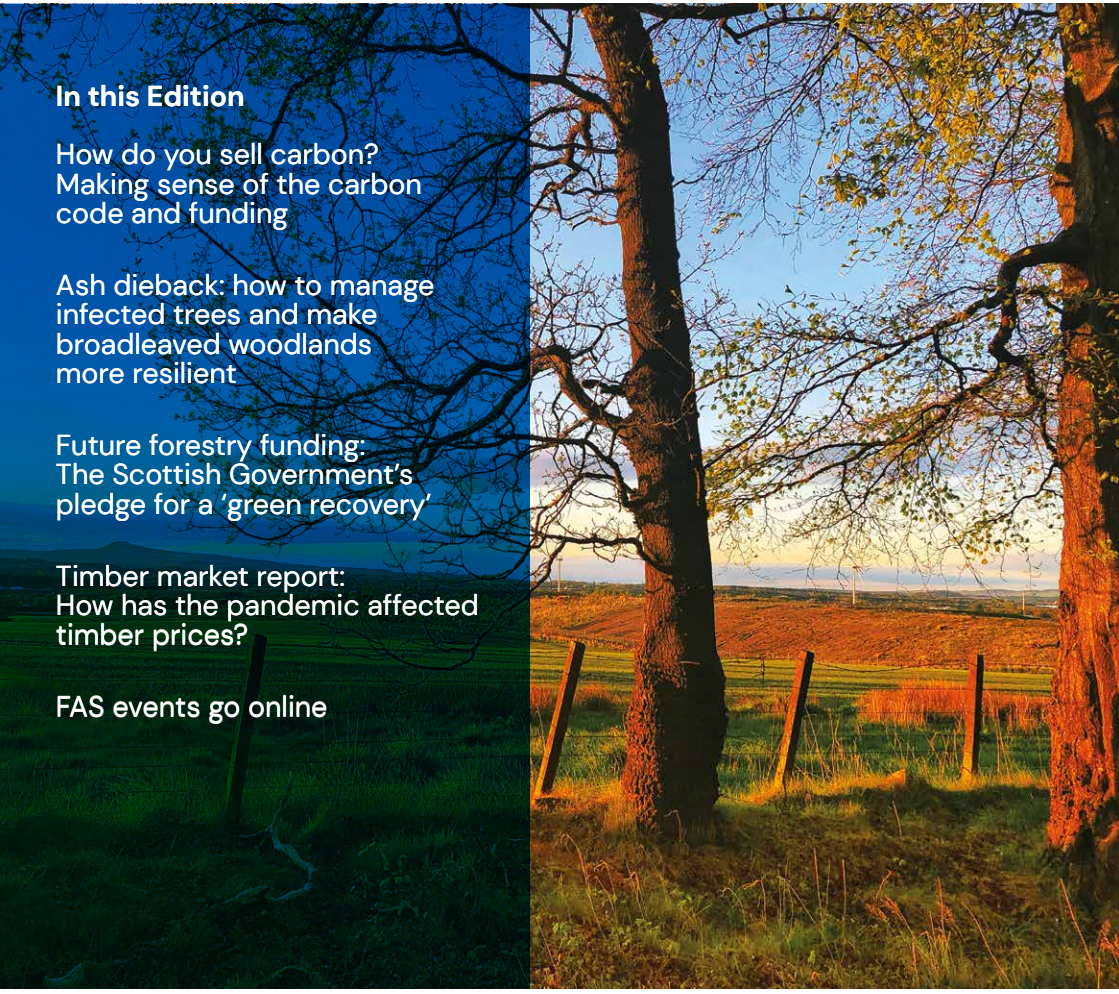
Farm Woodland News

SRDP Farm Advisory Service

The newsletter for participants in Farm Woodlands Schemes • Issue Number 35 **Autumn 2020**



In this Edition

This newsletter is produced and published by SRUC on behalf of Scottish Forestry & FAS
SRUC is a charity registered in Scotland, No: SC003712

The European Agricultural Fund for Rural Development
Europe investing in rural areas

SAC CONSULTING

Scottish Forestry
Coilltearachd na h-Alba

Scottish Government
Riaghaltas na h-Alba
gov.scot

Contents

Editorial

A great deal has changed since the last issue of Farm Woodland News. As the spring edition went to press we had just entered national lockdown and so much, including whether or not the printed editions would reach your doorsteps, seemed uncertain.

With the planting season in full swing, there were fears for the forest nursery supply chain, the welfare of tree planters, and if woodland creation schemes could be completed on time. Scottish Forestry were quick to extend the deadline for 2019/20 grant claims, and the Scottish Government worked closely with the industry to provide guidance and reassurance for working under the new restrictions. Forestry work was given 'essential' status. Providing timber for pallets and packaging was critical to keep supply chains of food and medical supplies moving. The Scottish Government has since reinforced their commitment to forestry and woodland creation in the long term, as part of a 'green recovery', announcing the funding for the next 5 years (see page 23).

The Farm Advisory Service is still here for you. We're still producing online guidance, videos and podcasts full of advice and ideas to help you get the best from your business. Our events are still happening, they've just changed a little. In online webinars you can still hear from industry experts and ask questions. There are plenty to choose from, as you don't have to travel further than your comfiest chair to attend. They're also recorded, so you can go back and watch any you've missed. We'll look forward to welcoming you back to farm and woodland visits when we're able to run 'real life' events again.

Remember to visit the FAS website for information, or contact us for advice: advice@fas.scot or 0300 323 0161.

RSABI supports people from Scottish agriculture emotionally, practically, and financially in times of need.

If you're feeling stressed or isolated, or if you need practical help, please call the RSABI helpline 0300 111 4166. They're there to help seven days a week from 7am to 11pm, and all calls are completely confidential.

Leona Baillie, SAC Consulting
leona.baillie@sac.co.uk

Off-cuts

Up to £1,000 funding available for specialist advice on woodland creation

The Scottish Government has lifted requirements to complete an Integrated Land Management Plan (ILMP) prior to accessing funding support for woodland creation. Scottish farmers and crofters can now apply for up to £1,000 funding through the Farm Advisory Service, to enlist the help of a specialist adviser to help with woodland creation. The adviser will work with the land manager to add value to underproductive land by reviewing farm-specific opportunities and financial incentives available to create or manage woodland. This includes identifying the most suitable grants and assistance packages that farmers and crofters can use to optimise the use and value of their land.

To apply or for more information, call 0300 323 0161 or email advice@fas.scot.

Scientist appointed as Scotland's new Chief Forester

Dr Helen MacKay OBE has become Scotland's Chief Forester, a role created when forestry became fully devolved in Scotland last year.

