LIFENaturEtrade - NaturEtrade: creating a marketplace for ecosystem services

LIFE12 ENV/UK/000473

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Project description:

Background

One of the biggest threats to the global environment is land-use change. It is estimated that some 1 500 ha of ecologically rich land is lost every day to development in the EU. The sale and subsequent development of such land – by private and public landowners – can have significant environmental costs. For example, there is particular concern with regard to the effects of deforestation and the loss of peatlands on levels of atmospheric CO2.

The value of ecosystems to humans and the wider environment has been given the name, ‘ecosystem service’. For example, the role that forests and peatlands play in regulating and absorbing atmospheric CO2 is an ecosystem service. EU environmental policies to address the wider issue of land-use change are increasingly focused on ecosystem services and in developing financial incentives for conservation. This would effectively make ecosystem services a tradable commodity.

However, although there are some models, there are no simple tools or mechanisms to assess the value of ecosystem services at the landscape scale. There is also a lack of any international, transparent, trading platforms where sellers and buyers can directly trade in ecosystem services. As a consequence, the conversion of ecologically rich land to other uses will continue to be the easiest and most profitable option for many landowners.

Objectives

The LIFENaturEtrade project aims to bridge the gap between academic research and policy on ecosystem service provision by creating a novel suite of easy-to-use tools and mechanisms to identify, map and create a marketplace for ecosystem services in Europe. It thus hopes to demonstrate a successful approach for enabling EU landowners to quickly assess the ecological potential of their land - in terms of the ecosystem services that it provides - and then to trade the associated ecosystem services.

The project aims to develop an automated web-based tool that can uploaded information on land parcels and determine their ecological potential, based on the following ecological services: i) pollination; ii) clean water provision; iii) soil erosion protection; iv) carbon storage; and v) cultural services. It will be developed using existing research outputs, including models, maps and GIS layers. The easy-to-use tools and technologies will automatically generate landscape-scale maps, indicating the key ecosystem services and their spatial configuration.

The project will also establish a web-based trading platform - 'NaturEtrade' - with all the required templates and controls. This will provide a structure through which parcels of land, and the ecosystem services they provide, as assessed by the project tools, can be safely and securely traded. Marketing and awareness-raising will be undertaken to promote the use of this novel mechanism and the delivery of private and public-sector investment in the ecosystem services provided by EU land.

The project will conduct a study of land-use change before and after the introduction of the above project tools and technologies in four case-study regions in the UK, Romania, Croatia and Spain. It will examine satellite imagery of parcels of private and publicly-owned land every three months throughout the project. This will attempt to show the impact of the project in helping to reduce the loss of ecologically diverse land in Europe.

The development of an ecosystem services market place ultimately aims to enhance the provision of environmental public goods. It will also contribute to the achievement of a number of EU strategic objectives, including those relating to a resource-efficient economy; climate resilience, a low-carbon economy; innovation for green infrastructure; and the creation of business opportunities, especially in the green economy.

Expected results:

- Tools to enable landowners to easily assess the ecosystem service potential of their land;
- Collection of data on the ecosystem services provided by important blocks of land in Europe – including forests and peatlands – to support climate change mitigation;
- A web-based trading platform for the assessed ecosystem services – NaturEtrade;
- Demonstrable uptake of both the assessment tool and the trading platform – by both buyers and sellers;
- A quantified reduction in the loss of biodiverse land in the case study regions;
- A database of landowners and businesses with an active interest in and

understanding of biodiversity conservation through ecosystem-service trading.

Results

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Environmental issues addressed:

Themes

Land-use & Planning - Spatial planning

Keywords

land use planning, cartography, information system

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	The Chancellor, Masters and Scholars of the University of Oxford
Type of organisation	University
Description	The Chancellor, Masters and Scholars of the University of Oxford is the formally incorporated name of the University of Oxford (UK), one of the world's leading universities. This project is led by the university's Biodiversity Institute, which undertakes research and practical applications to meet the needs of stakeholders and governments.
Partners	None

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Administrative data:

Project reference	LIFE12 ENV/UK/000473
Duration	01-JUL-2013 to 29-JUN -2018
Total budget	1,829,416.00 €
EU contribution	914,708.00 €
Project location	North(United Kingdom),Yorkshire and Humberside(United Kingdom),East Midlands(United Kingdom),East Anglia(United Kingdom),South East (UK)(United Kingdom),South West (UK)(United Kingdom),West Midlands(United Kingdom),North West (UK)(United Kingdom),Wales(United Kingdom),Scotland(United Kingdom),Northern Ireland(United Kingdom),Gibraltar(United Kingdom)

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