


Grow your farm business:

How trees can benefit your land, crops, and livestock



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If you own or manage a farm, creating woodland can bring far-reaching benefits to your business. By planting the right tree in the right place, you can diversify your income, offset emissions, and bring direct benefits to your land, crops, and livestock.



Key things to consider when diversifying your business through woodland

Farm diversification can generate additional sources of income, make better use of existing land, and help your farming business become more sustainable. In 2020/21, 66% of farm businesses in England had some diversification activity, with a further 29% of farms expecting to make a major change in the following year¹. If this is something that you have been considering, woodland creation could be the answer for you.

The decision to make a change in the way you manage your land is a personal one – and affects your family, business, wider community, and the planet. It's important that you consider what you would like to achieve with woodland creation, as your choice in planning, planting, and management can all help to bring you closer to your goals.

There are a number of different ways to integrate trees into your farm, from trees and hedges in fields, shelterbelts and riverside planting, to larger areas of woodland and wood pasture, meaning that there is always an option that can be shaped around your business. We know that choosing to plant woodland on your farm is a big decision, so to help you decide, you may wish to consider the following:

1. Why do you want to diversify?

First, consider how trees, woodland, and forestry might help your farm business. Think about how you can integrate trees into the farm landscape and business model, not replace one with another. Do you have under-used or marginal land on your farm? Are you moving towards agroforestry systems? Do you want to reduce pollutants such as ammonia or run-off? Are you committed to reaching net zero? It's important that you have clear objectives for your diversified business and that the planting activity you choose helps you meet those goals.

2. What are your expectations?

Now you have your objectives, you should consider your expectations for your diversified activity. For example, a woodland design should integrate and enhance the farm business, landscape, and site features, so you shouldn't expect to plant on 100% of your site, or to only plant commercial conifer species, for example. You will need to match tree species to the site's characteristics, rather than trying to fit the site to the species you have in mind. Consider how more integrated tree planting like agroforestry might fit in with your farming practices too – allowing you to carry on with agricultural activity and grow trees on the same parcel of land. The [UK Forestry Standard \(UKFS\)](#) sets out guidelines for woodland creation, and it's these criteria you should be considering when starting to design your project.

3. Do you have access to skills, resources, and information?

Creating new woodland requires thought and expertise to get it right. As forestry experts, the Forestry Commission is here to help you at each stage, from the initial enquiry, to designing, planting, and managing your woodland. We offer guidance and provide you with the information you need to feel confident. If you would like additional support, our delivery partners can offer further help, for example, with completing grant applications. Likewise, particularly for larger schemes, it may be worth accessing the help of a forestry or land agent. Adding trees and woodland can add complexity to your land, but is rewarding if managed well.

4. What are the risks?

Trees are a long-term investment and take time to reach their full potential, but the sooner you plant, the sooner those benefits will be realised. There are risks with tree establishment, such as damage from pests and diseases, but there are also several ways in which you can make your trees and woodland as resilient as possible. For example, ensuring biosecure planting stock, selecting mixed site-appropriate species, and using protection such as tree guards or fencing. You may wish to consider hiring specialist consultants who can help with getting your trees in the ground and growing healthily.

5. How will you finance it?

Woodland creation has a number of associated costs, so you should consider grants from the Forestry Commission and our delivery partners to help you achieve your goals. There are various options available to fund different woodland creation projects, offering you the flexibility and financial support to plant. See page 26 for more information on available grants.



Using trees to enhance your business

In contrast to conventional farming practices, the crops we produce from woodland take time to mature – but woodland offers an array of opportunities to enter new markets and diversify your business, enhance and support other business activities, and help to reduce your costs.

From a productive timber crop to other wood products that come from routine management, you can make use of every part of the tree. You can generate reliable income through selling produce or cut costs through heating your own buildings with biomass. Agroforestry systems can be used to increase productivity from both your livestock and crops, while growing a valuable resource alongside your main business. The trees could be used for timber, fruit or nuts, or simply to provide shade and shelter benefits in our changing climate.

Your woodland could enhance holiday lettings that you already have on your farm, or enable recreational activities – for example, there are a range of sporting opportunities in woodlands such as off-road cycling, or tree top adventures. A well-managed woodland could improve existing game shoot settings or provide an opportunity to bring in additional income from the sale of venison through deer management.

There are a lot of possibilities for diversification with woodland creation, and it's important to research local demand for wood products to truly understand your market and what your most profitable options are. Trees and woodland offer flexible opportunities for your business, allowing you to find options that work for you and your local community, as well as your bottom line.

