

## **Brexit Science and Innovation Summit**

Submission by Prospect the Science and Technology Select  
Committee

**5<sup>th</sup> February 2018**

[www.prospect.org.uk](http://www.prospect.org.uk)

## **Executive summary**

1. The UK has enjoyed significant benefits from the close science collaboration facilitated by our membership of the European Union. This has included funding, access to talent, opportunities for UK scientists, research collaboration, and access to infrastructure. All of this is put at risk by Brexit, which has the potential to do significant damage to UK science in the short and the long term.
2. Prospect's immediate concern is securing reassurance for our members working in STEM who are EU citizens that their rights and those of their families will be secured in any Brexit deal.
3. The UK government must also recognise that close cooperation in future EU science projects and regulatory regimes will require ease of movement for UK and EU scientists, including students, junior research staff and families. It is in the interest of the UK to construct a migration system that permits this.
4. Lack of full access to EU science funding programmes and EU infrastructure will be detrimental to STEM in the UK, and even access may entail loss of influence. The government should be seeking to maintain the current arrangements on science funding programmes and EU science infrastructure, including willingness to contribute to EU budgets.
5. Leaving Euratom is unwelcome and unnecessary and is potentially extremely damaging for the UK nuclear sector. The Government should pursue an associate membership, including free movement for nuclear scientists in order to protect the nuclear sector.

## **Introduction**

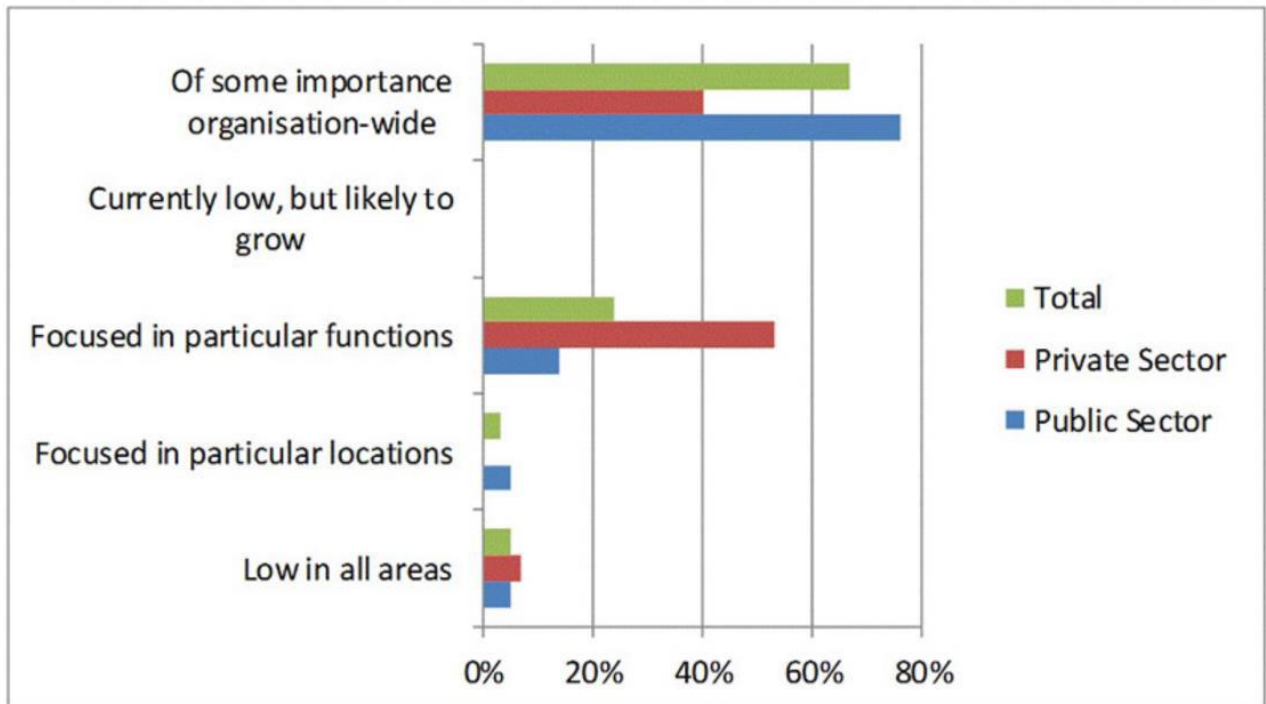
6. Prospect is a politically independent trade union representing over 141,000 skilled members across all major sectors of the economy. Approximately 50,000 of these members work in STEM-related roles, including in the Civil Service, research councils, Scottish research establishments, universities and wide swathes of the private sector.
7. In a submission to the previous Science and Technology Committee inquiry *Leaving the EU: Implications and opportunities for science and research* Prospect set out our members' concerns about the potential consequences of leaving the EU on UK science. In particular the submission highlighted concerns about the rights of EU citizens in the UK and UK citizens in the EU, science funding and collaboration, and regulatory divergence. Since that submission the UK government has been engaged in negotiating the Phase 1 agreement for the UK's withdrawal from the EU and has produced legislation and position papers on a variety of aspects of Brexit, but despite this activity many of our members' concerns remain unanswered and they remain anxious about the future.
8. Science is an inherently collaborative enterprise and Prospect believes that this collaboration must continue after Brexit in order to maintain the UK as a world leader in scientific excellence and innovation. The government must do more to provide clarity and certainty about the framework in which this future collaboration will take place in order to provide minimum disruption to current arrangements and to allow the UK and EU science communities to plan for the future.

