

Economics Research

Forest Research's economics research applies tools of economic analysis to deliver research and supporting communications designed to help the Forestry Commission and the UK forestry sector use an ecosystem services approach to deliver sustainable forest management and to support the green economy. The four principal themes are:

Climate change mitigation: UK woodlands provide both a carbon sink and a renewable source of low energy materials and energy. The over-arching aim is to investigate the relative cost-effectiveness for climate change mitigation of forestry planting and management options.

Ecosystem Services valuation: A wide range of benefits are provided by UK woodlands. The principle aims are to assess these in economic terms, and explore spatial and temporal variations in ecosystem service values.

Payments for ecosystem services: Until recently, many ecosystem services have essentially been regarded as free goods, with little incentive for land owners and managers to take their value into account in making decisions. The over-arching aim of this research theme is to investigate potential mechanisms and approaches to developing incentive mechanisms to help ensure that the social value of ecosystem services from woodlands is taken into account in decision-making. This includes work in support of the UK Woodland Carbon Code.

Climate change adaptation: Global mean temperatures are expected to rise by at least 2°C by the end of the century, with mean summer temperatures in southern England expected to rise by over 4°C by 2080 under a medium emissions scenario (UPCIP09). The over-arching aim is to investigate the relative net benefits of forestry planting and management options in the UK for adapting to the changing climate.

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Current work		
Project title	Description and links	Contact
Climate change mitigation (MANFORC)	Investigating the cost-effectiveness of forestry options for climate change mitigation.	Gregory Valatin
Climate change adaptation	Analysis of climate change adaptation options in relation to changing risks (e.g. of wind throw).	Vadim Saraev
Ecosystem services valuation	Economic input into interdisciplinary case studies – including reviewing insights from behavioural economics and potential for associated policies (e.g. 'nudge') in woodland creation.	Gregory Valatin
Optimal rotation length	Review of evidence on links between rotation length choice and biodiversity benefits, and development of a prototype optimal rotation length model linked to existing Forest Research (e.g. carbon and timber yield) models	Vadim Saraev
Payments for Ecosystem Services	Case study on prospects for harmonising approaches to carbon valuation across Europe.	Gregory Valatin

Recently completed work 2011-2013	
Project title	Outputs and links
Cost-effectiveness of climate change mitigation options.	Valatin, G. and Price, C. 2013. How cost-effective is forestry for climate change mitigation? In: Fenning, T. (ed) (forthcoming). Challenges and Opportunities for the World's Forests in the 21 st Century, Springer, http://www.forestry.gov.uk/fr/INFD-97CDM2 . Valatin, G. 2012. Marginal Abatement Cost Curves for UK Forestry, Research Report 19, Forestry Commission, Edinburgh, www.forestry.gov.uk/PDF/FCRP019.pdf/\$FILE/FCRP019.pdf .
Carbon Additionality	Valatin, G. 2013. Additionality of climate change mitigation activities. In: Fenning, T. (ed). Challenges and Opportunities for the World's Forests in the 21 st Century, Springer, http://www.forestry.gov.uk/fr/INFD-7WUEAN . Valatin, G. 2012. Additionality and climate change mitigation by the UK forest sector. Forestry, 85(4), 445-462, http://forestry.oxfordjournals.org/cgi/reprint/cps056 . Valatin, G. 2011. Forests and carbon: a review of additionality, Research Report, Forestry Commission, Edinburgh, 2011, http://www.forestry.gov.uk/fr/INFD-7WUEAN .
Carbon Valuation	Valatin, G. 2011. Forests and carbon: valuation, discounting and risk management, Research Report, Forestry Commission, Edinburgh, http://www.forestry.gov.uk/fr/INFD-7WTFDQ .
European carbon markets	Ciccarese, L., Elsasser, P., Horattas, A., Pettenella, D. and Valatin, G. 2011. Innovative market opportunities related to carbon sequestration in European forests? In: Weiss, G. et al (eds) Innovation in Forestry, CABI, Wallingford.
National Ecosystem Assessment	Bateman, I., Abson, D., Beaumont, N., Darnell, A., Fezzi, C., Hanley, N., Kontoleon, A., Maddison, D., Morling, P., Morris, J., Mourato, S., Pascual, U., Perino, G., Sen, A., Tinch, D., Turner, K., and Valatin, G. 2011. UK Economic Values from Ecosystems, UK National Ecosystem Assessment, chapter 22, UNEP-WCMC/Defra, London. Quine, C., Cahalan, C., Hester, A., Humphrey, J., Kirby, K., Moffat, A. and Valatin, G. 2011. Woodlands, UK National Ecosystem Assessment, chapter 8, UNEP-WCMC/Defra, London. Valatin, G. and Starling, J. 2011. Valuation of ecosystem services provided by UK Woodlands, appendix to chapter 22 of UK National Ecosystem Assessment, UNEP-WCMC/Defra, London http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx .
Flood risk reduction	Nisbet, T., Marrington, S., Thomas, H., Broadmeadow, S. and Valatin, G. 2011. Slowing the Flow at Pickering, Final Report to Defra of FCERM Multi-objective Flood Management Demonstration Project RMP5455, http://www.forestresearch.gov.uk/fr/INFD-7ZUCQY#final1 .
Afforestation in Wales	Valatin, G. and Saraev, V. 2012. Natural Environment Framework: Woodland Creation case study. Report to Forestry Commission Wales, Forest Research, Edinburgh, http://www.forestry.gov.uk/fr/INFD-8YAECD .
Greenspace	Sarajevs, V. 2012. Economic Benefits of Greenspace, Research Report, Forestry Commission, Edinburgh, http://www.forestry.gov.uk/fr/INFD-8PJETA .
Street trees	Sarajevs, V. 2011. Street tree valuation systems, Research Note FCRN008, Forestry Commission, http://www.forestry.gov.uk/PDF/FCRN008.pdf/\$FILE/FCRN008.pdf
Frontiers of forest economics	Kant, S., Wang, S., Deegen, P., Hostettler, M., von Detten, R., Howard, T., Laband, D., Montgomery, C., Robert, N., Sekot, W. Valatin, G. and Zhang, D. 2013. New frontiers of forest economics. Forest Policy and Economics, 35 1-8.