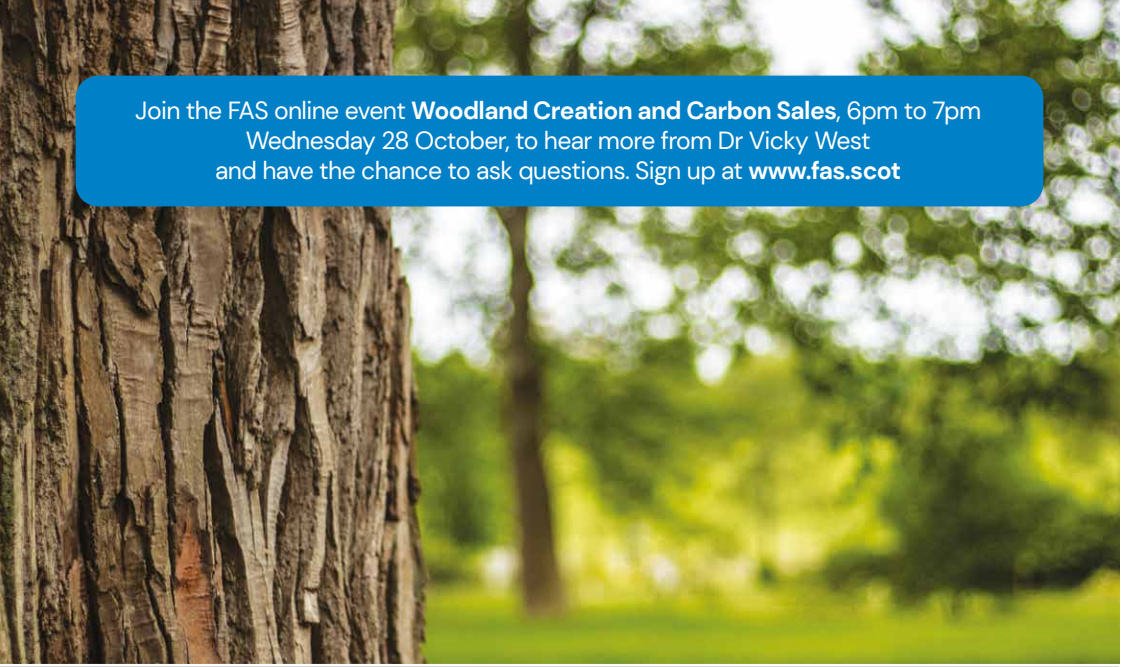
Dr MacKay, who has worked for Forest Research for over 30 years, and most recently lead the Centre for Sustainable Forestry and Climate Change said, "Times are undoubtedly challenging because of Covid-19 in addition to climate change, pests and diseases as well as Brexit. On the other hand, such challenges can bring the sector together to further strengthen the forestry profession and demonstrate its value to Scotland." She will now draw on her years of experience in forest science to advise the Scottish Government on technical and professional forestry matters.

Rural Economy Secretary Fergus Ewing was pleased with Dr MacKay's appointment, saying, "Her years of scientific expertise at the cutting edge of forestry research will be invaluable. Forestry has a very important role to play in our green recovery and we have many challenges ahead."

Timber by train trial

A 6-week trial of replacing timber lorries with rail transport has taken place near Inverness. The project ran two to three trains a week, taking around 250 lorry journeys, of around 55,000 miles, off local roads.

It's hoped that the trial will help further develop timber transport by rail, lessening the environmental footprint of haulage, and reducing the impact of road transport on rural communities. ■



Join the FAS online event **Woodland Creation and Carbon Sales**, 6pm to 7pm Wednesday 28 October, to hear more from Dr Vicky West and have the chance to ask questions. Sign up at **www.fas.scot**

An Introduction to Woodland Carbon

A Growing Source of Funding for Woodland Creation

Dr Vicky West
Woodland Carbon Code Manager, Scottish Forestry

Woodlands can make a significant contribution to tackling climate change – in 2017 Scotland's woodlands sequestered 9.5 million tonnes of CO_2e, reducing Scotland's net annual emissions to 40.5 million tonnes CO_2e. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 commits Scotland to have net zero greenhouse gas emissions by 2045 – 5 years earlier than the rest of the UK. Recognising the role that woodlands and carbon sequestration have to play, Scottish Government have made the following commitments within the latest Programme for Government (2020-21):

- **Increase the planting targets from 12,000 to 18,000 hectares per year by 2024-25 with increased grant funding to help with this.**
- **Grants of up to £20,000 for farmers and crofters to purchase new equipment through the Sustainable Agriculture Capital Grant Scheme (SACGS) (closes midnight Sunday 11th of October 2020)**
- **Increase the size of the woodland carbon market by 50% in 5 years.**

It is only mandatory for businesses in energy and some industrial sectors to reduce their emissions but there is a rapidly increasing desire amongst other businesses to voluntarily reduce their emissions to help meet these ambitious targets. Reaching net zero is going to require we create more woodlands and restore our degraded peatlands.

Carbon without the jargon

Carbon sequestration	Capturing and securely storing carbon that would otherwise be in the atmosphere. As a very rough guide, around one quarter of a tree is solid stored carbon. Note this varies greatly between species, where and how they grow, what age they are.
CO_2e	Carbon dioxide equivalent. Used to equate the warming effects of other greenhouse gases, such as methane and nitrous oxide, with CO_2
PIU	Pending Issuance Unit
tCO_2	Tonnes of carbon dioxide
WCC	Woodland Carbon Code
WCU	Woodland Carbon Unit
YC	Yield class. A measure of productivity. YC is the average annual gain in timber volume per hectare per year over the rotation. For example, a yield class of 16 indicates an average annual timber volume gain of 16m3/ha/yr. Yield class varies between species (some grow faster than others) and site conditions.

Woodland and peatland – a rapidly developing carbon market

The Woodland Carbon Code (WCC), launched in 2011, is the UK's government-backed standard for woodland carbon projects. It applies similar standards to other global carbon initiatives but is tailored to UK conditions and legislation. It provides the mechanism for landowners creating woodland to engage in the carbon market in the UK. The scheme is based on robust carbon prediction tools and monitoring protocols developed by Forest Research. New woodlands meeting the standard have to be third-party checked as being sustainably managed and meeting high carbon standards, giving confidence to buyers.

So far, over 500 woodland creation projects have registered across the UK. More than half of these are validated by an independent validation body (Acoura or Soil Association) to check they are well setup and meet the standards set out in the WCC. Over 90 projects so far (those set up earliest) have verified the amount of carbon sequestration after 5 years. Over 40% of projects are in

Shiplaw Burn, a Tweed Form, in 2018 at Verification. Photo credit: Forest Carbon.

Scotland. The registered projects across the UK will create over 20,000 hectares of woodland and are predicted to sequester almost 8 million tonnes of carbon dioxide over their lifetime (up to 100 years).

The Peatland Code, a standard managed by the International Union for Conservation of Nature (IUCN), has four peatland restoration projects validated and 13 registered in total. The Peatland Code has similar principles to the WCC. See the IUCN website for more information.