9. This submission will look at the key issues for Prospect members in turn, addressing the key concerns, any progress that has been made since the previous inquiry, and the areas in which urgent progress is needed.

## 1) EU citizens, migration, and free movement

### A) Prospect's concerns

10. Nowhere is the concern about the potential effect of Brexit on science more acute than in relation to the movement of scientists, science students, and their families between the UK and the EU. The extent of EU citizens' involvement in the UK science sector is demonstrated by a survey of Prospect's STEM membership conducted in April 2016 before the referendum. We received responses from 45 organisations; 60% from public bodies and 40% from the private sector. More than seven in ten (71%) reported that their organisation employs migrant workers from within the EU in STEM roles – more than 80% of public sector respondents and 48% from the private sector.



11. Subsequent feedback from Prospect membership areas confirms that EEA workers have analogous qualifications and skills to the UK colleagues they work with and that they are generally appointed following open competition. In STEM, EEA nationals also bring with them direct knowledge of scientific focus and practice in other countries, thus enabling the collaboration required to deliver high quality international science effectively.
12. A high proportion of respondents to Prospect's survey talked about relying on EU migrant workers for business-critical functions as well as the risks that their non-availability poses to sustainable high quality science. When they were asked about the consequences if their organisation was no longer able to employ migrant workers, respondents said:

- Key projects would be unsupported and the ability to sustain excellence would be rapidly reduced;
  - Reputation and ranking of skills in comparison with international competitors and collaborators would lose ground; and
  - The UK's status as a world player in environmental research would very quickly be lost because in the words of one respondent: "Nobody can do serious science without an international workforce".
13. More recent enquiries confirm concerns about the likely impact. For example at least one government research council has identified the impact of any changes to migration patterns as a significant risk to business plans. Further it is recognised that even if there is no change in migration policy, non-UK nationals may decide that the UK is no longer an attractive place to live and apply for jobs elsewhere, taking their specialist skills with them.
  14. This worry was confirmed by a survey of Prospect members in STEM in November 2017. The survey of 650 EU nationals working in the UK reveals they are still no clearer on the government's position than before the UK formally entered into Brexit negotiations. Nearly 70% of respondents said they are thinking of leaving the country compared to earlier in the year when 11% of Prospect's science members were planning on leaving the UK because of Brexit. A huge 79% of respondents also reported feeling less welcome than they did a year ago. Members reported feeling "betrayed", "unwanted" and "becoming a foreigner in a country" they were previously welcomed into. One member said: "The government's neglect of the human element in this situation is deeply unfair and has caused many a sleepless night for me and my family."
  15. There are also concerns about UK-based scientists, regardless of nationality, no longer being included in international collaborations. Although the Government has agreed to fund current EU-funded projects post-Brexit, many of these are projects that have a long development phase and UK-based organisations that were previously seen as providing 'a safe pair of hands' are already experiencing limitations to their potential future role. International collaboration in these spheres is crucial if the UK is to maintain its reputation and influence and depends on the continued free movement of people.
  16. Prospect also has concerns about the future of the EU STEM students who contribute a huge amount to UK science. For example at Scottish Agricultural and Marine Sciences (SAMS) 16% of staff, 33% of postgraduate students and 20% of undergraduate students are from EU countries other than the UK. At the Moredun Institute 10% of staff and 40% of doctoral students are EU nationals. A large part of the Cockcroft Institute of Accelerator Science's (CI) EU funding has supported PhD students, especially in the QUASAR group. This includes 1 million Euros of funding since 2008 to bring the best researchers to the UK on individual fellowships; 1-2 million Euros as a partner in EU projects; and 25 million Euros for co-ordination of new European research and training networks, of which 8 million Euros was funding for UK institutions. This level of student contribution is unlikely to be sustained, either because they will be deterred by having to pay their own higher student fees or the CI will not have the funding available to do so.

