



Centre for Science and Policy

The Sciences and Technology in the Service of Society

First Annual Report (2009) Dr David Cleevely, Founding Director

December 2009

LONG TERM	Governance	Accommodation Own building, for "6 VFs, "12 CFs, "4 RFs, "4 support	Policy Maker Engagement Maximum of 12 Workhops per year, allowing follow- on	Policy Maker Engagement Create new mechanisms, e.g?	Research Research programme fuily developed [4-6 FTE3]	Network Building Amual conference (*200 attendees)	Network Building Associates Network of >150 people	Visiting Fellows 20-30 p.a., 2-3 month average, but flexible for shorter/longer	Centre Fellows 6 new OFs p.a., each for 2 years	Centre Interest Groups Maintain 12 CIGs, bul refresh - average life 4 years?	Business Model 12 CU blds p.a. Indude CSaP; panel grows to [50] industry and [20] govt
MEDIUM TERM		Information Systems Research results & funding to enable development of systems to track networks	Marketing Flow of website articles based on interviews and CIG output	Event Programme New event types, including best practice seminar	Research First Research Fellows (underpinning CIGs)	Network Building MoUs with [5] other universities and institutes	Visiting Fellows Agreements with [5] Cambridge colleges for hosting	Centre Fellows First secondments	Centre Interest Groups Up to 12 Clos running at one time; first Clos may dose?	Business Model Seek other funding sources, including cross- agency	00
		Information Systems Organisation processes supported by shared IT	Accommodation 6-8 desis to accommodate VFs, CFs, new support	Policy Maker Engagement Create new types, e.g. informal meetings	Policy Maker Engagement 6 Workhops per year, allowing follow-on	Network Building Associates Network of "100 people	Visiting Fellows Use results of pilot to design VF programme with CIGs	Centre Fellows Begin communications training and secondment programme	Business Model Begin charging sponsor panel members [20% 10*£10k]	Business Model Trust/foundation funding fails below 20% of total revenue	
SHORT TERM		8	Information Systems Formalise KPIs (e.g. # Workshops, CIGs, Fellows, Associates)	Marketing Extend newsletter to indude "special features"	Event Programme Publish 12 month rolling schedule	Network Building First annual conference ("50 attendees)	Network Building US East Coast follow-up; US West Coast, Brussels	Centre Fellows Use results of pilot to design CF programme and recruit	Business Model Build sponsor panel of [20] industry, [10] government departments	Business Model Cross-agency research bid, E[1m] p.a. for 5 years	
			Governance Formalise external consultation committee	Policy Maker Engagement 2nd & 3rd workshops; follow up before planning more	Research Identify research activities	Visiting Fellows Pilot trial for "5 VFs known to CIGS; flexible duration	Centre Fellows Pilot trial for 3 Centre Fellows, 2-year, with volunteers	Centre Interest Groups Get 3 Clos up and running before planning more	Business Model Bid to [4] Trusts/ Foundations		
MON				Policy Maker Engagement First policy workshop and follow-up	Marketing Strapline, public branding and collateral	Network Building Launch Distinguished Lecture Series	Network Building Support and co-sponsor other groups' events	Business Model Bid (with University depts) for new projects and follow on funds	Business Model Event sponsorship to offset specific costs		
HISTORY				Information Systems CRM and website, document and event management	Accommodation 3 staft; 1 room, 4 desks in 11-12 Trumpington Street	Marketing First issue of Newsletter	Network Building US trip (East Coast): DC, New York, Boston	Centre Interest Groups Identify topics for Centre Interest Groups			00
					Governance Launch as Centre for Science and Policy	Marketing House style and branding	Network Building External consultation meetings	Business Model Foundation/Trust funds & University contribution			
						Market Research MBA project: competitor analysis	Network Building Internal consultation meetings				
						Governance Form Executive Committee					

Executive Summary Dr David Cleevely FREng



Science and technology are having an ever greater impact on society. New developments have led to significant advances in fighting hunger and disease, boosted economies, and changed the way that we live, work and communicate; but they have also resulted in unanticipated threats and risks, raising social, ethical, economic and security dilemmas. New technologies and emerging issues will continue to transform and enrich our lives, but they also pose a unique set of challenges for policy makers.

