Supplementary evidence to the Innovation, Universities, Science and Skills Committee inquiry into Putting Science and Engineering at the Heart of Government Policy

Campaign for Science & Engineering
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1. The Campaign for Science & Engineering (CaSE) welcomes the Committee's call for supplementary evidence on the government's proposed agenda to focus the UK's research effort.

Consultation

2. Since the idea was first floated by Lord Drayson at the Committee's evidence session with him it has undergone various iterations. CaSE has followed ministerial speeches about or referring to the research "focus" agenda. Although having an open debate about policy is a laudable aim, the process by which this debate has been enacted has left much to be desired.

3. The current state of the debate is unclear. Although "focus" has been referred to in a number of speeches. Speeches by Lord Drayson and John Denham MP contained references to focusing funding on certain areas at the expense of others. Although the Prime Minister mentioned focus, he said that investment in science would rise across the board. Due to a lack of clarity about what is at stake this debate has consisted of speculation about potential impacts rather than substantive discussions about how to develop science and engineering during the economic downturn.

4. If the government is going to pursue this debate any further it needs to draft a consultation paper setting out proposals and their potential implications. The set of questions needs to be wider than the single proposal of focusing research effort. The science budget has already been allocated until 2010/2011, so there is time for a consultation process on the government's science policy prior to the next comprehensive spending review.

Industrial policy

5. The origins of this debate appear to stem from discussions about creating a new industrial policy, which was launched on the 20th April 2009 with the title *New Industry, New Jobs*. The policy statement made a number of proposals on increasing the economic impact of the research base through grant assessment, the Research Excellence Framework and the Technology Strategy Board. There needs to be policy debates about developing those proposals. However, there was no mention of re-focusing research funding on priority areas.

6. The general thrust of the industrial policy is to join up government activities, including procurement and regulation, to support particular sectors so that they are better supported. One of the key initiatives was the creation of the Government Office of Life Sciences, intended to bring various departments together to create greater coherence between policies affecting the pharmaceutical and biotechnology sector. If this proves to be a successful method to support priority technology areas then it should be expanded to other sectors. Government department R&D should be included within discussions about how to promote innovation within relevant sectors.

Focusing the UK's research effort

7. There are a number of serious flaws in thinking that the UK or certain sectors would benefit from narrowing the focus of the research base, because:

    - It is hard to predict where major advances in certain sectors are going to come from as they are not always in the disciplines that would be expected.
    - New discoveries and innovations often occur at borders between subject disciplines and thus depend on a breadth across disciplines rather than focusing on already established and recognised areas.
    - Once resources are drawn down in an area it is difficult to build them back up again to respond to emerging challenges or technological opportunities.
    - Students pursue science, technology, engineering and mathematics (STEM) subjects due to an excitement for a particular field. If particular areas are identified as not being nationally important by government it would undermine their drive to increase students taking STEM subjects.

8. Although science and engineering research is vital to many areas of economic activity, it also has a broader impact on society through improving environmental protection, cultural advancement, policy advice and human well-being. Even during a recession it is important that policymakers remember that "economic impact" is meant to encompass a wide set of issues.

9. Through the *10 Year Framework on Science and Innovation Investment Framework* the government has provided policy clarity and continuity for science and engineering. The government should build upon this record and not undermine it by creating instability in research funding by having a debate about priority areas. It could risk losing talented researchers and mobile corporate R&D to other countries who are making considerable investments in R&D through the economic downturn.

10. The government currently focuses the UK's research effort through allocating different funding levels to the research councils. It also adopted new measures in the last science budget allocation to focus research in certain areas through cross-council research programmes and requiring research councils to fund projects through the Technology Strategy Board and Energy Technologies Institute. These new initiatives should be reviewed before further resources are re-allocated to them.

11. To better inform debates about the allocation of research funding, there should be independent "health" checks of disciplines and the publication of statistical data relating to the portfolio of research investments. There should also be greater consultation and transparency regarding the science budget allocation.

Conclusion

12. The breadth and strength of the UK's research base is one of the nation's greatest assets. It provides the space for developing innovative technologies and the ability to understand and respond to new challenges. The government is looking to support initiatives to re-balance the economy, because it is all too apparent that reliance on a few sectors makes a system more vulnerable. The government should learn this lesson and strengthen the research base across the board.