

29 September 2016

Economics and Climate Change Research

1. Purpose

The purpose of this paper is to advise Commissioners of current work by the Economics and Climate Change team in Corporate and Forestry Support.

2. Background/Introduction

Key work areas for the team are to:

- commission research in Forest Research and externally;
- conduct economic appraisals of policy and operational proposals;
- provide economic analysis and 'interpretation' services; and,
- develop market-based tools (including the Woodland Carbon Code) to stimulate investment in forests.

3. Details

We have commissioned three significant pieces of research in the past year.

- a. Professor Ian Bateman and his team at Exeter University reviewed economic evidence on the social and environmental benefits of woodlands in England, Scotland and Wales. The report identifies evidence gaps and priorities, provides a 'state of the art' assessment of methods such as natural capital accounting (which is different to economic valuation) and introduces the concept of the 'natural factory'. DEFRA and other land-use bodies on the steering group were very supportive of the work and regarded the approach taken as a model to follow. The cutting edge thinking in the report is of strategic value for future economic research and will provide a valuable reference document. Editing and design work is being undertaken for it to be published as an FC Research Report. I have drafted an FC Research Note on this topic to provide an accessible overview of the work and future research priorities, and this will be published in the next few weeks alongside the main report at www.forestry.gov.uk/economics.
- b. Economics for the Environment Consultancy (EFTEC) has evaluated the wider benefits of the Woodland Carbon Code to show how it supports various policy objectives in addition to CO₂ emissions abatement. This work is intended to position the Code to appeal to new investors (many of whom are seeking wider benefits) and to strengthen evidence on the wider benefits of CO₂ emissions abatement (including

the UN's Sustainable Development Goals). The project is also examining the feasibility of incorporating more information on social and environmental benefits into the monitoring processes under the Code. This report will be available at www.forestry.gov.uk/economics from early October.

- c. Two pieces of work are underway, with colleagues in the FC and FR, to evaluate the flood alleviation impacts of woodland measures. First, we have been working with consultants employed by the Environment Agency to incorporate woodland creation and management measures into the modelling of forthcoming flood prevention schemes. Assessments will then be made of the flood damage costs avoided by such measures. This information will help to build the economic case ("hard evidence") for woodlands in alleviating floods. The first site is in England and we are looking for sites in Scotland. Second, we are seeing whether an approach can be devised to estimate regional and/or national values for woodlands in alleviating flood risk. Such a value could provide important evidence for briefings and communication as well as feeding into wider initiatives such as the Office for National Statistics Natural Capital Accounts.

Work continues to build new business models and investment mechanisms for forestry.

- d. Verification procedures for the Woodland Carbon Code have been developed to enable the first verification checks in 2016 (5 years after the launch of the Code). Lighter touch procedures were introduced in 2015 for small woodlands to make the Code more attractive to such projects. Invitations have been received to present our experience, both at home and abroad, including at the 2015 Paris COP¹ on climate change. Engagement across the carbon and land-use sectors is helping to inform strategy and direction for the Code, and how it should be managed in future. Various barriers to uptake remain and we welcome wider input on how to address these.
- e. Working with FE England, the development of the first set of corporate natural capital accounts for the Public Forest Estate (PFE) has been developed (see <http://www.forestry.gov.uk/forestry/bee-h-acjccn>). The accounts attach monetary value to some non-market benefits delivered by the PFE, including carbon sequestration and recreation. These values will be capitalised and shown on a Balance Sheet, following the model advocated by the Natural Capital Committee. Colleagues in Scotland have been updated and participated in a 'capacity-building' workshop in March in Birmingham.
- f. Active engagement with other government departments and stakeholders - including the Green Investment Bank, the Natural Capital Committee and the Climate Bonds Initiative - is pushing forward new proposals for investment mechanisms. Flooding events in the past year have raised the urgency of this work.

¹ Conference of the Parties

We are examining future priorities for research. In addition to strengthening the evidence linking woodlands to flood alleviation, we are working with others to develop estimates for air pollution absorption and to consider the impacts on woodland values of pest and disease outbreaks. We are also working with the University of Edinburgh (and leveraging research council funding) to improve how we evaluate risks to woodlands in the future. Our aim is to develop an evidence base that allows a more comprehensive estimation to be made of the value of woodland ecosystem services. This will enable the full scope of forestry to be represented in natural capital accounts.

4. Resource Implications

There are no additional resource implications from the work detailed in paragraphs 3a to e. Work on future priorities will be constrained by funding availability although we will continue to seek to develop partnerships with other bodies and to lever additional research funds.

5. Risk Assessment

The work described above helps to build and sustain evidence to inform policy and to meet policy objectives (e.g. on woodland creation). It is closely tied to current developments in thinking and practice; for example, natural capital and 'payments for ecosystem services' approaches to supporting forestry and land-use sector.

Such work mitigates the risk of having inadequate analysis to support policy and from inaccurate use of evidence. It also supports a 'cutting edge' role for forestry.

6. Communication Issues

Subjects of recent publications include behavioural 'nudges' to encourage woodland creation and analysis of the cost-effectiveness of woodland creation to abate CO₂ emissions. Reports on the work described in paragraph 3 are being placed on the FC website (www.forestry.gov.uk/economics) in the coming weeks, including an FC Research Report and Research Note on the work by the University of Exeter. To make such work as accessible as possible, these outputs are being shared with other Government departments, public bodies and NGOs.

7. Implementation and Evaluation Proposals

This economic research and continuing engagement with colleagues and stakeholders will improve the evidence base to support forestry. It will help the Forestry Commission to conduct economic appraisals of policy and project initiatives, and to communicate the

benefits of forestry. The initiatives to develop new financial instruments should encourage investment in woodlands, and support devolved administrations' policy delivery.

8. Recommendations

Commissioners are invited to note the economics and climate change work which is underway and to discuss any issues which arise.

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