CONTINUED OVER

How do you apply for carbon funding?
Decide whether you want to go through this process yourself, or ask a project developer to help. If you only have one small project it's probably easier to ask a project developer to help. If you have a large project or are likely to go through the process more than once you might consider taking the time to learn the process and DIY. The WCC team are available to advise you.

Check you're eligible and register your project on the UK Woodland Carbon Registry. You'll need basic information about the project/site and use that to do a carbon sequestration projection. You need to make sure:

- **you're committed to permanent land use change to woodland**
- **you're registering within 6 months of the start of planting***
- **the land hasn't been wooded for at least 25 years**
- **planted areas are not deep peat (less than 50cm organic/peat layer)**
- **the woodland creation is 'additional' – it's not legally required, and it's the carbon finance that will make the project viable.**

Complete documentation and get validated. You'll need to complete a 'Project Design Document', and supply relevant information, whilst you are planning and planting your woodland, then get Acoura or Soil Association to look over your documentation. This can't be finished until all trees are in the ground but you have 3 years from registration to complete this process.

Stay Verified. At year 5 and then every 10 years, survey your site, complete a 'Progress Report' and get Acoura or Soil Association to verify your documentation. Projects can be up to 100 years long – you decide how long to commit.

*Currently you have to register within 2 years of the start of planting but deadline will soon change to 6 months.

Getting involved – costs and likely income

There are a growing number of 'project developers' who are willing to help landowners put their projects through the Woodland Carbon Code. If you use a third-party project developer, they may take on some or all of the responsibility and cost of validating, monitoring and verifying the woodland carbon project over its lifetime. This leave the landowner with a smaller share of the carbon income but also less future responsibility/cost – you can decide how involved you want to be.

There's a simpler process for small (≤5ha) projects, and projects can be 'grouped' for cheaper validation/verification – this needs a project developer to act as 'group manager'. You shouldn't need much more information about a project than you would normally supply when applying for a woodland creation grant. You can use our tools to work out the likely carbon sequestration of your project.

Feedback from project developers suggests corporate buyers currently pay between £7 and £20 when buying WCC units upfront – with increased demand, prices have been rising. The majority of the volume, however, is towards the lower end of this bracket.

Table 1 shows the likely costs and income for three different scenarios: a 10ha native woodland; a group of 10 x 5ha native woodlands; 30ha of productive Sitka spruce woodland (including 25% mixed broadleaves). Validation/verification is a fixed cost per project (~£1000 if no site visit required) whereas registry fees are volume-based (£0.09 total per carbon unit/tCO_2). There are time and cash savings for validation/verification as a group. Verification could cost more if site visits are required past year five (only applies to 'risky' projects). For a native woodland which could generate almost 400 tCO_2/ha over 100 years, potential income from carbon credits (at £7 to 15/tCO_2) is £2,700 to 5,800/ha. Taking off the cash cost of involvement the net income could be up to £5,000/ha (at £15/tCO_2), although you still need to consider the time to undertake survey work and complete documentation.

Table 1: Costs and possible income from native and productive WCC projects

Type of project		10ha Mixed Native Woodland (YC4, 2.5m spacing, minimum intervention)		10 x 5ha Mixed Native Woodlands Validated as a group (YC4, 2.5m spacing, minimum intervention)		30ha Productive Woodland (75% of net area Sitka spruce YC16, thinned & felled at year 50, 25% of net area mixed broadleaves, YC4, minimum intervention)	
Project length		100 years		100 years		55 years	
		Total	Per Hectare	**Total**	Per Hectare	**Total**	Per Hectare
Saleable carbon (tCO_2)		**3,860**	386	**19,300**	386	**6,780**	226
Costs - Time (Can be undertaken by landowner or third-party project developer)		For all projects, prepare validation documents at start, undertake survey +5 and every 10 years, prepare verification documents +5 and every 10 years, liaise with validation/verification body and keep registry up to date					
Cost - Cash Validation/ Verification and Registry Use		**£13,000**	£1,300	**£32,400**	£648	**£8,000**	£267
Carbon Income £/tCO_2	£7	**£27,020**	£2,702	**£135,100**	£2,702	**£47,460**	£1,582
	£10	**£38,600**	£3,860	**£193,000**	£3,860	**£67,800**	£2,260
	£15	**£57,900**	£5,790	**£289,500**	£5,790	**£101,700**	£3,390
NET (Carbon Income Minus Cash Costs) £/tCO_2	£7	**£14,020**	£1,402	**£102,700**	£2,054	**£39,460**	£1,315
	£10	**£25,600**	£2,560	**£160,600**	£3,212	**£59,800**	£1,993
	£15	**£44,900**	£4,490	**£257,100**	£5,142	**£93,700**	£3,123

Assumptions: 20% of carbon units are put into shared 'buffer' – a pool of units which cannot be sold and will be called upon if there are any future losses of carbon from any WCC project.

CONTINUED OVER

If you can find a buyer for the carbon in the early stages of the project it is possible to receive all the carbon income upfront. You would need to consider the ongoing requirement to monitor and verify this project, and the potential liability you would hand to a subsequent owner if you sell the holding within the timeframe of any carbon contract. If you wait and sell carbon units as they are delivered and verified, this would guarantee the project a fairly regular income over the life of the project. This income could pay for management, monitoring and verification costs as the project proceeds, and means if you want to sell the holding you are passing on an asset of unsold carbon.

Carbon seller case study: Tweed Forum Group

Three woodland creation projects in upstream areas of the Tweed catchment, Shiplaw Burn, Mowhaugh and Halterburnhead, were validated as a group through Forest Carbon. See Case Studies of WCC projects.

Hugh Chalmers from Tweed Forum says:
"Tweed Forum is co-ordinating a whole catchment management project to improve the condition of rivers and to demonstrate natural flood management in the Eddleston Water sub-catchment. We approached the landowner-farmer to suggest planting 17ha of native woodland along Shiplaw Burn. After discussions on the multiple benefits which would be gained by tree planting, the farmer was enthusiastic but was unable to contribute financially to the initiative. Tweed Forum looked elsewhere to find funds to make the project work financially, especially up-front costs for fencing and tree planting, as the FC grant did not cover the whole costs of the scheme.

Forest Carbon was approached: they dealt with the WCC application and validation; an agreement to purchase some of the carbon to be captured by the woodland was agreed. A lump sum of around £13,000 was made available when trees were planted, to make the project financially viable."

Shiplaw Burn, a Forest Carbon project, in 2018 at Verification. Photo credit: Forest Carbon.

How do I sell my carbon units?

