A change in UK government must lead to changes in science policy.

t is now over 6 years since the UK held its referendum on membership of the European Union (EU), which resulted in a narrow majority of 51.89% in favour of leaving. It has been a busy 6 years. The country has seen many changes in leadership, with four different prime ministers in office, Liz Truss as the latest. These prime ministers have had to deal with many issues, most strikingly the COVID-19 pandemic or the Russian invasion of Ukraine. However, one problematic issue that all of these prime ministers have faced is the adjustment of the relationship between the UK and the EU, and from our perspective how this affects UK science. This is something Truss will need to resolve, following on from the troubled leadership of the previous Boris Johnson government.

That previous government had made some headway into this topic, as well as on increasing scientific funding more generally. The EU-UK Trade and Cooperation agreement that enabled the separation of the UK from the EU had allowed the UK to negotiate for participation as an associate member in the €95.5 billion Horizon Europe programme, enabling UK-based researchers to apply for grants such as the prestigious European Research Council (ERC) awards¹. Indeed, many UK-based researchers have won grants from the ERC in the last year, and historically the UK has performed well in the previous Horizon 2020 funding cycle, with researchers winning 14.21% of grants despite submitting 10.49% of proposals. However, the awarding of Horizon Europe grants is on hold. The UK government has unilaterally broken some of the terms of the separation agreement in order to resolve political issues relating to trade between Northern Ireland and the rest of the UK². In response, the EU has stopped negotiation of UK participation in Horizon Europe, as well as other programmes.

It is quite clear that this cessation of funds to researchers who have already won an award is unsettling. Without funding, principal investigators cannot purchase lab equipment or supplies, or actively engage in recruitment for research staff. The inability to start, in some cases long-considered research that may well



be scooped by others, is causing much uncertainty. It seems that the dispute between the UK and EU is not close to getting resolved by negotiation, and although it is feasible that an arbitration could resolve UK access issues, this is by no means guaranteed. The UK has made arrangements for a plan B. They have committed to guaranteeing that successful applicants for ERC grants, as well as other schemes such as Marie Skłodowska-Curie Actions, will receive UK funding to cover this shortfall. Indeed, this has been recently extended, but will only cover successful grants with submission deadlines to the end of 2022 (ref. 3). Further details need to be provided on what the long-term strategy will be.

It is therefore concerning that since the resignation of science and universities ministers in the final days of the Johnson government there was a long hiatus before these posts were filled, a point emphasized by the publication of a letter from the chair of the House of Lords Science and Technology Committee, Baroness Brown⁴. Considering the increasingly important role scientific research plays in economic development, or recent public crises, the Committee's suggestion of placing a science minister into Cabinet is a welcome one, and should be implemented.

A science minister within Cabinet would also enable better representation for the long-term

commitment of an increase in research and development (R&D) funding, targeted to be 2.4% of the gross domestic product (GDP) by 2027. This and other initiatives from previous Conservative governments such as the Advanced Research and Invention Agency (ARIA) are, in principle, good policies, but follow-through is required. For example, the 2.4% GDP commitment requires private sector investment, but no information has been provided on how to achieve this5. ARIA was established in 2021 with a budget of £800 million to act as the UK equivalent of the US Defense Advanced Research Projects Agency, with the intent of funding high-risk transformative research⁶. However, progress on ARIA has been slow, with a chair only appointed in late July. A science minister with Cabinet responsibility could push these initiatives forward.

Unfortunately, it seems that the role of science in UK government has been diminished rather than advanced. As noted by Baroness Brown⁴, a Cabinet subcommittee that is a forumon cross-cutting science and technology issues seems to be disbanded. Without a coherent strategy for funding UK science, as well as enabling access to funding such as Horizon Europe with the additional benefits of allowing people from wide and diverse backgrounds to establish themselves in the UK, it is hard to see how UK R&D activity will be maintained and strengthened. The resulting risks of a diminution of the national asset that is the UK research system must be avoided⁵.

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