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Tilhill

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Case Study

Tree Planting for Carbon Sequestration, Biodiversity and Sustainable Timber Production

Client: Private Landowner and Selco Builders Warehouse

Area: 43.16 hectares

Location: Scottish Borders

Forest Manager: Tilhill

Carbon Project Developer: CarbonStore

Objectives:

- Carbon Sequestration
- Timber Production
- Biodiversity Enhancement

Trees Planted: 100,000

Year Planted: 2021

Predicted Carbon to be Sequestered: 8,536 tonnes

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Project and Partners

Tilhill, working closely with the landowner, designed and implemented the woodland creation plan, which was sympathetic to the landscape and offered many benefits to biodiversity. Selco Builders Warehouse purchased the carbon credits generated by the project. Selco is the UK's fastest-growing builders' merchant operating from over 60 locations. As part of their sustainability journey Selco is addressing their carbon footprint through a variety of projects to be more environmentally friendly, particularly in relation to their transport system. It is a long-term vision towards becoming net zero by 2045. As such, Selco engaged Tilhill's woodland carbon division, CarbonStore to help them mitigate the residual element of their transport-related carbon emissions by supporting woodland creation in the Scottish Borders.

Above: Forest Manager site visit February 2023

Biodiversity

The site was previously a single species Christmas tree crop with the trees being harvested on a 6-7 year rotation. In order to enhance biodiversity, the site has now been planted with a varied mix of broadleaved and coniferous species.

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Soil

Another objective of the project was to improve the soil. Tilhill used ground preparation techniques that minimised ground disturbance and reduced soil compaction. The mixed species planting will help stabilise soils whilst building organic matter. Open ground will remain in areas to benefit wildlife species such as invertebrates that thrive in open areas of grassland.

Above: Juniper Haircap Moss

Wildlife at the Site

In line with the client's objectives, the site was designed to support a wide variety of wildlife species and badgers, field mice and skylarks have all been seen on the site.

Special attention was give to badgers for whom special gates have been installed to allow them easy access to the site and to avoid damage to the fencing. The introduction of native tree species will develop better habitats for a wider mix of wildlife.

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Tree Planting

Approximately 100,000 trees were planted across the site. Tilhill and the landowner chose a broad mix of species that would grow a valuable crop of timber while also improving the site's ecology. The planting scheme meets the UK Forest Standard (UKFS), the reference for sustainable forest management across the UK.

Above: Excellent growth of broadleaf species on site

Species mix: 14% of the site has been planted with productive broadleaves (mainly poplar and birch) which, along with the adjacent, 30-year old stand of productive oak, will produce high quality timber in 60-70 years. 20% of the area has been planted with a mix of Norway spruce, Douglas fir, Noble fir and Dawn redwood which will offer long-term woodland cover and improve the site's ecology.

55% of the land has been planted with Sitka spruce, the mainstream timber species in the UK. 6% open ground to encourage fauna and flora. 5% native broadleaves (Alder, Oak (Pedunculate and Sessile), Hazel, Willow, Rowan, Aspen, Hawthorn, Holly, Juniper, Elder and Wild Cherry) for colour and food for wildlife.

Fencing was erected on the site to protect newly-planted saplings from browsing Sika and Roe deer. Vole guards were used to protect the broadleaf trees with plans to remove and recycle once the trees are established.

Above: Conifers show good growth

The trees were provided by Maelor Forest Nurseries, a member of the BSW Group, who supplied the improved conifers from their Scottish-based nursery and Alba Trees, who supplied the native broadleaves.

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Fencing

Fencing and vole guards were used throughout the site to protect the new planting from deer and voles. The guards will be removed once the trees are established, and the fencing will be removed in the future also.

Above: Deer fencing

People

The woodland has been planned to allow public access for the local community whilst increasing visual diversity from the roadside.

The project also employed local rural contractors, machine operators and tree planters to carry out ground preparation and planting.

Above: Walking the site 2023

Water Quality

Some open areas were maintained with buffer strips along one side of the stream/burn which runs through part of the site, whilst native broadleaf planting was carried out close to the water source to improve the riparian habitat, improve water quality, keeping the water cool during droughts and reducing flooding during heavy rainfall.

Above: Water course running through site

Timber

81% of UK timber is imported, highlighting the need for more home-grown timber.

The aim of this site is to grow a future sustainable softwood and hardwood timber supply for the creation of construction timber, furniture, packaging, and landscaping. Tilhill will continue to manage the forest through to its restocking phase.

Climate Change

The mix of diverse species will allow for resilience against climate change, reducing the risks of pests and diseases, facilitated by a long-term forest management plan to ensure adaptation and resilience.

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Carbon

Carbon to be sequestered: According to the Woodland Carbon Code, the woodland is expected to capture 8,563 tonnes of CO2e over the next 100 years (the same amount as that emitted from driving 21.4 million miles in a petrol car).

Above: As the trees grow, they will sequester carbon, greenhouse gases and pollution from passing traffic.

Collaboration with Landowner

CarbonStore, Tilhill's woodland carbon division, supported the landowner through all elements of the carbon transaction. CarbonStore worked with the landowner and the forest manager to complete all the necessary documents for validation of the project by the Woodland Carbon Code.

Once the project had been approved and the carbon credits had been issued to the landowner, CarbonStore then facilitated their sale. CarbonStore was already in close contact with Selco Builders Warehouse who were actively looking to buy 8,000 carbon credits from a suitable woodland creation project.

As a builders merchants that is selling construction timber in their daily sales, the woodland's twin objectives of timber growth and ecological enhancement, matched Selco's requirements neatly. CarbonStore therefore helped Selco and the landowner agree the legal contracts for the sale/purchase and oversaw the smooth completion of the transaction.

Above: Selco Builders Warehouse sign erected outside the woodland for marketing their involvement in the project.

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Long-term care and sharing the benefits

Tilhill secured funding through the Forestry Grant Scheme to contribute towards government targets to mitigate climate change, via carbon sequestration, through the expansion of forested areas. Tilhill helped design the project and delivered the woodland creation plan, which was sympathetic to the landscape, offering many benefits to biodiversity.

Long-term Tilhill will continue to manage the site to UK Forestry Standards (UKFS) to ensure sustainability, whilst CarbonStore arranges ongoing verifications to certify the carbon sequestration.

Circular Economy

This woodland illustrates the valuable role which the UK's forestry industry and the BSW Group play in creating an environmentally responsible and sustainable economy.

The trees were grown and supplied by Maelor Forest Nurseries, they will be managed and harvested by Tilhill and, in time, they will be milled and processed by BSW Sawmills. Every element of the BSW Group contributes to creating the most sustainable construction material available.

By quantifying and monetising the carbon-related benefits of woodland creation, CarbonStore enables landowners to access an important and valuable new income which offers a further incentive to plant trees.

Finally, the role of Selco encapsulates the circularity of the process. By supporting the creation of a woodland which will not only grow the raw materials necessary for their future sales but will also capture their residual carbon emissions while doing so, Selco is promoting the powerful benefits of planting trees.