Carbon Capture

How Forestry and Land Scotland can help deliver land-based carbon capture
Introduction

Climate change is one of the most significant global challenges of the century. We know we need to transition to a low-carbon economy if we are to avoid dangerous climate change caused by human activity.

Carbon capture is part of the solution; locking up unavoidable emissions and buying us time while we develop the technological solutions that will help us transform to a low carbon economy. Scientists tell us that, of all the carbon capture solutions, tree planting is the most cost-effective method – and what’s more, planting trees brings all sorts of other benefits, from creating places for people to enjoy, habitats for wildlife or sources of environmentally-friendly construction materials. Restoring degraded peatlands is another way of reducing overall greenhouse gas emissions – and again, restoring peatlands brings a wide range of additional benefits, such as improving water quality and creating habitats for wildlife. This has been recognised in Scotland, with the declaration of a ‘Climate Emergency’ ensuring that land-based carbon capture has strong political support.

Why work with Forestry and Land Scotland?

When it comes to land-based carbon capture, Forestry and Land Scotland (FLS) is the natural choice of partner.

FLS is the largest land manager in Scotland, managing some 650,000 ha of the land owned by Scottish Ministers. We have been planting trees for a hundred years, planting more trees than any other land manager in Scotland. We are Scotland’s leader in environmental restoration, with the single biggest peatland restoration programme in the country.

As an organization, FLS takes a ‘triple bottom line’ approach to land management – working to a Corporate Plan that balances social, environmental and economic considerations and seeks to enhance natural capital in all that we do. As a public body we work through audited processes that ensure transparency and credibility. Our forest management meets the UK Forestry Standard and is accredited to the internationally-recognised FSC and PEFC standards of sustainable forest management. We work with partners across Government, including Scottish Natural Heritage and the National Parks to increase climate change mitigation actions on the estate.

FLS is an executive agency of the Scottish Government which works under the direction of – and with the support of – Scottish Ministers. We have 941 staff based across five geographical regions of Scotland. Until April 2019 we were known as Forest Enterprise Scotland and were part of the Forestry Commission.
What are the options?

Purchasers can choose from a range of different types of land-based carbon capture:

1. Conifer forests established with a diverse range of fast-growing species of conifers capture carbon rapidly due to their high growth rates. These forests are then managed by thinning to produce a sustainable supply of timber and wood products which are vital to replace concrete, steel and plastics in the transformation to a low-carbon economy.

2. Broadleaved woodlands planted with a mix of site-appropriate trees grow more slowly than conifers, but over time they can also capture a significant amount of carbon. These woodlands can also be managed by thinning to produce firewood and high quality hardwoods that are valued in joinery.

3. Extensive native woodlands established gradually by fencing out browsing animals, encouraging seedlings to colonise the area and, where necessary, planting some site-appropriate tree species, may take a little time to become established, and the nature-based approach introduces more risk – but the low-key approach means that soil carbon disturbance is minimal and this helps to increase overall carbon sequestration. The habitats that these woodlands create can provide habitats for threatened woodland wildlife such as red squirrels and black grouse and they can be good at improving downstream water quality.

4. Restoring degraded, drained peatland back to being a functioning ecosystem stops it from releasing carbon and, eventually, it starts to sequester carbon. Restored peatlands also benefit wildlife such as dragonflies and birds, and improve water quality and water flows.

How does it work?

There are two main ways to achieve land-based carbon capture with FLS:

1. Purchase of agreed carbon units
   The most straightforward approach, where we do all the work, on the land that we acquire for the purpose – you pay an upfront cost to set up the project, and an ongoing management fee for us to look after the land and the carbon it is sequestering. We look after the land in perpetuity as part of the national forests and lands, and verify the carbon units on an ongoing basis.

2. Capturing carbon on your land
   If you have suitable land that you would like to use for carbon capture, we can work with you to plan and deliver woodland creation or peatland restoration. Once the work is done, we hand the site back to you to undertake ongoing management, and any future carbon verification.
Creating new woodlands and restoring peatlands does much more than locking up carbon, and can complement your organisation’s Corporate Social Responsibility aims.

A report by Eftec1 into the wider benefits of projects undertaken through the Woodland Carbon Code valued some of the benefits over the project lifetime as:

**Recreation:** £64-£75 per tonne – as people visit and enjoy these places for generations to come;

**Air quality regulation:** £9.80 per tonne on average, dependent on location – higher in urban areas;

**Biodiversity:** £22-£97 per tonne as these woodlands become habitats for a wide range of wildlife;

**Economic activity:** £7.37 of GVA per tonne through jobs in planting and managing the woodlands.

We can work with you to choose the location and type of woodlands and peatlands to complement your organisation’s objectives. For example, we can create woodlands on former opencast coalmining sites, to transform landscapes around communities that have, until recently, had a backdrop of unsightly mineworkings. We can seek peatlands to restore in places that have a connection with your business. We can work with others to create linkages to landscapes, allowing your project to achieve more than just carbon sequestration. The sites can be places for education, research, volunteering and more.

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Verification of carbon units

Woodland creation projects will be validated with and verified against the Woodland Carbon Code which provides independent assurance and registration of the carbon sequestration.

Peatland restoration schemes will be registered with the Peatland Code which is overseen by IUCN.

In all cases, FLs will include the area of woodland created, or peatland restored, in its returns to Scottish Government. The rules of the Woodland Carbon Code and the Peatland Code (which are voluntary domestic schemes where the carbon units generated cannot be traded on international markets) ensure that there will be no double counting of carbon units at a UK or international level.
To look after Scotland’s forests and land, for the benefit of all, now and for the future.

Disclaimer

The information in this proposal and any supplementary costings is indicative and based on past performance.

All sites are different, and so the costs and actual mix of woodland types and peatland types that can be delivered in future will need to be negotiated and agreed on a case by case basis.

For more information

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