





Role and priorities of UK Research and Innovation interim chair inquiry

03 October 2016

INTRODUCTION

The National Academies welcome the opportunity to respond to this inquiry into the role and priorities of UK Research and Innovation (UKRI) interim chair.

The Academies are working together closely to ensure that the proposed changes to the UK's research and innovation landscape will strengthen the UK's excellence in research and innovation.

In order to support scrutiny of the Bill, the National Academies have produced a joint briefing containing probing amendments to the Bill¹, and a visual map of the proposed changes².

The National Academies each responded individually to the Public Bill Committee call for evidence, highlighting particular aspects of concern for their respective disciplinary communities. These responses are available in Annexes A, B, C and D.

Outlined below are issues with suggested questions for the Science and Technology Committee to consider during its evidence session with Sir John Kingman KCB on 12th October 2016.

1. DEMONSTRATING LEADERSHIP:

a. A positive, strategic and expanded role for research and innovation

UKRI should drive forward a positive, strategic and expanded role for research and innovation, by developing a strategy and associated investment framework that can operate on a cross-disciplinary scale and be delivered more strategically, coherently, effectively, and efficiently. Under the right leadership and strategic direction, this organisation could catalyse a more strategic, agile and interdisciplinary approach to addressing global challenges.

The UKRI Board should draw on individuals of the very highest calibre, including both national and international talent and expertise to raise further the international profile of UK research and innovation.

Question: What actions will the interim chair take to ensure UKRI catalyses a positive, strategic and expanded role for research and innovation as the UK redefines its role in the world?

¹ UK National Academies (2016) UK National Academies briefing on research proposals in the Higher Education and Research Bill - <u>https://royalsociety.org/topics-policy/publications/2016/national-academies-briefing-higher-education-research-bill/</u> ² UK National Academies (2016) An overview of proposed changes to UK research - <u>https://royalsociety.org/topics-policy/publications/2016/overview-of-proposed-changes-to-uk-research/</u>









2. GOVERNANCE OF UKRI:

UKRI must strike the right balance between providing strategic direction for research and ensuring that decisions on specific research agendas are set by experts in relevant fields, as set out within the widely recognised Haldane Principle. The Government's recent White Paper³ stated its commitment to the Haldane Principle. The research community needs reassurance that the governance of UKRI is consistent with this.

The UK's dual support funding mechanism has contributed to the UK's research success and the legal protection of dual-support found within the Bill is to be welcomed. However, the Academies have sought greater clarity on how this protection will be implemented and how the balance between the funding streams will be maintained as Research England and the Research Councils are brought within a single body.

The Nurse Review of the Research Councils recommended the creation of a committee of Executive Chairs of the Councils, which would include the CEO of UKRI, to provide a link to UKRI's governing board. The governance arrangements proposed in the White Paper and the Bill do not include an Executive Committee, but the Bill does provide UKRI with the power to establish one.

Question: How do you foresee the Executive Chairs of the Councils will contribute to the strategic direction of UKRI?

a. Coordination and collaboration with Scotland, Wales and Northern Ireland

It will be important to ensure that UKRI – which brings together 7 UK-wide Research Councils and the England-only functions of HEFCE - can coordinate and collaborate with relevant devolved functions in Scotland, Wales and Northern Ireland.

Question: Does the interim chair think that the proposed structures within UKRI can deliver an independent research agenda that works for the whole of the UK?

b. Innovate UK

The integration of Innovate UK into UKRI aims to facilitate closer communication and collaboration between the Research Councils and Innovate UK, which would undoubtedly be beneficial. However, the primary focus of Innovate UK is to incentivise business-led technology innovation, through funding, supporting and connecting innovative businesses via a mix of expertise, facilities, networks and programmes which may be placed in jeopardy by this closer union within UKRI.

Question: How will the interim chair seek to ensure that the business-led focus of Innovate UK will be adequately maintained as a Council of UKRI?

³ <u>https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/523546/bis-16-265-success-as-a-knowledge-economy-web.pdf</u>









3. THE INTERFACES BETWEEN TEACHING AND RESEARCH:

There is a close interface between teaching and research with the two intrinsically linked within UK Higher Education Institutions. Recent changes to the machinery of government have split the governance and funding arrangements for research and teaching within Higher Education Institutions across the Department for Business, Energy and Industrial Strategy and the Department for Education respectively. It is welcome that the Minister of State for Universities, Science, Research and Innovation has been appointed jointly to DfE and BEIS, however is it important that structures are put in place to generate shared organisational knowledge at every level.

The division of responsibilities previously administered by the Higher Education Funding Council for England, and the creation of UKRI and the Office for Students (OfS) similarly separates the organisations with oversight of teaching and research. It will be critical for the newly established OfS and UKRI to cooperate with one another on overlapping areas including the health of disciplines and institutions, the awarding of research degrees, post-graduate training, shared facilities (including museums and libraries), knowledge exchange and skills development.

Question: What steps will the interim chair take to ensure that UKRI can coordinate and collaborate with the nascent OfS on issues at the interface between teaching and research?

4. INTERDISCIPLINARITY AND UKRI

Interdisciplinary research drives creativity. The creation of UKRI has the potential to substantially improve the facilitation and support of interdisciplinary and multidisciplinary research, in part through the creation of a 'common research fund' to be managed by the UKRI Board, as detailed in the White Paper.⁴ The Bill does not specify how such a funding stream would be established or where it would be managed.

Question: What are the interim chair's plans for creating such a 'common research fund'?

5. A BROAD SENSE OF 'SCIENCE' IS FUNDAMENTAL WITHIN UKRI

Definitions of science in the Bill frequently neglect to explicitly include the arts, humanities and social sciences (HSS). While the Bill makes it clear that the definition of "science" includes social science and "humanities" includes the arts, it should have the arts, humanities and social sciences explicitly recognised throughout the language of the Bill given their vital role in research and innovation. The UK's economy is a knowledge economy dominated by the service sectors that in turn rely on the skills and knowledge from across the full disciplinary spread.

Question: Is the interim chair able to provide reassurance that the full breadth of research and innovation are to be championed within UKRI?

⁴ Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice, 2016









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The Academy of Medical Sciences, the British Academy, the Royal Academy of Engineering and the Royal Society are working together to highlight the value of research and innovation to the UK, and to support researchers, industry and policy makers to make the UK the location of choice for world class research, development and innovation. We are working with our research communities to maximize the value of research funding and to support the translation of knowledge into benefits for individuals and society at large.



