaviour of institutions and departments in terms of hiring, resource allocation and the balance of teaching, research and other responsibilities.

**Q14. 9c. Setting a minimum requirement of one for each staff member?**

The minimum number of outputs for each staff member should be at least 1 so that all eligible staff are included in REF 2021. If the average number of submissions per FTE is 4 then the minimum for each staff member should ideally be set at 2.

We recommend submission of an average of 4 outputs per FTE, with a maximum of 6 and minimum of 2 outputs for each staff member.

If the average outputs required per FTE is lower than 4, then the minimum number of outputs submitted for each FTE should still be at least 1.

The minimum number of outputs submitted per FTE should not be zero. In REF 2014, non-submission of all staff was viewed as a means to 'game' the system. If the minimum number of outputs submitted per FTE is zero this will inevitably lead to similar 'gaming' with institutions effectively submitting a selection of research staff for assessment. In REF 2021 with submission of all research-active staff there will potentially be no implications on allocation of mainstream QR funding from HEFCE acting to moderate this type of gaming.

Furthermore a minimum of zero output submissions for each FTE would perpetuate the issues identified by the Stern Review which found that staff selection was a "significant factor in an institution's costs" and "can generate problems with career choices, progression and morale". We identified the impact on individuals' morale and career as a significant concern for the chemistry community in our submission to the Stern Review.

A degree of flexibility in the number of outputs submitted per FTE will enable departments to take into account e.g.:

- individual staff circumstances
- research staff on part-time or mixed contracts
- early career researchers
- people who join/leave during the assessment period

**Q15. 10a. Is acceptance for publication a suitable marker to identify outputs that an institution can submit and how would this apply across different output types?**

Journal papers were overwhelmingly the largest category of output submitted to Main Panel B: UOA 8 (Chemistry) in REF 2014, accounting for 99.8% of submissions. Acceptance for publication is a suitable marker to identify journal publications. As in the REF 2014, papers should only be eligible for submission to one assessment cycle.

**Q17. 10c. Would non-portability have a negative impact on certain groups and how might this be mitigated?**

Outputs should not be portable if the primary purpose of REF 2021 is to assess the quality of research and produce outcomes for each submission made by institutions. This may have an impact on some Early Career Researchers and HEFCE may wish to consider mechanisms to mitigate this. Any mitigation mechanisms must ensure that an institution can only submit ported outputs for ECRs that result from independent research, and must take into consideration when and how that research was done.

There is a strong commitment within the chemistry community to supporting early-career researchers. The REF can also drive this through the requirement that institutions record their staffing strategy and staff development strategy in the environment section.

Q23. 15. What are your comments in relation to better supporting collaboration between academia and organisations beyond higher education in REF 2021?

Our recent report Open for Business (2) contains a number of recommendations on supporting collaboration between academic and organisations beyond higher education. The report also contains a number of quantitative measures which were collected from a survey of HEIs which are indicative of the data held within institutions on interactions within industry, and could be recorded in the environment section.

(2) <http://www.rsc.org/globalassets/04-campaigning-outreach/campaigning/university-business-engagement/open-for-business-report-royal-society-of-chemistry-2016.pdf>

## Page 7: Outputs

Q25. 17. What are your comments in relation to the assessment of interdisciplinary research in REF 2021?

The measures introduced to support interdisciplinary research in REF 2014 were welcome and should be retained.

Main Panel B: UOA 8 (Chemistry) noted in their report that submissions in this area were “clearly strengthened by a large component of collaborative work” and that “the submissions demonstrated the strong and continuing growth of interdisciplinary science”.

Greater engagement with the chemistry community to communicate and clarify the REF assessment criteria could incentivise further interdisciplinary research. In our response to the Stern Review we noted that some of our members had commented that there remains a perception within some parts of the chemistry community that interdisciplinary research may not be understood and therefore not properly assessed by the Chemistry sub-panel. It was reported anecdotally that this has led to reluctance by some in the chemistry community to engage in such research. The process used for assessing such papers was clearly outlined in the Panel B report but more could be done to engage the community and dispel any misconceptions relating to aspects of the assessment.

