

## Professor John Chesshire

We are very sad to announce the recent death of Professor John Chesshire, former head of energy research in SPRU and Chair of the SEG Steering Board. John died at home earlier this month.

John played a very important role in SPRU's energy research over almost four decades – as a leader, a generous mentor of others, and as a high profile contributor to academic and policy debates. Trained in economics, he was a creative empiricist in his academic work and always recognised the importance of political economy. His passion for industrial economics and then for many years his work on the energy system offered multiple opportunities to move skilfully between the worlds of analysis and policy-making from his base at SPRU, University of Sussex. John did pioneering early work on energy demand and spent much of his later career tirelessly advocating the importance to energy policy of managing energy demand – he was always rightly suspicious of grand plans to expand the supply side of the energy system. His egalitarian and broadly Fabian politics were always a mainspring of his work.

John's had two great career achievements. The first was to translate the academic world for the benefit of the public policy system and correspondingly to make sure that the academic world was always alive to the real problems of policy. The second was an almost unique capacity to sell radical and innovative (and thus often unwelcome) ideas while speaking a language that his listeners recognised and could easily sympathise with. He always wanted to make a real difference to the world and while he normally displayed broad tolerance he could be impatient, though often wryly humorous, with the deductive and other-worldly style of some of his economist colleagues in other universities. His label for such people – its purity being fatal if apparently innocuous – was 'triple-distilled'.

He brought immense energy and commitment to all he did, and was a tireless networker, able to communicate with equal confidence and effectiveness with everyone he met – from local trade unionists, through environmental campaigners, to senior civil servants and Cabinet Ministers. The roll call of his public sector engagements is far too long to be listed here but special mention should be given to his work on the 'fuel poor', where he was passionately engaged in trying to get Government to honour its apparent commitment to abolishing fuel poverty.

A memorial fund to support the next generation of researchers and practitioners in the areas of energy efficiency and fuel poverty is being set up. This will be in the joint names of John and his former colleague on the Fuel Poverty Advisory Group, Peter Lehmann, who died in 2008. Full details will be announced in due course.

Gordon MacKerron and Jim Watson

SEG Newsletter No. 7  
September 2009

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## SEG in the media

Steve Sorrell quoted in *The Guardian* on the potential rebound effect from energy efficiency measures:  
<http://www.guardian.co.uk/environment/2009/may/14/rebound-effects-energy-efficiency>

Jim Watson, 'Why it would be naive to abandon emissions negotiation at Copenhagen' Comment is Free, *The Guardian*:  
<http://www.guardian.co.uk/environment/cif-green/2009/jul/09/copenhagen-emissions-caps>

Tao Wang, interview for BBC World television about Chinese greenhouse gas emissions and the Copenhagen climate talks: <http://www.youtube.com/watch?v=UqI-09NuO9E>

### Spotlight on DPhil research

The electricity sector has seen a major restructuring since the early 1990s through privatisation and liberalisation. An important question is whether and how market liberalisation that has been designed to increase efficiency can accommodate new sustainability and climate change objectives. A large body of literature based on evolutionary economics argues that systems like the electricity sector can be locked into 'suboptimal' structures. As a consequence, price-signals will not be sufficient to achieve the required system transformation and additional governance mechanisms are therefore needed.

Against this background, Dierk Bauknecht, a third year DPhil student in SEG, has investigated incentive regulation of electricity networks as one element of the electricity liberalisation model and has analysed its potential to integrate low-carbon electricity production from distributed generation (DG) into the power grid. The analysis has been broken down according to different technical challenges: (1) It examines ways to incorporate DG connection and integration into the incentive regulation framework; (2) As the share of DG increases, the question arises how incentive regulation can pro-mote innovations in the network; (3) On top of innovations in individual networks, a more encompassing system transformation may become necessary. The research includes an analysis of various governance options as well as two country case studies on the UK and Denmark.