Greater understanding of the implications of science and technology is now vital, and demands the world's best expertise – in the physical and social sciences; technology and engineering; and law and philosophy – in support of policy formulation. Furthermore, the processes by which scientific insight can be brought into policy making, and thereby into the service of society, must themselves be understood and made more effective. In this context, the launch of the University of Cambridge's Centre for Science and Policy (CSaP), in July 2009, could not have been more well-timed, coinciding as it does both with the UK Research Councils identifying impact on policy as a key criterion for the assessment of scientific research, and with a vigorous public debate about the role of scientific evidence in the development of policy.

The Centre is a networking organisation dedicated to building relationships between policy makers and experts in the sciences and engineering. Its vision is to become a world-class centre where those interested in the policy implications of the sciences and technology can discuss and develop fresh ideas, providing policy makers with access to the best academic thinking, while also "scanning the horizon" for research topics of interest before they become major issues of policy. In the months leading up to, and following, its launch, the Centre has concentrated on defining its positioning in the University and in the policy world; laying the foundations for efficient communications and operation of its core functions; and consulting with over 100 senior academics and policy makers, representing more than 50 key departments and organisations. The groundwork is now in place for the rapid build up of the Centre's key activities, based around:

- Centre Interest Groups (CIGs), bringing experts from relevant academic disciplines together with policy makers to discuss key topics, and develop a programme of workshops and other ongoing interactions.
- A Centre Fellows Programme, whereby academics will be funded to work on the policy implications of their research, receive training in communications skills, and be seconded to assist with policy making.
- A Visiting Fellows Programme, whereby researchers, industrialists and policy makers will come to the University to carry out research with Centre Fellows and participate in CIGs and Workshops.
- Policy Workshops based on the work of the Centre Fellows, Visiting Fellows and researchers from the University, to exchange current thinking in science and policy issues with senior policy makers.
- A Network of Associates i.e. people and organisations within the University and elsewhere who are interested in contributing to the work of the CSaP through the CIGs, Policy Workshops or other means.
- A Distinguished Lecture Series, covering a range of topics closely related to those of the Centre, and delivered by eminent scientists, government advisers, policy makers and industry leaders.

The Centre is already making an impact on its target audience, influencing the use of research in the development of policy. For example, DEFRA's Chief Economist recognised how the CSaP's inaugural Workshop on ecosystems demonstrated improved methods of valuation ("We will be looking again at how we use this research in developing policy"), and the Chief Scientific Adviser to the Home Office publicly recognised the value derived from the Workshop and the "extraordinarily effective" use of time that it represented.

Neither the Centre's achievements to date, nor the acceleration of its activity planned for 2010, would have been possible without the generous support of the Isaac Newton Trust, the David Harding Foundation, and the University itself. The Centre is grateful to these donors, whose commitment has already been critical to the Centre's standing and credibility, and whose support will be vital in the next phase of its development.

The Centre for Science and Policy in 2009

This, the first Annual Report of the University of Cambridge's Centre for Science and Policy, describes the development of the Centre both before and after its formal launch on 13 July 2009, and looks forward to the next phase of its development. The "roadmap" for these activities, and for the medium and long term developments which are expected to follow, is shown on the inside front cover of this report.

Background to the Creation of the Centre for Science and Policy

The need for dialogue between policy makers and academics was identified through the Cambridge University Government Policy Programme (CUGPOP). This ran from 1998 to 2006 and held sixteen one-day seminars on different topics, attended by both high-level policy makers and leading scientists. The former, many of whom had little scientific background, were briefed by the latter on fundamental advances in science and technology and the implications of these; all participated in free discussion of the issues. CUGPOP was felt to be very successful, but it also revealed a gulf in understanding between policy makers and scientists and the need for a more formal and fundamental approach to the problem. The programme was cited in the Council for Science and Technology's report How Academia and Government Can Work Together (October 2008) as a good example of communication and collaboration in practice. However, this report also recommended further capacity-building activities to enhance the engagement between policy makers and academics, and to bring about better-informed, evidence-based public policy. It is this need that the CSaP is designed to address.