Over 50% of 2.6 million validated carbon credits have been sold upfront and almost all the verified credits are sold (there's only 7,000). There are a number of ways to find a buyer:

- **Ask locally.** Some businesses like to buy from a 'local' project – ie one they can visit or state is near to their customers. Yorkshire Dales Millennium Trust have found a number of Yorkshire buyers.
- **We'll advertise your project on the WCC website.** Once your project is validated we can advertise your project to companies looking to buy.
- **Use an intermediary.** There are a number of 'intermediaries' who advise their corporate clients on reducing their GHG emissions, and also offer them carbon units from WCC projects. These are companies such as Climate Care, EcoAct, Natural Capital Partners, and South Pole. Project developers including Forest Carbon and the Woodland Trust can also help you find a buyer.
- **Use Markit Registry.** They offer a service called the 'Request for Information Platform' which is a bit like 'Gumtree' for carbon units. You can place your units 'for sale' with details of the price you're looking for so other Markit Registry account holders can contact you for more information.

Who buys WCC units and why?

Over 400 different businesses covering a wide range of sectors such as food & drink, furniture, paper & lighting manufacturers, and transport have purchased woodland carbon.

They want to buy locally, they like woodlands as they are 'tangible' and come with many other social and environmental benefits aside from carbon.

BWOC, a fuel distribution company, state that one of the benefits of buying from a WCC project is that it has brought more business by helping them win public sector contracts.

The Green Investment Bank really valued the opportunity to get their staff onsite to help with tree planting.

Further Information

Woodland Carbon Code:
www.woodlandcarboncode.org.uk

info@woodlandcarboncode.org.uk

Peatland Code:
https://www.iucn-uk-peatlandprogramme.org/funding-finance/peatland-code

info@iucn.org.uk

Carbon buyer case study: Waitrose

Waitrose, through the Woodland Trust, has bought carbon from a large native woodland creation project in Cumbria. The aim, over time, is to compensate for the GHG emissions of their home delivery fleet. They were particularly attracted by the potential for woodlands to improve biodiversity and control flooding.

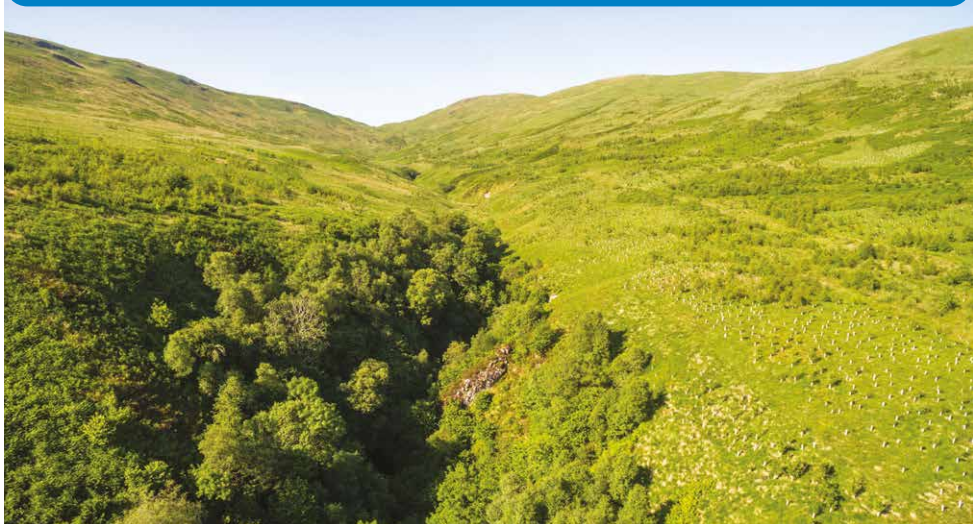
Working with the Woodland Trust on these projects raises their social and environmental corporate responsibility credentials, as well as providing them with a strong marketing message. Involvement with the project also provides opportunities for staff engagement through tree planting days. See more buyer case studies on the WCC website.

Looking to the future

Over the last 6 to 12 months interest in woodland carbon has increased rapidly across the UK. Greater numbers of landowners and agents as well as corporate buyers are becoming involved. For farmers, crofters and other landowners, if you're struggling to fully fund a woodland creation or peatland restoration project it's worth looking to the carbon market for some extra income to help move your project from idea to reality. ■

Quentin Clark, Head of Sustainability at Waitrose, plants a tree.
Photo credit: Woodland Trust.

Join the FAS online event **Woodland Creation and Carbon Sales**, 6pm to 7pm Wednesday 28 October, to hear from George Hepburne Scott, Director of Forest Carbon, and have the chance to ask questions. Sign up at **www.fas.scot**



How to Release Income from Woodland Carbon

Matthew Hay
Project Manager,
Forest Carbon

The Woodland Carbon Code exists to make financially unattractive woodland creation projects attractive. In doing this, it enables trees to be planted that otherwise wouldn't be, and additional carbon sinks to be created in the UK.

But how does woodland carbon improve a project's economic prospects in practise? And how can the carbon income actually be released?

The answer is via two routes: the upfront sale of future carbon, or the future sale of sequestered carbon. Both options have advantages and drawbacks, which lend themselves to different types of woodland creation projects.

For example, the upfront sale of future carbon revolves around a carbon product known as a 'Pending Issuance Unit' (PIU). These can be thought of as a guarantee of future carbon sequestration. The number of PIUs a woodland creation project has at its start is identical to the number of tonnes of carbon dioxide equivalent (CO_2e) that project will sequester over an agreed contract duration. In other words, 1 PIU = 1 future tonne of carbon.

Over time, Woodland Carbon Code projects undergo successive verifications. This first of these happens five years after the trees were planted, with further verifications every ten years subsequently. The purpose of verifications is to confirm that a woodland creation project is 'on track', i.e. that it is delivering the amount of carbon that was agreed at the outset. This involves counting the growing trees, making sure the right number and right species are there, and that they aren't being hindered or damaged by herbivores, pests, disease or extreme weather.

After each verification a certain amount of CO_2e can be confirmed as having been sequestered by the growing trees. It is there, visible as solid carbon in the wood of their trunks, no longer an abstract concept, or component of the atmosphere. At this point, the tonnage that has been sequestered is represented through the conversion of an equivalent quantity of PIUs into 'Woodland Carbon Units' (WCUs).

For example, if a woodland creation project is going to sequester 10,000 tonnes CO_2e over its contract duration, that gives the project 10,000 PIUs to sell at the outset. After five years, and assuming a successful verification, the saplings may have grown enough to have sequestered 50 of the 10,000 tonnes. As a consequence, 50 PIUs will be converted to WCUs at this point, recognising the 50 tonnes of CO_2e that are now physically locked away in the trees.

Ten years later this woodland will be due its second verification. At this point, the trees could have sequestered another 1,500 tonnes of CO_2e. Another 1,500 PIUs will be converted to WCUs, giving the project a total of 1,550 WCUs after 15 years.

This example illustrates two important points. The first is that a growing woodland doesn't sequester carbon at the same rate throughout its lifetime. Due to soil disturbance (and the associated CO_2 emissions) during ground preparation, many woodland creation projects are barely breaking even carbon-wise after five years. After 15 years, by contrast, the trees have laid down extensive root networks and are growing quickly, with the sequestration rate increasing correspondingly.

