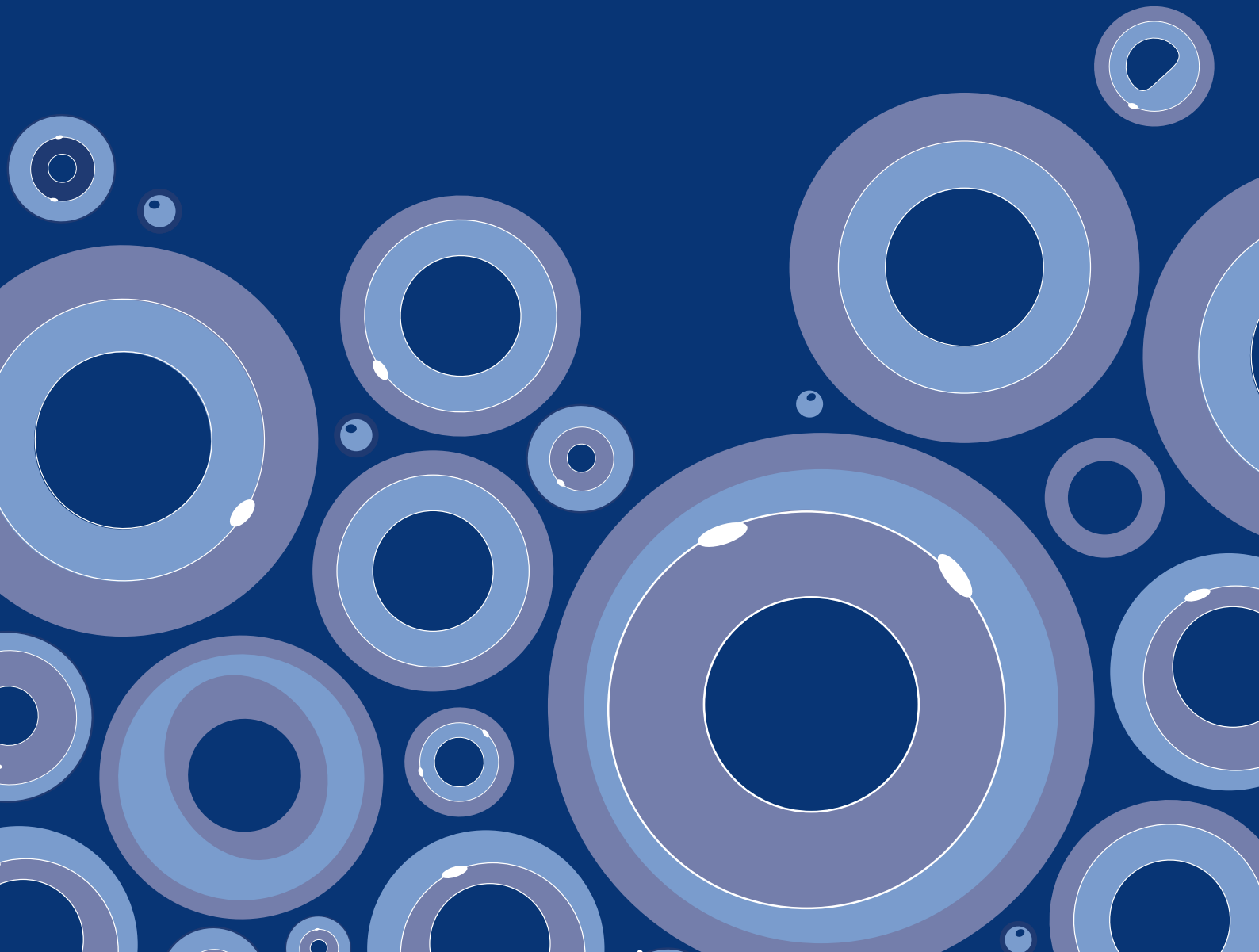




Government
Office for
Science

GSE
Government
Science &
Engineering

Head of Science and Engineering Profession Annual Report 2008/2009



Foreword



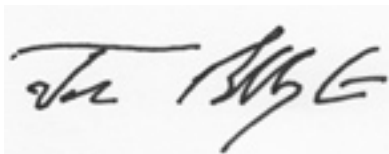
Science and engineering are vital in helping us address global challenges such as climate change, increasing global population, threats to food security, human and animal diseases and terrorism, and will play a key role in helping the UK emerge from the economic downturn in the strongest possible position. The Government cannot deliver robust, long-term policies without solid evidence, of which science, engineering, technology and mathematics are key components.

