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The Knowledge Network

Hazel Gibson  
Office of the Chief Scientific Adviser  
Scottish Executive  
Room 1 NO1  
St Andrew's House  
Edinburgh  
EH1 3DG

2<sup>nd</sup> January 2007

Dear Ms Gibson,

**Re: Scottish Executive consultation “Science and Innovation Strategy for Scotland”**

The Institution of Engineering and Technology (IET) is pleased to respond to the Scottish Executive's consultation, dated October 2006, on the “Science and Innovation Strategy for Scotland”.

The IET was formed in March 2006 through a merger of the Institution of Electrical Engineers (IEE) and the Institution of Incorporated Engineers (IIE). The IET has in excess of 150,000 members worldwide drawn from a broad range of science and engineering disciplines. The membership represents a wide range of expertise, from technical experts to business leaders, encompassing a wealth of professional experience and knowledge, independent of commercial interests.

This response has been prepared on behalf of the Institution's Trustees, by the Engineering Policy Group –Scotland (EPG-S) a body of invited volunteer Scottish senior professionals from industry and academia with a broad spectrum of science, engineering and technology knowledge.

The response can be found in the attached Annex in which the consultation ‘Theme’ is restated with the EPG-S observation.

No aspect of the Institution's submission is confidential and the Scottish Executive may, at its discretion, place it in the public domain using any appropriate means.

If you require further information or amplification of any aspect of this submission then please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Graham A Paterson'.

Graham A Paterson  
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## Response by the Institution of Engineering and Technology to the Scottish Executive Consultation Paper “Science and Innovation Strategy for Scotland”

### Introduction

The Engineering Policy Group-Scotland (EPG-S) recognises the importance of the consultation and is mindful of the role of professional institutions in assisting government to arrive at policies that appropriately meet the social and economic balance of the nation. On the subject in question, “Science and Innovation Strategy”, the EPG-S recalls the recent work of the Scottish Science Advisory Council (SSAC) and sees considerable overlap between the present consultation and the issues studied, and reported upon, by the Council. Because of this we choose not to make a point by point response to the consultation, but to inject our remarks under theme headings in what we believe to be a constructive and easily assimilated way. We also wish to make the point that it would be disappointing should the execution of the current consultation be allowed to delay implementation of recommendations that have already benefited from the wide consultation processes of the SSAC.

### **Theme 1: Maintaining and Developing the Excellence of the Science Research Base**

We draw attention to two relevant and significant findings of the SSAC:

#### SSAC Investing in Scientific Talent – October 2004

##### *Recommendation 3:*

The SSAC highlights an urgent need for a prestigious competitive and flexible, well-funded research fellowship scheme for Scotland that would be attractive to outstanding young scientists. The SSAC suggests that the Scottish Executive, working with the Royal Society of Edinburgh (RSE), reviews the current fellowships on offer with a view to creating a new prestigious fellowship scheme.

##### *Recommendation 4:*

The SSAC believes that the Scottish Executive must lobby the Office of Science and Technology (OST) to ensure that the number of Research Council funded PhD positions or places increases, or at least remains at the levels funded in 1999 – 2000. The SSAC also believes that the successful and timely completion of a PhD programme should be rewarded by a reduction in the Student Loan Company debt, to ensure that graduates are not disadvantaged, with respect to peers who have been earning salaries, over the three-year duration of the PhD programme.

**Theme 2: Enhancing International Connections and Capturing Overseas Investment**

We draw attention to the relevant and significant finding of the SSAC:

SSAC Investing in Scientific Talent – October 2004

*Recommendation 1:*

The SSAC proposes that the Scottish Executive, in collaboration with Scottish Enterprise, Scottish Higher Education Funding Council (SHEFC) and the Research Councils, should make funds available for up to three strategic professional-level posts per annum with funding shared, where appropriate, between these bodies.

**Theme 3: Intensifying Knowledge Exchange Between Academia and Business**

We draw attention to three relevant and significant findings of the SSAC:

SSAC Investing in Scientific Talent – October 2004

*Recommendation 5:*

The SSAC recommends that the Scottish Executive, working with Scottish Enterprise and the Royal Society of Edinburgh, should establish a new fellowship scheme in Scotland to facilitate the exchange of staff between industry and the science base. The SSAC believes that the schemes run by the Royal Academy of Engineering and the Royal Society are useful models and should be examined further to inform the development of an appropriate scheme for Scotland.

SSAC Science to Scottish Businesses – October 2004

*Issue 3:*

The Scottish Executive, working through Scottish Enterprise, is urged to prioritise and enhance proof-of-concept and seed level technology funding, and the continued funding of schemes such as the Royal Society of Edinburgh (RSE)/ Scottish Enterprise National (SEN) Enterprise Fellowships.

*Issue 4:*

To be most effective, knowledge transfer funding to Higher Education Institutions, Research Institutes and other bodies must come with full-cost recovery to the host institutions.

**Theme 4: Expanding Business Innovation**

We draw attention to two relevant and significant findings of the SSAC:

SSAC Science to Scottish Businesses – October 2004

*Issue 2:*

Given the recognised distinctive objectives within their existing frameworks, it is imperative that the Scottish Executive, Scottish Enterprise and the Scottish Higher Education Funding

Council (SHEFC) work together to better identify the overall aspirations and implementation timescales for Scotland, in relation to Knowledge Transfer (KT).

*Issue 6:*

The SSAC supports the Intermediary Technology Institute (ITI) initiative. To maximise its success and ensure that it becomes a significant engine for invigorating the Scottish economy, the SSAC believes that the Scottish Executive, working through Scottish Enterprise, must ensure the creation of an environment that supports the new initiatives and the fledgling companies generated from ITI Scotland.

**Theme 5: Modernising Science Education and Promoting Science Careers**

The EPG-S concurs with the short and medium term intentions of the Scottish Executive while wishing to make the following additional point:

- Career husbandry for science-educated citizens is important as noted, but more important still is the need to ensure that sufficient numbers engage in science careers. The EPG-S believe that more should be done to bring science to young people and that Science Centres, while valuable, are not the only means to do this. Out-reach programmes of the major professional institutions and, in Scotland, well developed services such as “Sci\_Fun” contribute influence that Science Centres cannot provide. The EPG-S recommends much more attention to the support of services that take science into the lives of young people.

**Theme 6: Increasing Public Engagement with Science**

While accepting the good sense of the Scottish Executive’s proposals the EPG-S emphasises the need to influence parents positively on the benefits of science, both socially and economically, in the future outlook of the nation. To this end, the EPGS would like to see much more coordination of efforts in Scotland to achieve more persuasive impact in the lives of people at the stage where they are guiding career choices for their children. The EPGS note that there are too many initiatives. They are metricated in isolation and this acts against coordination.

**Theme 7: Developing Better Use of Science by Government**

The EPGS welcomes the Scottish Executive’s proposals in regard of better application of science in government.

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