Department for 
Business, Energy & Industrial Strategy

Meg Hillier MP
Chair, Committee of Public Accounts
House of Commons
London
SW1A 0AA

15th November 2018

Dear Meg

Treasury Minute Response – Cross Government Research & Development

Further to my Departments’ response to the Committee’s recommendations in Treasury Minute of June 2018 (Cm9643) I am pleased to provide further information to the Committee, on two recommendations in the Committee’s report, the Thirty Third of the Session: Research and Development funding across Government.

Recommendation 1

PAC comment – October 2018
We recommended that to avoid the Government having to make a disproportionately high contribution to future UK research funding, BEIS should develop a clear strategy for increasing total UK investment to 2.4% of GDP, which addresses issues such as underfunding by business and the potential loss of EU funding. While we welcome confirmation that the Department has accepted the recommendation and made commitments to work with industry to develop a roadmap on how it will reach its target, we are concerned that the summer 2019 implementation date remains some time off.

PAC request – October 2018
We therefore wish you to write to us with a more detailed update on how this work is progressing, the trajectory BEIS is currently projecting for performance against the 2.4% target, and confirmation of the current date when BEIS expects to publish the roadmap.

Government Response
We have already made substantial progress in putting the mechanisms in place to support a more R&D-intensive economy. As an important first step towards the 2.4% target, we announced an extra £7bn of public R&D funding from 2017/18 to 2021/22 over what was previously planned, raising total public investment in R&D to
approximately £12.5bn in that final year. A significant share of this is being invested through the new Industrial Strategy Challenge Fund, which is providing R&D funding that brings together industry and academia to tackle missions that will put the UK at the forefront of the industries of the future. We have rolled out Sector Deals – a new model of collaboration between Government and industry where sectors come together under clear leadership to agree a deal with government to address sector-specific barriers to productivity and innovation. Following the Patient Capital Review, we announced a package of measures to drive over £20bn investment into innovative growing businesses. We have established a new Ministerial Working Group on Future Regulation and a £10 million Regulators’ Pioneer Fund to create a globally leading innovation-friendly regulation system, and recently announced 15 projects to develop new regulatory approaches that support businesses bringing innovative technologies to market, ranging from AI in legal services to flying taxis.

Budget 2018 set out details of significant additional support for cutting-edge science and technologies that will transform the economy, create highly skilled jobs, and boost living standards across the UK, including announcing Industrial Strategy Challenge Fund investments of up to £121m in Made Smarter to support transformation of manufacturing through digitally-enabled technologies, £78m in the Stephenson Challenge supporting innovation in electric motor technology, and £70m to support the development and commercialisation of quantum technologies. Other announcements included £20m to support the development of fusion technologies, £100m for international fellowships as part of the Government’s commitment to continuing to recruit top researchers to the UK, and £25m for Knowledge Transfer Partnerships to place over 200 additional graduates and academics with relevant skills into firms to boost business productivity. The Budget also announced further measures that will help support private sector R&D investment, including steps to support pension funds to invest in growing UK businesses, and measures to help UK SMEs improve their management skills.

Building on this progress, we are committed to working with industry to develop a roadmap for meeting the 2.4% target and that work is well underway. Government alone cannot deliver the 2.4% target, and we are engaging business and other stakeholders to explore the full range of policy measures that could encourage additional private investment in R&D, such as new approaches to regulation that enable innovative businesses to thrive, the role of government demand and public procurement in stimulating additional business innovation, how to unlock further investment into our high growth innovative firms, and how to attract and retain globally mobile investment in R&D. UK Research and Innovation have had a series of workshops with businesses and academics to shape the roadmap. We are also assessing how to develop the pipeline of skills and talent needed for a more R&D intensive economy, and how to build on strengths in innovation in all parts of the country.

The roadmap, including an assessment of the measures required to put us on a trajectory to the 2.4% target, will be published in 2019. The precise timing for publication of the roadmap, and the trajectory, will depend on the upcoming Spending Review.
Recommendation 3

PAC comment – October 2018
We recommended that by April 2018, BEIS needs to provide the Committee with a detailed progress update on the action it has taken to ensure that clear accountabilities are in place to safeguard intellectual property in response to the previous Committee’s recommendation in its 2016 report on capital investment in science projects.

PAC request – October 2018
Although the Department confirmed what is currently in place to safeguard intellectual property in the June 2018 Treasury Minute response, the Department has not provided details of any new action taken to clarify accountabilities since the Committee’s previous recommendation. We therefore require further information explicitly setting out action taken and what has been achieved.

Government Response
There are already clear accountabilities in place to safeguard Intellectual Property (IP) arising from public funding for research. Ownership of IP arising from publicly funded research in the UK resides with the originating institution or university. The Government requires UK universities to have exploitation arrangements as a condition of the transfer of IP ownership (for example, in Research Council grants). The Intellectual Property Office (IPO) supports universities to develop effective IP management strategies through toolkits and guidance. Government also incentivises the application and commercialisation of research results.

Universities have been required to report annually through the “Higher Education Business and Community Interaction” Survey (HEBCI)1 on a range of knowledge exchange (KE) activities, including those related to management of IP – numbers of disclosures/patent applications/patents granted; revenues generated from IP licensing and from disposal of equity in spin-outs; numbers of spin-outs, and other start-ups generated/surviving at 3 years - as well collaborative and contract research undertaken with business and others. International comparison2 of key metrics in technology transfer indicates that UK universities produce the same proportion (as a percentage of research resources) of patents to the US, and a similar proportion of spinouts and industrial research income.