There are an estimated 18,000 scientists and engineers working in Government. Although this may be an encouraging proportion of the civil service, questions remain around how much the profession is recognised and its impact on policy making and delivery. To create better policy and delivery mechanisms we need a strong, skilled and influential science and engineering profession.

This is what the Head of Science and Engineering Profession (HoSEP) agenda is seeking to deliver. I want to identify, understand and support scientists and engineers in Government and have been working closely with departments to revitalise the HoSEP network and create a coherent profession across Government, and I am pleased to note it is gaining momentum.

As well as building the HoSEP network we have established the 'Government Science and Engineering' (GSE) Community for individual scientists and engineers. We also held a very successful first annual conference for the GSE. Such centrally coordinated activities complement the many other initiatives departments are implementing for the profession at a local level.

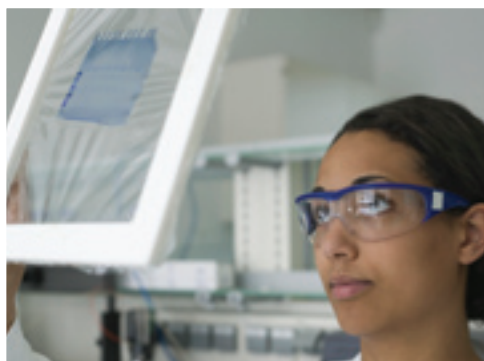
I am pleased with the progress during my first year in building the profession and raising its profile across Government. I recognise that we still have a long way to go and I am committed to supporting and promoting our scientists and engineers, and through them improving Government policy and decision making. I urge you to join me in making this happen.

A handwritten signature in black ink, appearing to read 'John Beddington'.

Professor John Beddington CMG FRS
Chief Scientific Adviser to HM Government

Introduction

The Head of Science and Engineering Profession (HoSEP) function was established in 2005 to build, support and champion the profession within Government. The HoSEP role encompasses science, technology, engineering and mathematics (STEM).



The Government Chief Scientific Adviser (GCSA), Professor John Beddington, is the Head of Science and Engineering Profession for Government as a whole. He is supported in this role by a network of departmental HoSEPs who meet on a quarterly basis to identify and discuss policies and practices in support of the HoSEP agenda. The HoSEP Network also determines the strategic direction and priorities for the HoSEP work programme.

The HoSEP network is supported by a network of departmental Officials with a Secretariat in the Government Office for Science (GO-Science).

This is the first annual report for the HoSEP Network, and covers the period from April 2008 to March 2009. This report outlines the progress made over that year and also identifies the key deliverables for financial year 2009/10. For further details of the HoSEP network see Annex A.

HoSEP Vision and Key Deliverables

At the start of his tenure as GCSA, Professor Beddington set out a clear vision for the science and engineering profession – to improve Government decision making and delivery through better use of science and engineering. He sees the HoSEP role as crucial to achieving this vision and has revitalised the Network and made real, practical progress in this area. In April 2008 the Network identified four key deliverables to be achieved over a 12–18 month period:

- 1 Establish a cross Government community for scientists and engineers.
- 2 Hold the first annual conference for the science and engineering community.
- 3 To create a Professional Skills for Government (PSG) framework for scientists and engineers below Grade 7.
- 4 Produce a range of case studies demonstrating where science and engineering has had a positive impact, and where policy has suffered due to lack of science and engineering input.

These key deliverables, along with a number of other work streams, were taken forward by the Secretariat and HoSEP Network. The overarching aim of the deliverables was to strengthen the profession and improve its impact on policy and delivery by focusing on the three areas of HoSEP responsibility: building, supporting and championing the Science and Engineering profession.

In the first year we have focussed on the first three deliverables as they will have the greatest initial impact.

Building the profession

(Key Deliverable 1)

Focusing on the first key deliverable, Professor Beddington launched Government Science & Engineering (GSE), (working title the Science and Engineering Community of Interest) in June 2008. This self nominating community is open to all civil servants with a background in science, engineering, maths or technology (this includes apprenticeships, vocational, graduate and post graduate qualifications.). The GSE aims to:

- Support the community and its members across Government; and
- Enhance and promote understanding, across Government, of the profession's value, knowledge and expertise.



