

Growing Places



The Newsletter of the **Social and Economic Research Group**

Autumn 2010

Welcome to the SERG newsletter.

This autumn edition focuses on the challenges associated with climate change, and shows how our research helps to realise the potential of trees and forests to mitigate and adapt to the changing climate.

Contact with trees and forests can affect how people make sense of their environment, and this can influence how people think and act. We need to understand these relationships if our policy responses to climate change are to make a difference.

Change at the individual level is not adequate without institutional change. We need to understand how forestry and land-use organisations can become more adaptive and provide opportunities for learning and innovation.

The new coalition government has announced a substantial national tree planting programme. Social science helps to inform the design of grants and other incentives for tree planting, and to maximise public benefits by involving marginalised social groups, especially in urban areas.

This edition highlights some of our research that shows how changes in the values, attitudes and actions of both individuals and organisations can enhance the contribution of trees and forests to addressing the climate change challenge.

More information about SERG's climate change-focused research is available at:

www.forestry.gov.uk/fr/peopleandtrees

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This April saw more than 120 delegates attend the conference 'Trees and forests in British society', organised by Forest Research's Social and Economic Research Group (SERG). The event reflected on the wealth of experience gained from ten years of research undertaken by SERG.

Emerging issues included: new evidence showing the range of well-being benefits from trees and woods, which can be translated into real savings for the health service; the need for more convincing economic models and evaluation frameworks to assess and integrate the aesthetic and cultural values of woods and forests into land-use planning; and evidence that public participation in forest governance has increased dramatically, partly due to the influence of the community forestry and community woodland movements.

The conference closed with a visit to Easterhouse in Glasgow to look at one of Forestry Commission Scotland's 'Woods In and Around Towns' sites.

A summary of the conference, along with the presentations shown, can be found at:

www.forestry.gov.uk/fr/INFD-873HFT.

The extended abstracts will be published later this year as a PDF.

Adapting forest management

Foresters, their organisations and identities are an important focus for social research as the profession grapples with the complexities and uncertainties of climate change. Two studies look at these new demands on foresters.

The first study reviews international experience with adaptive forest management and what it means for British forestry. Adaptive management is a systematic process for continually improving management by learning from the outcomes of current management. The review showed how adaptive management changes the relationships between science and people. The ideas for adaptive management may come from local people or foresters, rather than from the researchers. The predictions of what might work, however, may come from models that are more complex than anything previously used by forest managers. This can modify the roles of scientists and foresters, and require more stakeholder engagement.

An indispensable feature of adaptive management is monitoring, and its use to inform future management. The review showed that this is often neglected due to the costs of data collection and management, and the challenges of designing indicators of complex concepts such as resilience.

In short, adaptive management requires organisations and professional cultures to be good at learning. Forestry organisations are typically seen as practical, non-reflective, expert, controlling and risk-averse. These traits reportedly undermine experimentation and learning.

The second study is based on interviews with foresters in Wales, where policy has shifted to favour low-impact silvicultural systems (LISS). This creates opportunities for Forestry Commission (FC) foresters to use a wider range of techniques. For example, conversion of even-aged stands of Sitka spruce, to 'continuous cover', requires heavy thinning ('crown thinning') combined with careful management of natural regeneration. Although this shift is not labelled 'adaptive management', it is guided by the need to adapt to a changing climate and social environment,

and it has triggered a wealth of new silvicultural practices. The FC often describes itself as a 'can do' organisation and the study shows how this quality supports initiative and innovation. There are, however, challenges for learning: sharing innovation more widely, and monitoring and documenting the results.

Where LISS is being implemented successfully, forest planners combine an enthusiasm for silviculture with good working relationships, detailed personal experience of the sites, and clear communication based on modification of the standard planning systems and tools available to them. They agree that LISS has made their job more complex, but they welcome the opportunity for new experiences.

Details of both studies will be available soon from

www.forestry.gov.uk/fr/INFD-88WHC3

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Tools to address risk and uncertainty

Many forest policymakers and planners remain unclear about the best ways to respond to the risks and uncertainty associated with climate change, despite efforts to disseminate the latest scientific evidence and operational guidance. Fundamental decisions about choice of tree species and silvicultural regimes may have unforeseen impacts on the viability of forests for decades to come, and on the value of the functions and services they provide. Societal demands are also evolving in unpredictable ways.

The MOTIVE project ('MOdels for AdapTIVE Forest Management') seeks to improve the quality of knowledge associated with climate change – and the ways in which that knowledge is used – within the European forestry sector by developing and applying a range of GIS-based models and tools. The tools will analyse and display the risks associated with the implementation of different forestry policies and plans over the coming decades as climate change increasingly takes effect, such as pests and diseases, windthrow, drought and frost. The project is funded by the EU 7th Framework Programme and is running for four years from April 2009. It is being conducted by a consortium of researchers from 13 countries.

As part of MOTIVE, SERG is coordinating stakeholder engagement in nine case

study regions across Europe, including one in Wales, to help enhance the uptake and usefulness of project outputs. This strategic role is being informed by our contribution to the Wales case study (specifically in Gwydyr and Clocaenog forests) where we are working in partnership with modellers, potential end users and other stakeholders. Through a process of collaborative learning we aim to develop a shared understanding of current forest planning and policy making, and how the decision-support system (DSS) will need to be designed and used to add value to existing practices.

Our agenda in Wales is supported by a parallel strand of research to determine how different forestry stakeholders currently understand, and respond to, climate change and the uncertainty this represents. The research will explore the influence of diverse factors on stakeholder understanding and behaviour, such as policies, grants, media, and guidance, and should provide insights of wider relevance to climate change policy making.

