

## Department for Business, Innovation and Skills and Department for Education Apprenticeship targets for public sector bodies

### Science Council submission – March 2016

#### The Science Council

1. The Science Council is a membership organisation representing 40 learned societies and professional bodies drawn from across science and its applications. Collectively our members represent almost 500,000 individuals including scientists, teachers and senior executives in industry, academia and the public sector.
2. In addition to providing a mechanism for the sector to work collectively, the Science Council develops and leads collaborative projects working with member organisations and the wider scientific community: examples include LMI analysis of the UK Science Workforce and Diversity, Equality and Inclusion.<sup>1</sup>
3. The Science Council's principal area of work is to advance the professional practice of science across the breadth of the science workforce, including non-graduate and technical roles in science. A key aspect of this is professional registration with the aim of raising the profile, aspirations and retention of scientists at all levels.<sup>2</sup>

#### Focus of apprenticeships must be quality as well as quantity

4. We welcome the government's continued focus on apprenticeships. Demand for workers with high-level science qualifications is increasing,<sup>3</sup> and as science becomes more complex and interconnected, the roles undertaken by scientists in the future will often require high-level practical and technical skills.<sup>4</sup> High-quality science apprenticeships can help meet this demand.
5. The government recognises investment in science and innovation as being crucial to increase national productivity,<sup>5</sup> and has set the goal of making the UK the best place in the world to do science.<sup>6</sup> However, there are very few science apprenticeships available.<sup>7</sup> Given the government's ambitions and the increasing demand for science skills across the economy, **the Science Council calls on the government to focus public sector apprenticeship growth in sectors that align with making the UK the best place in the world to do science.**
6. Public sector bodies should lead by example to encourage greater take-up of science apprenticeships by others in the private and charitable sectors.
7. Science apprenticeships should be a method for developing new skills and knowledge, not as a means of formally accrediting an individual's already established skills. However a report by Ofsted found that many apprenticeships were being taken up by older apprentices already employed in jobs that were subsequently converted to apprenticeships.<sup>8</sup>
8. To ensure that science apprenticeships provide high-quality training and career progression opportunities, **the Science Council calls on the government to ensure that all public sector science apprenticeships link to standards for Registered Scientist (RSci) and Registered Science Technician (RSciTech).** Guidance from the

<sup>1</sup> <http://www.sciencecouncil.org/content/diversity-equality-and-inclusion>

<sup>2</sup> <http://www.sciencecouncil.org/professional>

<sup>3</sup> <http://www.smf.co.uk/wp-content/uploads/2013/03/Publication-In-The-Balance-The-STEM-human-capital-crunch.pdf>

<sup>4</sup> [http://www.edge.co.uk/media/130721/the\\_skills\\_mismatch\\_march\\_2014\\_final.pdf](http://www.edge.co.uk/media/130721/the_skills_mismatch_march_2014_final.pdf)

<sup>5</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/443898/Productivity\\_Plan\\_web.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/443898/Productivity_Plan_web.pdf)

<sup>6</sup> <https://www.gov.uk/government/speeches/making-britain-the-best-place-in-the-world-for-science>

<sup>7</sup> <https://www.gov.uk/government/statistical-data-sets/fe-data-library-apprenticeships>

<sup>8</sup> Ofsted. Apprenticeships: developing skills for future prosperity (2015)

Department for Business, Innovation and Skills on the development of apprenticeship standards in science states that they must link to professional registration where they exist in the occupation, including RSci and RSciTech.<sup>9</sup>

9. Professional registration provides a benchmark designed to embrace standards of excellence in the practice of science. Achievement and retention of the award confirms an individual's public commitment to the highest levels of professionalism and competence through ongoing development of their skills and knowledge.
10. As the number of 16 to 18-year-olds starting an apprenticeship is lower than that of other age groups,<sup>10</sup> the government should consider reserving a significant proportion of apprenticeship starts to this age group.

### **Diversity across the public sector**

11. We welcome the government's proposal to report annually on public sector bodies' progress. The Science Council is working, through its member bodies, towards a UK science workforce that reflects society's diversity.<sup>11</sup> We therefore consider it essential that all public bodies collect and report on diversity characteristics of those taking on apprenticeships, in order to measure progress and assess the impact of ongoing national and local schemes and projects.
12. The public sector's marketing and promotion of apprenticeships should be audited for gender bias to ensure the use of appropriate language and images that appeals to both sexes. Evidence suggests that young women are often deterred from pursuing science careers by their learning experiences and the careers advice they receive.<sup>12</sup> We therefore need to be sure that gender stereotypes placing girls in passive and caring roles continue to be challenged. The percentage of female apprentices in early years (childcare) for example has been over 90% for the past 10 years. In engineering over the same period, this has been around 5%.<sup>13</sup>
13. Schools and colleges must be encouraged to provide better careers Awareness, Education, Information, Advice and Guidance (CAEIAG) on all education and training routes, including apprenticeships. At a time when young people are expected to make an increasing financial contribution towards their education and training, it is crucial that they are able to access accurate information, advice and guidance to inform their choices.
14. Teaching staff involved in influencing career choices of students should undergo training to understand gender stereotypes bias and how their own unconscious bias may be affecting the career choices of their students.

### **Setting public sector targets**

15. The Science Council recommends that any targets for the public sector should be phased in over time, particularly for larger employers. In the case of the largest public sector bodies, they will be required to take on several hundred apprentices where there may not be the scope for them to deliver meaningful apprenticeship training. It would be detrimental to the individual apprentice and the apprenticeship brand if public sector bodies took on large numbers of only to provide them with inadequate training opportunities.

---

<sup>9</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/447413/BIS-15-355-guidance-for-trailblazers-standards-to-starts-July-2015.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/447413/BIS-15-355-guidance-for-trailblazers-standards-to-starts-July-2015.pdf)

<sup>10</sup> <https://www.gov.uk/government/statistical-data-sets/fe-data-library-apprenticeships>

<sup>11</sup> <http://sciencecouncil.org/professional-bodies/diversity-equality-and-inclusion/>

<sup>12</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/302973/evidence-report-77-high-level-stem-skills\\_1\\_.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/302973/evidence-report-77-high-level-stem-skills_1_.pdf)

<sup>13</sup> <http://www.llakes.ac.uk/sites/llakes.ac.uk/files/44.%20Fuller%20and%20Unwin.pdf>

## **Member Organisations of the Science Council**

**March 2016**

Association for Clinical Biochemistry and Laboratory Medicine  
Association of Neurophysiological Scientists  
Association for Science Education  
British Academy of Audiology  
British Association of Sport and Exercise Science  
British Computer Society  
British Psychological Society  
British Society of Soil Scientists  
Chartered Institution of Water and Environmental Management  
College of Podiatry  
Energy Institute  
Geological Society of London  
Institute of Biomedical Science  
Institute of Brewing and Distilling  
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 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  
Mineralogical Society  
Nuclear Institute  
Oil and Colour Chemists' Association  
Operational Research Society  
Physiological Society  
Royal Astronomical Society  
Royal Meteorological Society  
Royal Society of Chemistry  
Royal Statistical Society  
Society for Cardiological Science and Technology  
Society for General Microbiology  
Society of Biology  
Society of Dyers & Colourists  
The Organisation for Professionals in Regulatory Affairs