



Royal Society of Chemistry Submission to the Public Bill Committee

1. The Higher Education and Research Bill sets out proposals for large-scale change to the way the HE and Research sectors of the UK are funded and regulated. Much of this change, if well implemented, could be positive for the STEM (Science, Technology, Engineering and Mathematics) sector, but further safeguards or clarifications in the Bill would help protect the future strength of our world-leading Higher Education (HE), research and innovation systems.
2. Clarifications are required:
 - a. to protect some of the distinctive characteristics of our current HE and research system,
 - b. to provide clarity on responsibility for postgraduate students,
 - c. to fortify the relationship between research and teaching bodies,
 - d. and to ensure subject specific support within the Office for Students.
3. **We recommend that the legislation is amended to:**
 - **Require that removal or change in remit of a Research Council by the Secretary of State is preceded by a period of formal consultation.**
 - **Explicitly outline the purpose of Research England.**
 - **Include a commitment to supporting basic, strategic and applied research.**
 - **Explicitly include postgraduate training as a function of UKRI.**
 - **Require cooperation and information sharing between OfS and UKRI.**
 - **Explicitly protect strategically important high-cost higher education like STEM disciplines.**

Protecting distinctive characteristics

Changing or removing a research council

4. Removing or changing the priorities of a research council could be disruptive and should only be undertaken with care, and following consultation. At present, the independently operated research councils allow autonomy and expertise which can be wielded to the benefit of their community. Consolidating the research councils under UK Research and Innovation (UKRI) brings the opportunity to better coordinate across research boundaries, but it is essential that the removal of Royal Charters does not result in a fragile framework which changes frequently to the detriment of the suitability, expertise and accessibility of the council structure.
5. Once the Bill is implemented the need will likely arise to accommodate emerging research areas, or to deprioritise less promising ones, but it is essential that these changes are not undertaken rashly or without thorough consultation with the research community. The Bill does not currently enshrine this level of scrutiny, requiring only that the Secretary of State lay a statutory instrument before Parliament. We do not believe this constitutes a sufficient safeguard on a change that could have such an impact on the UK's research and innovation system.
We recommend that the legislation is amended to require that removal or change in remit of a Research Council by the Secretary of State is preceded by a period of formal consultation.
6. In *Clause 84(2), page 51, line 39*:
 - a. Leave out "The Secretary of State may by regulations..."
 - b. and insert "The Secretary of State may, following advice, by regulations..."
7. In *Clause 87(5), page 53, line 36*:
 - a. Leave out "The Secretary of State may by regulations—"
 - b. and insert "The Secretary of State, following advice, may by regulations—"

Dual support funding system

8. The Bill gives little information on the purpose of Research England which will take on Quality Related (QR) research assessment for the UK and funding for England. QR funding is highly valued¹ for providing stable levels of funding over the period between research assessment exercises in a manner which can be deployed at the discretion of the university. QR funding provides a valuable baseline of support for facilities and research operations and gives universities the opportunity to support emerging research areas and new appointees, and it would be helpful to enshrine this purpose in law.

We recommend that the legislation is amended to explicitly outline the purpose of Research England in operating this function i.e.:

- a responsibility for providing undirected (non-hypothecated) funding to universities in England for the purpose of supporting research;
- a responsibility for enhancing the contribution higher education makes to the economy and society by supporting knowledge exchange and skills provision.

9. In *Clause 89, page 54, line 13*:

a. At beginning, insert the following new subsection–

i. “(1) Research England may–

- (a) Provide non-hypothecated funding to eligible higher education providers for the purpose of supporting basic, strategic and applied research;
- (b) Support knowledge exchange and skills provision.”

Basic, applied, and strategic research

10. Basic science is essential for a good research system, often laying the ground for future applications and its funding should be a core function of UKRI. Whilst its impacts are not always obvious in advance, this type of research is vital for maintaining core capability in the UK and in enabling transformational research. The Royal Charters of the Research Councils protected such fundamental research by requiring that “basic, strategic and applied” research are all funded, but no such commitment is made in the Bill.

We recommend that the legislation is amended to include a commitment to supporting basic, strategic and applied research.

11. In *Clause 85(1)(a), page 52, line 8*:

a. Leave out “carry out research into...”

b. and insert “carry out basic, applied and strategic research into...”

12. In *Clause 85(1)(b), page 52, line 9*:

a. Leave out “facilitate, encourage and support research into...”

b. and insert “facilitate, encourage and support basic, applied and strategic research into...”