17. Similar concerns apply to the deployment of Doctoral and Post-Doctoral researchers. For example, just one of the Defence Science and Technology Laboratory's (DSTL) many projects is currently funding two PhD students and two Post-Docs at two different UK universities. All the posts are currently filled by EU workers, who were the strongest candidates for these roles. If they were no longer available to do the work, either the work would remain unfilled (one vacancy had no UK applicants) or less well qualified staff would need to be used, with consequent reduction in work quality.
18. As set out in our recent submission to the Migration Advisory Committee, Prospect is concerned that a future migration framework for STEM based on the shortage occupation list would not work for our members or for UK science. The shortage occupation list does not and cannot provide the long-term security that is often desired. This is particularly relevant, for example, for people working in research functions and on major projects with time horizons of 10 years or more. This approach has evidently failed to incentivise employers and the wider education system to train up indigenous talent for these roles, despite this having been stated as an aim. Instead, many occupations remain on the list year after year whilst others, in niche areas, are unlikely to be included at all. There are also real questions over whether a shortage list can ever be flexible enough to keep pace with constantly and rapidly evolving science and technology roles.
19. Prospect understands that consideration is also been given to extending the current Tier 2 salary threshold requirements of at least £30,000 per year for workers from outside the EEA to non-UK EEA nationals. This approach would not work for our members and would pose significant challenges for UK science. For example in some key groups like lab technicians, a very high proportion (80%-89%) earn under the threshold. The proportion of chemical or biological scientists is also not insignificant at 30-39%. We also have evidence that the majority of appointments to post-graduate salary bands in a major research council are in a range from just over £22,000 to just under £30,000, with an average salary of just over £24,000. Scientists recruited into these roles are often at an early career stage, and therefore use the opportunity to develop science leadership skills that are required for future organisational and societal needs. Imposing a migration policy that prevented the recruitment of EU nationals into these roles would severely damage the UK science sector.
20. In addition Prospect is concerned about potential changes to Civil Service Nationality Rules that may restrict the ability for EU citizens to hold certain civil service posts, including in science, after Brexit. Currently there are certain posts within the civil service that are restricted to UK, EEA or Commonwealth nationals. In response to parliamentary questions submitted by Tom Brake MP the Cabinet Office could not provide information on how many EEA citizens currently hold such positions or whether they would continue to be eligible to work in these roles after the departure date. Urgent clarity on this issue from government is vital to reassure those EEA citizens working in protected roles that there will be no change to their status after Brexit.
21. Attention must also be paid to the fact that much of the movement of scientists between UK and EU is short-term and at short-notice. For example, invitations to speak at science conferences at the last minute, the sudden availability of facilities at a research establishment, or a reaction to an unexpected climate event. Any future migration system seeking to preserve UK science must be able to account for such occurrences.