Summary

- This submission reflects the key priorities of the medical research community in relation to the Higher Education and Research Bill. It is complemented by specific and detailed proposed amendments to the Bill prepared jointly by the four National Academies, which seek clarification on a number of areas of relevance across the research base.¹
- The Higher Education and Research Bill sets out changes to the research landscape, including the creation of a new research and innovation funding body, UK Research and Innovation (UKRI), as well as changes to the funding and regulation of higher education in England.
- The UK's medical research base delivers world-class performance at an unparalleled level of efficiency, demonstrating the strength of the funding system which underpins the sector. This system builds on an ecosystem of interconnected funding bodies, and balances competitive awards against block grants to institutions.
- The medical sciences would be best served by the subsidiary Councils under UKRI retaining separate, stable and substantial budgets, coupled with the autonomy to act in response to challenges and opportunities within the sector. The legislation governing UKRI should seek to balance authority within this new structure, to ensure that key roles within the Councils continue to attract high-calibre applicants, particularly at the most senior level.
- The delivery of dual-funding functions through a single organisation must be seen to provide tangible benefits to the sector, and avoid violating the fundamental purpose of separate funding streams. Appropriate mechanisms should be implemented to insulate these functions.
- Translating medical science discoveries into patient impacts requires a strong pipeline of research and innovation, and incorporating Innovate UK within UKRI must not disrupt its distinct, business focus. We would welcome further clarity on how the wording of the Bill can best support Innovate UK to retain this focus, and its deployment of new financial instruments.
- We welcome the proposal to design a robust framework for measuring teaching excellence, and support further development of key metrics (such as measures of student satisfaction) to address concerns around reliability, and increase confidence in the data produced.

Introduction

- 1. The Academy of Medical Sciences promotes advances in medical science, and supports efforts to see these advances translated into healthcare benefits for society. Our elected Fellowship includes the UK's foremost experts drawn from a broad and diverse range of research areas.
- 2. We welcome the opportunity to support Parliamentary scrutiny of the Higher Education and Research Bill, building on our prior engagement with the Green Paper, 'Fulfilling our potential: teaching excellence, social mobility and student choice'.² Our responses have been informed by the expertise of our Fellows, many of whom are recipients of Research Council funding, or have been directly involved in the operation of particular Councils. We would welcome further opportunities for dialogue on this legislation as it progresses.

¹ www.acmedsci.ac.uk/policy/policy-projects/submission-to-higher-education-reform-consultation/

² www.acmedsci.ac.uk/policy/policy-projects/submission-to-higher-education-reform-consultation/

Annex A

An ecosystem of funders

- 3. UK medical research benefits from a uniquely balanced ecosystem of funding sources, which draws on public, private and philanthropic resources. In 2014 this included:
 - £3.9bn industry investment.³
 - £1.8bn public investment (through the National Institute for Health Research and the Medical Research Council).⁴
 - £1.3bn charitable investment.⁵
- 4. The 2015 Spending Review provided real-terms stability for the public contribution to this balance, and the deployment of Overseas Development Aid into research opens up new opportunities mobilising UK research expertise to tackle challenges faced by developing nations, and lending greater global perspective to the UK community.
- 5. With funding now secured, it is essential that the machinery to efficiently disburse this resource, and deliver impact for society, is defined and operational. The Higher Education and Research Bill sets out substantial changes to the architecture of research funding within England, and the wider UK. Careful consideration must be given to how the elements of the ecosystem can best operate together to minimise disruption for researchers, and continue to deliver world-leading research impacts.

Underlying Principles

- 6. Measured across a broad range of metrics, the UK research base delivers world-class performance at an unparalleled level of efficiency.⁶ Within the medical sciences this generates both health and wealth benefits with a quarter of the world's top 100 prescription medicines developed in the UK, and the life sciences contributing more than £60bn to UK GDP annually.^{7,8} This success demonstrates the strength of the funding system which underpins the sector, and any changes to this landscape should seek to retain the principles and broad delivery mechanisms which have supported such high performance.
- 7. The UK model of research funding is unusual in providing a balanced mix of competitive awards (through Research Councils) and long-term support (through Quality-related Research allocations). This balance has successfully fostered a cluster of elite institutions in the UK and, crucially, supported a disproportionate number of high-performing institutions at all levels.⁹

Research Councils

8. The Bill proposes the creation of a new funding body – UK Research and Innovation – which would draw together the seven existing Research Councils, Innovate UK and the QR functions currently administered through the Higher Education Funding Council for England (HEFCE).

³ Business Enterprise Research and Development 20143, Office for National Statistics

⁴ Charities Investing in Research statement, Association of Medical Research Charities (September 2015) ⁵ *Ibid.*

⁶ International comparative performance of the UK research base (2013) BIS

⁷ United Kingdom Pharmaceuticals & Healthcare Report, Q1 2016, BMI Research.

⁸ Balance of Payments data (2015) Office for National Statistics.

⁹ See: QS World University Rankings, and Times Higher Education World University Rankings

This new architecture is designed to support greater interdisciplinary working between funding bodies, and strengthen the profile of UK research within Westminster and abroad.

- 9. The Academy recognises the need for, and benefits of, greater interdisciplinary coordination to tackle major societal challenges, a topic which has been a focus for the forthcoming Academy report on 'Health of the Public in 2040'.¹⁰ It is vital that the responsibilities of UKRI are carefully calibrated, to empower and facilitate researchers and Councils to work better together, without creating new sources of uncertainty and administrative burden.
- 10. We are concerned about the impact of the proposed changes on the autonomy of RCs and their CEOs, and we are seeking greater clarity on the relationship between UKRI and its subsidiary Councils through our proposed amendments with the other national Academies. It is vital that this restructuring does not diminish the calibre of applicants for senior positions within Councils, and Councils should retain separate, stable and substantial budgets, coupled with the autonomy to act in response to challenges and opportunities within their sector.

Dual-funding

- 11. The Academy welcomes the Bill's acknowledgment and protection of dual-funding, and we continue to believe that this system has served the community well by providing institutional allocations to deploy strategically alongside competitively-won RC, charitable and industry funding. However, we seek further clarification through our amendments, to ensure that sufficient protection is provided to this mechanism of funding, both now and in the future.
- 12. There remain questions around the co-location of dual-funding functions within UKRI, which were previously separated between RCs and HEFCE. Possible benefits from unification may include improved coordination between the deployment of capital and resource spending, and reduced administrative costs. However, this increased proximity must not encroach on the underlying principles of hypothecated dual-support.
- 13. A high level of transparency around this hypothecation is needed to support ongoing scrutiny, and it will be necessary to clarify the responsibility of Councils to fund UK-wide, versus the remit of Research England to perform QR functions across England alone. The amendments proposed by the Academies seek further details on the implications for devolved activities, and how the allocation methodologies will align with any new UK-wide structures.

Innovation

- 14. The translation of medical science discoveries into patient impacts requires a strong pipeline across the entirety of research and innovation. Innovate UK plays a key role in supporting the delivery end of this process, and is a particularly important resource for the network of small-and-medium enterprises that are commercialise research.
- 15. The Bill proposes to transfer Innovate UK under the UKRI umbrella. We continue to have concerns around the ability of Innovate UK to retain its distinct, business focus, and would like further clarification on how this can be best supported in the Bill's wording. This process is further complicated by the introduction of new loan-based financial instruments to Innovate

¹⁰ <u>www.acmedsci.ac.uk/policy/policy-projects/health-of-the-public-in-2040/</u>

Annex A

UK's portfolio, replacing a significant proportion of its existing grant-style funding. Consideration will need to be given to how the risk profiles of funding bodies will align with the wider investment landscape, to support cooperation within UKRI wherever possible.

