

Comprehensive Spending Review



Representation from the Science Council

September 2020

The Science Council represents 34 Professional Bodies and Learned Societies of Science representing over 350,000 individual members in the UK and globally. The Science Council as the organisation recognising pan-science quality in professional practice is also a community of multi-disciplinary science experts in their field.

This paper responds to the Consultation Spending Review Priorities. The Science Council has consulted with our members to seek their views and includes them to amplify and support the message delivered from CSR Representations by, the Royal Society of Biology (RSB) and extracts from an Association of Science Education (ASE) Report, Good Practical Science, and extracts from the Technician Commitment R & D Spending Review representation.

We call on the Government to;

1. Invest in educators ensuring that science teachers and school science technicians are supported throughout COVID-19 and beyond.
2. Invest in technical talent, critical to the success of UK research and development and crucial to the growth of the economy.
3. Ensure a diverse and inclusive representation in the UK Stem Workforce.
4. A firm commitment to 2.4% of R & D spend rising to 3% to match the stronger OECD and EU countries, that covers the whole STEM sector, including both applied and curiosity-led research.

1. Invest in educators ensuring that science teachers and school science technicians are supported throughout COVID-19 and beyond.

- Strengthening the UK's economic recovery from COVID-19 by prioritising jobs and skills specifically in science education, with science teachers and school science technicians – throughout and post COVID-19.
- Investment in educators is key if there is to be a significant sea change in the skills being developed to grow the ability for the UK economic recovery.
- Value school science technicians – Technicians play a key role in enabling students to access safe and effective practical science as well as providing vital support to



science teachers. As with teachers, technicians will need access to high quality professional development opportunities.

- Increase access to high quality continuing professional development for teachers in the effective use of demonstrations, simulations and video clips in practical science, alongside student activities, particularly for new and inexperienced teachers who have had little exposure to practical science teaching. Recent professional development activities provided by ASE and others have shown that many of these can be successfully delivered online, avoiding the need for unnecessary travel and face-to-face meetings during the current pandemic.

Reference;

<https://www.ase.org.uk/sites/default/files/GoodPracSci%20-%20Benchmarks%203.0.pdf>

2. Invest in Technical Talent

Technicians are fundamental to the economic recovery from COVID -19, but despite their critical contributions, technical roles and careers they have experienced a lack of visibility and recognition and their contribution is rarely celebrated.

The Technicians Commitment is working to increase visibility, recognition, career development, and sustainability of technical skills, roles and careers in HEI's and Research Institutes.

Currently, over 1.5 million technicians are employed in the UK. The majority of these technicians are employed in engineering roles but there are also significant numbers working in science, health and technology. However, an aging workforce means that 50,000 of our best technicians are retiring every year, and forecasts show we will need as many as 700,000 more technicians in the next decade to meet demand from employers.

Reference; <https://www.gatsby.org.uk/education/focus-areas/stem-skills-in-the-workforce>

COVID-19 has shone a light on the crucial role of researchers and technicians who support them. Indeed, technicians are essential to all sections of the UK economy.

We believe that inspiring the next generation of technical role-holders, a vitally important but often overlooked component of successful R&D, may be one of the greatest challenges to overcome within the proposed R&D Vision.

Reference; [Technician Commitment R&D Roadmap Consultation Response](https://www.technicians.org.uk/research-and-development-roadmap-the-technician-commitment-response)

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3. Ensure a diverse and inclusive representation in the UK STEM workforce

- a) The Science Council through its members and licensed bodies promotes professional registration and continuing professional development through its professional registers aiming to drive up skills and professional standards across the workforce.

