

The UK's future relationship with EU research programmes

UK research and innovation has been greatly supported by EU funding programmes. To date, the UK has secured over €6bn of Horizon 2020 funding since the inception of the programme in 2014, the second largest recipient of funding¹, and most universities receive between 15-35% of their competitive funding from Europe². CaSE strongly recommends that the UK seeks full association with Horizon Europe, which is due to begin in 2021, after Brexit. We welcome the Science Ministers strong commitment to ensuring this will happen³. **The Government should make additional funding available in order to participate. The Committee may wish to ask the minister to confirm that funding for association to Horizon Europe will not come from the existing science budget.**

While all parts of the UK are reliant on EU research & development funding to some extent, the areas with the highest dependency overall are South West England, outer London and parts of North England and Scotland⁴. Due to the intertwined nature of UK and EU funding streams in recent years, a situation has developed where some fields of research are more dependent on EU funding than others, both for competitive research funding but also for facilities and networks. Some disciplines such as Archaeology, Chemistry and IT are very reliant on EU funding, while EU grants account for at least 20% of research funding for 15 academic disciplines⁵. Equally large grants for blue skies research funding in the UK are limited and the European Research Council has been an important source of such funding.

Participation in EU Framework Programmes has also provided the UK with a number of 'intangible' benefits. While not directly measurable, these benefits are wide ranging and help to grow research in the UK. A letter from our chair, Professor Graeme Reid, to a previous Science Minister summarised the outcomes of a workshop co-hosted by CaSE and the Wellcome Trust on the intangible benefits of European Collaboration in September 2018⁶. The following were among the intangible benefits identified by the workshop participants.

- Competition for EU funding raises standards and accelerates research progress.
- EU funding increases the diversity of the UK research base by complementing domestic spending.
- Participation in EU programmes provides access to advanced facilities and access to large data sets unavailable in the UK alone.
- Participation in EU programmes helps attract talented researchers to the UK. The pool of top quality researchers in the EU is clearly larger than that in the UK alone.
- Many research-intensive businesses operate across several EU member states and are attracted to EU research programmes with similar geographic coverage. Business participation in these collaborative programmes may improve access to markets elsewhere in the EU.

¹ [Horizon 2020 projects and participations statistical database, European Commission](#)

² Digital Science, Examining the implications of Brexit for the UK research base, 2016

³ <https://www.gov.uk/government/speeches/universities-minister-gives-speech-at-universities-uk-conference>

⁴ <http://sciencecampaign.org.uk/CaSEVATbriefing2015.pdf>

⁵ [The role of EU funding in UK Research](#), Royal Society, 2017

⁶ <http://www.sciencecampaign.org.uk/news-media/press-releases/case-letter-science-minister-intangible-benefits.html>

- Participants in EU programmes have opportunities to influence the future shape of EU research and innovation and sometimes have opportunities to influence technical standards that shape future regulation.

The Committee may wish to ask the Minister how he will ensure the UK's research community continues to benefit from these intangible aspects of the European programmes, particularly in the case where, for whatever reason, association to Horizon Europe is not possible or is delayed.

No Deal

A no deal Brexit would result in the UK becoming a third country for participation in Horizon 2020 (and Horizon Europe, in the continued absence of any deal). This would make UK researchers ineligible to apply for European Research Council (ERC) grants and Marie Skłodowska-Curie Actions (MSCA) projects. These are some of the most prestigious awards available through EU programmes and the UK has historically been very successful in being awarded these grants. UK researchers would be able to participate in the collaborative pillars of Horizon 2020 as a third country but would not be eligible for EU funding. The Government has pledged that in the event of a no deal, grant funding already awarded to UK institutions would be underwritten to make up for the loss of EU funding and applications 'in flight' will be considered by UKRI for funding. This is a welcome move to ensure that grant holders will not lose funding for projects they are already delivering. BEIS and UKRI have put significant work into this area and we understand that progress has been made with registering grants held by higher education institutions. **There remains a risk that businesses, particularly SMEs, are harder to reach and may be disproportionately affected should the underwrite be required. The Committee may wish to ask the Minister for an update on progress on the underwrite, particularly in registering businesses.**

A no-deal exit is also likely to affect negotiations for UK participation in Horizon Europe (and other programmes), the successor of Horizon 2020, which begins in 2021. UK participation in EU science programmes is a stated aim of the UK Government and the European Commission⁷. The provisional budget for Horizon Europe is due to be €100bn, roughly €30bn higher than the Horizon 2020 budget⁸. If a no-deal exit takes place, negotiations could be delayed because of a breakdown in the relationship between the UK and the EU or because the UK Government has other pressing priorities as a result of a no-deal exit.

The Government must consider how it will ensure access to replacement funding in the event of a no-deal Brexit and how it will facilitate access to European collaborations for UK researchers as soon as possible after exit. There is a risk that if this is not dealt with quickly after a no-deal exit then researchers working on European projects will leave the UK and some parts of the science base that are particularly reliant on European funding will wither away in a way that will take many years to reverse. It is important, particularly in the context of the Government's target to spend 2.4% of GDP on R&D by 2027, that funding is replaced and made available to UK universities, research institutes and businesses alike. The Smith Review of international collaboration⁹ could provide options for the Government to quickly put replacement funding in place in the event of a no-deal exit and if there is a delay in associating with Horizon Europe, due to begin in January 2021. **The Committee may wish**

⁷ <https://www.gov.uk/government/speeches/pm-speech-on-science-and-modern-industrial-strategy-21-may-2018>, https://ec.europa.eu/commission/commissioners/2014-2019/moedas/announcements/royal-society-edinburgh-maccormick-lecture-edinburgh_en

⁸ [EU budget: Commission proposes most ambitious Research and Innovation programme yet](#)

⁹ <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2019-03-26/HCWS1449/>

to ask the Minister for an update on the Smith review, including when it might be published (if it has yet to happen) and whether any of the proposals could be used to put replacement funding in place quickly in a no deal scenario.