Teaching Excellence Framework

- 16. We welcome the proposal to design a robust framework for measuring teaching excellence. This was a key recommendation of the 2010 Academy report, 'Redressing the balance: the status and valuation of teaching in academic careers in the biomedical sciences'.¹¹
- 17. In agreement with the White Paper's commitment to 'recognising the value of research led teaching through TEF', our Fellows emphasised the value of research-led teaching in the UK, as critical not only for the quality of our students, academics and HEIs, but also for the strength and sustainability of the UK's overall education and research base.
- 18. The White Paper accompanying the Bill sets out plans to use the National Student Survey (NSS) as a core metric for assessing teaching quality. Our 2010 report found widespread enthusiasm among leaders of the major UK biomedical centres to make use of student feedback when determining teaching quality and excellence, but also a lack of confidence in the current assessment mechanisms, including the NSS.
- 19. Due to these important concerns, we welcome the current review of the NSS and suggest that the system of student feedback is developed to ensure that both UK HEIs and students are confident about their responsibilities, and understand the importance of student feedback in the assessment of teaching excellence. Lessons may be derived from established and successful schemes in major US and Canadian institutions.

Concluding remarks

20. This Bill comes at a time of significant change across the sector, notably the impact on research of the UK's departure from the European Union, with which the Academy has been highly engaged.¹² It is vital that the primary legislation which establishes UKRI clearly sets out a roadmap for its responsibilities and remit, and fully utilise the expertise already present across the subsidiary bodies. If successfully accomplished, this offers the chance for greater coordination in tackling the major societal challenges and a stronger future for UK research.

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¹¹ Redressing the balance: the status and valuation of teaching in academic careers in the biomedical sciences (2010) Academy of Medical Sciences

¹² www.acmedsci.ac.uk/policy/policy-projects/research-and-the-european-union/



The British Academy

Response - Higher Education and Research Bill Public Bill Committee

Background

The <u>Higher Education Bill</u> was introduced to the House of Commons and given its First Reading on 19th May 2016. As far as the UK's research funding architecture is concerned, further to the High Education White Paper <u>Success as a Knowledge Economy: Teaching</u> <u>Excellence, Social Mobility and Student Choice</u>, Part 3 of the Bill proposes that the Research Councils along with Innovate UK are merged into UK Research and Innovation (UKRI).

HEFCE will be broken-up: elements of it will become the Office for Students (OfS) (this will administer the Teaching Excellence Framework (TEF)) and the research arm will become Research England, which will be brought under UKRI to administer the REF and distribute Quality Related funding in England.

Context

- a. Research and innovation lie at the heart of economic growth, creativity and culture in the UK and will be crucial as the UK redefines its role in the world.
- b. UK research is extraordinarily productive and distinguished by international standards, but we underinvest in it as a percentage of GDP relative to the OECD average and markedly so relative to our comparators.
- c. The Humanities and Social Sciences (HSS) are a vital part of research and innovation and their contribution to the UK's economic growth, creativity and culture. The UK is primarily a service economy (78%), and a growing services sector needs a growing supply of HSS-skilled graduates. Insights from the humanities, social and natural sciences are required to address the most pressing societal challenges and existing barriers to interdisciplinarity should be removed.
- d. In the context of points, a, b and c, above, UKRI should drive forward a positive, strategic and expanded role for research, fulfilling the aims of the Nurse Review of the Research Councils, by building a research strategy and associated investment that operate on a bigger scale and still more strategically, coherently, effectively, and efficiently.

The National Academies recently produced a briefing containing probing amendments to the Bill, available <u>here</u>. In order to support scrutiny of the Bill, the National Academies also produced a visual map of the proposed changes, available <u>here</u>.

The British Academy's concerns

Outlined below are the concerns which the British Academy will monitor most closely as the Bill progresses through Parliament, namely:

- 1. the interaction between teaching and research
- 2. the protection of dual support
- 3. governance, strategy and the Haldane Principle
- 4. structures matter to delivery
- 5. interdisciplinarity and UKRI
- 6. a broad sense of 'science'
- 7. the notions of wellbeing and quality of life

1. The interaction between teaching and research

- 1.1 The break-up of HEFCE and the creation of UKRI and the OfS separates the organisations with oversight of teaching and research. There are clear, overlapping areas of concern between teaching and research, such as the health of disciplines and skills development. Moreover, elements of the academic career, such as postgraduate training, do not fall neatly within an organisation with responsibility solely for teaching or for research. Strong postgraduate training is an essential link in the chain between teaching and research and its diversity and spread helps underpin the health of a UK-wide research base.
- 1.2 The splitting of oversight of research and teaching at a governmental level between the Department for Business, Energy and Industrial Strategy and the Department for Education respectively, risks underscoring this separation between two interlinked functions of universities. There is a clear need for formal links to be made between the two functions.
- 1.3 The National Academies have suggested in their probing amendments that a member of the OfS board have observer status on the UKRI board, and vice versa. This is one mechanism by which a formal link could be maintained. The British Academy, alongside the other National Academies, will also seek to play a more prominent role in the oversight of strategic and vulnerable subjects in a landscape that does not provide a locus of support for this activity.

2. The protection of Dual Support

- 2.1 In its response to the Green Paper, the Academy recommended that the protection of dual support should be enshrined in legislation. Dual support is central to the continued success and strength of a diverse, UK-wide research base, to the benefit of students and the economy.
- 2.2 For research in HSS, QR funding is more significant than for other subject areas. The UK-wide spread of QR funding enables research in HSS to flourish; increased centralisation of funding risks undermining this.
- 2.3 The Academy welcomes the legal protection for QR funding afforded in the current wording of the Bill. However, while dual support is protected through Research England in the Bill, the current balance between Research England and other

Research Councils would not necessarily be maintained within UKRI. The Academy would like to see further detail on how an appropriate balance between the two funding streams within dual support will be determined within UKRI.

3. Governance, Strategy and The Haldane Principle

- 3.1 The Bill must strike the right balance between strategic direction for research and allowing decisions on specific research agendas to be set by experts. The Haldane Principle is widely recognised as a guiding principle for the distribution of research funding, whereby research experts determine the direction of research programmes. The Government's recent White Paper stated the Government's commitment to the Haldane Principle.
- 3.2 In the current wording of the Bill, the Secretary of State is afforded significant power in determining the research agenda of UKRI. For example, the current language in the Bill is permissive around the extent of consultation that the Secretary of State must undertake before adding or omitting a Council or changing its name or function. It would be valuable for consultation with the research community to be integral to any agenda setting strategy by UKRI or the Secretary of State.
- 3.3 In addition, the Academy recommends that the Secretary of State be formally required to consult with, at least. the President of the relevant National Academy before appointing a Research Council Executive Chair.

4. <u>Structures matter to delivery</u>

- 4.1 The Nurse Review of the Research Councils recommended the creation of a committee of Executive Chairs of the Councils, which would include the CEO of UKRI, to provide a link to UKRI's governing board. The Academy recommends that a link between the Board of UKRI and the Executive Chairs of the Research Councils should be made clear in the Bill.
- 4.2 Again, ensuring that the Haldane principle is respected, the research community should be reassured that the strategic direction of UKRI is based on expert knowledge from within the research community.
- 4.3 In addition, placing an England-only organisation, Research England, within a UK wide structure, UKRI, will also have to be managed carefully. QR funding helps to fund the best research, wherever it is found around the UK. The Academy recommends that the Bill reflect the practical need that will exist for Research England to consult with its partner bodies in the devolved nations.