The second point worth emphasising is the length of time required to release income from the sale of WCUs. Whereas PIUs can be sold upfront, most projects won't have many WCUs to sell until 15 or even 25 years down the line. For many landowners, that is simply too long to wait.

CONTINUED OVER

These are the two options for releasing income from carbon: sell a project's carbon upfront as PIUs, or wait until successive verifications convert those PIUs, incrementally, into WCUs.

For landowners who can afford to wait, selling WCUs can be lucrative. The most recent 'Woodland Carbon Guarantee'* auction saw WCUs achieving an average price of £19.71, which compares favourably to the sale price of £4-7 currently achieved by PIUs.

However, we must account for the fact that we're comparing a future price of WCUs with the current price of PIUs. Applying a discount rate to the price of WCUs brings their future price back to their present value, allowing a fair comparison with the present value of PIUs.

For instance, when a discount rate of just 2% is applied, a PIU sold for £7 tomorrow is competitive with a WCU sold after 25 years at the price of £19.71 given above**. More importantly for many woodland creation projects, the cash generated upfront through the sale of PIUs is critical: it is what enables the project to happen in the first place.

Phillip Anderson and family successfully planted native woodland on their organic hill-farm in the Scottish Borders. The trees were planted to deliver riparian benefits to the watercourses on their farm, which flow into the Oxnam water, and were part-funded through the sale of carbon as PIUs.

But what drives the price in this woodland carbon market? In the UK, the market is largely voluntary; businesses are not required to offset their carbon emissions (with the exception of the energy sector and some industrial businesses).

This means that while supply is of course important, demand ultimately dictates the market price. Businesses will only pay what they want to for carbon credits, because they aren't mandated to buy any, and cheaper offsets can always be procured overseas.

As a result, what we at Forest Carbon term the 'charisma' of a woodland creation project is often critical to the price its carbon can achieve. Most businesses want to buy carbon from woodlands with a strong story and clear benefits to society, be they social, hydrological or ecological.

Rightly or wrongly, this means that carbon from woodlands comprised (primarily) of native species, which enhance biodiversity andor have amenity value for local communities, commands the highest price.

Forest Carbon links landowners who want to grow trees with organisations who want to mitigate the impact of their greenhouse gas emissions and make a contribution to wider environmental benefit.

They can assist landowners with carbon calculations, additionality assessments and the sale of carbon. ■

* It should be noted that the Woodland Carbon Guarantee operates only in England.
** Assuming that the price of the WCU continues to grow with RPI over that time

DID YOU KNOW?

Some types of wood glow under UV light. This phenomenon can help identify and distinguish between timber from different tree species. For example, the wood of black locust and mulberry appear very similar to the naked eye (top photo). When exposed to UV light, the black locust wood appears fluorescent green, while the mulberry wood does not (bottom photo).

In some tree species, the wood itself may not glow under UV light but mixing their sawdust or wood shavings with water or denatured alcohol releases compounds that do react to UV light. This relatively simple method can be part of a tool kit used to identify timber of endangered tree species, and help combat illegal logging and exports.

Join FAS events from home, catch up online

While we can't run events in 'real life' all FAS events are being held online. This means you can join events from the comfort of your own home and you aren't restricted to only those taking place close to home.

Online events are usually about an hour long, most happen in the evening, and there's no travel time to factor in. Sign up on the FAS website and you'll receive an email with a link to follow when it's time for the event to start. It's really that simple!

Joining online events on the day gives you the chance to ask questions and join in with live discussions. But if you can't make it, or you see past events you'd like to see, you can watch the recordings, any time you like.

Upcoming woodlands event:

Woodland Creation and Carbon Sales

Wednesday 28 October, 6pm to 7pm

Learn more from two of this issues' contributors, Dr Vicky West of Scottish Forestry, (page 4) and George Hepburne Scott of Forest Carbon, (page 10). This interactive online event will help you understand carbon schemes and ask questions.

- Essential for anybody proposing a woodland creation project.
- Learn how carbon sales can improve the financial viability of your proposal.
- Understand how carbon sales work.
- Find out what the key rules are and if selling carbon is right for you.

@FASScot

Catch up with webinar recordings

Missed our Woodland Creation & Management webinar series in July? Catch up whenever suits you.

Part 1 – Benefits of Woodlands

- The importance of matching tree species to the planting site.
- The benefits of woodland for livestock productivity.
- How woodlands can increase biodiversity and the benefits this can bring.
- How woodlands can contribute to providing public goods.

Part 2 – Successful Woodland Establishment

- The importance of well thought out fencing and good ground preparation appropriate to the site.
- Choosing quality trees of the right provenance.
- Carrying out ongoing maintenance especially weeding.
- Obtaining additional funding from organisations wanting to mitigate the impact of their greenhouse gas emissions.

Part 3 – Managing Existing Woodlands

- Harvesting farm woodlands and getting the best value for your timber.
- Managing your native woodland to enhance biodiversity benefits, especially through woodland grazing.
- A case study of an Aberdeenshire farm where profitable thinning has been carried out and an FGS grant has been used to improve the woodland and farm access.
- Managing field and hedgerow trees.

Water Margin Management: Webinar 1 – Riverbank Management

Riverbanks act as a buffer to the water environment. They are a shield to pollution and a home for biodiversity. Restoring banks and creating new riparian woodlands can help prevent flooding, land loss and pollution, as well as provide valuable riparian habitat. Learn more about working with the natural forces of rivers and watercourses on your farm to slow the flow.

Information notes

We've published some quick reference guides, free to download and keep.

Quick Guide to Conifer Tree Species

Basic reference for the main conifer species suitable for producing timber in the UK. An expanded version of the species guide included in Issue 34's article on growing alternative conifers for timber.

Quick Guide to Broadleaved Tree Species

Basic reference for the main broadleaved tree species suitable for woodland planting in Scotland, including habitat value and timber properties.

Obtaining Permission to Fell Trees

It's illegal to fell trees without permission. A simple guide to help you navigate the application process.

Common Pests and Diseases of Trees

A summary of the most common problems, how to spot them, and how to deal with them.

Basic Advice about Accessing the Forestry Grant Scheme for Woodland Creation

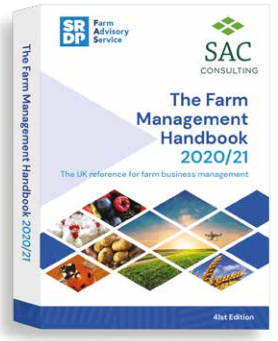
A guide to how FGS funding for woodland creation works, with guidance on preparing a successful application.

Farm Advisory Service

National Advice Hub
T: 0300 323 0161
E: advice@fas.scot
W: www.fas.scot

The Farm Management Handbook 2020/2021,

41st Edition



Newly updated for 2020/2021, the Farm Management Handbook is free to download, or you can buy a hard copy from the FAS website. The handbook includes comprehensive information to help with business planning.