As a result of its extensive external and internal consultation meeting process and market research,¹ the CSaP ascertained that it will be the only centre of its kind in the UK, and defined its position within the University and in relation to the policy community. This phase of work both clarified the key links that must be built with academic thought-leaders and government scientific advisers, and created the first such links, which led on to identifying initial topics for the interest groups. This work also made possible key decisions about branding, and the representation of the brand through the website, press communications, and general collateral.²

In the period leading up to the launch of the Centre on 13 July 2009, the Founding Director led work to build the essential underlying relationships with leading academics and policy makers which form the basis of the network, and also oversaw the creation of the database and communication tools which capture and link that network, and present the Centre's brand to its target audiences. The investment of time and resources in this phase, and in the ongoing consultation programme, has provided solid foundations on which the Centre Interest Groups, Workshops and Fellowships can now be built.



Consultation Programme

Horizon scanning for topics of interest before they become major issues of policy is a high priority for the Centre, and is achieved through its Consultation Programme. The CSaP holds regular consultation meetings with its Associates and other senior policy makers, to identify emerging themes for the Centre Interest Groups and Policy Workshops.

Major consultation meetings were held with external advisers in May and October 2009. In addition, 11 planning and consultation meetings were held within the University in 2009; over 100 members of Cambridge University, from 50 centres/institutes/departments, attended these meetings. Further meetings with the external advisory board are scheduled for May and November 2010, and a programme of meetings with Permanent Secretaries and Director Generals has also been arranged for January and February 2010.

¹ The Centre's market analysis project, executed by Judge Business School MBA students (Study Group 30), reported its findings on 10 December 2008 under the title *Cambridge Venture Project: Centre for Science and Policy*.

² For more details see the Centre's website http://csap.org.uk/, and the media launch materials at http://csap.org.uk/news/

Centre Interest Groups

The Centre Interest Groups (CIGs) are the heart of the CSaP, providing the fora where academic experts from all relevant disciplines and senior policy makers meet to discuss new ideas. Nominated Conveners bring together working groups of around 20 people, drawn from Associates, Fellows and others, meeting 3-4 times a year to discuss the particular topic around which each CIG is organized.

The CSaP's methodology for creating and managing these groups draws on the lessons learned from previous initiatives, including the Cambridge-MIT Institute and other networking organisations which bring together experts from different backgrounds and specialisms. The Interest Group model has proven itself effective in bringing together the relevant parties - topic-area champions, experts, industry stakeholders, and policy makers - in a way that supports genuine debate and innovation.

The first Centre Interest Groups will be formally constituted at the beginning of 2010. Subject to the finalisation of discussions with their Conveners, they are likely to be as follows:

The value of ecosystems

A Group bringing together conservationists, economists, senior policy makers in DEFRA and DflD. The Group's first Workshop was held in September 2009; feedback from the Minister and CSA at communicating across Government the understanding and value of biodiversity to society.

Regional decarbonisation

and taking Cambridge as a case study. This potential CIG is at an early the Chief Scientific Advisers in DCLG, DECC and DfT, the Government Office for the East of England, and others. Current ideas include providing an "Open Space" for people to talk, with the CIG as the inference engine, feeding back policy implications to policy makers.

Public health genomics

Together with the Public Health Genomics Foundation, the CSaP Committee Report *Genomic Medicine*, published in June 2009. Following on from this, the CSaP is developing a Centre Interest Group (under the banner "The \$100 Genome") to bring together clinicians, scientists and industry representatives, policy makers and experts on the ethical, legal and social implications of genomics.

Science and policy studies

A Group bringing together social scientists investigating how policy and political processes themselves shape our conceptions of what constitutes "good science" or "reliable evidence", and the reasons why policy often fails to incorporate developments in science and

- public (as consumers or as citizens) often contributes to a loss of
- it travels from the laboratory to the factory or to government. Businesses' need for science to be translated rapidly into technically-based products can introduce risks for the environment and society, and thereby also contribute to

This CIG will investigate the processes that bind science, technology, policy and society together, and thus help scientists to understand and communicate the social impacts and benefits of their work. Cutting across other CIGs that focus on particular technologies and amongst knowledge, expertise, policy and politics, in ways that may challenge conventional accounts of the science-policy interface.

