

26 April 2021

Mr George Freeman MP  
House of Commons  
Westminster  
London  
SW1A 0AA

Dear Mr Freeman,

### **Taskforce for Innovation and Growth through Regulatory Reform (TIGRR)**

Thank you for your letter regarding the new taskforce.

The Royal Society of Biology sincerely appreciates your long-standing political interest in, and commitment to, the life sciences. Your contributions to strategy for joined-up big picture process and efficiency in innovation, particularly of course in the areas of translational R&D and genomics have driven real impact.

Many of the fields that can deliver significant [innovation for key societal benefits are in the biosciences](#), including many of the examples in your letter. As such, we welcome your call for ideas and would be delighted to aid in this endeavour through further discussion: as you may recall, our membership comprises a wide variety of expertise across many of the fields you have identified. In the meantime, I have collated some additional thoughts in relation to your questions.

Foremost in many minds is innovation in the context of the COVID-19 pandemic. There have of course been groundbreaking epidemiological and translational research developments including in diagnostics, genomics surveillance, prophylaxis and treatment, coupled with new developments in funding provision, cross-sector collaboration, research methodology and communication, in response to the COVID-19 pandemic. These have shown that UK science has the proficiency to deliver world-leading progress in R&D in these areas - and others related to **biosecurity** and public health - if given the right environment and support (funding, incentives, procurement, infrastructure, the attraction and retention of a talented and skilled workforce) through which to do so. A major pillar for this progress and leadership has been, and is, strong and harmonious cross-sector and international collaboration, including efficient knowledge exchange and resource sharing based on well-developed professional relationships across borders. For this reason, the Society is profoundly unhappy about the decision to reduce ODA and by extension GCRF funding, which will fray and dissolve many of these relationships with large and in some cases unforeseen negative impacts on ongoing research. Such research includes complex international surveillance and data sharing projects tracking emerging infectious diseases in human ([including drug resistant pathogens](#)), [animal](#) and [plant populations](#). Cuts to these will have hugely concerning implications for global and national biosecurity, public health, welfare and food security in the near and long term. These cuts will affect our ability to prevent and tackle future pandemics, and hinder our progress, and that of other countries, towards the UN SDGs. Your assistance with this matter, in any fashion, would be widely appreciated by the UK and international communities involved and affected.

Further listed here with detail overside, are other sectors which have the potential to grow in an environmentally and economically sustainable manner, and where there are significant opportunities for the UK:

- Genetic technologies and use of genetic knowledge
- New antimicrobials and further research to tackle the challenge of antimicrobial resistance (AMR)
- Select biorefining

- Advanced biomanufacturing
- Synthetic biology
- Development of novel protein sources
- Use of data and artificial intelligence in biomedicine and environmental monitoring

As background to one of these suggested areas, we recently [responded](#) to the Defra consultation on the regulation of **genetic technologies** in the UK. We see breeding methods such as genome editing and genetic modification as areas of significant potential for the UK. Previous experience with the introduction of genetically modified organisms shows the importance of developing and maintaining public trust, through consultation, dialogue, openness and transparency. Positive examples of how the UK led the world in developing regulations that supported discoveries and innovation in this field include The Human Fertilisation and Embryology Authority's (HFEA) approval of mitochondrial donation and licence to conduct research in early human embryos, but also the authorisation of trials for genome edited chimeric antigen receptors (CARs) T-cells to treat leukemia.

Genetic technology provides opportunities for the environmental and food security agenda through [ethical](#) innovation in [farming practices](#) thanks to the research outputs by world-leading centres in plant and animal genetics such as the Roslin Institute, Rothamsted Research and the John Innes Centre among others. Moreover, there are a number of competent UK agencies, which can support public dialogue and assist in the release of new technologies, such as ACRE, FSA, HFEA, HSE and ASRU.

Agile regulatory processes could be bolstered via adaptive surveillance and mechanisms to respond to unintended effects. Regulatory change, in this area and others, should of course be based on efficiency of practice and effectiveness of delivery for all involved across stakeholders and communities, not solely removing bureaucratic burden for some. Effective regulation has the benefit of providing a fair and stable framework to work within; thus any arguments for less stringent regulatory practices should also be balanced with requirements for regulatory stability, longevity and periodic review by community consultation. Regulations must engender broad societal trust and support, and work best when they do so.