The Forestry and Farm Woodlands section includes typical timber prices, example budgets for woodland creation and a range of other reference information.

The Farm Advisory Service (FAS) provides information and resources to help farmers and rural businesses become more profitable and sustainable.

Follow FAS on Facebook, Twitter and YouTube to stay up to date with the latest information.

Visit www.fas.scot for more free events, videos, podcasts and publications covering all aspects of farming.

How to Manage Ash Dieback Disease in your Trees

Above: Ash dieback disease can cause ash trees to become brittle.

Clarinda Burrell
Tree Health Policy Implementation Officer, Scottish Forestry

Ash dieback disease (often referred to as 'Chalara') is caused by fungal spores that can be carried on the wind, spreading the infection between trees. It has been present in Scotland for at least eight years but this summer reports from around the country indicate an increase in the impact of the disease, particularly on older ash trees. This disease, and secondary infections from root-rotting fungi, can cause all types of ash trees to become brittle, shed large branches and, in some cases, collapse.

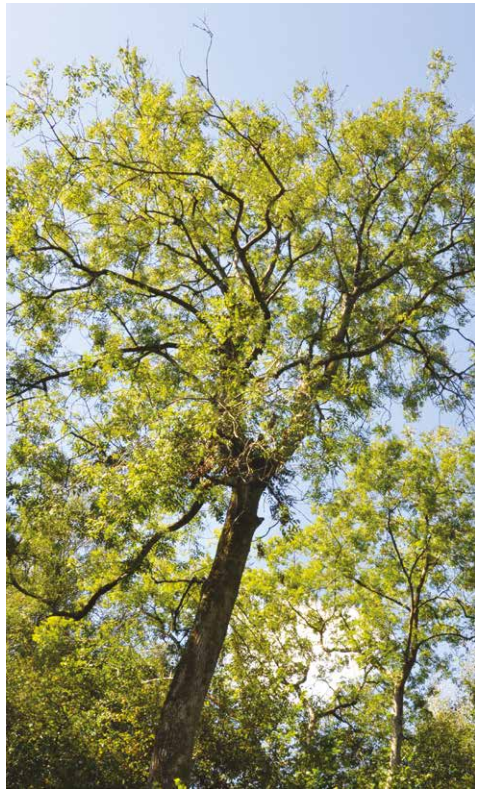
Landowners and managers are being particularly urged to check if they have any ash trees on their property that are within falling distance of a road, path, railway, buildings, utility networks (such as power-lines) or areas of high public access, and watch out for signs of ash dieback disease. Ash trees suffering from significant levels of ash dieback may need to be removed in situations where they could be hazardous to people. **Felling or pruning of ash trees with ash dieback should only be undertaken by fully trained professionals as such trees can be very unpredictable and cause extremely serious accidents.**

Where ash trees are growing away from areas usually frequented by people, and unless timber production is a key management objective, we are encouraging owners to retain ash trees even if they have started to show disease symptoms. This will help identify any trees which appear to have good levels of resistance to the disease, will help retain the many conservation benefits of our native ash trees. and increase genetic diversity through natural regeneration from ash seeds (provided grazing by sheep, cattle or deer is controlled).

In most cases felling permission from Scottish Forestry will be required to fell ash trees, even if they are infected with ash dieback disease. However, trees that pose an immediate danger and a direct risk to people or to infrastructure and utilities are exempt. It is best to seek the advice of a professional to determine if a tree is unsafe, and to check if any exemptions apply.

What can landowners and managers do?

- **Determine if you have any ash trees on your property**
- **Monitor for signs of ash dieback disease**
- **Familiarise yourself with guidance on risk management of trees**
- **Make a plan for what you will do if ash trees decline and/or become hazardous**
- **Contact your local Scottish Forestry Conservancy Office for advice on felling permissions including potential exemptions**



Symptoms of ash dieback disease in mature ash trees.

Getting permission to fell trees

It is an offence to fell trees without first getting permission from Scottish Forestry. This includes clearfelling, thinning, selective felling, felling individual trees, and felling coppice.

Some types of felling don't need permission. Check Scottish Forestry's Felling Permission – Application Guidance to see if any exemptions apply.

If your felling plans aren't covered by any exemptions you need to get permission. To apply for felling permission you will need to submit the following:

- **Felling Permission Application Form**
- **Mandate form (if an agent is submitting the application on your behalf)**
- **Map showing the area you want to fell**
- **Map showing what species you will replant with (if applicable)**

Scottish Forestry's Felling Permission – Application Guidance will help to guide you through the process.

Once your application for felling permission has been approved by Scottish Forestry, you can start felling. Do not begin any felling work before you receive fully approved permission. Full details and guidance are available on the Scottish Forestry website. ■

Diversifying broadleaved woodlands for the future

A way forward from ash dieback

Leona Baillie
Forestry Consultant
SAC Consulting

In the Spring 2020 issue of Farm Woodland News, we looked at diversifying woodland tree species for growing softwood timber. What about native broadleaved woodlands, and semi-natural woodlands? How do you manage a woodland suffering from ash dieback?

Why diversify woodlands?

Making sure woodlands are diverse in terms of species (as well as spatial and age structure) is beneficial for biodiversity, and the long-term health of the woodland as a whole. Here we'll focus on management in response to ash dieback but this is just one threat to our trees. There are many other pests and diseases that could arrive in the UK and the principles discussed here could be beneficial for any semi-natural woodland.

A mix of trees and shrubs that mimics the composition of a naturally occurring woodland type, suited to the local conditions, can support a wide range of woodland plants and animals, and function as a whole ecosystem. Greater diversity of species also means resilience in a changing climate, effectively spreading your bets on how trees will adapt to future climate conditions.

Managing ash dieback

Dutch elm disease had a huge impact on the rural landscape in the 1960s and 1970s, although less so in Scotland than south of the border. European ash *(Fraxinus excelsior)* was planted to replace many lost elm trees, never anticipating the future appearance of ash dieback disease (often referred to as 'Chalara') which looks set to wipe out 80% of the species.

As explained by Clarinda Burrell on page 16, dead or dying ash trees that are unsafe should be felled by a fully trained professional; the particularly brittle wood makes felling these trees very unpredictable. If infected trees don't pose a safety risk, eg away from roadsides, people and property, they should be left alone. The aim is to retain trees that can tolerate and survive the disease.

Dying or dead trees also remain valuable as deadwood. Holes and hollow trunks provide nesting for birds, and roosts for bats. The deadwood itself feeds decomposer species of invertebrates and fungi that are essential for a healthy functioning ecosystem. If felling is necessary, leaving some or all of the timber on site will benefit biodiversity.

When the ash trees are in leaf, identify any that appear to be less affected by dieback than others nearby. Prioritise these trees in your management plans and encourage regeneration around them. Retaining genetically tolerant trees to produce seed will be critical in helping the species survive.