Other topics around which internal consultation meetings have been held include ageing and dementia, emergent behaviour and regulation of networks, the management and perception of risk in complex systems, and the role of behavioural change in policy development.

The Centre Fellows Programme

Centre Fellowships will fund academic staff from the University of Cambridge to undertake work on the policy implications of their research area, and short periods of secondment to government departments to assist directly with policy making. The CSaP seeks to appoint up to six such Fellows per year by the end of the period 2010 to 2012.

The primary objective of the Centre Fellowships programme is to enable academic experts to develop an understanding of the policy implications of their particular field, and how to work with and effectively share this knowledge with policy makers. Members of the University of Cambridge (typically Readers or recently appointed Professors) will be invited to apply for membership of the Programme. Each successful candidate will be appointed as a Centre Fellow for two years. While remaining members of their home department, they will be 'bought out' for up to one year in order to benefit from intensive mentoring and training in communications skills and brief secondments in government, industry and media organisations.

Centre Fellows will be expected to make a major contribution to the work of the CSaP as a Convener of at least one Centre Interest Group and a mentor to Visiting Fellows or CSaP Associates. On completion of their two-year appointment (or if their circumstances change), Centre Fellows will maintain their connection as CSaP Associates.

The Visiting Fellows Programme

Visiting Fellowships will enable researchers, industrialists and policy makers to come to the University to carry out research with Centre Fellows and participate in Centre Interest Groups and Workshops. The CSaP seeks to appoint up to thirty Visiting Fellows a year by the end of the period 2010 to 2012.

The primary objective of the Visiting Fellowships programme is to bring to the Centre senior policy makers from government and industry, and academic experts from outside Cambridge, for intensive visits of up to three months. Visiting Fellows will be appointed following a formal application process and mentored by Centre Fellows or CSaP Associates. They will work with other members of the CSaP and Centre Interest Groups on particular policy issues. Following their residences, Visiting Fellows will continue as CSaP Associates.

Policy Workshops

The Policy Workshops will be based on the work of the Centre Fellows, Visiting Fellows and researchers from the University, and will be used to exchange current thinking in science and policy issues with senior policy makers. Typically they will be run by the Conveners of the Centre Interest Groups (supported by the CSaP's event management staff), and will bring together up to 30 senior people.

Formats will be appropriate to particular requirements, but the Centre has already demonstrated the effectiveness and practicality of a format based around two hours of short presentations and chaired debate, followed by further chaired discussions over dinner. DEFRA's Chief Economist recognised how the CSaP's inaugural workshop on ecosystems demonstrated improved methods of valuation: "We will be looking again at how we use this research in developing policy". Moreover, the Chief Scientific Adviser to the Home Office reported to the Centre's second External Consultation meeting in October 2009 that "The CSaP's workshop on ecosystems clearly made a real impact within DEFRA, and represented an extraordinarily effective use of time."

In addition to the Workshops organised as part of the emerging Centre Interest Groups as described above, the CSaP has organised and co-sponsored a number of other such events, as listed below.

- The implications of climate change and variability on African water resources a joint Workshop with the Centre for Energy Studies and the University of California San Diego, held in September 2009.
- Reviewing case studies and methodologies regarding the translation of science and engineering into public policy – a joint Workshop between CSaP and RAND Europe held on 19 October 2009.
- Managing the risk of catastrophic failure in complex systems a joint Workshop between the Centre for Risk Studies, Cambridge Complex Systems Consortium and the CSaP, held on 10 December 2009.

A list of past and planned events organised by the Centre is shown on page 08.

Network of Associates

Over the period 2010 to 2012 the CSaP aims to build a network of over 150 Associates. They will be individual or organisational members of the Centre, drawn from the University of Cambridge and beyond, who are interested in and can contribute to its work. They may participate in Centre Interest Groups and Policy Workshops or offer assistance through research expertise, communications training or mentoring of other CSaP members. CSaP Associates may themselves apply to become Centre Fellows or Visiting Fellows, as appropriate. Former Centre and Visiting Fellows will become Associates as of right. The Associate Network is designed to become an active global association of world-class, well-informed policy makers and academic experts, equipped with both a solid understanding of the issues and communication skills.