To find out more contact David Edwards (david.edwards@forestry.gsi.gov.uk) or Mariella Marzano (mariella.marzano@forestry.gsi.gov.uk). Alternatively, visit www.forestry.gov.uk/fr/motive and <http://motive-project.net>.

Biomass energy

Biomass from woodlands and forests is widely recognised as having the potential to play a central role in providing the renewable energy 'mix' essential to Britain's efforts to mitigate climate change. This is particularly the case in terms of heating, with biomass boilers and district heating systems offering highly efficient energy options. Britain's biomass sector is, however, substantially under-developed, with high capital costs and a lack of familiarity with the technology stifling demand. The Forestry Commission and other governmental partners are committed to supporting the development of this sector, and it is considered a useful stimulus for addressing under-management of woodland. SERG is contributing by conducting research aimed at understanding two related aspects: the influences upon landowners' decisions relating to woodfuel production, and the effectiveness of partnership working arrangements (e.g. 'producer groups').

Received wisdom commonly asserts that landowners choose not to produce woodfuel because of the very limited profit to be made, public opposition to tree felling and lack of knowledge. These barriers, it is then claimed, can and should be overcome through better targeting of governmental incentives and information. However, our research is beginning to reveal a more complex picture.

While the production of woodfuel for market is an objective for only a few land managers, it is widespread at a smaller scale to supply individual owners, friends and family. Making a profit is rarely a priority, especially for owners of small woodlands, with goals more often relating to recreation, environmental conservation or, for farmers, the provision of shelter for crops or livestock. Thus, grants are unlikely to be effective in increasing woodland management without parallel efforts to understand and communicate how woodfuel production can complement landowners' existing objectives. Having said this, economic factors are key to the long-term success of woodfuel-focused businesses and cooperative 'producer groups'.

The limited tradition and experience of biomass energy production and use in Britain extends to and affects all important stakeholders, including public sector and professional advisors, forestry businesses, and the public. However, there is little evidence to suggest that public opposition has a major direct influence on woodland managers' decisions.

Initial findings of our research suggest that in order to meet biomass production targets, we need to shift from emphasising just the economics and financial incentives towards facilitating the growth of a woodfuel culture among a diverse network of stakeholders, with a strong supporting infrastructure.

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Forestry and carbon markets

Despite growing appreciation of the essential contribution that forests could make to mitigate climate change, there is little incentive for woodland owners to safeguard or increase carbon capture and storage in the absence of a market for forestry carbon. However, the emerging carbon markets could change this.

We undertook reviews of carbon valuation and additionality to inform the development of a UK code for carbon sequestration projects. We also reviewed potential links with the world's largest carbon market, the EU Emission Trading System (ETS). Although it does not currently cover carbon sequestration by forests, from 2013 the principal method of allocating EU emission allowances will change to an auctioning system, with revenues used to fund a range of activities likely to include forestry.

Valuing carbon from a social perspective is complex, with no internationally agreed approach. The UK government uses central estimates of £14/tCO₂e (£14 per tonne of carbon dioxide equivalent) for ETS sectors and £52/tCO₂e for non-ETS sectors when assessing policy options. These estimates are based on carbon prices consistent with national emissions reduction targets and are projected to rise to £308/tCO₂e in 2077 (at 2009 prices) and decline thereafter. If tighter targets were adopted, these values would increase, but they are currently considered consistent with the UK's contribution to limiting global temperature increase to around 2 °C and atmospheric greenhouse gas concentrations to within 460–480ppm CO₂e in 2200. As the prevailing prices in the voluntary (non-ETS) market are considerably lower than the value used by the government for policy appraisal, there is limited incentive for non-ETS sectors (e.g. forestry) to reduce or sequester carbon.

Additionality (i.e. having net benefits over and above those that would have arisen anyway) is a key challenge. The importance of additionality is illustrated by double-counting concerns about benefits already included within statutory reporting and targets. These concerns were partly responsible for a huge drop in the volume of transactions for European voluntary carbon market projects in 2007–08.

In summary, mechanisms to value forestry carbon remain weak. Establishing a more robust framework will be important if the forestry sector is to play a greater role in meeting national emission reduction commitments and significant opportunities for climate change mitigation are not to be missed.

To find out more contact Gregory Valatin (gregory.valatin@forestry.gsi.gov.uk) or visit www.forestry.gov.uk/fr/INFD-7WTDFQ.

If you need this publication in an alternative format, for example in large print or another language, please telephone us on **0131 314 6575** or send an e-mail request to: diversity@forestry.gsi.gov.uk



Recent SERG publications

Carter, C. and Pycroft, A. (2010). Getting out: offenders in forestry and conservation work settings. Chapter 11 in: J. Brayford, F. Cowe and J. Deering (eds) *What else works? Creative work with offenders*. Uffculme: Willan Publishing, 211–235.

Castan Broto, V., Burningham, K., Carter, C. and Elghali, L. (2010). Stigma and attachment: performance of identity in an environmentally degraded place, *Society and Natural Resources*, **23** (10), 952–968.

Dandy, N. (2010). Deer on the doorstep. *Deer*, Summer 2010, 12–14.

Lawrence, A., Dandy, N. and Urquhart, J. (2010). *Landowners' attitudes to woodland creation and management: a review of evidence in the UK. Full report*. Forest Research. Available at: www.forestry.gov.uk/fr/INFD-86ED4H

Mortimer, S., Mauchline, A., Park, J., Finn, J., Edwards, D. and Morris, J. (2010). Evaluation of agri-environment and forestry schemes with multiple objectives. *Eurochoices* 2010, **9** (1), 48–54.

Where to find out about us:

What we do

www.forestry.gov.uk/fr/peopleandtrees

Who we are

www.forestry.gov.uk/fr/INFD-5XNATV

If you would like to receive future copies of our newsletter please email:

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