22. In summary Prospect believes that the end of free movement would be extremely detrimental to our members and to UK science and that future migration policy should attempt to recreate the current conditions as far as is possible. We are not reassured by government language about enabling the 'brightest and best' to come to the UK which exposes a basic lack of understanding of STEM. In order for UK science to thrive it is essential for the UK not only to welcome Nobel Prize winners but also their families and members of their research teams. This requires a framework that makes it rewarding for them to work in the UK including active, interesting, outward-looking, and well-supported research groups, with all the technicians, students, and ease of short term mobility that requires.

## **B) Government policy**

23. The government's attitude towards movement of scientists, STEM students and their families is set out in the government paper *Collaboration on Science and Innovation*. Prospect welcome's the government's statement that "the UK and the EU must ensure that their research communities can continue to access the high-level skills that support innovation in science and technology" however we are concerned that this statement is not supported by any policy proposals that might enable this collaboration to continue.
24. Furthermore it is extremely worrying that this paper pays little attention to mobility of STEM students and completely fails to mention the importance of securing ease of movement for the families of EU and UK scientists.
25. In Box 3 of the government paper it is suggested that the UK may be able to facilitate the future movement of researchers through the European Research Area (ERA) which also includes third parties. Prospect is sceptical about the ability of such an arrangement to replicate the benefits of free movement of people, not least because third party associates of the ERA tend also to have freedom of movement with the EU. We would welcome the Committee looking in more detail at the migration restrictions on scientists, STEM students and their families from third party associates of the ERA.
26. The Phase 1 agreement reached in December 2017 has gone some way towards providing more clarity on the rights of EU citizens already in the UK. The agreement provides welcome clarity on the operative date for the introduction of new arrangements on citizen's rights and it helpfully extends to five years the permitted period of absence without affecting residence rights. The report also clarifies that the cut-off date for gaining rights to stay will be the date of exit from the EU and will not be retrospective. However concerns remain about future rights for EU citizens in the UK, including the right for current UK resident EU citizens to bring family members to the UK in the future.

## **C) Summary**

27. Prospect believes that in order to preserve the UK's global reputation in science, promote innovation and excellence, and to protect the jobs of UK and EU citizens in the science industry it is essential that the UK and the EU allow the maximum possible exchange of scientists, students and their families. We believe that any arrangement short of reciprocal free movement of scientists could have a damaging effect on UK science and the highly skilled professionals who work in the industry.

28. While the government have made some steps forward in providing clarity around the rights of EU citizens and have made some welcome acknowledgement of the importance of future exchange of people and skills, we continue to be concerned about the future migration arrangements once the UK has left the EU. We believe the government should urgently reassure the science community that they will not seek to impose migration rules that would prevent the exchange of skilled science workers between the UK and the EU, such as the extension of the Tier 2 visa system to EEA nationals.

## **2) Funding**

### **A) Prospect's concerns**

29. The UK has been one of the winners out of EU research funding programmes, such as Horizon 2020, Copernicus and FP7. We received €1.21 billion from Horizon 2020 – the highest sum received by any member state. UK science, as a sector, has been the second biggest recipient of EU funding after agriculture.
30. UK research institutes use public sector grants, including EU funds, to leverage additional, private sector investment. Prospect's submission to the 2016 inquiry, "Leaving the EU: Implications and opportunities for science and research", gives specific examples.
31. EU freedom of movement has facilitated the UK's full participation in EU funding programmes, beyond the simple exchange of funding. Project participants are able to freely welcome EU students, and easily travel in Europe for conferences, fieldwork, sabbaticals, and other essential research activity.
32. EU research funding supports the long-term view of research, excellence in diverse fields, and openness to blue-skies research which characterise leading research nations. Prospect hope the UK will continue to pay into, and benefit from EU funding programmes such Horizon 2020, Copernicus and FP7. However, associate membership may not confer the leadership and influence we have enjoyed as a member state. Having been net beneficiaries of EU research funding, we are calling for the government to commit to match not just the funding we currently put into EU research programmes, but the funding we receive from them, in order to sustain our high performance in science and innovation.
33. Prospect members have reported cases in which UK influence in EU research has already been diminished by the uncertainty of the Brexit process. Former project leads have been asked to take a back seat on new grant applications, giving Principal Investigator roles to EU27 partners, to reduce risk to the application's success. The effect on funding for UK research may not be immediately problematic, but the loss of steering committee positions will incrementally diminish our voice in the shape of international research. Participation in research programmes is broader than a transfer of money. The future immigration system must enable frictionless collaboration with EU partners, or it risks undermining other efforts to participate in EU research.