If the UK could not associate with European research programmes in a no deal Brexit or if funding is not made available to participate as a third country, a large hole would be left in the UK's research funding landscape. The potential loss of EU funding and the wider intangible benefits of EU programmes is a real cause for concern for research institutions, higher education and businesses of all sizes in the sector.

Immigration and movement of people

The Prime Minister has said that he wanted the UK to be open to the brightest and best scientists from around the world after Brexit, and that the Home Office will create a new Fast Track Visa route “designed to attract elite researchers and specialists in science, engineering and technology”¹⁰. Access to talented people is the absolute cornerstone of a thriving environment for science and engineering in the UK. Therefore, CaSE supports any move to make it easier for the brightest and best scientists from overseas to come and work in the UK.

However, the detail of any proposal is important – the Government's press release¹¹ said that the following options could be considered:

- abolishing the cap on numbers under the Tier 1 Exceptional Talent Visas
- expanding the pool of UK research institutes and universities able to endorse candidates
- creating criteria that confer automatic endorsement, subject to immigration checks
- ensuring dependents have full access to the labour market
- removing the need to hold an offer of employment before arriving
- accelerated path to settlement

Abolishing the cap on the Tier 1 exceptional talent visa would be a welcome move. However, in recent years the number of visas has not come close to the cap of 2000 visas per year (528 were granted in 2018, the most in a year to date). Therefore, the removal of the cap would need to be accompanied by a stimulus in demand. This could be achieved by a possible relaxing of the criteria for Tier 1 exceptional talent and a publicity drive to make potential applicants more aware of this route into the UK in order to increase its uptake. In this case the expanded pool of bodies able to endorse candidates would likely be needed to deal with an increase in applications. The rest of the points already apply to Tier 1 exceptional talent visas – so it remains to be seen how these will be applied in any new route.

Early signals from the Home Office suggest that the visa will be restricted to those working in Science, Technology, Engineering and Maths (STEM). This is of concern to CaSE and others in the research community. Increasingly science is an inter-disciplinary endeavour, involving the humanities and social scientists as well as the physical sciences in research projects. For example, looking at the ethics of and human interaction with artificial intelligence, alongside research into AI itself. Therefore, we would strongly support moves to make the proposed visa route open to all those working in the R&D community, regardless of discipline.

¹⁰ <https://www.gov.uk/government/news/pm-sets-out-vision-to-cement-uk-as-a-science-superpower>

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The Committee may wish to ask the Science Minister how the work to develop this new fast track route is progressing and encourage him to work with the Home Office to ensure it meets the needs of science and engineering in the UK, including being available to all disciplines.

CaSE has called for the re-introduction of a two-year post-study work visa for international students since they were first removed in 2012. We are very pleased, therefore, to see that the Government plans to re-introduce them¹². This will make the UK much more internationally competitive in attracting overseas students to study and then work here.

2.4% Roadmap

The previous Government set a target to increase research and development (R&D) investment in the UK to 2.4% of GDP by 2027 as part of its Industrial Strategy. CaSE is pleased that the new Government has recommitted to this target and has promised to publish the long-awaited roadmap for achieving the target in the autumn¹³.

UKRI and BEIS cannot deliver the transformation of the UK R&D environment alone. This long-term transformation of R&D will require ambitious and coordinated action across Government, including a significant uplift in public investment in R&D. A long-term plan gives confidence for long-term R&D investment decisions by the private sector and for long-term partnerships between the public and private sector. Every country that has successfully raised R&D intensity by a similar amount has done so through raising both public and private investment¹⁴.

Members have told CaSE that leadership and long-term R&D investment from Government enables them to plan and gives industry confidence to keep on investing in R&D. Public investment also drives increased private investment, with a time-lag. Government analysis shows that an extra £1 of public spending gives rise to an increase in private funding of £1.36 over a ten-year period¹⁵. Furthermore, for companies that have previously chosen to invest in R&D elsewhere, a bold, long-term, investment plan, could catch their attention and make the UK a candidate destination for new investment.

The Committee may wish to ask the minister for a date for the publication and how he is working to ensure the whole of Government is signed up to the 2.4% target.

About CaSE

The Campaign for Science and Engineering (CaSE) is the UK's leading independent advocate for science and engineering. Our mission is to ensure that the UK has the skills, funding and policies to enable science and engineering to thrive. We represent over 115 scientific organisations including businesses, universities, professional bodies, and research charities as well as individual scientists and engineers. Collectively our members employ over 336,000 people in the UK, and our industry and charity members invest around £32.2bn a year globally in R&D.

¹² <https://www.theguardian.com/education/2019/sep/10/uk-work-visas-for-foreign-graduates-to-be-extended-to-two-years>

¹³

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/829177/Spending_Round_2019_web.pdf

¹⁴ OECD MSTI database, data extracted 4 November 2018

¹⁵ What is the relationship between private and public investment in science, research and innovation? BIS, 2015