5. Interdisciplinarity and UKRI

5.1 Interdisciplinary research has been vital to creativity and to fundamental advance within disciplines. Insights from across the disciplinary spread are needed to tackle the pressing issues facing societies, as was made clear in the Academy publication 'Prospering Wisely'¹. The Stern Review of the Research Excellence Framework (REF)

¹ <u>http://www.britac.ac.uk/prosperingwisely/</u>

recognised the core contribution of interdisciplinarity and suggested pragmatic mechanisms to encourage it within the REF, which the Academy trusts will be given serious consideration by Government.

- **5.2** The Academy's recent report on interdisciplinary research, 'Crossing Paths'², makes recommendations about the appropriate funding and evaluation of interdisciplinary research. Importantly, this report emphasises that interdisciplinary research should not be equated solely with challenge-led research; any funding pot for interdisciplinary research should recognise this.
- **5.3** The Nurse Review of the Research Councils recommended that there should be a common research pot for the funding of explicitly interdisciplinary research. One of the rationales provided by Nurse for the creation of Research UK, on which UKRI is modelled, was to encourage greater cross-Council collaboration and support for cross-cutting, interdisciplinary research. The Bill does not specify whether such a common-pot of funding will be established; the Academy would welcome further details on these plans.

6. <u>A broad sense of 'science' is fundamental</u>

6.1 Definitions of science in the Bill frequently neglect to explicitly include the arts, humanities and social sciences. While Part 3, Clause 102 of the Bill ('Definitions') makes it clear that the definition of "science" includes social science and "humanities" includes the arts, it would be better to have the arts, humanities and social sciences explicitly recognised throughout the language of the Bill given their vital role in research and innovation. The UK's economy is a knowledge economy dominated by the service sectors. These service sectors are core areas of innovation and HSS research in our universities and research centres are fundamental underpinnings for and sources of that innovation.

7. <u>The notions of wellbeing and quality of life are key</u>

- 7.1 The Academy recommends that a broader notion of quality of life should be captured in the Bill, drawing on, for example, the Academy publication 'Prospering Wisely'. In the National Academies' probing amendments, the language of 'social and cultural wellbeing' was suggested in addition to 'quality of life'.
- 7.2 This would echo the importance that was placed on a broad notion of 'impact' in the recent Stern review of the Research Excellence Framework, whereby impact "need not solely focus on socioeconomic impacts but should also include impact on government policy, on public engagement and understanding, on cultural life, on academic impacts outside the field, and impacts on teaching."³

² http://www.britac.ac.uk/interdisciplinarity

³ <u>https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/541338/ind-16-9-ref-stern-review.pdf</u>

Further information:

The Academy's response to the Nurse Review of the Research Councils is available here.

The Academy's response to the higher education green paper is available here.

The Academy's response to the House of Commons Select Committee enquiry on the impact on science and research of leaving the EU is available here.

The National Academies also produced a joint statement after the decision to leave the EU, available here.

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Higher Education and Research Bill

Public Bill Committee

Submission from the Royal Academy of Engineering

12 September 2016



About the Royal Academy of Engineering

As the UK's national academy for engineering, we bring together the most successful and talented engineers for a shared purpose: to advance and promote excellence in engineering.

The Royal Academy of Engineering' evidence to the Public Bill Committee examining the Higher Education and Research Bill

September 2016

Introduction

- The Royal Academy of Engineering welcomes the opportunity to submit evidence to the Public Bill Committee to support Parliamentary scrutiny of the Higher Education and Research Bill. This evidence builds upon the Academy's submissions to the Department for Business, Innovation and Skills' consultations on the Green Paper *Higher Education: teaching excellence, social mobility and student choice*¹ and on Innovate UK's integration with Research UK.²
- 2. The Academy's evidence has been informed by the expertise of its Fellowship, which represents the nation's best practising engineers, including leading researchers, innovators and entrepreneurs.
- 3. The creation of UKRI will see the UK's seven Research Councils, Innovate UK, and the newly created Research England, integrated into one body. The establishment of UKRI is a development of profound significance for the UK's research and innovation community. The Academy also recognises that such developments as the decision to leave the European Union and the creation of a new Industrial Strategy make it more important than ever that there is a strong and effective voice for UK research and innovation. Following the original proposal to integrate Innovate UK into Research UK the Academy articulated concerns regarding the rationale of the proposal and the risks associated with its implementation.³ However, the Academy has been encouraged by the government's constructive response to the concerns and the Academy's focus is now on supporting government in its efforts to build an organisation that delivers excellent results for both UK innovation and research.
- 4. The Academy is working with its sister National Academies: the Academy of Medical Sciences, the British Academy and the Royal Society, to ensure that the changes to the UK's research and innovation landscape will strengthen the UK's internationally outstanding track record of excellence in research and innovation. As part of this work the National Academies have produced a briefing outlining a number of probing amendments that could be used to seek further clarification on the detail of the Higher Education and Research Bill.⁴ This evidence complements the National Academies briefing, and sets out key areas of importance to the engineering community.

UKRI

5. In establishing UKRI, there will be a single Chief Executive Officer for UKRI, while the heads of the nine Councils will become Executive Chairs. The Academy believes it is essential that the Councils are able to provide effective leadership for their own Councils with significant autonomy, including relative budgetary autonomy. Through our probing amendments with

¹ Royal Academy of Engineering's submission to the Department for Business, Innovation and Skills, consultation on Higher Education, Fulfilling Our Potential: teaching excellence, social mobility and student choice, 2016 http://www.raeng.org.uk/publications/responses/higher-education-teaching-excellence,-social-mobil

² Royal Academy of Engineering's submission to the department for Business, Innovation and Skills consultation on Innovate UK's integration with Research UK, 2016 <u>http://www.raeng.org.uk/publications/responses/innovate-uk%E2%80%99s-integration-with-research-uk</u>

³ Ibid

⁴ National Academies Commons Committee stage briefing on questions raised by the research proposals in the Higher Education and Research Bill, 2016 <u>http://www.raeng.org.uk/publications/responses/higher-education-and-research-bill-commons-committ</u>

our sister Academies we are seeking further clarity on the relationship between the Councils and UKRI, including in how the strategic direction of UKRI and its Councils will be set.