The call to join was endorsed and promoted by departmental HoSEPs across Government. By March 2009 the GSE had over 1600 members from more than 30 different Government organisations. The development of a formal logo and professional identity has also aided recognition of the GSE as a substantial analytical stream. More details on the GSE and information on how to join can be found at Annex B.

Using data collected from GSE members and from the Cabinet Office we have, for the first time, been able to produce baseline data on scientists and engineers in Government. This has been invaluable when comparing data with other analytical professions and will enable HoSEPs to monitor the health of the profession in the future. A summary of baseline data is set out in Annex C.

Departmental Initiatives

Food Standards Agency (FSA)

The Food Standards Agency is to launch their Continuing Professional Development (CPD) for Scientists scheme in September 2009 following the success of their CPD pilot.

Achieving or maintaining the Science Council's Chartered Scientist (CSci) standard is an integral part of the FSA scheme. Additional assessment is provided by external audit from the Institute of Food Science and Technology and all CPD activity captured in a web based database from Premier IT.

Achieving the standard of Chartered Scientist or Engineer is a well established mark of professional recognition. This allows scientists and engineers in different disciplines to be recognised on an equal footing. The CSci standard is recognised across sectors including Government, academia, industry and across international borders it is recognised in Brussels as a mark of excellence in science.

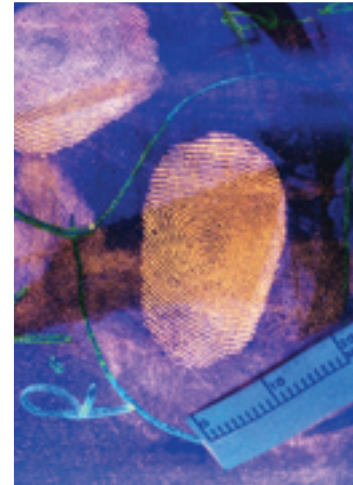
The programme is career enhancing for individuals. The FSA also benefits as an organisation that is able to deliver on its strategic objectives using the best equipped technical staff. Having such a structure in place sends clear signals to stakeholders that the Agency values the expertise it holds and ensures that standards remain of the highest order.

CPD recognises the enormous amount of learning opportunities and development that happen as a result of day to day experience. Activity captured is often beyond of the traditional learning environment of a training course. The scheme has fitted well with the wider activity going on in the organisation with the development of technical and specialist courses, seminars and lectures as well as the drive across Government to support the broader scientific community through the GSE.

Supporting the profession

(Key Deliverable 2 and 3)

A number of work streams have been taken forward to support GSE members and the Science and Engineering profession. The first annual GSE conference was held on 20 January 2009 and brought together over 300 scientists and engineers from across Government. Key speakers included the GCSA, Professor Beddington, Cabinet Secretary, Sir Gus O'Donnell, and Minister of State for Science and Innovation, Lord Drayson. This was a hugely successful event, with delegates benefiting from numerous networking opportunities and access to leading figures within Government.



Wider initiatives to support GSE members include: development of a civil servant-scientist pairing scheme with the Royal Society; establishing a GSE newsletter; drafting a skills framework for the profession (which was published in July 2009); and producing a three year Strategy for HoSEP (in March 2009). The HoSEP Strategy outlines the vision and strategic objectives of the network, highlighting different activities and their potential impact on Government and the profession.

Departmental Initiatives

Health & Safety Executive (HSE)

A competence framework for regulators of health and safety has been developed which allows inspectors in HSE and Local Authorities to identify their development needs using a web-based tool. HSE are now extending this to include the specific skills and knowledge requirements for each of HSE's specialist disciplines. This will help specialist inspectors maintain professional competence in their respective disciplines.

This year also saw the development of two important communication tools in HSE – a monthly science and engineering bulletin and a web-based discussion forum. Through these HSE aim to keep the science and engineering community up to date on issues within and outside HSE and to promote sharing of knowledge and information across the organisation.