The project has been part of the research group 'Transformation and Innovation in Power Systems', funded by the German Federal Research Department. It is supervised by Professor Gordon MacKerron and Dr Jim Watson. Research began in October 2006 and will be completed in 2009. Preliminary conclusions suggest that objectives besides efficiency can to some extent be integrated into the incentive regulation framework. However, the thesis also shows the limits of this framework, especially when it comes to promoting innovation and transformation. Both the analysis of governance options and the case studies support the argument that incentive regulation needs to be complemented by additional, non market-based governance mechanisms.

For more information contact Dierk Bauknecht on [d.bauknecht@sussex.ac.uk](mailto:d.bauknecht@sussex.ac.uk)

### Can China shift to a low carbon development pathway?

Tao Wang and Jim Watson launched the report 'China's energy transition – pathways to low carbon development' in Beijing on 29th April 2009. The event was organised in conjunction with the British Government's British Foreign & Commonwealth Office (FCO), the Climate Change & Energy Network in China, the Energy Research Institute (ERI) of the Chinese National Development and Reform Commission (NDRC) and the Ministry of Science and Technology (MOST). The report is the outcome of a three year research project conducted by the Tyndall Centre for Climate Change Research and the Sussex Energy Group. The report can be found on the Energy Group website: [http://www.sussex.ac.uk/sussexenergygroup/documents/china\\_report\\_forweb.pdf](http://www.sussex.ac.uk/sussexenergygroup/documents/china_report_forweb.pdf)

The report investigates the potential trajectories of carbon emissions that China could follow to achieve a given global climate change target. The report investigates in detail how these emission trajectories could be achieved, through changes in China's economy and society, and the policies and technologies that shape China's energy system. It concludes that China could reach a turning point in its emissions between 2020 and 2030 if such changes are made, and that a key step in the short term will be to take action to reduce the rate of emissions growth.

The half-day event was opened with speeches by senior government officials from NDRC and MOST, and facilitated by a panel discussion with leading experts from ERI, WWF, Climate Group and FCO. It stimulated intensive discussions on China's future climate and energy policies amongst the 70 strong audience.

The Tyndall Centre report comes at a time when the world is trying to reconcile the twin imperatives of both fighting against global recession and climate change. As world leaders are talking up the possibility of investing in low carbon industries to create jobs and pull the global economy out of recession, this research shows how to connect these two targets in an integrated strategy for energy and economic development in China. The analysis shows that decoupling the growth of carbon emissions from economic development is challenging but achievable in China. The report launch was a great success and has strongly strengthened links and built on the reputation of SEG with both the Chinese government and climate change research communities.

Following the main launch, Tao and Jim were invited to a series of meetings by interested Chinese institutions in Beijing, some of which are particularly influential in China's policy making. These include the Development Research Centre of the State Council of Chinese government, the Chinese Academy of Science, MOST and others. Jim Watson was also invited to speak at a low carbon development conference organised by the British Consulate-General in Shanghai.

In addition to the main report launch, Tao Wang was invited to speak in a panel at a seminar organised by the All Party Parliament China Group (APPCG) of the UK parliament for a visiting delegation of the National People's Congress of China (NPC). The seminar was held within the Parliament on 18th May on the topic of 'Sustainable technology collaboration between the UK and China'. In March, Jim Watson gave the prestigious Friday Evening Discourse lecture at the Royal Institution of Great Britain: *China and climate change: Curbing emissions from the factory of the world*. This lecture format dates back to the time of Michael Faraday, one of the RI's founders.

## Sussex Energy Group – Publications and presentations

### Award for SEG Research on Technology Transfer

In June, SEG won a Green Gown award for our research on low carbon innovation and technology transfer to India. This is the first year in which a specific Green Gown award is being made for research. David Ockwell attended the awards dinner, and received the award on behalf of the project team from TV presenter Kate Humble.

This research project, which is currently in its final stages, has focused on a number of detailed case studies to identify barriers to low carbon technology transfer to India – which is one important mechanism to stimulate low carbon innovation in that country. It has also developed proposals to overcome these barriers that focus on three areas: intellectual property, the potential for joint research, development and demonstration (R,D&D) between developed and developing country firms, and the extent to which policy responses should differ between technologies, sectors and countries. The way in which this research is directly informing government negotiating positions within the UN Framework Convention on Climate Change was a key reason why it received the Green Gown Award.

