

*Text of letter from Academy President, Lord Browne of Madingley to Professor Adrian Smith FRS, Director General Science and Research, BIS (15 November 2010) re: supplementary advice requested for 2010 Spending Review*

I congratulate you and your team on achieving a very good result for science and research in the 2010 Spending Review under difficult circumstances.

You have invited the Academy to supplement our advice to you, if we wish, to inform Ministers' decisions on allocation. The core message of our submission to you in July was that the UK's research investment must deliver the foundation for economic growth by providing the knowledge base for the high value, high tech businesses and industries of the future. With the priority for long term economic growth confirmed as one of the government's top priorities, Ministers' deliberations on allocation will need to focus on how best to use the research base to drive it.

The first consideration is how to ensure that, within a balanced research portfolio, a higher proportion of our research investment goes towards high quality research that is likely to lead to near- to mid-term economic benefit. A useful test would be to consider whether research achieves one or more of the following: creates a technology lead for the UK; enables a new industry to be created or an existing industry to be sustained and improved; reduces the cost of healthcare or care provision; or reduces the UK's carbon footprint. The interest or involvement of business and industry is a useful indicator of focus on the right technology areas and on potential for development and translation.

The second consideration is the importance of mechanisms to turn ideas into wealth-creating businesses. Not only is this vital for the future economy but the UK will not be able to afford the size and quality of its current knowledge base if it does not generate successful high-tech companies. The UK needs to get much better at translating the knowledge we gain from research into marketable products and services and so we are highly supportive of the ideas behind the Technology and Innovation Centres (TICs). To be effective in accelerating the nation's performance in technology transfer, the TICs will need to: be adequately and sustainably funded, including pump priming public funding; be strategically linked to national priorities; operate at a national scale with international reach; and truly engage business and industry in the national effort.

We recognise that resources are limited. For that reason if, initially, there are only a few such centres, the areas of technology in which they work must be carefully selected. This Academy would be pleased to work with the government and with the TSB to contribute to the process of selection and creation of the TICs.

There is a strong case for preserving research training within the budgetary allocations. Education and training in research are vital to maintain the pipeline of highly-skilled people to develop and enhance the UK's sustainable knowledge base in business and academia. Research in areas with a focus on the generation of new technologies is more likely to lead to people trained on such projects entering the private sector in new businesses.

We continue to believe that the current balance between QR and funding for RCs is about right. Our original submission to you explains the basis of that view.

The decisions to be made on UK research will need to be enacted within a wider policy and regulatory environment that promotes our capacity to compete. We must create and embed a culture in our society that encourages entrepreneurialism and innovative business models and we shall need a workforce with the skills that support our competitive position. This Academy will continue to play its part, alongside government and our partners in engineering business and industry, to support the excellent research, the engineering skills

base and the policy framework that will drive innovation, growth and, ultimately an economy that is robust, sustainable and rebalanced.

I hope that you have found our advice constructive and helpful. We would be happy to discuss any points with you or your team.

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