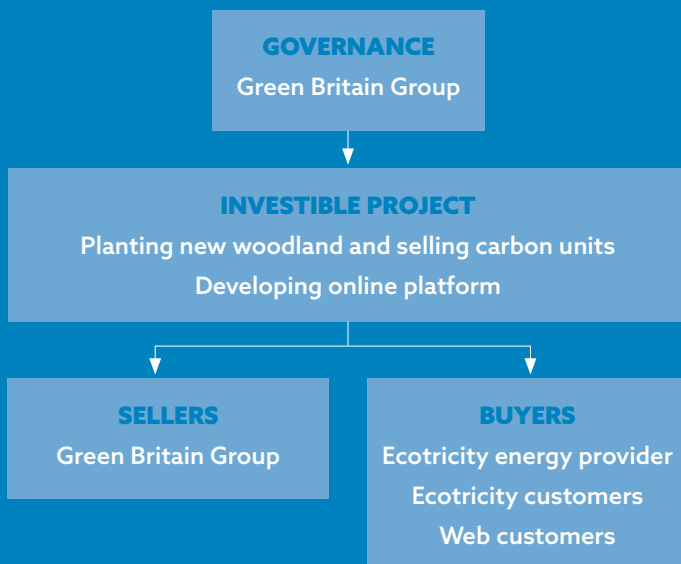


This is one of a suite of case studies of NEIRF funded projects, to highlight efforts to protect and enhance the natural environment, while generating revenue from ecosystem services.



Cranham Wood, Gloucestershire

THE CARBON BANK

HIGH LEVEL SUMMARY OF PROJECT



Habitat and geographical location

-  Woodland
-  Sites owned by Green Britain Group – Gloucestershire and Snowdonia



PROJECT OVERVIEW






The Carbon Bank project aims to develop new areas of woodland which will contribute to carbon capture and will generate carbon units to be certified by the Woodland Carbon Code for sale. The NEIRF grant was used to develop a model to identify areas of land with the greatest potential for carbon sequestration, and where to pilot the project. The model integrates two Forest Research tools: Ecological Site Classification (ESC); and the Woodland Carbon Calculator (WCC) into a tool to produce a costed Carbon sequestration prediction.

Initially, woodland restoration will take place in two pilot sites owned by the Green Britain Group in Gloucestershire and Snowdonia. Once the effectiveness of the model is proven in the pilot sites, the project will be replicated in other sites

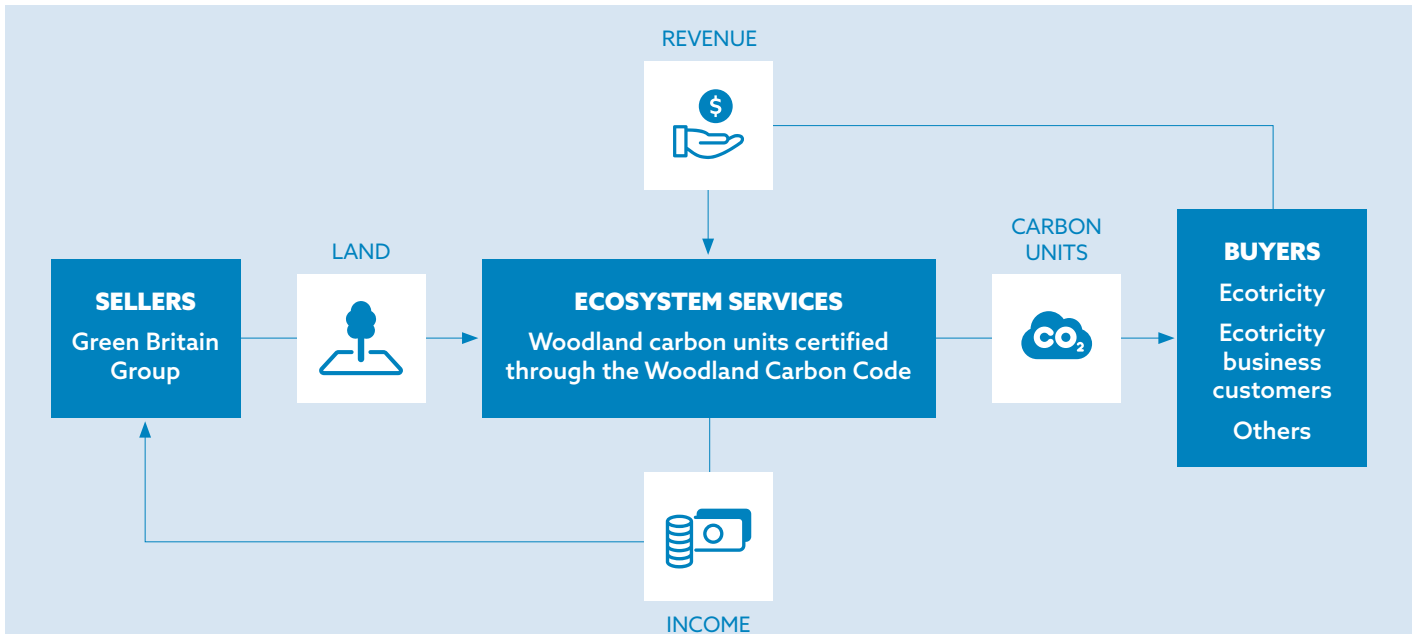
owned by the Green Britain Foundation's partners, including commercial and charity bodies. The Carbon Bank will also offer a complete end-to-end service to investors including site acquisition, tree planting and ongoing woodland management, and the sale of carbon units generated.