The Centre is already making connections and building relationships between the University and government at senior levels. The external consultation programme and a long series of one-on-one meetings have covered the most senior government scientific advisers in a wide range of departments, and the Centre's brand has also opened doors in other relevant areas, including the new US administration.



Distinguished Lecture and Associate Seminar Series

The CSaP's Distinguished Lecture Series, to be launched on 18 January 2010, will cover a range of topics closely related to those of the Centre, and will be delivered by eminent scientists, government advisers, policy makers and industry leaders. It is planned to hold between six and nine such lectures each year. Lectures will start at 5.30pm in Judge Business School and will allow time for questions and debate, as well as providing networking opportunities at the post-lecture drinks reception and dinner.

The inaugural lecture, on 18 January 2010, will be delivered by Professor David MacKay, Professor of Natural Philosophy in the Department of Physics. Professor MacKay will speak on his first hundred days as a Chief Scientific Adviser in the Department of Energy and Climate Change, a post which he took up on 1 October 2009. The second lecture, on 3 March 2010, will be delivered by Professor Ben Martin, Professor of Science and Technology Policy Research at the University of Sussex. Professor Martin will speak on the subject of how research can influence policy, and whether it makes for better policy.

As noted above, the Centre's Associate Network is designed to become an active global network of world-class, well-informed policy makers and academic experts. The Associate Seminar Series is intended to bring this network together twice a term to hear brief presentations on a current science policy issue, and to provide the opportunity for debate and networking. The first such seminar will consider the question "how should the policy impact of scientific research be measured?", and is scheduled to take place on 27 January 2010.

Support and Communications

The CSaP provides extensive administrative and logistical support to the Fellows and the Centre Interest Groups in running their events and building networks of communications between academics and policy makers. The foundations for this support are the Centre's extensive database of over 2000 academics, policy makers, and senior industry figures, and the associated Content Management System, which enables efficient and effective communication with the core network.

In particular, the CSaP provides a full range of event management services, such as identifying and recruiting participants; chairing and facilitation; arranging venues (including catering and accommodation); online registration for events; producing event reports; and recording and webcasting of proceedings. The experience of its staff includes all aspects of event management and facilitation, and it has access to professional writers and editors with extensive expertise in all the relevant disciplines.

The Centre and its predecessors have made effective use of a range of formats appropriate to different topic areas; particular success has been achieved using two- to four-hour meetings for between 10 and 20 participants, combining short presentations and discussion with chaired debates over breakfast, lunch or dinner. Events in this format have achieved high attendance rates from the most senior participants, and helped to create enduring networks of communication between academics and government advisers.

The CSaP Website (http://csap.org.uk/), illustrated below, plays an important role in its communications strategy and its branding. Events are announced and promoted through pages which are easily created and updated by Centre staff using the content management system and associated templates.

The same system, combined with the database, is used to produce a monthly newsletter which is sent electronically to over 1800 recipients. Past issues of this newsletter can be seen at http://csap.org.uk/news/newsletters.



Staffing, Management and Location

The CSaP is currently staffed by a "lean" team - the Founding Director (Dr David Cleevely), the Events Manager (Ms Jackie Ouchikh), and a part-time Acting Executive Director (Dr Nick Gray).³ In order to minimise fixed overheads, other functions (including media training for Fellows, note-taking to provide a record of events, and system development) are undertaken on a contracting basis. The post of full time Executive Director has been advertised, with a closing date for applications of 6 January 2010. Other core staff, to provide administrative support and to implement funding and communications strategies as the work of the Centre expands, will be recruited in due course.

The work of the Centre for Science and Policy is overseen by its Executive Committee, whose members, in addition to Dr Cleevely, are:

- Sir David Wallace (Chairman), NM Rothschild Professor of . Mathematical Sciences, Director of the Isaac Newton Institute for Mathematical Sciences, and Master of Churchill College
- Sir Tom Blundell, Sir William Dunn Professor of Biochemistry, Head of the Department of Biochemistry, and Chairman of the School of Biological Sciences at the University of Cambridge
- Professor Arnoud de Meyer, Professor of Management Studies and Director of Judge Business School
- Lord (John) Eatwell, Professor of Financial Policy, Director of the Centre for Financial Analysis and Policy, and President of Queens' College
- Professor Frank Kelly, Professor of the Mathematics of Systems, and Master of Christ's College
- Professor Ian Leslie, Robert Sansom Professor of Computer Science and Pro-Vice-Chancellor for Research.