In 2016, the Higher Education Funding Council for England (HEFCE) launched a “Knowledge Exchange Framework” (KEF) which includes good practice guidance on all forms of KE, including commercialisation of IP; and published a review, chaired by Professor Trevor McMillan, which examined university approaches to the exploitation of intellectual property rights arising from their research, “University IP and Tech Transfer”3. In Autumn 2017, Ministers asked HEFCE to develop a new “metrics-based” framework to assess university performance in KE, including the commercialisation of IP and collaborating with business, to encourage universities to increase the extent and effectiveness of their external engagement with business.

1 https://www.hesa.ac.uk/data-and-analysis/providers/business-community
and others. The next steps on developing the KEF will be announced shortly. This is being augmented by development of a “Knowledge Exchange Concordat”, led by Professor McMillan and Universities UK, which will outline key KE principles, including on commercialisation of IP, adopted by HEIs and which will then be implemented through individual practical arrangements.

In early 2017, The Department commissioned independent research into how the processes around university IP commercialisation are functioning (focusing on IP licensing and spinouts) to identify issues and suggest improvement. Published in April 2018, this concluded that “approaches taken to knowledge exchange and the commercialisation of university intellectual property are working reasonably well”, although there are “a number of specific constraints, barriers and pinch-points”, and that “there is potentially scope to do more”. Measures announced around Budget 2017 and in the Industrial Strategy sought to help address these.

During 2017 and 2018, HEFCE/Research England has held engagement events with the higher education (HE) sector. These included sessions on IP commercialisation, reiterating key points from the McMillan Review on the responsibilities placed on universities by government to exploit research and KE for public benefit of society and the economy, especially in the context of additional funding from National Productivity Investment Fund (NPIF). Research England requires all HEIs in receipt of KE funding to provide a strategy for KE (which are all assessed and published) and plans for use of additional funding from NPIF. Research England will shortly publish an analysis of trends from these plans, which indicate that a lot more HEIs are engaged in commercialising IP than ever before. Research England has funded PraxisAuril – the UK association of knowledge transfer professionals - to strengthen their networks across the HE sector and reinforce the importance of university IP obligations. Connecting Capability Fund collaborations involve over half the HE sector, and Research England has initiated a support programme, with an initial event which included access to IP advice; and aim to put in place virtual collaboration tools to strengthen joint working/sharing good practice.

In April 2018, the terms of Research Council Grants were republished by UKRI, reiterating that “it is the responsibility of the Research Organisation, and all engaged in the research, to make every reasonable effort to ensure that the intellectual assets obtained in the course of the research, whether protected by intellectual property rights or not, are used to the benefit of society and the economy. ... Unless stated otherwise, the ownership of all intellectual assets, including intellectual property, and responsibility for their application, rests with the organisation that generates them.”

The Intellectual Property Office (IPO) has developed a number of initiatives to ensure researchers and universities understand IP and can set strategies to optimise the benefits from their intellectual assets. The IPO has engaged with stakeholders to ensure IP is included in a wider range of courses and is taught in more universities across the UK. Working with the Quality Assurance Agency (QAA) for Higher Education, IP is now incorporated in over 250 of QAA’s subject benchmark statements, which sets the expectations for degree course content. In addition, in

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2018 the QAA reviewed its guidance on Enterprise and Entrepreneurship Education, placing a greater emphasis on IP.

Since September 2017 the IPO began phasing in a suite of new educational resources for further and higher education. These new tools support students, lecturers and researchers to develop their knowledge and understanding of IP in order to ensure that they can make informed decisions on how best to protect the IP they generate:

- **IP Tutor and IP Tutor Plus** - IP Tutor is an interactive online training package to develop students' understanding of IP. IP Tutor Plus is a package of resources for lecturers to use to stimulate discussion with students on the relevance of IP in their future academic studies or careers.

- **IP for Research** - to support PhD students and early career researchers understand the importance of IP in maximising the impact of their research. Since its launch, interactive workshops have already been delivered by the IPO to over 300 researchers. Working in partnership with Vitae - the professional body for researchers in the UK – IPO will deliver the workshops to an additional 300 researchers by summer 2019 to continue to expand understanding of IP and research commercialisation.

- In addition, working with Vitae on the development of an ‘IP Lens’, which will be part of the Researcher Development Framework focusing on the knowledge, behaviours and attributes that it is essential for researchers to have.

To support universities to manage their IP strategically, the IPO continues to work with partner organisations such as PraxisAuril and Universities UK to raise awareness of guidance on Intellectual Asset Management for Universities. This guidance was developed to encourage vice-chancellors, senior decision makers and senior managers to set strategies to optimise the benefits from the intellectual assets created by their staff and students. The guidance was downloaded over 540 times in 2017/2018 and the IPO is taking forward work to assess its impact and develop further.

The Lambert toolkit, a set of model agreements to facilitate effective collaboration between research institutions and industrial partners, were substantially updated in 2016 in response to stakeholder feedback and have been viewed over 44,000 times. The toolkit was updated in May 2018 to ensure compliance with the General Date Protection Regulations (GDPR). The IPO is undertaking a review of their impact to inform their future development.

In spring 2017, the IPO founded a new steering group with senior representatives from government, industry and research institutions to inform the development of IPO’s resources, share good practice and raise awareness and understanding of IP in the research community.
I hope the Committee finds that this information provides the additional assurance it was seeking. I am copying this letter to the Permanent Secretary of HM Treasury, the Treasury Officer of Accounts and the Comptroller and Auditor General.

Yours sincerely

Alex Chisholm