Supporting postgraduate students

13. Postgraduate students are a vital component of a successful research system, but the responsibility for their training is absent from the Bill. The Royal Charters of the Research Councils required that they “promote and support related postgraduate training”, but no mention of this function is made in either the White Paper or the Bill for UKRI or the OfS. For chemistry and other STEM subjects, postgraduate students play a crucial role as primary researchers, and their training is an essential precursor to their subsequent incorporation in a highly skilled UK workforce.

We recommend that the legislation is amended to explicitly include postgraduate training as a function of UKRI.

14. In *Clause 85 (1), page 52, line 7*:

a. At end, insert–

i. “(h) support the provision of postgraduate training in science, technology, humanities and new ideas.”

Integrating research and teaching

15. In many HE Institutions we see positive interactions between teaching and research responsibilities resulting in improved student experience and employability. For example, research-led undergraduate projects and modules give students an understanding and appreciation of active research within their

¹ Impact of quality-related funding for research in English higher education institutions, SQW (2007)
<http://www.sqw.co.uk/files/9513/8712/1370/128.pdf>

institutions. Bringing cutting edge research ideas into teaching helps ensure a dynamic and relevant curriculum. Close interactions with researchers can motivate students when considering their future in the chemical sciences. There is a risk that the separation of teaching and research in the new HE architecture will mean that the benefits of research informing teaching and learning practices could be lost. The current draft of the Bill allows for information sharing between the OfS and UKRI. It does not, however, require their cooperation unless directed by the Secretary of State, and this point is made more urgent with the shared responsibility across the Department for Business, Energy and Industrial Strategy and Department for Education. The Bill should be amended so that OfS and UKRI must cooperate without being required to by the Secretary of State.

We recommend that the legislation is amended to require cooperation and information sharing between OfS and UKRI.

16. In *Clause 103 (1), page 59, lines 11-12:*

- a. Leave out "The OfS and UKRI may cooperate with one another in exercising any of their functions"
- b. And insert "The OfS and UKRI must cooperate with one another in exercising any of their functions"

If *Clause 103 (1)* is amended then leave out *In Clause 103 (2), page 59, lines 13-14:*

Subject-specific support

17. The new HE regulatory system should be designed to utilise subject-specific expertise, and to adequately support high-cost, strategically important subjects. STEM subjects make a distinctive and important contribution to UK economy and society, but are inherently more costly in part due to a significant practical element. Our research shows that whilst investment in chemistry is critical to the future growth of the UK economy, UK chemistry departments operate at a substantial deficit.² The current regulatory system recognises this situation through additional funding for Strategically Important and Vulnerable subjects such as chemistry, but this has not carried through to the Bill or White Paper. If this funding is not continued it will push UK chemistry and physics departments further into deficit on teaching, which would impede their ability to deliver high-quality teaching and research.

18. We are pleased that the Bill, in Schedule 1, clause 2 (c), acknowledges the need for the OfS to include members with a range of academic and practical disciplines. It is particularly important the OfS includes expertise from subjects like laboratory sciences and engineering so there is an understanding of the distinctive nature of teaching practical subjects. Additionally, funding streams for these strategically important subjects need to be protected to ensure their continued contribution to the UK economy.

We recommend that the legislation is amended to explicitly protect strategically important high-cost higher education like STEM disciplines.

19. In *Clause 37 (1), page 20, lines 21-31:*

- a. Insert: (c) "the provision of additional funding for education that is strategic and high-cost"

Contact

20. The Royal Society of Chemistry would be happy to discuss any of the issues raised in our response in more detail. Any questions should be directed to Dr Richard Walker, science@rsc.org, 01223 432234.

About us

21. With over 50,000 members and a knowledge business that spans the globe, the Royal Society of Chemistry is the UK's professional body for chemical scientists, supporting and representing our members and bringing together chemical scientists from all over the world.

22. A not-for-profit organisation with a heritage that spans 175 years, we invest in educating future generations of scientists, we raise and maintain standards and work with industry and academia to promote collaboration and innovation. We advise governments on policy and we promote the talent, information and ideas that lead to great advances in science.

² Under-funded and under pressure: the finances of UK university chemistry and physics departments, RSC and IoP (2015) <http://www.rsc.org/globalassets/04-campaigning-outreach/policy/education-policy/university-chemistry-and-physics-finances-policy-briefing.pdf>