Further to these areas of focus, across sectors and communities, key drivers of innovation for societal benefit lie in **research culture**: in diversity, in inclusivity, in training, efficient movement of skilled individuals across borders, and in education. Through our work on these issues and to support, connect and communicate the needs of communities in particular, the RSB and other learned societies are an important part of the landscape of innovation and regulatory development in the UK and overseas.

Government, particularly through the regulatory and policy operations of the civil service, has a supportive and enabling role for the growth of the R&D landscape. The repercussions of the UK exit from the EU and the impacts of COVID will be felt through Whitehall for years to come and there is a need to sustain cross-department cooperation and communication during these turbulent times. A case in point was provided to us by the UK bioscience sector where significant areas of work were halted through an inability to share resources, such as research animals and animal-derived products, with EU member states, as a result of the lack of appropriate and timely [animal transport policies](#) at the time of the UK exit. Even more troubling was the inability for the research sector to identify and communicate with appropriate Defra officials for weeks, and the lack of open channels of communication between relevant departments (i.e. Defra, BEIS and the Home Office). We would encourage the Government to set up cross-department teams of officials and up-to-date contact lists of project leads in order to avoid similar pitfalls, which are detrimental to the UK standing as a trusted partner in international collaborations.

Our vision aligns with your own – the UK has the ability to be a leader in [innovation and its end goal - public and environmental good and to tackle global challenges](#). In particular, we support your focus on **environmental sustainability**, maintaining standards and upholding our commitments made through international agreements such as the UN CBD, UN FCCC and through progress towards achieving the UN SDGs. With this in mind, when

thinking about more efficient regulatory practices, we are keen to support innovation growth through regulatory change which works in harmony with, and does not come at a cost to, our [life support systems](#): our climate and the [biodiversity](#) of our ecosystems. Negative externalities/ impacts to these systems from human activity must be avoided, including those that could manifest in other parts of the world. We will not succeed in improving our environment by offshoring the damage of production. The precautionary principle, appropriately applied, continues to play a role in mitigation of this risk. Concerning the move towards electric vehicles, for example, the RSB believes that regulation must consider international externalities, trade-offs and ethics, such as where mining of rare earth minerals is carried-out in biodiverse hotspots such as rainforests. Societal issues and wellbeing, including at the local/ indigenous perspective, and international agreements, should help frame and direct the UK agenda rather than a historic tendency to frame internationally competitive success on the basis of purely financial measurements such as GDP. We believe that any regulatory changes must be considered as part of the broader complex picture and interplay between societal, environmental and eco-system issues.

As you know, we can balance these complex needs and enable sustainable growth through pivots and progression in carefully selected innovation and delivery. We believe that this sweet spot – where innovation benefits people and planet - should be the focus and requirement of UK innovation in the future. For example, via building our capacity to examine and mitigate negative externalities through surveillance and solution approaches to whole product cycles. This could include the benefits of reclaiming, for example rare earth materials, through recycling and in-built potential for reclamation in products, negating the need for raw materials mined at source. Spearheading R&D in these pertinent areas would have huge ramifications for UK science leadership and legacy on the global stage.

Please do contact me should you wish to discuss any further detail on the points raised in this letter, or on aspects revealed by your inquiry. We would be happy to provide further information to aid your work, and the work of the taskforce, ongoing.

Yours sincerely,



Dr Mark Downs CSci FRSB, Chief Executive

*The Royal Society of Biology (RSB) is a single unified voice, representing a diverse membership of individuals, learned societies and other organisations\*. We are committed to ensuring that we provide Government and other policymakers, including funders of biological education and research, with a distinct point of access to authoritative, independent, and evidence-based opinion, representative of the widest range of bioscience disciplines.*

## Appendix

\*A full list of the member organisations of the Royal Society of Biology can be found here: <https://www.rsb.org.uk/membership/organisational-membership>

Further outputs from the RSB, providing relevant policy advice and evidence, can be found in our searchable Policy Resource Library: [rsb.org.uk/policylibrary](https://www.rsb.org.uk/policylibrary)