The Centre is located in 11-12 Trumpington Street, close to the Judge Business School and a number of other Centres, including the Centre for Financial Analysis and Policy, the Centre for Energy Studies, and the Centre for Process Excellence and Innovation.

Financial Report

The launch of the Centre has been funded through the generous support of the University itself, the Isaac Newton Trust, and the David Harding Foundation. The Centre wishes to record its gratitude to these donors for their contributions to date and their ongoing support.

The CSaP is now actively working with other departments to put in joint bids on Research Council Calls; the existence of a Centre whose purpose is to enable leading-edge research to make an impact on government policy will make the University of Cambridge an ever more attractive option for research funding (particularly "follow-on" funding). In addition, the CSaP proposes to create a panel of industrial and government sponsors, each of whom in due course will be invited to make a contribution to the work of the Centre.

Outcomes

plans to establish the set of programmes outlined above, and then continue to develop them in order to meet its long-term goal of sciences and technology at the service of society. Thus positioned, it will be able to focus its expertise on long-range global challenges, such as the potential for climate change and resource scarcity, generating constructive, disinterested advice and realistic solutions crafted to meet policy makers' needs. Its progress over the period 2009 to 2012 will be measured in the following ways:

- the number of active Centre Interest Groups
- industry and media the range, quality and seniority of Visiting Fellows the number of interactions between Centre members and
- high-level policy makers.

The Centre for Science and Policy's funding strategy anticipates that at the end of its second phase, in 2012, it will be self-funding. It plans to generate income and attract additional funding that will cover the cost of its programmes and operations, and produce a surplus

³ Dr Cleevely is an entrepreneur and networker who has built five highly successful companies and three networking organisations, and made significant contributions to government policy in spectrum management, communications and media. He is Chairman of ionscope Ltd, CRFS Ltd, and Cambridge Wireless, Adviser to the Cambridge Gateway Fund, and a member of the IET Telecommunications Sector Panel. Ms Ouchikh has many years of experience in event management within the University, most recently in the Cambridge-MIT Institute. Dr Gray, a former Research Fellow at Jesus College, has 25 years of experience in the development and operation of knowledge-based enterprises in the private sector.

Past and Planned Events

Internal Consultations

- Climate Science (9 March 2009)
- Energy (13 March 2009)
- Ageing and Dementia (16 March 2009, 10 February 2010)
- · Genomics and Health (16 March 2009)
- Security, Risk and Infrastructure (18 March 2009)
- Cognitive Systems (18 March 2009)
- Manufacturing and Industry (24 March 2009)
- Water Security (1 September 2009)
- Behavioural Change (8 December 2009)
- Cambridge Zero Carbon 2040 (18 December 2009)
- Science and Society (13 January 2010)
- Ecosystems (21 January 2010)

External Consultations

- Advisory Group (13 May 2009, 29 October 2009, 13 May 2010, 18 November 2010)
- Whitehall Consultations (14 and 21 January 2010, 11 February 2010)

Workshops

- Valuation of ecosystems (with CCI and DEFRA 3 September 2009)
- Impact of case studies on policy (with RAND Europe 19 October 2009)
- Independent response to House of Lords report on genomic medicine (with PHG Foundation – 10 and 19 November 2009, 11 January 2010, 3 February 2010)
- Managing the risk of catastrophic failure in complex systems (with Centre for Risk Management – 10 December 2009)
- Global Water Initiative (with Centre for Energy Studies 21 to 25 September 2009)

Lectures and Seminars

- First Distinguished Lecture (Professor David Mackay 18 January 2010)
- Second Distinguished Lecture (Professor Ben Martin 3 March 2010)
- Third Distinguished Lecture (Sarah Mukherjee date tbc)
- First Associates Seminar how should the policy impact of science research be measured? (27 January 2010)











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