

**Cynulliad Cenedlaethol Cymru | National Assembly for Wales**  
**Y Pwyllgor Materion Allanol a Deddfwriaeth Ychwanegol |**  
**External Affairs and Additional Legislation Committee**  
**Y goblygiadau i Gymru wrth i Brydain adael yr Undeb Ewropeaidd|**  
**Implications for Wales of Britain exiting the European Union**  
**IOB 33**  
**Ymateb gan Ymateb unigol**  
**Evidence from Individual response**

**Executive Summary**

This submission focuses on the effects of Brexit on Welsh higher education and research. Brexit presents two main challenges to Wales in terms of scientific research.

1. It threatens to limit access to EU funding, a source from which the UK and Wales has benefitted greatly.
2. It threatens both short- and long-term collaboration and mobility of Wales-based researchers.

At the same time, this provides various opportunities to rethink how scientific research is conducted in Wales. Namely, it will allow for:

1. Tailoring of the research agenda to Welsh needs, particularly in further involving business and the private sector in research;
2. Funding and administrative streamlining to allow for easier and quicker project appraisal, submission and auditing;
3. Development of new venues for overseas collaboration, particularly in emerging markets such as China; and
4. Development of a clearer connection between science and society and how research can inform public policy and everyday life in Wales.

Based on these challenges and opportunities, the researchers propose three main recommendations:

1. The Welsh government should lobby the British government to maintain Associate Country status in Horizon 2020 and subsequent EU funding initiatives;
2. In the immediate term, the Welsh government should provide funding guarantees and other funding support to ensure that Welsh researchers remain competitive in current EU funding bids;
3. A stakeholder engagement strategy should be crafted that allows for continuous, meaningful discussion and collaboration between scientists and the government in developing a Welsh strategy to deal with Brexit negotiations.

**Introduction**

**[P1]** We are a group of researchers from Swansea University from disparate disciplines – engineering, medicine and politics - although this submission is from the individuals named above and not from the organisation as a whole. We developed the Initiative for Managing Policymaker-Academic Cooperation and Knowledge Transfer (IMPACT) to connect scientists and policymakers in an ongoing, iterative dialogue about how science can benefit policy and vice versa. We have decided to submit evidence to this inquiry as concerned researchers who have benefitted from EU membership, both in terms of funding and staff mobility. We feel that our broad, interdisciplinary approach to research that encompasses both scientific and policy concerns leaves us well placed to comment on the risks and opportunities facing Welsh scientific research post-Brexit.

**[P2]** Welsh higher education needs to be a top priority for the Welsh government moving forward in Brexit negotiations, and as an area of devolved power, it is a policy issue where Wales will have a considerable voice in Brexit negotiations. The vote for Brexit represents a significant danger to not only wider British science and research, but also the role of Wales in the UK, as the EU has played a key role in promoting funding and collaboration in a wide variety of research at Welsh universities. At the same time, it presents several opportunities for overhauling the ways in which science is funded, staffed and conducted. It presents an opportunity for Wales to take a lead in promoting scientific research and higher education in a post-Brexit UK. Scientific research is an important contributor to the economy and the country's reputation as a world leader in knowledge, employing around 100,000 people in the public sector and another 150,000 in the private sector UK-wide (Hutton, 2016). 16% of academic staff is made up of non-UK EU nationals (Skogstad, 2016) and EU funding forms an important part of this research excellence with 64% of UK-wide research built on international collaborations (Hutton, 2016). In order to remain competitive, these sources of funding and collaboration must be maintained.

**[P3]** In the wake of the vote for Brexit, British and Welsh scientists are reporting an increasing number of cases where they are having difficulty in joining EU-based consortiums for funding, as reported by Scientists for EU (Hutton, 2016). While significant care must be taken to avoid losing Britain's eminent place in the research world post-Brexit, it also offers an opportunity to rethink how research is funded and conducted in the UK and to rebuild a research infrastructure that will retain the UK's place as a world leader in scientific research. Wales should take a leading role in this, as it can act to improve the standing of Welsh universities in the UK and the wider world.

### **Risks**

While Welsh scientific research will undoubtedly change in many ways if and when the UK leaves the EU, there are two main issues that will immediately face researchers:

1. **[P4] Funding:** The single biggest threat to Welsh science post-Brexit is funding, as the UK as a whole is one of the largest recipients of EU research money (Royal Society, 2015, pg. 3). The UK Office of National Statistics estimated that the UK contributed €5.4 billion to research but received €8.8 billion over the period of 2007-2013 (Royal Society, 2015, pg. 12). Approximately 10% of science funding comes from the EU, and this percentage has been rising (Galsworthy & Davidson, 2015). These facts create a challenging environment for funding research after a British exit from the EU. Even if current funding levels are maintained, the UK could still see a potential research funding shortfall of 500 million Euros

each year. This will also likely increase the pressure on UK funding bodies, with an increasing number of applications (and subsequent fall in success rates) for domestic grants.