- 6. The creation of UKRI has the potential to substantially improve the facilitation and support of interdisciplinary and multidisciplinary research, in part through the creation of a 'common research fund' to be managed by the UKRI Board, as detailed in the White Paper Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice.⁵ However, through our probing amendments the National Academies seek clarification on whether a common research fund will be established, and if so what its proposed function will be and how it will be managed.
- 7. The current wording of the Bill allows the Secretary of State to add or omit Councils or change the name of a Council without a requirement for consultation with the research and innovation community. Although it is necessary that the Secretary of State is able to make challenging and important decisions, these decisions need to be fully informed for the best outcomes to prevail. Therefore, the Academy believes consultation with the communities who will ultimately be affected by any such decisions will increase the quality of the government's decision making and increase the likelihood of a positive outcome for UK research and innovation.
- 8. The Academy recognises that the creation of UKRI offers the opportunity to reduce the administrative burden of the nine Councils, in part through simplification; however, it cannot be assumed that a reduction in burden will automatically arise as a result of the new arrangements. It will be essential that for any simplification or consolidation to be undertaken in a way that is sensitive to any genuine differential needs between the nine Councils: in some instances different approaches will be required.
- 9. The Academy welcomes the Bill's recognition that it will be critical for the Office for Students (OfS) and UKRI to cooperate with one another. However, as detailed in the National Academies' probing amendments, the Academy seeks greater clarity on how government plans to ensure a strong interface between research and teaching. A seamless link between teaching and research is critical to ensure an overview of the UK's skills pipeline, the health of disciplines, postgraduate training, shared facilities and knowledge exchange.

Innovation

- 10. Innovation is instrumental in delivering the economic and productivity gains associated with investment in research, and offers a key route to developing new tools and approaches for tackling major societal challenges and improving quality of life.⁶ However, innovation stretches far beyond the traditional view of commercialisation of a scientific discovery resulting in a marketable product; innovation can also derive from developments in design, business models and mechanisms of service delivery.
- 11. The Bill proposes to integrate Innovate UK, the UK's innovation agency, into UKRI. The primary focus of Innovate UK is to incentivise business-led technology innovation, through funding, supporting and connecting innovative businesses via a mix of expertise, facilities, networks and programmes to accelerate sustainable growth.⁷ To achieve its aims Innovate UK requires a close connectivity to its primary customer base of business and entrepreneurs, and an understanding of markets, supply chains and mechanisms of

⁵ Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice, 2016

⁶ Investing in Innovation, Royal Academy of Engineering, 2015

⁷ Innovate UK's strategy, Concept to commercialization, 2011-2015

business growth. The Academy and the engineering community seek assurance that the business-led focus of Innovate UK will be adequately maintained when it becomes a Council of UKRI. The probing amendments detailed by the National Academies seek clarification that the wording in the Bill fully reflects protection of Innovate UK's business-facing focus.

- 12. By 2019-2020 it is intended that Innovate UK will have converted £165 million of its grant funding into new financial products. It remains unclear if these products will be effective in stimulating and supporting the type of high-risk and disruptive innovation that has previously been part of Innovate UK's portfolio. In addition, there is significant concern that the reduction in grant-based funding that will result from the diversion of Innovate UK's budget into new financial products will erode an already sub-optimal innovation support budget. The Bill details arrangements whereby if UKRI wishes to engage in certain activities it must seek consent from the Secretary of State, including to 'form, participate in forming or invest in a company'. Clarification on the extent to which the Secretary of State's consent would be needed to operate Innovate UK's new financial products and any future products Innovate UK may develop, such as convertible loans and equity investments, would be welcomed.
- 13. Although the primary focus of Innovate UK is to incentivise business-led technology innovation, its relationship with the research base is also important. Closer communication and collaboration between the Research Councils and Innovate UK will undoubtedly be beneficial. Closer interactions between the two organisations could further strengthen the offering for collaborative R&D and innovation support and enable a more seamless transition between the Councils of UKRI for high-quality research with strong commercial potential.⁸
- 14. To ensure that UKRI fulfils its potential of facilitating, supporting and promoting innovation, it will be essential that support for innovation is embedded throughout UKRI. The Academy welcomes the requirement for the consideration of industrial and commercial experience for members of the UKRI Board. However significant representation of individuals with broad business experience should be required throughout UKRI, not just at the senior level.
- 15. The Academy seeks confirmation that the White Paper's commitment that 'Research England will be established to undertake the England only functions in relation to [...] knowledge exchange that are currently performed by HEFCE' will be honoured, including the funding of knowledge exchange activities through the Higher Education Innovation Fund (HEIF).

Dual support

16. The UK's world-class research base has been funded for many years by the dual support system that combines a mix of competitive project funding through the Research Councils and long-term support through formula based quality-related research (QR) funding. The Academy believes that this dual support funding mechanism has contributed to the UK's research success and therefore welcomes the Bill's legal protection of dual-support. However, the Academy seeks greater clarity on how this protection will be implemented through our probing amendments with our sister National Academies.

⁸ Dowling Review of Business-University Research Collaborations, 2015

17. QR funding is a devolved matter and UKRI, through Research England, will only be responsible for administering QR funding for England. However, the funding administered by the eight other Councils of UKRI will be UK-wide. Further clarification of how UKRI will manage its relationship with the devolved nations would be welcomed.

Teaching Excellence Framework

- 18. The Academy welcomes the principle of a Teaching Excellence Framework (TEF) and has long argued for improvements in the balance of teaching and research to enhance the quality of teaching and learning for students.
- 19. In general, the Academy supports the criteria proposed for measuring teaching quality in the technical consultation of the TEF. However, the Academy is particularly concerned with two of the core metrics for Year Two: the proportion of graduates in employment or further study using the 6 month Destinations of Leavers of Higher Education (DLHE) data and National Student Survey (NSS) data. Despite having some merits, they cannot be seen as a measure of teaching quality.
- 20.Furthermore, DLHE data need to be treated with particular caution as there are variations in student outcomes across subject areas. For example, there is evidence that, due to the high contact time in STEM subjects, some students postpone looking for a graduate level job until after graduation, which subsequently affects the six month DLHE data on these degree programmes.
- 21. The Academy agrees with the use of benchmarks for comparison between universities on aspects such as ethnicity and socio-economic deprivation. However, additional data should also be included to ensure the benchmarks are considered alongside contextual information specific to each university. For example, the location of particular universities is likely to impact on graduate earnings and employment prospects particularly for those institutions which attract local students who cannot afford to leave home while studying.
- 22. The Academy would like to see the TEF move towards a discipline based measure as soon as possible, as a TEF score for an entire university will not provide any meaningful data to students applying for specific degree programmes.
- 23. The Academy welcomes that the TEF will accept recognition of courses by professional, statutory and regulatory bodies (PSRBs) within a higher education institution's measurement. Professor Sir William Wakeham FREng highlighted in his review of STEM graduate employability the value of accreditation of degree programmes in terms of improved graduate employment outcomes.⁹ The engineering profession, and others, have a long-standing system of quality assurance through accreditation of undergraduate degrees undertaken by professional engineering institutions, with the standards maintained by the Engineering Council. The TEF will provide more incentive for other subject areas to adopt accreditation processes by PSRBs.