## **B) Government policy**

34. To date the government have made a number of commitments about their approach on this issue. They have committed to underwrite Horizon 2020 funding already awarded to UK researchers, and indicated a willingness to pay into future EU research programmes. This is welcome as a first step but as stated above we believe this is inadequate given the level of financial support provided to UK science from EU research grants.
35. The Industrial Strategy, and subsequent Sector Deal for the Life Sciences have acknowledged the need for increased R&D spending. Prospect welcomed the Sector Deal for the Life Sciences as timely, and indicating a sensible openness to a partnership approach.
36. The Home Office has stated that there is no limit on the number of international students who can come to the UK, this is a welcome step although the continued inclusion of international students in the government's discredited migration target continues to be a concern. Prospect is calling on the Home Office to put words into action, and immediately commit to remove student numbers from all future immigration statistics and targets.
37. Serious concerns remain about the direction of government policy. The lack, so far, of a detailed government impact assessment for the STEM sector leaves a gap in their understanding of how EU grants benefit UK research, including top-up funding from the private sector. The government must first model the financial impacts on UK institutions, and then commit either to ensure continuity of participation in EU programmes, or to replicate the financial contribution from public funds.
38. Prospect has been underwhelmed by the government target, set out in the Industrial Strategy, to invest 2.4% of GDP in R&D by 2027. Far from ambitious, this would only meet the current average spend of the OECD, and a time of growing pressure from emerging research nations such as India and China. We believe that at minimum government should aim for the top quartile of OECD spending: approximately 2.6% of GDP over the next 5 years.
39. We are concerned that the government spending target for the life sciences is too heavily reliant on private sector funding. A stable core of public sector funding broadens the focus of science and innovation, safeguards public-good projects, and encourages the blue-skies research which often underpins major innovation. To maintain our position at the forefront of international science and innovation requires a commitment to public sector funding that supports a balanced approach in the same way as the EU funding frameworks.
40. Even if the government seeks to ensure close cooperation in future funding rounds, it remains the case that the future immigration system has the potential to solidify or undermine UK researchers' ability to participate in EU research programmes. As long as it remains an unknown, UK researchers are losing status in their international partnerships. Prospect urges the Science and Technology Select Committee to make it their priority to lobby for a migration system that allows frictionless movement of STEM professionals, and



for its earliest possible definition in order to preserve our ability to participate in EU science funding programmes.

### **C) Summary**

41. The UK is a significant net beneficiary from EU funding programmes, losing access to this funding poses a serious risk to the excellence of UK science in the future. Although the government have made some tentative steps in a positive direction by committing to underwrite Horizon 2020 funding and signalling a willingness to participate in future funding rounds, this is still significantly short of the certainty that UK science requires. Current uncertainty is already having an impact with UK scientists losing leadership role and influence over joint EU funded projects.
42. Prospect recognises that many of these issues must be addressed in Phase 2 of the Brexit negotiations and are calling on the UK government to act as quickly as possible to provide the UK science sector with the assurances they need to plan for the future. Full participation in EU science funding projects must be the aim and the government must recognise that the reciprocal free movement of scientists is necessary to secure it.