For further details, see: <http://www.sussex.ac.uk/sussexenergygroup/1-2-9.html>

## Paper prize

David Ockwell was awarded the 2008 Harold D. Lazwell Award for the best article published that year in the journal Policy Sciences, as determined by a vote of the journal's international editorial board. Policy Sciences is an interdisciplinary journal with an international focus specialising in conceptual and empirical innovation with an emphasis on articles which address specific policy problems. It attracts particular attention from academics specialising in post-positivist approaches to policy analysis.

The article for which David was awarded the prize is:

David G. Ockwell (2008) "'Opening up' policy to reflexive appraisal: a role for Q Methodology? A case study of fire management in Cape York, Australia", Policy Sciences 41(4): 263-292

The article benefited greatly from internal peer review and work published by other members of SEG.

This article explores the extent to which Q Methodology, or 'Q', can play a role in 'opening up' (cf. Andy Stirling, SEG Professorial Fellow, 2008) policy to reflexive appraisal. A Q study of fire management discourses in Cape York, northern Australia is presented which exposes the existence of four key discourses in the region: discourse A - rational fire management; discourse B - fire-free conservation; discourse C - pragmatic, locally controlled burning; and discourse D - indigenous controlled land management. At present only discourses A and C are reflected in policy. Appraising existing policy on the basis of the different constructions articulated by discourses B and D of the purpose of and practices involved in fire management, is successful in opening up existing policy to reflexive appraisal. In the face of considerable scientific uncertainty as to the ecological impacts of different burning regimes in northern Australia, this process of opening up has important potential for appraising the social desirability of existing policy and practice in the region. This analysis provides a practical demonstration of the wider potential of Q Methodology in opening up other important contemporary policy issues to reflexive appraisal. It also provides the basis for recommending the expansion of participatory processes for facilitating stakeholder engagement in fire management policy and practice in Cape York.

## The First European Conference on Sustainability Transitions

SEG and SPRU were strongly represented at The First European Conference on Sustainability Transitions which was held in Amsterdam between the 4-6th of June 2009.

Adrian Smith was a member of the programme committee alongside researchers from the Tyndall Centre in the UK, CIRUS at EAWAG in Switzerland, the Centre for Technology and Society of the Berlin Institute of Technology in Germany, and the IHDP's Industrial Transformation project.

This event, for the first time, brought together researchers across Europe who have evolved into a distinct 'transitions' community over the last couple of years. Under the auspices of the Dutch Knowledge Network on System Innovations (the KSI network) the idea of the conference was to take stock of the results of analysis and practice of sustainability transitions and to discuss a potential European consortium for transitions research. It included a variety of perspectives (innovation studies, environmental economics, policy studies, modelling, action research) with participants from Europe, the US, Canada, Asia and Australia.

SEG/SPRU researchers presented a total of four papers, covering transitions theory, energy and nanomaterials:

- 'Destabilization and Decline of Existing Regimes as the Key to Transitions Towards Sustainability' (Frank Geels)
- 'The Discursive Politics of Governing Transitions Towards Sustainability' (Florian Kern)
- 'The Hour-Glass Shape in Nanomaterials Innovation Systems and its Implications for Governance' (Ismael Rafols, Patrick van Zwanenberg, Molly Morgan and Adrian Smith)
- 'Environmental Pressures and the Destabilization of Existing Regimes: The Case of British Coal Industry 1870-1970' (Bruno Turnheim)

### Recent journal publications

Lehtonen, M. and Nye, S. (2009) History of electricity network control and distributed generation in the UK and western Denmark. *Energy Policy* 37, 2338-2345.

Scrase, I. and Smith, A. (2009) The (non-) politics of managing low carbon socio-technical transitions. *Environmental Politics* 18, 5: 707-726,

Sorrell, S. R., Lehtonen, M., Stapleton, L.M., Pujo, J. and Champion, T. (2009) Decomposing road freight energy use in the United Kingdom. *Energy Policy* 37, 3115-3129.