Major efforts to find and breed Chalara-tolerant trees are ongoing. However, as decline of ash trees becomes more evident with each passing year, so does the urgency of replacing them.

If you lose ash trees to dieback, what can replace them?

Alternative species for biodiversity

Ash are a keystone species, known to support around 1000 different species of plants and animals, from birds and insects, to lichen and mosses.

They also indirectly support many species of understory plants. The canopy of an ash casts less shade than many other trees, and they're one of the first species to shed their leaves in autumn. This allows more light-demanding plants to grow beneath them than could tolerate the shade cast by other trees.

Ash leaves also decompose faster than those of most other native trees, playing an important role in nutrient cycling, and creating rich soils.

Replacing ash in native and semi-natural woodlands

Ash is the third most common broadleaved tree in UK woodlands. Although it is rarely a dominant species in Scottish woods, it plays a unique and important role in woodland ecology. Unfortunately, this means that no single tree species can replace ash like for like. In many cases, using a mixture of species will more closely replicate the characteristics of ash. The most suitable replacement species, or species mix, will vary between different settings. This choice depends on the composition of the existing woodland, and the site conditions in terms of climate and soil type. Additionally, if site conditions are suitable for a wide range of alternative trees, you may be able to choose species based on whether your priority is to support ash-dependent species or fulfil the trees' role in nutrient cycling.

Natural regeneration

If your primary objectives are restoring a native woodland or supporting biodiversity, encouraging natural regeneration may be the first choice. This still requires active management, for example thinning to open the canopy, controlling invasive species such as Rhododendron and protecting young trees from herbivores.

Natural succession will occur where lost trees create openings in the woodland canopy. This gives any tolerant ash the chance to self-seed. Where ash is a minor component of the woodland, the gaps left may not be sufficient for significant regeneration of any species – the crowns of adjacent surviving trees may grow to fill the gaps. Consider thinning to encourage regeneration.

Otherwise, what is most likely to replace ash will depend on what other tree species are present in the woodland, and nearby.

CONTINUED OVER

Initially shrubs such as hazel, hawthorn and elder, often associated with ash woodlands, are likely to colonise. After 10–15 years tree species such as sycamore or beech the lowlands, or birch in more upland areas, are most likely to fill the gaps in the canopy.

In Scotland, Sycamore and beech are classed as non-native although 'naturalised', meaning they are well established here. They are particularly good at self-seeding and are likely to out-compete regenerating ash or other native species. If non-native species make up a large proportion of the woodland, it may be better to retain some of these trees initially, in areas where they are less likely to spread. Phase their removal gradually to avoid losing large areas of woodland canopy. They can also serve as 'insurance' for the lost ash trees, in terms of woodland cover, and timber revenue if that is a secondary objective.

Planting

Planting may be necessary where there is a high density of ash or particularly high vulnerability to dieback. In these circumstances regeneration by ash is likely to be limited. Diversifying a woodland is not a case of planting as many different tree species as possible. As with creating new woodlands, it's crucial that you choose species suited to the site conditions and climate.

The National Vegetation Classification (NVC) system categorises naturally occurring types of woodland habitats. Five of the native woodland types found in Scotland include ash. The table lists the major and minor species and gives general descriptions of where each woodland type can grow.

If it's a new native woodland created fairly recently, the species mix planted will likely be based on one of these NVC woodland types, and you may already know which one. Whether you're replacing ash or just wanting to increase species diversity, adding new suitable species will help to enhance the woodland. Consider including some of the minor tree species and shrubs that aren't already there. These lists serve as a starting point – *it is essential to check that each new species you want to plant will be suited to the site conditions.* A forestry agent can help you assess the woodland and select suitable species.

If your woodland was planted with grant funding and is still under contract, you are obliged to maintain the original stocking density, replacing any trees lost to ash dieback or other pests and diseases. Contact your local Scottish Forestry Conservancy office for specific advice.

Replacing ash outside of woodlands

Ash is the UK's most common tree species outside woodlands, a very common sight in hedgerows, field boundaries and parklands. These trees play an important role in connecting habitats. The species that depend on ash in these situations are particularly vulnerable to individual trees being lost.

If you have mature trees of any species in these situations, are there also younger trees in between to eventually replace them? Could you plant new hedgerows and/or trees to join up existing woodlands to increase the habitat network for biodiversity?

Although mid-aged to mature ash appear more tolerant to Chalara than younger trees, older trees have the greatest ecological value so succession planting should be done as soon as possible. Ensuring there will still be trees there in the future will benefit the animal species that depend on hedgerow trees and maintain continuity in the landscape.

Further information

- Scottish Forestry guidance: Management of native ash in Scotland
- NVC field guide to woodland

Woodland type (NVC code)	Lowland mixed broadleaved woodland with dog's mercury (W8)	Upland mixed broadleaved woodland with dog's mercury (W9)	Lowland mixed broadleaved woodland with bluebell/wild hyacinth (W10)	Alder-ash woodland with yellow pimpernel (W7)	Alder woodland with stinging nettle (W6)
Typical terrain	Lowland valley slopes; mainly eastern.	Ravine and valley sides and heads; often rocky.	Valley bottoms and gentle valley slopes on lowland coastal margins; mainly eastern.	Mainly valley sides and hill-slopes with flushes: streamsides.	Alluvial terraces in mature river valleys, disturbed and enriched floodplains, silting loch margins.
Soil types	Base-rich brown earths and base-rich groundwater gleys.	Calcareous and basic brown earths and base-rich surface water gleys.	Brown earths and base-poor ground water gleys.	Base-rich gleys and flushed brown earths.	Moist alluvial soils, enriched fen peats.
Characteristic tree & shrub species The most suitable alternatives to ash for biodiversity are in **bold**	Major: Ash, **Pedunculate oak**, **Sessile oak**, Wych elm, Hazel, Hawthorn Minor: **Downy birch**, **Silver birch**, Rowan, Holly, Crab apple, Gean, Grey sallow, **Aspen**, Elder, Guelder rose, Blackthorn, Goat willow	Major: Ash, **Downy birch**, Rowan, Hazel Minor: **Sessile oak**, Wych elm, **Alder**, Bird cherry, **Pedunculate oak**, Hawthorn, Elder, Grey sallow	Major: **Pedunculate oak**, **Sessile oak**, **Silver birch**, Hazel, Hawthorn Minor: Rowan, Holly, Downy birch, Wych Elm, Ash, Gean, Crab apple, **Aspen**, Elder, Guelder rose, Blackthorn, Whin/gorse, Broom	Major: **Alder**, Ash, Grey sallow, Hazel, Hawthorn Minor: **Downy birch**, Goat willow, **Pedunculate oak**, **Sessile oak**, Rowan, Holly, Bird cherry, Elder, Guelder rose, Blackthorn, Bay Willow	Major: **Alder**, Grey sallow, Elder Minor: Ash, Downy birch, **Pedunculate oak**, Holly, Goat willow, Hawthorn, Guelder rose, Blackthorn, Purple willow

Timber Market Report September 2020

Ross Kennedy
Harvesting Director, RTS Forestry

It falls to me to write the first Timber Market Report in what is perhaps only the "end of the beginning" of the Covid-19 pandemic. The immediate impact of the Covid 19 lockdown was severe but timber harvesting and processing certainly returned to a version of normality quicker than many other industries. Given the status of production forestry in the manufacture of critical products including pallets, medical packaging, biomass energy and indeed construction boards for the Nightingale hospitals, timber harvesting restarted and continued through lockdown relatively unimpeded, with the backing of the Scottish Government. A number of major sawmills and board manufacturers were offline for a period however most have now returned and order books are strong.