Championing the profession

(Key Deliverable 4)

The GCSA has continued to work closely with the Heads of Analysis¹ (HoA) group to champion science and engineering and to raise wider issues on evidence based policy making. This has included working with the Capability Review Team to provide information on departments' analysis and use of evidence, hosting a Joint Analytical Heads of Profession event and promoting the need for departmental analytical champions. The GCSA and departmental HoSEPs have also promoted and supported the profession at numerous events both within and outside Government.

Departmental Initiatives

Ministry of Defence (MoD)

The Defence Engineering and Science Group's (DESG) Graduate Recruitment and Training scheme 2009 experienced another very successful year, meeting its target to recruit 137 Graduates.

The Graduates join the DESG scheme for two years during which time they complete a series of placements within the MOD and its Trading Funds and/or industry. This time is spent developing their technical and core competences with the support of a mentor. On completion of their professional development record, log books and supported by a recommendation by their mentors, they are promoted into MOD Band C2 (HSO/HEO).

The DESG Graduate scheme has been relaunched during the past 5 years and a mark of its success is evidenced by the doubling of the business demands for trained graduates. The scheme covers disciplines from marine engineering to surveying and is accredited by the Institute of Engineering and Technology, the Institute of Mechanical Engineering, the Royal Institute of Naval Architects, the Institute of Physics, the Royal Aeronautical Society, the Institute of Marine Engineering, Science and Technology and the Institute of Civil Engineers and offers an accelerated route to professional registration as a Chartered Engineer.

More details of the scheme are available at: www.desg.mod.uk.

¹ The Heads of Analysis Group aims to champion analysis and its use in the evidence base across Government. Its members are the heads of Government: Science and Engineering, Economics Service, Social Research Unit, Operational Research Service, and Statistical Service.

Key Deliverables for 2009/2010

The HoSEP network has agreed the following key deliverables for 2009/2010:

- Establish baseline data on the profession, including market salaries and increase engagement with HR.
- Increase the membership of Government Science and Engineering (GSE) to 3,000 members.
- Hold a series of events for GSE members, including a second annual conference.
- Raise the profile of the profession and improve understanding of science and engineering evidence, including improving the use of the fast stream and promoting the Civil Servant – Scientist Pairing Scheme.
- Take forward work on the Skills Strategy², including finalising the professional skills framework.

² The Skills Strategy (2008–2011) plans how central government employers will meet the current skills challenge; it outlines a programme building on work the Professional Skills for Government (PSG) competency framework introduced in 2005. The Strategy includes a number of activities to be taken forward by the Heads of Profession. For further information see <http://www.government-skills.gov.uk/skills-strategy/index.asp>

Annex A: Head of Science and Engineering Profession Network

Aim

The HoSEP network is charged with the responsibility to build, support and champion the Science/Engineering profession across Government and advise the Government Head of Science and Engineering Profession.

Membership

The membership consists of departmental Heads of Science and Engineering Profession (HoSEPs) for those departments that have a Science/Engineering community. Current members are:

Department	HoSEP
Head of Science and Engineering Profession	Professor John Beddington
Dept. for Business, Innovation and Skills	Professor Brian Collins
Dept. for Communities & Local Government	To be appointed
Dept. for Environment, Food & Rural Affairs	Professor Bob Watson
Dept. for International Development	Professor Christopher Witty
Dept. for Transport	Dr Jordan Giddings
Dept. for Work & Pensions	Dr Bill Gunnyeon
Dept. of Health	Professor David Harper
Forestry Commission	Hugh Williams
Foreign & Commonwealth Office	Sir Stewart Eldon
Food Standards Agency	Dr Andrew Wadge
Home Office	Alan Pratt
Health & Safety Executive	Dr Patrick McDonald
Ministry of Defence	Paul Stein
Scottish Government	Professor Anne Glover

Annex B: Government Science & Engineering

The Government Science & Engineering (GSE) community, previously the Science and Engineering Community of Interest (SECoI), is a Government-wide network supporting and promoting science and engineering across the Civil Service.

The Community is led by the Government Chief Scientific Adviser and Government Head of Science and Engineering Profession (HoSEP), Professor John Beddington. So far we have over 1600 members, making us the second largest analytical community in Government. The Community aims to:

- Support the profession and its members across Government; and
- Enhance and promote understanding, across Government, of the profession's value, knowledge and expertise.