### Other Conferences, Presentations and Workshops

Markku Lehtonen presented the following papers during May and June 2009:

'Les institutions délibératives dans le domaine nucléaire en Angleterre, Finlande et France'. Invited presentation at the seminar "L'il de la communauté internationale", at the Ecole des Hautes Etudes en Sciences Sociales (EHESS), Paris, 18 May 2009.

'Policy influence of indicators: Framework for analysis and lessons from the UK energy sector'. Presentation at the EPOS Conference, 'Sustainable Development in Policy Assessment ? Methods, Challenges and Policy Impacts', Brussels, 15-16 June 2009.

'Réversibilité et récupérabilité dans les processus délibératifs de prise de décision sur les déchets nucléaires en Finlande et le Royaume-Uni'. Presentation at the Interdisciplinary conference on the concept of reversibility, organised by the French National Radioactive Waste Agency (Andra), in Nancy 17-19 June 2009.

'Deliberative decision-making on nuclear energy in Finland, France and the UK: Influence of mixed forms of deliberation in the macro discursive context'. Presentation at the 4th International Conference in Interpretive Policy Analysis 'Discourse, Power and Politics', Kassel, 25-27 June 2009.

Steve Sorrell presented a paper at an afternoon seminar session on the 14<sup>th</sup> May 2009 organised by The Cambridge Energy Forum and The Cambridge Centre for Climate Change Mitigation Research (4CMR), University of Cambridge. The event focussed on: a) what the rebound effect is b) how it manifests itself c) what we can do about it. Steve's paper was entitled 'The rebound effect: mechanisms, evidence and implications'.

More information including the text of full papers can be found at <http://www.landecon.cam.ac.uk/research/eeprg/4cmr/archivedevents.htm#news3>

Steve Sorrell also presented a paper on the 18<sup>th</sup> June 2009 at a conference entitled 'Sustainable lives? The challenges of low-carbon living in a changing economic climate'. Steve's paper, 'The implications of the rebound effect for sustainability', summarised the evidence for such effects and highlighted their far-reaching implications for climate policy. The conference was hosted by the ESRC Research group on Lifestyles Values and Environment (RESOLVE) at the University of Surrey and featured cutting edge research, high profile keynote speakers and policy relevant panel discussions. The event was an important milestone on the Road to Copenhagen, as Government, NGOs and business gear up for a new international agreement on climate change in Copenhagen in December this year.

More information including the text of full papers can be found at <http://www.surrey.ac.uk/resolve/news.htm>

Adrian Smith participated in a workshop for Scottish policy-makers in Glasgow, between 3<sup>rd</sup>-4<sup>th</sup> September 2009 organised by the Institute of Advanced Studies and Edinburgh University. The workshop, Exploring Transitions to Decarbonisation: Theory and Practice, considered how research into sustainability transitions might prove helpful to Scotland's ambitious plans to decarbonise its energy sector and wider economy. Policy-makers and researchers attending the event also learnt from policy experience in the Netherlands and Denmark. Adrian Smith provided an overview of some of the critical policy and political issues raised by his research into sustainability transitions. The workshop is the first of three under the theme Governing Decarbonisation in Scotland.

Adrian Smith was also invited to participate in the 1st International Conference of Science and Technology Studies: Technologies for Integration and Development organised by the Universidad Nacional de Quilmes in Buenos Aires between 25<sup>th</sup>-27<sup>th</sup> September 2009. The workshop discussed research into grassroots innovation for sustainable energy in South America, and Adrian was invited to discuss his work on this topic in the UK; especially the analytical framework he has developed for studying community innovation in energy. During his stay Adrian also visited the National Technology Institute for Argentina to discuss policies to promote grassroots innovation, as well as an eco-centre in Buenos Aires province.