We broadly support the specific proposal in this consultation to introduce interdisciplinary champions with a remit to liaise with other panels and ensure that interdisciplinary research is assessed equitably. These roles should be introduced to provide oversight to the assessment of interdisciplinary research as the panels will still need to call on specific expertise to correctly address some interdisciplinary papers.

Q26. 18. Do you agree with the proposal for using quantitative data to inform the assessment of outputs, where considered appropriate for the discipline? If you agree, have you any suggestions for data that could be provided to the panels at output and aggregate level?

Yes

**Comments:**

Citation data should continue to be used to complement, but not replace, expert assessment of chemistry outputs. Citation data was used to inform assessment in REF 2014 and is generally considered useful so long as it is used alongside, rather than instead of, expert peer review. Providing the assessment panel with a standardised set of data for the outputs to be assessed will ensure that the panel take the same information into account when making their assessment. Clear guidance should be given on the use of citation data. Providing the panel with field weighted citation data may undermine the assessment process as identifying the correct category for each output is likely to be difficult, and could raise questions as to whether the correct comparisons have been made. We would advise further research before this metric is used in the assessment process.

## Page 8: Impact

Q27. 19. Do you agree with the proposal to maintain consistency where possible with the REF 2014 impact assessment process?

Yes

**Comments:**

Consistency should be maintained where possible with the REF 2014 impact assessment process. Case studies were a welcome addition to REF 2014 and demonstrated the impact of chemistry in a range of areas including economic, environmental, wider societal and policy impacts. Major changes now to the impact assessment process will have administrative and therefore financial implications for the institutions involved. Universities have been monitoring and recording success based on the previous assessment and any significant changes to the process are likely to be challenging to accommodate.

Q28. 20. What comments do you have on the recommendation to broaden and deepen the definition of impact?

We broadly welcome the recommendation to broaden and deepen the definition of impact as long as this is done in a way that is consistent with REF 2014. The view from our community was that the definition of impact used in REF 2014 was generally good but measures to broaden and deepen it further would allow a fuller variety of impacts to be submitted.

In our submission to the Stern Review in 2016 we recommended that the definition of impact should be expanded to include the contribution of research to creating a highly skilled workforce. The Main Panel B: UOA 8 (Chemistry) report commented on the broader range of impacts relating to skills which are not captured by the current criteria, referring to "the training of research students who use their skills to benefit the economy and society in a wide range of different professions". The training of PhD and post-doctoral researchers with outstanding analytical and problem-solving skills as well as the ability to design and deliver complex scientific research projects is key for a high-growth knowledge-based economy. Acknowledging and therefore incentivising this impact would support the Government and research funding agencies in driving research, innovation and ultimately productivity. This aligns with priorities in the current Industrial Strategy Green Paper.

The REF Impact Case Studies database is a valuable resource which can be used to highlight the range of impacts flowing from investment in research. Clear guidance on how to write impact case studies, as well on the kind of information it is useful to include, would likely increase the quality and breadth of impacts submitted.

Q37. 29. What comments do you have in relation to the inclusion of examples of impact arising from research activity and bodies of work, as well as from specific research outputs?

We welcome the proposal to broaden the definition of underpinning evidence for impact case studies to include research activities and bodies of work. Introducing this element will expand the number of case studies available to institutions as well as potentially incentivising the pursuit of a broader range of impacts in the future. Such a change will demonstrate the sphere of influence and the wide range of innovations which arise from university research. Examples include the creation of multi-national innovation networks, long-term consultancy relationships which influence industrial research, and leadership in scientific policy.

There will be challenges in monitoring and defining this change. Clear guidance will need to be given on the definition of research activity and what constitutes a body of work. This will also ensure that any claimed bodies of work are appropriately evidenced.

Specific guidance will also need to be given for instances where a researcher has moved and a body of work is split between two institutions.

**Q40. 32a. The suggestion to provide audit evidence to the panels?**

The proposal to provide audit evidence for case studies to the panel is likely to increase the burden of administration on universities and could discourage industry participation. We do not support this proposal.

If institutions are required to submit all audit evidence it will greatly increase their administrative burden. Even if the institutions hold the necessary audit information, there will still be an additional requirement to compile and curate the required information to an appropriate standard, increasing the work required to compile a submission.

