

22. Promotion of scientific knowledge of LULUCF issues and provision of technical advice (WP 5)

This work package covers the provision of advice to the UK Government and Devolved Administrations on matters relating to the UK inventory and LULUCF activities and the development and promotion of scientific knowledge of LULUCF issues through meeting attendance and publications. Activities relevant to this work package that took place between June 2006 and May 2007 are listed below.

22.1 Meetings/presentations

- Internal CEH carbon and nitrogen modelling workshop, Bangor, June 2006 (A. Thomson, D. Mobbs, M. van Oijen)
- Presentation at CEH Soils Workshop, Lancaster, June 2006 (P. Levy)
- British Soil Science Society conference on “Soils, vegetation and climate change”, Leeds, September 2006 (A. Thomson, U. Skiba)
- IPCC Emissions Factor Database Editorial Board meeting, Sao Paulo, Brazil, September 2006 (A. Thomson successfully nominated by Defra to be an editorial board member of the IPCC EFDB).
- Defra Soil Carbon Experts’ Workshop, Reading, October 2006 (M. Billett)
- “Technical meeting on specific forestry issues related to reporting and accounting under the Kyoto Protocol” at JRC Ispra in November 2006: attended and presented on the UK experience in this field (A. Thomson)
- IPCC meeting on “Future work programme of the IPCC Taskforce on GHG Inventories”, Geneva, Switzerland, January 2007 (A. Thomson)
- Talk on land use, forestry and climate change to the Peebles Farmer’s Discussion Society, February 2007 (A. Thomson)
- Stakeholders meeting at the Environmental Research Institute, Thurso, Feb 2007 (P. Levy, M. Billett)
- Presentation on LULUCF work to New Zealand expert for Scottish Executive, May 2007 (A. Thomson)

22.2 Requests for information/advice

CEH responded to a large number of requests for advice/information from Defra, the media, other institutes and members of the public during this project year. We responded promptly to these requests and coordinated responses from a broader range of CEH staff or project partners as required.

- Defra: Progress report to EU on measures to reduce GHG emissions (forestry section)
- Defra: Comments on the Kyoto Protocol reporting tables for the EU joint submission
- Defra: Query on fen soil carbon losses in the inventory
- Defra: Parliamentary question on studies on the degradation of peat bogs (PQ 22274)
- Defra: Requested comments on tender for projections of future land use change
- Defra: Carbon sequestration in the England Forestry Strategy
- Defra: Response to New Scientist article on grouse moor burning
- Defra: Information on peat extraction
- Defra: Parliamentary question on deforestation and CO₂ (PQ 0237)
- Defra: Bi-annual science report summary
- Defra; Reviewer for WG3 4th Assessment Report of the IPCC
- Defra: Contribution to Secretary of State briefing on forestry and climate change
- Defra: Information for Environmental Audit committee on carbon offsetting

- Northern Ireland: Enquiries on data sources for the inventory (2 separate queries)
- Forestry Commission Scotland: Enquiry on forest carbon estimates for the Scottish Climate Change Programme
- Natural England: Enquiry on peat soil extents
- Public: Queries on carbon offsetting from forestry (8 separate queries)
- Countryside Land and Business Association (CLA): Farm-level GHG emissions accounting
- Independent sub-contractor for the Forestry Commission: Query on carbon footprints of forestry operations
- Policy Studies Institute: Phone interview on LULUCF issues for FC review
- Scottish Executive: Summary report on LULUCF methods and numbers
- Netherlands query on UK's estimate for Article 3.7 of the Kyoto Protocol
- Media: Query on Scottish forestry inventory estimates by the Scotsman

22.3 Publications

- Baggott, S.L., Cardenas, L., Downes, M., Garnett, E., Jackson, J., Li, Y., Passant, N., and Thomson, A. (2006). *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 - 2004*. AEAT/ENV/R/2318 08/11/2006.
- Baggott, S., Cardenas, L., Garnett, E., Jackson, J., Mobbs, D.C., Murrells, T., Passant, N., Thomson, A., and Watterson, J. (2007) [UK Greenhouse Gas Inventory, 1990 to 2005: Annual Report for submission under the Framework Convention on Climate Change](#). AEAT/ENV/R/2429
- Briones, M.J.I., Ineson, P., Heinemeyer, A. Predicting potential impacts of climate change on the geographical distribution of enchytraeids: a meta-analysis approach. *Global Change Biology*, (accepted).
- Defra. 2006. The UK's initial report under the Kyoto protocol. http://unfccc.int/files/national_reports/initial_reports_under_the_kyoto_protocol/application/pdf/report_fina_lpdf
- Halsall, L., Gilbert, J., Matthews, R. and Fairgrieve, M. (2006) United Kingdom: New Forecast of Softwood Availability. *Forestry and British Timber* **35(11)**, pp14-23. November 2006
- Hartley I.P., Armstrong A.F., Murthyw R., Barron-Gafford G., Ineson P. and Atkin O.K. (2006) The dependence of respiration on photosynthetic substrate supply and temperature: integrating leaf, soil and ecosystem measurements. *Global Change Biology* **12** 1954-1968.
- Hartley, I.P., Heinemeyer, A., and Ineson. P. (in press a) Effects of three years of soil warming and shading on the rate of soil respiration: substrate availability and not thermal acclimation mediates observed response. *Global Change Biology*.
- Hartley, I.P., Heinemeyer, A., Evans, S.P., and Ineson. P. (in press b). The effect of soil warming on bulk soil versus rhizosphere respiration. *Global Change Biology*.
- Heinemeyer, A., Ineson, P., Ostle, N. and Fitter A.H. (2006). Respiration of the external mycelium in the arbuscular mycorrhizal symbiosis shows strong dependence on recent photosynthates and acclimation to temperature. *New Phytologist* **171**: 159-170.
- Heinemeyer, A., Hartley, I.P., Evans, S.P., Carreira de la Fuente, J.A. and Ineson, P. (in press). Forest soil CO₂ flux: uncovering the contribution and environmental responses of ectomycorrhizas. *Global Change Biology*.

- Kennedy, M.C., Anderson, C.W., Heinemeyer, A., Lomas, M.R., O'Hagan, A., Quegan, S., and Woodward, F.I. (in press). Quantifying Uncertainty in the Biospheric Carbon Flux for England and Wales. *Journal Royal Statistical Society*.
- Matthews, R.W., Robertson, K., Marland, G. and Marland, E. (2007) Carbon in wood products and product substitution. In: Freer-Smith, P.H., Broadmeadow, M.S.J. and Lynch, J.M. (eds). *Forestry and Climate Change*. CAB International: Wallingford, 91-104. (In press.)
- Magnani F, Mencuccini M, Borghetti M, Grace J and 17 others (2007) The human footprint in the carbon cycle of established temperate and boreal forest. *Nature* ***, **-* (to be published 14th June 2007)
- Quaife, T., Lewis, P., De Kauwe, M., Williams, M., Law, B.E., Disney, M. and Bowyer, P. (2007), in press. Assimilating Canopy Reflectance data into an Ecosystem Model with an Ensemble Kalman Filter. *Remote Sensing of Environment*.