Extracted and in support of the representation by the Royal Society of Biology

Attracting and retaining skilled individuals at all levels and from diverse backgrounds is important. Achieving this will involve addressing and acknowledging elements of the research culture that present barriers or create a negative work environment (see

<https://welcome.ac.uk/what-we-do/our-work/research-culture>)

The COVID pandemic has had enormous impacts on universities, charities and other organisations in the research ecosystem, which threatens to set back the goal of increasing the UK's scientific output. We are especially concerned about the harms to the skills base that would result from the loss of charities, societies and other organisations that provide training and support to specialist research personnel in many areas, and whose existence is imperilled by the present economic disruption. The crisis of the pandemic has, however, produced flexibility in funding structures, processes and policies, along with the evolution of new collaborative ways of working that will be useful to apply to further areas of research. These points were made in discussion between representatives of Benevolent AI, BioIndustry Association and Cancer Research UK at a recent RSB panel event.¹

¹ Royal Society of Biology, 2020. RSB Policy Lates looks at the positives and negatives for research in 'the COVID era'. <https://www.rsb.org.uk/news/14-news/2416-rsb-policy-lates-looks-at-the-positives-and-negatives-for-research-in-the-covid-era>

The above extract is from the Royal Society of Biology 2020 Comprehensive Spending Review submission.

b) Ensuring Equal Opportunity to Access Learning

With educators being encouraged to integrate more technology into learning, it is essential that there is a commitment across the educational sector that ensures funding to those learners who do not have access to sufficient IT equipment. The lack of equipment could result in less opportunity for learning, growth and social mobility and result in increased inequality.

With current initiatives to drive forward online learning, it is imperative that the approach and commitment is full and broad, encompassing:

- Support to develop educators across the sectors to utilise the potential of online learning.
- Funding for education and learning establishments to implement learning platforms and raise digital literacy skills of their learners.
- Funding for individuals where inequality of access is evident.

c) Under Representation in disability

Although we highlight the under representation in particular of disability, it is within the context of the need to ensure inclusivity of all under represented groups including, for example, different ethnicities and other protected characteristics <https://www.gov.uk/discrimination-your-rights> , and people from low income backgrounds.

We recommend a clear spending commitment to address under-representation of disability in STEM in the form of a campaign to promote STEM careers to disabled people, and to support workplace adjustments in public sector settings.

There is a need also for public (and private) support for the work of UKRI, Wellcome, and other science funders including the organisational members of the Science Council and the Science Council itself, which all contribute to ongoing research, initiatives and impact measurement to increase awareness and address diverse representation through inclusivity in STEM – for those working and studying.

4. A firm commitment to 2.4% of R & D spend rising to 3% to match the stronger OECD and EU countries, that covers the whole STEM sector, including both applied and curiosity-led research.

- COVID-19 provides an opportunity to shape a national and global recovery from the pandemic in a way that supports the response to climate change and other environmental threats.
- Embed some of the positive aspects of the behavioural changes that we have been forced to adopt, such as greater use of virtual communication platforms.
- Re-boot the global economy by stimulating growth in clean technologies and by promoting resilient, sustainable infrastructure.
- Provide the education and training needed to support the sustainable jobs of the future.
- Associate fully to Horizon Europe to preserve and enhance international collaborations and the many reciprocal benefits they bring to both the UK and the European Union.

Science Council Members

Association for Clinical Biochemistry and Laboratory Medicine
Association of Neurophysiological Scientists
Association for Science Education
British Association of Sport and Exercise Science
British Psychological Society
British Society of Soil Scientists
Chartered Institution of Water and Environmental Management
College of Podiatry
Geological Society of London
Institute of Biomedical Science
Institute of Corrosion
Institute of Food Science and Technology
Institute of Marine Engineering, Science and Technology
Institute of Materials, Minerals and Mining
Institute of Mathematics and its Applications
Institute of Measurement and Control
Institute of Physics and Engineering in Medicine
Institute of Physics
Institute of Science and Technology
Institute of Water
Institution of Chemical Engineers
Institution of Environmental Sciences
London Mathematical Society
Nuclear Institute
Oil and Colour Chemists' Association
Operational Research Society
Physiological Society
Royal Astronomical Society
Royal Meteorological Society
Royal Society of Chemistry
Society of Biology
Society of Dyers & Colourists
The Organisation for Professionals in Regulatory Affairs
Association for Simulated Practice in Healthcare

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