The project will launch an online platform to bring together sellers and buyers to facilitate the sale of carbon units, as well as attract investors. Over time, services being sold may be expanded to include additional means of carbon sequestration such as seagrass meadows to support fish stocks and improve local water quality, though this will be led by market developments. The project will be entirely owned and managed by The Carbon Bank Ltd and funded by The Green Britain Group.

GOVERNMENT ENVIRONMENTAL GOALS

 Clean air	Over their lifetime, the trees planted will help to reduce atmospheric levels of gases such as sulphur dioxide and nitrogen dioxide as well as particulate matter generated from traffic related emissions.
 Clean and plentiful water	Over time, the site selection model may become applicable to other ecosystems, for example seagrass meadows to support fish stocks and improve local water quality .
 Thriving plants and wildlife	The model is based on 'the right tree in the right place' approach, and recommends a planting regime that is adaptive to the expected effects of climate change over the coming decades.
 Reducing the risks of harm from environmental hazards	Planting areas of new woodland is a nature based solution that can contribute to reduced risk of local flooding by intercepting rainfall and reducing run off.
 Mitigating and adapting to climate change	Tree planting will contribute to carbon sequestration , which helps manage temperatures. Additionally, the planting regime adopted will be adaptive to the predicted impacts of climate change over the coming decades.

REVENUE MODEL



Notes on diagram

The Carbon Bank project focusses on planting new woodland, initially in sites owned by The Green Britain Group. Carbon units certified to the Woodland Carbon Code will be sold. The initial buyer of carbon units will be Ecotricity, the energy company owned by the Green Britain Group. At the moment Ecotricity buys carbon units from external providers to offset emissions from its sales of gas, which will be purchased from the Carbon Bank project once they become available. Additionally, a number of Ecotricity's

business customers have expressed an interest in offsetting their emissions through carbon units from the Carbon Bank.

Following demonstration trials, expected to take five years, this will apply to, more land owned by the Green Britain Group and others will be used for further woodland creation and the sale of carbon units using the Carbon bank model. Additionally, the project will explore the opportunity to sell other ecosystem services.



INNOVATION

The Carbon Bank project developed a highly innovative site selection methodology for reforestation projects aiming to sell carbon units. The approach advocates for 'the right tree in the right place' and an appropriate species assemblage on a site-specific basis, including a planting regime that is adaptive to the predicted impacts of climate change over the coming decades. Sites are assessed in a three-phase process: P1 Desktop; P2 Ground Truthed; P3 Planning with an increasing level of real-world data as the assessment progresses, allowing to discard unsuitable sites at an early stage. The model allows for an assessment of project costs, including land purchase and establishment, and costs per hectare, as well as carbon sequestration tonnes per year. It also includes a calculation of state aid for forestry and carbon sequestration, information on carbon prices, Net Present Value (NPV) and Internal Rate of Return (IRR) modelling, and a Business Decision Support Tool.

The project is amongst early leaders in designing and developing an easy-to-navigate online platform that will facilitate the sale of carbon units, initially from woodlands and subsequently from other ecosystem services. The website has been designed as a point for contact for potential investors as well as offering simple transactions for those looking to buy and sell units. Once activated the platform will be used by partners with established sites. The sales platform will be used by the Carbon Bank to sell any credits generated from their own sites and from established sites of partners/investors. Customers will be issued with an electronic certificate to show the serial numbers of credits purchased to avoid double counting. Where partner credits are sold, the assets will be owned by the partners with the Carbon Bank providing management/agent services.



LEARNING POINTS

- The pre-existing experience and expertise of the team was crucial to understand the Woodland Code and the importance of identifying appropriate tree species for individual sites, which led to successfully developing the project.
- Discussions with other NEIRF projects helped overcome some of the initial challenges in understanding the Woodland Code and gain a better understanding of natural capital markets.

WOULD YOU LIKE TO KNOW MORE?

If you would like to learn more about The Carbon Bank project, please get in touch with James Dingle, Carbon Bank Partnership Manager at James.Dingle@ecotricity.co.uk. For questions regarding NEIRF, please contact NEIRF@environment-agency.gov.uk.

This case study was produced by Ecorys.