⁹ Wakeham Review of Stem Degree Provision and Graduate Employability, 2016 <u>https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/518582/ind-16-6-wakeham-review-stem-graduate-employability.pdf</u>

THE ROYAL SOCIETY

Reforms to the UK higher education, research and innovation system

September 2016

1 Executive summary

- 1.1 The UK's outstanding research base is highly productive and a magnet for global talent and investment. Earlier this year, the Government published its Higher Education and Research White Paper and associated Bill. These set out a suite of reforms that it believes could make UK research and innovation even more effective and impactful than it is today. The Government's ambition is welcome, but robust scrutiny of the Bill during its passage through Parliament will be vital to ensure these reforms are the best that they can be, build on the strengths of the current system, and have the confidence of the research community. It will also be important to ensure coordination and collaboration with the devolved nations.
- 1.2 The most significant reform to the research landscape would be the creation of an integrated research funder, UK Research and Innovation (UKRI). This organisation would bring together the seven UK Research Councils, Innovate UK and Research England to form a single non-departmental body. Under the right leadership and strategic direction, this organisation could catalyse a more strategic, agile and interdisciplinary approach to addressing global challenges. Following the referendum result to leave the EU, it could also play a key role in helping the UK meet the challenge of securing the international outlook of its higher education and research base, and of strengthening its competitiveness through a new industrial strategy.
- 1.3 In addition to changes to the research and innovation landscape, the White Paper and Bill set out measures the Government intends taking to preserve the system's strengths. The Society welcomes the ongoing commitment to investing in excellent research wherever it is found, to protecting the Haldane Principle and the intention to enshrine the dual support system in legislation.
- 1.4 The Society believes there are more and different actions that the Government needs to take in order to ensure that the measures laid out in the Bill are properly implemented and have the intended outcomes. The Society's recommended actions and outstanding concerns are set out below.

2 Governance and leadership

UKRI

- 2.1 The Nurse Review of Research Councils proposed that these seven funding organisations be brought together within a new organisation 'Research UK'. It also recommended that a new governance structure be introduced to deal better with cross-cutting issues, support interdisciplinary research and ensure the most effective allocation and use of resources. The Government's proposal to include Innovate UK and Research England in UKRI goes further than the Nurse Review recommendations, although Nurse did suggest that there could be benefits in bringing Innovate UK into the proposed new funding organisation.
- 2.2 UKRI's Board will be responsible for the organisation's strategic direction. The Board will consist of a Chair, Chief Executive Officer (CEO), Chief Financial Officer, and 9 to 12 members drawn from representative sectors including academia and industry. It is imperative that these positions are held by individuals of the very highest calibre. In welcoming the appointment of Sir John Kingman

as interim Chair of UKRI¹, the Society highlighted the potential for the Board to draw on both national and international talent, and to raise further the international profile of UK science. We continue to encourage the Government to ensure this is done.

- 2.3 Each of the nine Councils within UKRI will be led by an Executive Chair. The Councils will provide strategic oversight of activity in their fields of science and research. The Executive Chairs should be of the highest research standing and champion the full breadth of the UK science, research and innovation community. This includes through interaction with UKRI's leadership.
- 2.4 For UKRI to deliver on the Government's ambitions for a strengthened research and innovation system, it is essential that its strategy and operation is not driven only by the priorities of the Government or the Board (top down), but also by the research and innovation community (bottom up). In his Review of the Research Councils, Sir Paul Nurse envisaged this being realised through the establishment of an Executive Committee of the Heads of the Research Councils, which would advise the proposed cross-Council organisation, Research UK. Under the proposed reforms, the analogous Committee would include the Executive Chairs of the Research Councils, Innovate UK and Research England. The White Paper and Bill do not make reference to establishing a Committee of this kind, or to any other structures or arrangements that would underpin the collective work and decision-making of the Executive Chairs. The Society believes that UKRI's governance arrangements should include an Executive Committee of the Councils' Executive Chairs, and that this should be a statutory requirement on the face of the Bill.

Research Councils

2.5 The landscape of Research Councils has changed over time. The Bill giving the Secretary of State the authority to change their number, name, and fields of activity through a statutory instrument is a pragmatic reflection of this². While this change is reasonable, both Parliament and the research community should be able to inform and scrutinise properly any major proposed changes to Research Councils' form and function. The Society believes the Bill should include a duty for the Secretary of State to consult with the research community on any proposal for major Research Council reform.

Innovate UK

- 2.6 There has been considerable debate about whether or not Innovate UK should be part of UKRI³. On balance, the Society believes the potential benefits of creating an organisation with an integrated overview of UK research and innovation infrastructure, assets and expertise outweigh the risks of a more fragmented structure, and that Innovate UK should be part of UKRI. It is essential that in creating UKRI, however, that Innovate UK's unique business-facing focus and links to its customer base are not put at risk.
- 2.7 The benefits that the Society believes should be delivered by an integrated funding body are at least four-fold. First, following the UK's vote to leave the EU, a unified and strong voice for research and innovation could pay dividends in terms of ensuring that science is properly represented in negotiations. This includes on issues such as access to EU programmes, and wider dialogue on

¹ Royal Society, 2016. "The Royal Society comments on appointment of chair of UK Research and Innovation": <u>https://royalsociety.org/news/2016/05/response-to-announcement-chair-research-innovation/</u>

² Note that Research England and Innovate UK have their own additional protections so cannot be changed in this manner.

³ House of Lords Science and Technology Committee (2016). "The Future of Innovate UK inquiry – letter from the Earl of Selborne to the Science Minister": <u>http://www.parliament.uk/documents/lords-</u> committees/science-technology/InnovateUK/2016-06-30-Future-of-InnovateUK-Itr-to-BIS-Minister.pdf

the implication of withdrawal for national regulatory and policy reform and changes to the UK research landscape.

- 2.8 Second, bringing together within UKRI the capital and resource funding streams for higher education, research, and innovation should enable more efficient and strategic investment in national research programmes and capabilities. This could help address disconnects between capital investment and funding for operational costs (the "batteries not included" problem), which has led to some publicly funded research facilities not being used to full capacity due to shortfalls in the budget available to cover running costs. ⁴.
- 2.9 Third, bringing Innovate UK together with the Research Councils could catalyse the development of programmes and practices that facilitate more effective interactions between industry, business and the research base and between disciplines and sectors. It might also better support researchers to work in and interact with the private sector, and vice versa. Embedding mechanisms to support this type of integrated and interdisciplinary working will be key to effectively tackling the complex societal and research challenges faced by the UK and the world.
- 2.10 Fourth, closer proximity of Innovate UK, the Research Councils and Research England could see business take a stronger role in shaping UK research, education and industrial strategy. This would include developing the talent of the research base, and the skills needed by industry across and within sectors. It might also better facilitate the sharing of good practice across funding organisations, including on career development and public engagement activities.

Other research and innovation funders

2.11 UK research and innovation is currently funded by a range of organisations other than the Research Councils and Innovate UK. For example, UK Space Agency works closely with STFC and NERC, and the National Institute for Health and Research with the MRC. UKRI should consider how best to align its own research funding programmes with those of others to maximise the efficiency and reach of research and innovation spend. This should include with government departments.