## **3) Infrastructure**

### **A) Prospect's concerns**

43. Our membership of European partnerships such as CERN, the European Space Agency (ESA), the European Spallation Source and, of course Euratom, have all been facilitated by, though not predicated on our EU membership.
44. EU freedom of movement has allowed frictionless access for UK researchers working at EU facilities and vice versa. UK facilities such as the Diamond Light Source synchrotron have had an advantage over non-EU facilities in competition for EU clients, thanks to EU freedom of movement.
45. The UK's hosting of EU agencies and infrastructure such as the European Medicines Agency, the Joint European Taurus, and the Galileo satellite monitoring station has brought high quality STEM jobs to the UK, and established a critical mass of science and innovation within those fields.
46. Common regulatory standards as varied as those governing data protection, intellectual property, animal health and welfare, and chemical safety, all reduce the friction associated with cross-border collaboration.
47. Our full participation in European research has conferred full access to its resulting data resources. ESA data, notably, have wide ranging applications, in many scientific disciplines, from climatology to theoretical physics, but also in areas as diverse as land use and national security.

48. Collaborations with European research facilities and institutions should not become collateral damage in leaving the EU, due to increased border friction or divergence of regulatory standards. The relocation of EU infrastructure such as the European Medicines Agency is an inevitable consequence of Brexit, but nevertheless this will mean a loss of high quality STEM jobs to the UK economy, and of critical mass in specific areas of research.
49. Divergence of regulation between the EU and UK may push commercial R&D to other EU locations, for ease of access to raw- and research-materials, assurance of alignment with the larger EU27 market, and the wider talent pool that EU member states offer.
50. Since 2016, Prospect has been warning of the risk of a downgrading of the UK's status in ESA as an unintended consequence of Brexit, with possible implications for our access to its valuable data resources. The recent decision to relocate the Galileo satellite monitoring station to Madrid adds weight to our members' concerns. UK commercial research facilities, such as Diamond Light Source, will lose the great advantage of EU freedom of movement when it comes to competing for EU clients.

## **B) Government policy**

51. The government has indicated its intention of continued participation in ESA, and commitment to maintenance of the Joint European Taurus (JET).
52. The Sector Deal for the Life Sciences shows a recognition of the need for a strategic approach to maintaining the sector through the great challenges of Brexit, not least the relocation of the European Medicines Agency.
53. However, once again, there is a lack of recognition of the fact that the future immigration system is the lynchpin of the UK's access to European infrastructure, and our competitiveness as a destination for international research. Prospect continues to believe that the timely resolution of this issue must be a priority for Science and Technology Select Committee in its report.
54. The continued absence of a detailed Brexit impact assessment, particularly given the relocation of the European Medicines Agency, undermines the integrity of the Sector Deal for the Life Sciences. Prospect would like to the committee exert their influence to precipitate the publication of meaningful impact assessments across science and innovation. We would also welcome the publication of strategic plans for the future of other STEM sectors, after the model of the Sector Deal for the Life Sciences.
55. The continued uncertainty over future regulatory standards, exacerbated by occasional ill-considered statements from some MPs, is making the UK a risky bet for R&D investors. Prospect members in STEM disciplines have flagged concerns about regulations as diverse as animal welfare, chemicals, data protection, intellectual property, food hygiene, radioactivity, and many more. Their research, and their ability to commercialise its products, depend on smooth access to materials and to markets. As with the future

immigration system, we would like to see the Science and Technology Select Committee lobby for the closest alignment with EU regulation, and for the earliest possible decision on the matter.

### **C) Summary**

56. The access to EU science infrastructure has been an enormous benefit to the UK, predicated on regulatory alignment and freedom of movement. Although there will be some inevitable damage caused by Brexit, such as the relocation of the EMA and Gaileo, these beneficial relationships can largely be maintained by ensuring close regulatory collaboration and reciprocal freedom of movement for scientists, although this may involve a loss of influence. In the second phase of the talks the UK government must set out how it intends to maintain access to EU science infrastructure and be mindful that choices over the future migration system will seriously constrain options in this area.