In many cases the audit information may be held by an industrial partner. In our response to the Stern Review we noted that:

Some of our respondents noted that industrial partners had in some instances been unwilling to contribute fully to case studies, for example to verify the impact of certain research in writing. Industrially applicable research findings are often not in the public domain for well-known reasons. For example some companies may not have the finances to protect their intellectual property once in the public domain or choose to retain IP as trade secrets rather than patenting

The additional burden on industrial partners of compiling this information at the start of the process and the knowledge that it will be shared with the panel as part of the assessment process may decrease the willingness of industry to participate in the REF.

We believe that there are other measures which could be introduced to increase panel members' confidence in the veracity of claims within the assessment. One option would be to increase the number of case studies which will be selected for audit. Another option would be to increase the emphasis on the existing audit process in communications with institutions. Finally, clear guidance should be given to panel members on the assessment process and the evidence that they should use in making their decision.

**Q41. 32b. The development of guidelines for the use and standard of quantitative data as evidence for impact?**

The broad and deep definition of impact make standardisation of evidence for impact difficult to implement. While there may be some areas where this would be possible it is unlikely this would cover a meaningful proportion of the case studies.

Institutions are in many cases reliant on data from partner bodies such as industry and the requirement to provide data in a standardised format could potentially be viewed as another disincentive to participate.

Broad guidance on presenting quantitative data and examples of data which could be used may be beneficial but it would require a light touch to avoid indicating, as identified in the consultation document, a hierarchy of evidence.

**Q43. 33. What are your views on the issues and rules around submitting examples of impact in REF 2021 that were returned in REF 2014?**

We strongly support the proposal to allow examples of impact in REF 2021 that were returned in REF 2014. Research which delivers long-term impact should be encouraged and promoted.

Long-term impacts from research are desirable and should be rewarded. Resubmission of impact case studies should be allowed as long as there is substantive ongoing and/or additional impact. Clear guidance on resubmission will be needed.

As the timeframe for which the underpinning research should have been conducted will be different for REF 2021 compared to REF 2014, there will be a natural reduction in the number of case studies which are eligible for resubmission. An imposition of a limit on the number of case studies which can be resubmitted is therefore not necessary.

## Page 9: Environment

Q44. 34a. Do you agree with the proposal to change the structure of the environment template by introducing more quantitative data into this aspect of the assessment?

**Comments:**

We support the introduction of more quantitative data in the environment template, with a structured narrative element to contextualise the data. This should complement rather than replace the narrative component. This will help make environment statements more comparable and the assessment process more transparent and objective. In our response to the Stern Review we stated that some members of our community expressed concern that the criteria by which Research Environment were evaluated were unclear. Not all components of this area should be metricised, however, as this would decrease the value of the Environment template in encouraging departments to think strategically. In our response to the Stern Review we noted that some of our members commented on the positive impact of the Environment template on their departments' strategic development. Additionally, aspects of the 'people' component, such as measures to support diversity, could not be adequately assessed by metrics alone.

## Page 10: Institutional level assessment

Q49. 38. What are your views on the introduction of institutional level assessment of impact and environment?

Institutional-level assessment of impact should only be introduced if it does not disadvantage the UOAs where the underpinning research was carried out. Rewarding impact arising from interdisciplinary research is a welcome proposal but any measures need to be implemented in a way which does not disadvantage individual UOAs.

The consultation document is unclear on whether the case studies for institutional level assessment would be taken from the pool prepared for individual UOAs or if they would be in addition to them. With a proposed weighting of 7.5% overall there would be a strong incentive for universities to select the best examples of impact arising from interdisciplinary research from across their institutions. If these examples were then not available for individual UOAs to use it would limit the examples available to the UOAs and potentially force them to choose weaker examples.

This could have a disproportionate effect on areas which have a high degree of interdisciplinary research. It may also act as a disincentive to pursuing impacts based on research outside a core disciplinary subject area.

## Page 14: Contact details

Q56. If you would be happy to be contacted in the event of any follow-up questions, please provide a contact email address.

macaskilla@rsc.org