3 The interfaces between teaching and research

Governance and co-operation

- 3.1 The creation of the Office for Students (OfS) and UKRI would split the governance and funding arrangements for teaching and research. Recent changes to the machinery of government also mean that these responsibilities now fall to two government departments; the Department for Education (DfE) and the Department for Business, Energy and Industrial Strategy (BEIS).
- 3.2 The Minister of State for Universities and Science being appointed jointly to DfE and BEIS, and his being responsible for both OfS and UKRI is welcome. It is important, however, that structures are put in place to generate shared organisational knowledge at every level.
- 3.3 The Bill puts a legislative duty on OfS to assess institutions' efficiency and financial sustainability and gives it responsibility for awarding research degrees. However, teaching and research are intrinsically linked within UK Higher Education Institutions (HEIs), not least because the staff, infrastructure and financial resources used to deliver research, education and innovation-related

⁴ House of Commons Select Committee (2015). "UK must increase science funding to keep up with competitors": <u>https://www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/news-parliament-2015/the-science-budget-report-published-15-16/</u>

activities are often one and the same. The Bill should include an additional duty for UKRI and OfS to cooperate on issues at the interface between teaching and research. These would include the health and sustainability of disciplines and institutions, the awarding of research degrees, post-graduate training, shared facilities (including museums and libraries), knowledge exchange, and skills development. This requirement to coordinate and cooperate should flow through both organisations' governance documents, operating frameworks and strategic plans.

- 3.4 Links between teaching and research can support HEIs and other education providers to respond to emerging research, help students develop key skills and better equip graduates for employment. Education providers recognising the importance of supporting personal development is crucial in a world where individuals have portfolio careers, and where post-graduate students choose to pursue careers outside of academia. **UKRI and OfS should work together to ensure education providers focus on developing students' personal skills as well as their academic ones.**
- 3.5 The Society recommends that UKRI use the powers granted to it in the Bill to establish a Committee on teaching and research. This Committee could provide a cross-organisational forum to develop and promulgate practical ways of maintaining strong relationships between excellent teaching and excellent research. This should include exploring how best to ensure that every student benefits from the very best research-led teaching.
- 3.6 Currently, pedagogical research is primarily funded through ESRC. By bringing the Research Councils together with other funding agencies, this teaching and research Committee could play a pivotal role in developing and coordinating research to understand 'what works'. Centres for Doctoral Training should be encouraged to build on their pioneering work to encourage HEIs to invest in the personal as well as academic development of their students. This would include continuing to evaluate, publish and disseminate the many innovative and effective teaching tools and techniques that are developed within their communities.

Research and Teaching Assessment Frameworks

- 3.7 The recent Stern Review⁵ of the Research Excellence Framework (REF) highlighted the need to recognise the vital relationships between research and teaching. The Society raised this point in its evidence to the Review⁶, and is pleased to see it brought to the fore. One way this might be achieved is through the amendment of REF guidelines to better reward the impact of pedagogical research.
- 3.8 In responding⁷ to the Government's consultation on the design of the Teaching Excellence Framework (TEF), the Society emphasised that an effective TEF would need to recognise the relationship between teaching and research, use a broad range of metrics to recognise diversity of

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/541338/ind-16-9-refstern-review.pdf.

⁵ Lord Stern, 2016. "Building on Success and Learning from Experience: An Independent Review of the Research Excellence Framework":

⁶ The Royal Society, 2016. "Royal Society submission to the Stern Review of the Research Excellence Framework": <u>https://royalsociety.org/~/media/policy/Publications/2016/24-03-16-royal-society-response-to-stern-Review.pdf</u>.

⁷ The Royal Society, 2016. "Consultation response - Teaching Excellence Framework technical consultation": <u>https://royalsociety.org/topics-policy/publications/2016/response-to-TEF-technical-consultation-letter-venki-ramakrishnan-jo-johnson/</u>.

practice and be as light touch as possible. The Society also recommended that the value of research-led teaching should be recognised throughout the TEF criteria.

HE Providers

- 3.9 The White Paper sets out the Government's plans to open up the HE marketplace to new providers. It may be challenging for new providers to deliver high quality STEM provision due to the required investment in equipment and facilities, and the development of close links between teaching and research. Ensuring that any new provision meets high quality standards is important for the reputation of the UK HE sector.
- 3.10 Alternative providers in the UK have so far focused on delivering lower cost subjects in the humanities, social sciences and business management, with very few offering more expensive laboratory-based subjects. It is important that the implementation of reforms to the HE sector does not impact on existing providers' ability to cross-subsidise research and teaching activities across and within disciplines. The expansion of existing institutions with proven excellent STEM teaching may be an efficient and effective means of meeting the need for new student places in these subjects.
- 3.11 Established providers are currently subject to a cap on the number of international students that can be enrolled on specific courses; medicine and dentistry, for example. It is essential that new and existing providers operate on a level playing field and are subject to the same regulations and constraints.

4 Strategic facilities and capabilities

Large Facilities

- 4.1 The UKRI Board will be accountable for cross-cutting decision-making, the management of major projects and shared data sets, and decision-making on capital investment. This is intended to ensure that investment and other decisions reflect and balance the needs and priorities of the research base as a whole.
- 4.2 A number of UK's Large Facilities already serve multiple communities. The Diamond Light Source, for example, is used by researchers in academia and industry and across disciplines, ranging from biochemistry to nanotechnology. An analysis of these and other research and innovation assets could provide valuable insights into how they can best be managed for the benefit of their often broad and diverse user base. A review of the national landscape of strategic research capabilities and Large Facilities should be undertaken. The creation of UKRI provides an opportunity for this to be carried out.

Interdisciplinary research

- 4.3 The White Paper outlines the Government's plans for UKRI to manage a common research fund and funds with cross-disciplinary impact. The cross-Council Global Challenges Research Fund (GCRF) might provide an opportunity to understand how best to manage delivery of joint-funding programmes.
- 4.4 Interdisciplinary research benefits from flexible funding that is not tied to a specific output or question. All funding for interdisciplinary research should support a mixed portfolio of bottom-up, discovery-driven research and top-down research to tackle interdisciplinary

challenges. UKRI should ensure that interdisciplinary research proposals to this or any other funding programme are evaluated against appropriate frameworks, and by skilled and experienced interdisciplinary researchers.

For further information, please contact Becky Purvis, Head of Public Affairs (rebecca.purvis@royalsociety.org)

Annex 1

UK higher education, research and innovation current and prospective landscape



Annex 2: Bill amendments proposed

This Annex provides amendments to the Higher Education and Research Bill that complement the Society's positions on the proposed reforms to the UK's higher education, research and innovation system. These amendments are intended to change the wording of the Bill to bring it in line with the Royal Society's position.

This Annex presents the Royal Society's individual contribution to the debate, and is additional to the briefing we jointly published with the other National Academies, which highlights issues questions raised by the proposed changes to the research landscape and provides a list of probing amendments that could be used to see further clarification. The joint National Academies briefing is available <u>here</u>.