## External Appointments

Florian Kern has been invited by Professor Jeremy Rayner, Head of the Department of Political Science at the University of Regina, Canada to join the scientific advisory board for a project on energy transitions in Saskatchewan. The three year project is funded by the Social Science and Humanities Research Council of Canada. It is a programme of integrated research and knowledge mobilisation designed to stimulate open, evidence-informed energy policy development in Saskatchewan and the rest of Canada. Promising experiments are currently taking place in the Saskatchewan energy sector, including clean coal, renewables, re-examination of the nuclear option, and a smart transmission grid. The question is how to steer these developments in a sustainable direction, acknowledging the need to take into account the multiple public perspectives around that ambiguous concept “sustainability”.

Lee Stapleton has been appointed to the Editorial Board of a new journal, International Journal of Sustainable Society (IJoSS). The journal presents a forum to help policy makers, planners, researchers, educators, students, citizens, and professionals exchange their innovative ideas and thought-provoking opinions. It also creates a communication channel between practitioners and academics to discuss problems, challenges and opportunities in all aspects of our society.

Jim Watson and other SEG team members have been appointed as advisers to the Department for International Development. SEG’s advice has been sought to help DFID’s evaluation of proposals for funding submitted to the World Bank Clean Technology Fund.

## Changes of Staff

It has been a period of significant change in the SEG team. Sigrid Stagl left us in early September to take up a new Chair at the University of Vienna in ecological economics – a dream job offer she couldn’t refuse. Tao Wang has just left us to return to China after seven years in the UK. We will continue to work with both of them as research partners in the future. In addition, Raphael Sauter is now in the final stage of his DPhil at SPRU, and has just started a new job at the European Commission, focusing on policy for carbon capture and storage (CCS). New appointments to replace some of this research capacity will be made shortly.

Andy Wilson, our Research Co-ordinator, recently accepted a new post working in communications for Cambridgeshire County Council. SEG are sorry to see Andy go and we wish him all the best in his new role. However, we are pleased to announce that Danielle King has re-joined SEG full time to replace Andy. Special thanks to Pascal Fanning-Tichborne for providing short term cover in between Andy’s departure and Danielle’s arrival.

## Sussex Energy Group

The Sussex Energy Group (SEG) at SPRU (Science & Technology Policy Research), University of Sussex, is a team of 19 researchers dedicated to understanding the challenges and opportunities for transitions to a sustainable energy economy. We undertake academically excellent and inter-disciplinary social science research that is also centrally relevant to the needs of policy-makers and practitioners. We pursue these questions in close interaction with a diverse group of those who will need to make the changes happen. Core funding to the group is provided by the Economic and Social Research Council.

### SEG members and key research areas

**Jim Watson** - Director of SEG, Senior Fellow

*Decentralised energy, energy policy, energy and development*

**Steve Sorrell** – Deputy Director of SEG, Senior Fellow

*Emissions trading, energy efficiency, climate policy*

**Frank Geels** – Professorial Fellow

*Transitions to sustainability, socio-technical systems, innovation studies*

**Florian Kern** - Research Fellow

*Governance of system innovation, energy innovation policy*

**Markku Lehtonen** - Research Fellow

*Knowledge in policy making, biofuels, governance*

**Alexandra Mallett** – Research Fellow

*Technology transfer, low carbon growth, developing countries*

**Mari Martiskainen** - Research Fellow

*Consumer behaviour, energy demand in households, energy efficiency*

**Francis McGowan** - Senior Lecturer in Politics

*European energy policy, party politics of energy choices, policy evaluation and the energy sector*

**Gordon Mackerron** - Director of SPRU, Professorial Fellow

*Security of supply, energy policy, nuclear power*

**David Ockwell** – Lecturer in Geography

*Low carbon technology transfer, discourse analysis, inter-disciplinary research*

**Mike Parker** - Honorary Fellow

*Climate change policy, urgency, time critical pathways*

**Raphael Sauter** - Research Fellow

*European energy policy, security of supply*

**Ivan Scrase** – Research Fellow

*Energy policy framing, appraisal and change*

**Adrian Smith** - Senior Fellow

*Governance, technology, politics*

**Lee Stapleton** - Research Fellow

*Energy efficiency, quantitative techniques, renewable energy*

**Andy Stirling** - Professorial Fellow

*Appraisal, diversity, resilience*

**Danielle King** – Project Co-ordinator

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