2. **[P5] Collaboration and mobility:** Wales and the UK have a highly mobile research community, with 28% of UK academic staff being non-UK nationals (16% EU and 12% non-EU) and half of all PhD students come from outside the United Kingdom (Royal Society, 2016, pg. 8). Free movement is likely to be limited in the wake of Brexit (Masood, 2016), and any change to the current state of mobility is a concern, as there is likely to be a significant increase in the administrative burden of ensuring easy and worthwhile staff mobility and collaboration. While reciprocal agreements are likely to be worked out that ensure some labour market access for permanent relocation, Brexit could severely curtail shorter-term visits and exchanges. Access to programmes that facilitate these limited duration stays, such as the Erasmus Plus staff exchange opportunities, are likely to be adversely affected.

### **Opportunities**

The sea change likely to be brought about by the UK's vote to leave the EU also presents opportunities to renegotiate and revitalise scientific research, its funding and its relationship to wider society in the UK. There are four main opportunities that will present themselves.

1. **[P6] Development of Wales as a research leader:** Brexit also offers the opportunity for Wales to more closely tailor the research agenda in a way that supports Welsh science and public priorities. For instance, 64% of UK-wide research is conducted by business and other private organisations, but these groups only received 18% of research funding (Royal Society, 2015, pg. 18). Changes in funding guidelines could ensure that non-university stakeholders are included more centrally in the research process and conversely, that universities are able to more actively engage with business funding opportunities. This would also strengthen collaboration between the universities and some of the traditional industrial sectors in Wales. In addition, a greater emphasis could be placed on interdisciplinary, inter-institutional and international research.
2. **[P7] Funding streamlining:** The known issue of overextended time-to-grant and intrinsic complexity of European funding create a high threshold of administrative knowledge and resources necessary to navigate these funds. While Horizon 2020 has simplified application procedures and shortened the time-to-grant to 8 months (European Commission, 2015, pg. 2), that can still be a significant period of time especially for SME projects (European Commission, 2015, pg. 16). By returning the key sources of funding to the nation state level, Brexit may offer an opportunity to streamline research guidelines, thus reducing the resource burden of both applying for and undertaking large research grants. Some researchers indicate that many UK funding bodies, including RCUK bodies, Innovate UK and the Wellcome Trust, are all already simpler and more user-friendly than EU funding (European Commission, 2015, pg. 26). While there is an opportunity to streamline funding application processes, care must still be taken to ensure that cooperation and parity with EU funding sources remains, given the close ties between British and EU research.
3. **[P8] Overseas Collaboration:** While connections to the EU need to be maintained – 60% of academic collaborations are with EU partners (Royal Society, 2016, pg. 4) – a change in approach to funding and collaboration also represents an opportunity to grow research in other regions of the world. The United States remains a key source of collaboration for UK

researchers, and new and emerging research-heavy regions such as China present a chance for UK researchers to draw on even more expertise and funding and research opportunities.

4. **[P9] Connections between science and society:** Brexit provides an opportunity for government, scientists, other relevant stakeholders and the public at large to rethink how scientific research should inform public policy and day-to-day life in Wales. The referendum result provides the opportunity to open up a dialogue with the public on what science can, and does, provide to Welsh society.

### **Recommendations**

Given the challenges and opportunities facing Welsh science and research in a post-Brexit environment, there are three key recommendations that draw on expertise from both social and natural sciences.

1. **[P10] The Welsh government should lobby the British government to maintain Associated Country status in Horizon 2020 and beyond** in order to maintain the UK's access to EU funding streams. Welsh universities have built up significant administrative and research capacity in engaging with and securing EU-level funding, which is clearly demonstrated by the country's excellent track record for EU-funded research. The Swiss case provides a negative example of what can happen to a country when it is shut out from EU funding streams, where uncertainty and renegotiations of funding streams has led to a significant drop in research funding to the country for Horizon 2020 as compared to FP7 (Galsworthy & Davidson, 2015). It is vital that Welsh research is not dealt a similar blow.
2. **[P11] In the immediate term, new and temporary sources of research funding should be developed.** First, a new source of seed-corn funding should be established to reassure EU consortium partners about Wales' continuing central role in EU funding opportunities. Legitimate concerns about the UK's continued access and ability to secure EU funding have made it more likely that other EU partners may be favoured over British researchers and institutions (Sample, 2016). At least some of this worry is due to funding concerns, and this is true across the natural and social sciences. Wales should provide some funding, with a low administrative hurdle, to researchers with proven and pre-existing European networks who are already or about to start developing collaborative bids. This would dissuade other EU partners from dropping Welsh universities from projects and provide a strong signal that Welsh research will continue to be outward looking. This could also make collaboration with Welsh universities more attractive compared to other universities in the UK.
3. **[P12] In the immediate term, Wales should also establish a stakeholder engagement strategy and platform** to engage with scientists, other research partners and the wider public on what the priorities for Welsh scientific research should be and how it should relate to Welsh society as a whole. The government should be encouraged to look beyond evidentiary and passive forms of information gathering and instead focus on co-creation ideas that actively involve stakeholders in developing a strategy that will better connect scientists to the wider policy debate.

These recommendations will establish Wales as a proactive and leading nation in the UK in providing for researchers in a post-Brexit world.

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