The GSE is open to any civil servant in a Government organisation who has a science or engineering background or works in a science or engineering related area. There are two categories for membership:

Full Member – those with a science or engineering background; and

Guest Member – those without a science/engineering background who work in a related area.

Members can join by completing a short online survey.

To join as a Full Member [click here](#). (This should take no more than 10 minutes)

To join as a Guest Member [click here](#). (This should take no more than 2 minutes)



Annex C: Baseline Data on Scientists and Engineers

The following is a summary of the key findings of a Government wide survey of scientists and engineers, which was conducted as part of a drive to create a Government Science & Engineering (GSE) community. The Survey results provide an important part of the evidence base used to support and inform the work of the Heads of Science and Engineering Profession (HoSEPs) in building and supporting the science and engineering profession in Government.

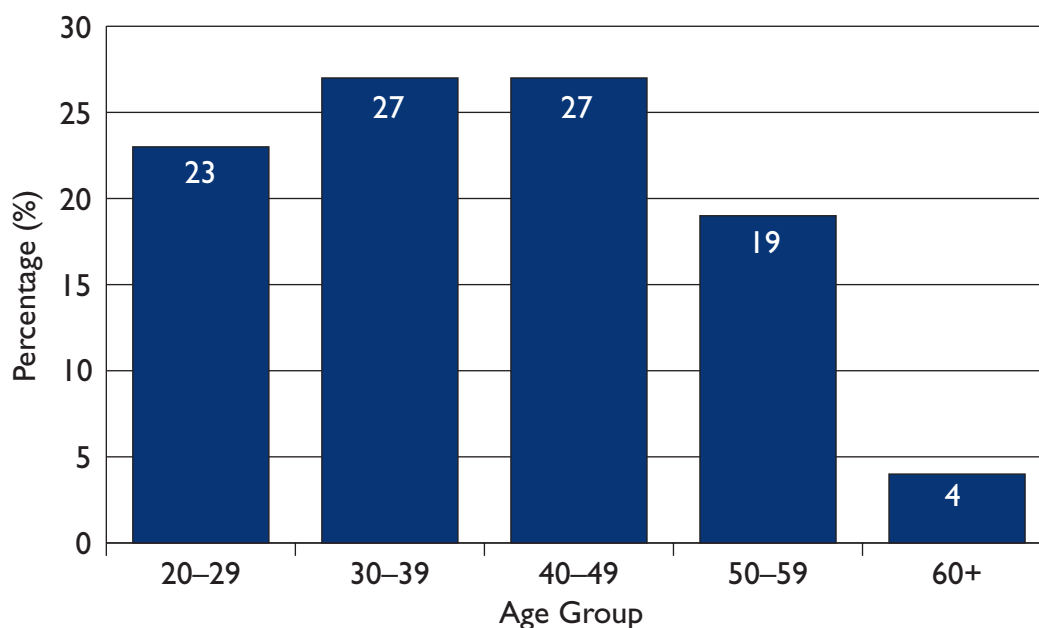
The Survey was aimed at scientists and engineers working in all Government departments and agencies. The analysis was conducted on responses received up to and including 28 May 2009, which totalled 1,653.



Professional Background and Diversity

There was a reasonable balance of respondents from each professional background, with (approximately) 52% scientists; 36% engineers; and 12% both scientists and engineers. Twenty seven percent of all respondents were female, with 17% of women identifying themselves as engineers. The GSE has a young demographic, with 54% of respondents falling within the 3209 age bracket (i.e. 30–39 and 40–49).

Age Range of GSE Members



Current Role

Respondents were asked to identify themselves within one of the following community categories:

- You work in a post where your science/ engineering expertise and qualifications are an essential part of your job.
- You work in a post where a general science or engineering background is helpful to your work.
- You work in a post unrelated to science/ engineering but are interested in maintaining links with the profession.



Overall, 57% of respondents said they worked in a post where their background was essential to their work, with 35% finding a science or engineering background useful to their current post. This was a consistent distribution across professional backgrounds and gender.

Grade

Respondents were from all grades across the civil service (from Administrative Assistant to Senior Civil Servant). The majority of respondents (70%) were concentrated within middle management (Higher Executive Officer, Senior Executive Officer and Grade 7). This distribution proved to be the same across both gender and professional background.

Grade of GSE Members