Governance and leadership

Royal Society position	Clause number and	Proposed probing amendment	Amended clause	Rationale	Background
	title				
The Society	Schedule 9				
believes that	9 –	Page 94, line 19, after	(1) UKRI may establish	An amendment to	For UKRI to deliver on the Government's
UKRI's governance	Committees	"(in addition to the	committees (in addition to the	include an Executive	ambitions for a strengthened research and
arrangements	and sub-	Councils)." insert "(a)	Councils).	Committee of the	innovation system, it is essential that its
should include an	committees	UKRI must establish	(a) UKRI must establish an	Councils' Executive	strategy and operation is not driven only by
Executive		an Executive	Executive Committee of the	Chairs as a statutory	government or Board priorities (top down),
Committee of the		Committee of	Executive Chairs of the	requirement on the	but also by the research and innovation
Councils'		Councils' Executive	Councils, chaired by the	face of the Bill.	community (bottom up).
Executive Chairs,		Chairs	UKRI CEO.		
and that this be a					In his Review of the Research Councils, Sir
statutory					Paul Nurse envisaged this being realised
requirement on the					through the establishment of an Executive
face of the Bill.					Committee of the Heads of the Research
					Councils, which would advise the proposed
					cross-Council organisation, Research UK.
					Under the proposed reforms, the analogous
					Committee would include the Executive
					Chairs of the Research Councils, Innovate
					UK and Research England. The White
					Paper and Bill do not make reference to
					establishing a Committee of this kind, or to

Annex	D
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				any other structures or arrangements that would underpin the collective work and decision-making of the Executive Chairs. The Society believes that UKRI's governance arrangements should include an Executive Committee of the Councils' Executive Chairs, and that that this should be a statutory requirement on the face of the Bill.
Part 3 91 - UKRI's research and innovation strategy	Page 55, line 8, after "approval" insert "(c) consult with a Committee of Executive Chairs of Councils in the development of UKRI's strategy"	 (1) UKRI must— (a) if requested to do so by the Secretary of State, prepare a strategy for the exercise of its functions during the period specified in the request, (b) submit the strategy to the Secretary of State for approval, and (c) consult with a Committee of Executive Chairs of the Councils in the development of UKRI's strategy 	An <u>amendment</u> to ensure the Bill requires UKRI must consult with the Executive Committee of the Councils' Executive Chairs in the development of UKRI's strategy	For UKRI to deliver on the Government's ambitions for a strengthened research and innovation system, it is essential that its strategy and operation is not driven only by government or Board priorities (top down), but also by the research and innovation community (bottom up). In his Review of the Research Councils, Sir Paul Nurse envisaged this being realised through the establishment of an Executive Committee of the Heads of the Research Councils, which would advise the proposed cross-Council organisation, Research UK. Under the proposed reforms, the analogous Committee would include the Executive Chairs of the Research Councils, Innovate UK and Research England. The White Paper and Bill do not make reference to establishing a Committee of this kind, or to any other structures or arrangements that would underpin the collective work and decision-making of the Executive Chairs.

The Society believes the Bill should include a duty for the Secretary of State to consult with the research community on any proposal for major Research Council reform.	84 - The Councils of UKRI	Page 51, line 39, after "Secretary of State" insert "following consultation"	(2) The Secretary of State, following consultation, may by regulations amend subsection (1) so as to— (a) add or omit a Council, or (b) change the name of a Council.	An amendment to include a duty for the Secretary of State to consult with the research community ahead of any proposed changes to the Research Councils' form and functions	The Society believes that UKRI's governance arrangements should include an Executive Committee of the Councils' Executive Chairs, and that that this should be a statutory requirement on the face of the Bill. The current wording of the Bill would allow the Secretary of State to add or omit Councils or change the name of a Council by issuing a statutory instrument subject to affirmative resolution procedure. This means it will automatically be debated in parliament and must be approved by both Houses. The landscape of Research Councils has changed over time. The Bill giving the Secretary of State the authority to change their number, name, and fields of activity through a statutory instrument is a pragmatic reflection of this. While this change is reasonable, both Parliament and the research community should be able to inform and scrutinise properly any major proposed changes to Research Councils' form and function. The Society believes the Bill should include a duty for the Secretary of State to consult with the research community on any proposal for major Research Council reform.
	87 - Exercise of functions by science and humanities councils	Page 53, line 36, after "State" insert "following consultation"	 (5) The Secretary of State, following consultation, may by regulations— (a) amend the first column of the table in subsection (1) in consequence of provision 	An amendment to include a duty for the Secretary of State to consult with the research community ahead of	The current wording of the Bill would allow the Secretary of State to add or omit Councils or change the name of a Council by issuing a statutory instrument subject to affirmative resolution procedure. This means

		made by regulations under section 84; (b) amend the second column of that table.	any proposed changes to the Research Councils' form and functions	 it will automatically be debated in parliament and must be approved by both Houses. The landscape of Research Councils has changed over time. The Bill giving the Secretary of State the authority to change their number, name, and fields of activity through a statutory instrument is a pragmatic reflection of this. While this change is reasonable, both Parliament and the research community should be able to inform and scrutinise properly any major proposed changes to Research Councils' form and function. The Society believes the Bill should include a duty for the Secretary of State to consult with the research community on any proposal for major Research Council reform.
90 - Exercise of functions by the Councils: supplementary	Page 54, line 41, after "may" insert "with consultation"	(2) A function of UKRI which is exercisable by a Council on UKRI's behalf pursuant to arrangements under sections 87 to 89 or subsection (1) may, with consultation, also be exercised by UKRI in other ways.	An amendment to include a duty for the Secretary of State to consult with the research community ahead of any proposed changes to the Research Councils' form and functions	The current wording of the Bill would allow the Secretary of State to add or omit Councils or change the name of a Council by issuing a statutory instrument subject to affirmative resolution procedure. This means it will automatically be debated in parliament and must be approved by both Houses. The landscape of Research Councils has changed over time. The Bill giving the Secretary of State the authority to change their number, name, and fields of activity through a statutory instrument is a pragmatic reflection of this. While this change is reasonable, both Parliament and the research community should be able to inform and scrutinise properly any major

	proposed changes to Research Councils' form and function.
	The Society believes the Bill should include a duty for the Secretary of State to consult with the research community on any proposal for major Research Council reform.

The interfaces between teaching and research

Royal Society position	Clause number and title	Proposed probing amendment	Amended clause	Rationale	Background
The Bill should include a specific and additional duty for UKRI and OfS to cooperate on issues at the interface between teaching and research.	103 - Cooperation and information sharing between OfS and UKRI	Page 59, line 10, after "functions" insert "The OfS and UKRI must cooperate with one another on - (a) the health of disciplines (b) awarding of research degrees (c) post-graduate training (d) shared facilities (e) knowledge exchange and (f) skills development"	 (1) The OfS and UKRI may cooperate with one another in exercising any of their functions. The OfS and UKRI must cooperate with one another on - (a) the health of disciplines (b) awarding of research degrees (c) post-graduate training (d) shared facilities (e) knowledge exchange and (f) skills development 	An amendment to include a specific and additional legislative duty for UKRI and OfS to cooperate on issues at the interface between teaching and research	The Bill puts a legislative duty on OfS to assess institutions' efficiency and financial sustainability and gives it responsibility for awarding research degrees. However, teaching and research are intrinsically linked within UK higher education institutions, not least because the staff, infrastructure, and financial resources used to deliver research, education and innovation-related activities are often one and the same. The Bill should include a specific and additional legislative duty for UKRI and OfS to cooperate on issues at the interface between teaching and research. These would include the health and sustainability of disciplines and institutions, the awarding of research degrees, post-graduate training, shared facilities (including museums and libraries), knowledge exchange, and skills development.