Since the gradual reawakening of the economy, standing timber prices have strengthened and have essentially regained all the lost ground pre-Covid-19. The past two weeks, perhaps last few days, have seen sawlogs prices reach (almost) unprecedented levels with a critical shortage in availability of sawlogs leading to sawmills competing hard for supply. The shortage stems largely from sawlog demand from Ireland where the felling approvals process has all but come to a halt. Additionally, strong US demand is soaking up Scandinavian volume which used to find a home in the UK. The situation in Ireland is worth a Google search for those with an interest and certainly shows the impact legislation can have when it is not adequately considered. Overall, log prices are £20/t up from only a number of months previous.

Back in Scotland the market for the smaller end of the tree, generally utilised for biomass energy or board manufacture, is perhaps merely ticking along with prices down around £5/t from the peak of the last couple of years. This is based on the abundance of sawdust and chips available from the booming sawmill sector replacing use of small-diameter round timber. There is also an impact from the markedly poor wholesale energy price limiting industrial scale biomass demand.

The exceptionally strong log price is more than replacing the relatively moderate biomass prices leading to excellent prices for standing timber overall, particularly "loggy" parcels. Only time will tell how long this will last in the midst of a global pandemic but as an industry we will continue to make hay while the sun shines.

The current strong demand has, however, highlighted an issue common throughout many land-based industries – the age profile of our operators. With contractors working at or approaching capacity the availability of skilled machine and chainsaw operators is being pushed to its limits. This is only likely to become more severe given the impending exit from the industry of an aging cohort of skilled machine operators, chainsaw operatives and wagon drivers. With a political focus on woodland creation, woodland carbon storage, biomass energy and a strong processing and logistics sector the industry does provide numerous opportunities. It is the responsibility of all those in the forestry sector to demonstrate the opportunities available to operatives to secure our industry into the future. ■

Forestry Grant Scheme Update

Extra £1m for Woodland Creation on Farms this Year

This additional funding has been provided by the Agricultural Transformation Programme. It aims to help enable planting schemes such as shelterbelts and riparian woodlands to go ahead that might otherwise be too costly to be viable. Projects receiving this funding much be complete by 31 March 2021.

The extra money also means there is still good availability for funding across the woodland creation grant categories for the current year (which runs until 31 March 2021) from the total budget of £48 million. There is currently good availability of grants for 2021/22 across all categories of FGS funding, including Woodland Creation, Woodland Improvement Grants, and Sustainable Management of Forests.

£160 Million Investment in Rural Economy for Green Recovery

An additional £100 million was announced in the Programme for Government for Scottish Forestry to increase new planting over the next five years, alongside £30 million to Forestry and Land Scotland to expand national forests and land.

A further £20 million has also been allocated to increase the supply of young trees and £10 million is available to help farmers and crofters buy new equipment through the Sustainable Agriculture Capital Grant Scheme (SACGS).

New Pilot Scheme: Sustainable Agriculture Capital Grant Scheme (SACGS)

Ensuring farmers and crofters can play a key role in a green recovery, a new £10 million fund is currently open. The SACGS is a five-week-pilot scheme, offering grants of up to £20,000 for farmers and crofters to purchase new equipment.

The capital items that can be applied for have been chosen for their effectiveness in reducing greenhouse gas emissions as well supporting sustainable farming, by improving land and livestock management.

The closing date for applications is midnight on Sunday 11th October 2020.

Harvesting and Processing Funding

Funding for harvesting and processing was increased from £300,000 to £2 million this year. This FGS option aims to support local small-scale harvesting and processing capacity, enabling farmers and forestry businesses to diversify. The additional funding is intended to help businesses adapt and recover from the impact of Covid-19.

There were two application rounds this year, the second of which ended on 30th September. If this budget isn't all allocated it's possible there may be a third opportunity to apply for these grants – look out for future announcements. ■

Quick Guide to Woodland Creation Grants

The Forestry Grant Scheme (FGS) supports the creation of new woodland that will provide economic, environmental and social benefits. Payment rates for five of the nine grant support options for woodland creation are shown in the table below. Higher rates of payment are available for eligible schemes within the following locations: Central Scotland Green Network (CSGN); Cairngorms National Park Woodland Expansion Target Area; Highland Native Woodland Target Area; Woodlands for Water Target Areas; and preferred and potential areas of local authority Forest and Woodland Strategies.

Woodland Creation option	Total payment rate per hectare *for initial planting and annual maintenance for 5 years*	
	Standard areas	Target areas
Conifer*	£2960	£3330
Diverse Conifer*	£3840	£4320
Native Scots Pine	£3200	£3600
Native Broadleaves	£3200	£3600
Native Broadleaves in Northern and Western Isles	£6720	N/A

Central Scotland Green Network additional capital payment contribution

Within the CSGN Contribution Area additional funding is available to Woodland Creation schemes.

Core Area	£2500/ha
Outer Core Area	£1500/ha
Fringe Area	£750/ha

CSGN contribution capped at 40ha in Core Area and Fringe Area, and at 65ha in Outer Core Area.

Farm Advisory Service

National Advice Hub
T: 0300 323 0161
E: advice@fas.scot
W: www.fas.scot

If you need more advice on farm woodlands or any other topic, the Farm Advisory Service has a range of support and help available:

Advice line

For free telephone advice on a wide variety of topics including cross compliance, water framework directive requirements, climate change and other technical issues call us on **0300 323 0161** or email **advice@fas.scot**. The advice line operates between 9am and 5pm Monday to Friday.

Online

Our website contains articles, videos and much more at **www.fas.scot**

Capital Items Payment Rates

In addition to the initial planting grant there is support for capital items that may be required to successfully establish new woodland.

Deer fencing	£7.60/m
Stock fencing	£4.40/m
Rabbit-proofing of fence	£1.60/m
Tree shelters (1.2 to 1.8m)	£2.00 each
Gorse removal	£720/net ha
Bracken control	£225/ha

**If ploughing is used, reduced payment rates for initial planting apply to reflect the cost saving from this cultivation method.*