## **4) Euratom**

### **A) Prospect's concerns**

57. Prospect is the largest union representing skilled specialists and engineers in the UK civil nuclear sector. Our members work throughout the nuclear industry, in generation, decommissioning, research, and regulation, giving us a unique and valuable perspective on nuclear policy issues.
58. The UK is home to the world's first and most successful civil nuclear programme, and Britain's membership of Euratom has been critical to this success. By virtue of our participation in the European Common Nuclear Market, as established by the Euratom Treaty, we have benefitted from tariff-free nuclear trade between Euratom member states, whilst at the same time we have enjoyed the benefits of Nuclear Cooperation Agreements (NCAs) negotiated between the Euratom Community and key third-party nuclear powers such as the United States, Canada, and Japan.
59. Britain's civil nuclear sector relies heavily on access to this nuclear free market. The free movement of nuclear materials, investment capital, and specialist workers has helped to reduce costs and has allowed our civil nuclear installations to operate efficiently and effectively for decades. Similarly, mechanisms for the sharing of intellectual property and vital nuclear research have allowed the UK to participate in and benefit from a global nuclear research community.
60. Existing nuclear installations, such as the pressurised water reactor at Sizewell, rely on complex international supply chains. Critical supplies, personnel and intellectual property need to be able to cross borders frequently and easily to ensure the smooth operation of these facilities. At the same time, new build nuclear projects, such as the new power station under construction at Hinkley Point in Somerset, also rely heavily on the existing system of free nuclear trade. The construction process requires access to an extensive international supply chain, while the Hinkley reactors themselves will be based on a Japanese design and use fuel from the United States.

61. The UK has been a net recipient of Euratom research funding and is home to cutting edge nuclear research projects, in particular the Joint European Torus (JET) fusion project at the Culham Centre for Fusion Energy in Oxfordshire, which is currently the largest fusion reactor in the world. JET receives £50 million annually from Euratom, and the work of hundreds of scientists and specialists at Culham depends on this funding. In addition, the UK's participation, via Euratom, in the International Thermonuclear Experimental Reactor (ITER) project under construction in France, has allowed UK companies to win contracts worth €500 million so far.
62. It is not simply a question of funding however. The UK's participation in Euratom R&D programmes provides access to international research networks, which facilitates research collaboration between UK-based experts and the international scientific community, and allows the UK to benefit from the fruits of this research through the sharing of new intellectual property. As a full member of Euratom we also have the opportunity to shape the scope and objectives of Euratom's R&D programme. Even if we continue to pay into, and receive funding from Euratom's R&D budget after leaving the treaty, we would be likely to lose the ability to influence the direction of Euratom research activity.
63. If the UK leaves Euratom it is also not clear how that will impact our participation in the ground-breaking ITER project, and what, if any, access we will have to new IP that arises from it. Fusion energy research, more broadly, has already led to important breakthroughs in areas such as materials science and advanced containment processes, and further such breakthroughs are likely as fusion research progresses. It is essential, therefore, that the government not only commits to fully replacing Euratom funding, but also assures UK-based researchers of full and equal access to critical international research networks, and rights to new intellectual property arising from joint research projects.
64. It is clear that leaving Euratom has the potential to cause significant damage to the nuclear industry in the UK by cutting the UK off from the system of nuclear free trade, causing uncertainty about regulations and standards, and inhibiting the free movement of nuclear workers around Europe. It may also damage the UK's relationship with key nuclear collaboration projects such as the JET and ITER.

## **B) Government policy**

65. The government explicitly recognised in its recent Ministerial Statement on Euratom<sup>1</sup> that "continuity of open trade arrangements for nuclear goods and products to ensure the nuclear industry is able to continue to trade across EU borders without disruption" is an objective of current negotiations.
66. The government has also recognised the need for a transition as the UK prepares to leave Euratom: "As set out by the Prime Minister, the UK Government is proposing a time-limited implementation period where we continue to have access to one another's markets on current terms and take part in existing security measures. This

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<sup>1</sup> 'Energy Policy: Written statement by Greg Clark, Secretary of State for Business, Energy and Industrial Strategy', 11 January 2018, HCWS399, <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2018-01-11/HCWS399>

implementation period would cover Euratom too. The exact nature of the period will be subject to forthcoming negotiations including on the issues outlined in this statement.”<sup>2</sup>

67. There is an urgent need for clarity, however, on the nature and timing of this transition period. The government must aim for the longest possible transition period on Euratom matters. Replacing the nuclear free trade regime is likely to be a lengthy and complex process which will almost certainly take many years to complete. It is unlikely that if the government fails to secure the transition period for Euratom that it will be possible to put in a place a comprehensive alternative system in time for the UK’s planned exit date in March 2019.
68. Leaving Euratom will place significant additional responsibilities on the Office for Nuclear Regulation (ONR) to provide and enforce a safe new regulatory system for the UK nuclear sector. The government has introduced the Nuclear Safeguards Bill, however, it has yet to clearly spell out how it will provide the skills and resources to implement the new safeguarding regime. The government specifically said in its recent written statement on Euratom that the government will provide certainty that: “the UK has a safeguards regime that meets international standards by the end of March 2019.”<sup>3</sup>
69. The government is placing more responsibility on the ONR without giving them the resources to do the job. Although the ONR is mainly funded through charges to the nuclear industry, it does receive some grant funding and it is this that currently pays for nuclear safeguarding work. Under current plans, the government intends to halve its grant to ONR in the period to 2020. The ONR is already operating at a stretched budget, yet leaving Euratom and creating a domestic safeguards regime will place an additional burden on the organisation – one that can only be paid for from either government funds or increasing charges on business.
70. In the explanatory notes to the Nuclear Safeguards Bill BEIS states that “The costs to set up a UK domestic safeguards regime (which remain subject to further analysis) are potentially up to £10m. This would include procurement of a new IT system, recruitment and training of a large number of inspectors and strengthening institutional capacity to deliver the project.”<sup>4</sup> Yet no detailed breakdown of how this figure is derived or whether it is sufficient has been provided.
71. The government has also failed to address the availability of skilled experts to create a domestic safeguards regime. Euratom currently employs around 160 staff around 25% of whom focus on UK installations. Without Euratom’s infrastructure and resource, this work is likely to fall to the Office for Nuclear Regulation (ONR). ONR’s safeguards unit currently employs 8 professional staff. Resourcing to the level that will be required poses a major challenge and may be unachievable by March 2019. There is already an acute shortage of suitably qualified people to undertake this work. In the short-term the only options available to the ONR are recruiting experts from industry, importing skills from elsewhere in the world, or lowering standards.

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<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

<sup>4</sup> ‘Nuclear Safeguards Bill, Explanatory Notes - Financial implications of the Bill’, 10 October 2017, <https://publications.parliament.uk/pa/bills/cbill/2017-2019/0109/en/18109en08.htm>

72. The ONR corporate plan for 2017/18, published in July 2017 highlights that the organisation is already stretched for expert staffing and resources – and that is before leaving Euratom and the Nuclear Safeguards Bill is factored in. The report says that: “...the loss of experienced regulatory staff will lead to a thinning of over overall regulatory capability.”<sup>5</sup>
73. Prospect argues that the government must aim to include all aspects of Euratom cooperation in the transition or implementation period as well as providing the resources that the ONR will inevitably need.
74. The government has expressed its desire to remain in JET and ITER and has committed to the UK share of JET’s funding until 2020. However, beyond this it is far from clear if it has a concrete plan to deliver on these aspirations and safeguard UK jobs, skills and innovation.

### **C) Summary**

75. UK withdrawal from Euratom has not been welcomed by the UK nuclear industry or the highly skilled workforce, and is increasingly viewed as a problem by the government. While there has recently been recognition of the importance of securing the closest possible relationship with Euratom in the future, and welcome commitment to the future of JET and ITER, the government are yet to give any detail on how they intend this close relationship to operate in practice. The government also continue to refuse to engage with concerns about the level of resources provided to the ONR and the practical challenges of mirroring Euratom standards in the timescale.
76. Prospect remain of the view that an associate status within Euratom is the best option for the future relationship and this is the course the government should be pursuing in the negotiations. In order to secure this beneficial relationship there must be understanding from the government that the free movement of nuclear scientists is a requisite part of membership of a pan-European regulatory regime and of full collaboration in world leading nuclear research projects.

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<sup>5</sup> ‘Office for Nuclear Regulation corporate plan 2017 to 2018’, *Office for Nuclear Regulation*, 6 July 2017, <https://www.gov.uk/government/publications/office-for-nuclear-regulation-corporate-plan-2017-to-2018> p.30