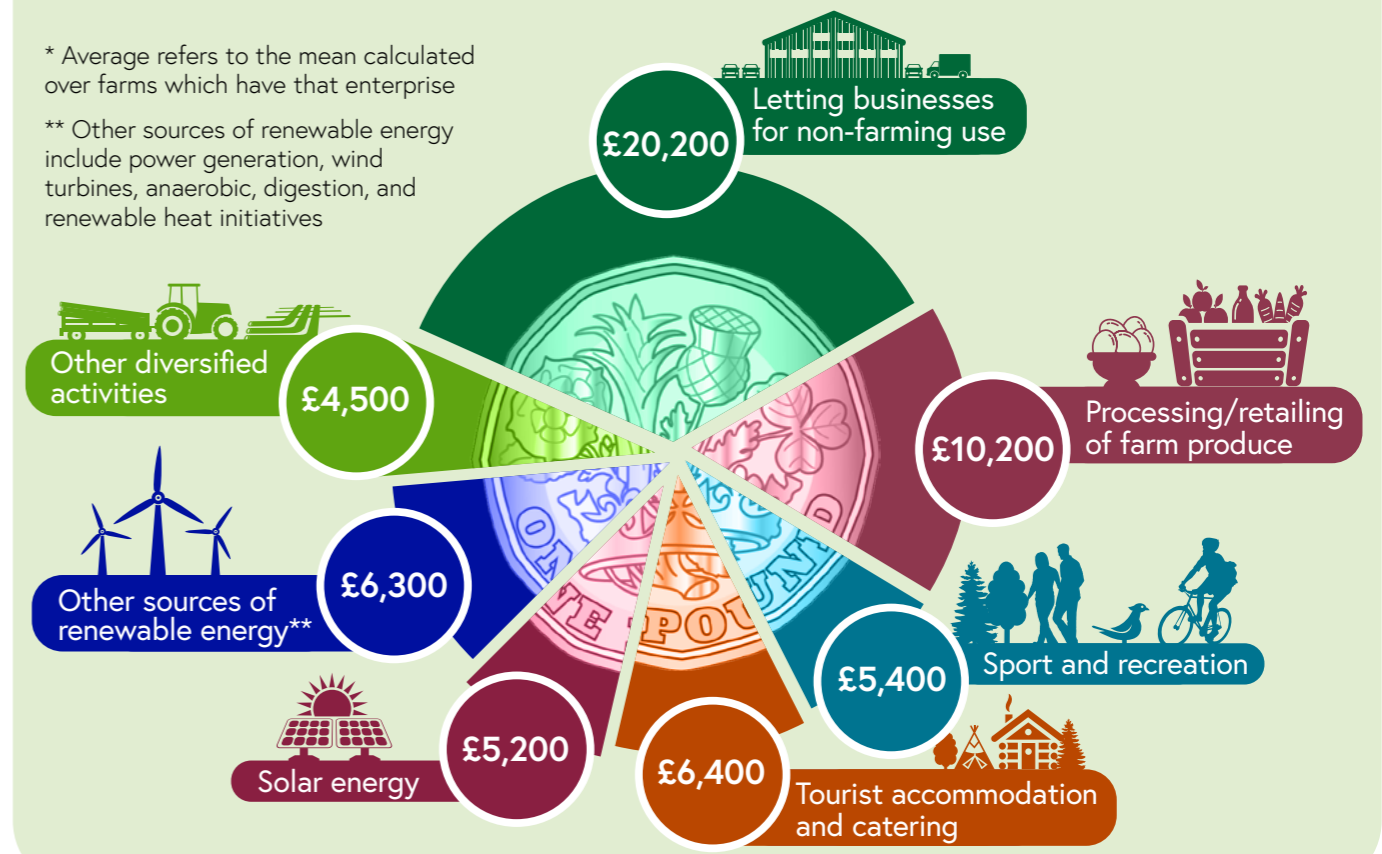


Diversified business income¹

Figures show the average* income per farm, 2020-2021

* Average refers to the mean calculated over farms which have that enterprise

** Other sources of renewable energy include power generation, wind turbines, anaerobic, digestion, and renewable heat initiatives





Case Study: Grascott Farm



Key Facts

Site: Grascott Farm

Size: 212 acres

Woodland type:

Conifer woodland with areas of broadleaf

Species:

Predominantly Douglas fir, together with Sitka spruce, field maple, ash, chestnut and oak

Date established:

1998-2000

Key objective:

Grow high-quality Douglas fir to produce timber and woodfuel, combined with delivery of multi-objective and continuous cover management principles

Grascott Farm has a thriving woodland that is home to barn owls, badgers, and otters – as well as providing a steady income through timber, biomass, and recreation. In 1993, Sam Whatmore purchased 25 acres of woodland and in 1998 he added a larger mixed farm to the holding. Between 1998-2000 Sam planted over 150,000 trees to make a new woodland on the farm. Establishing a woodland is a long-term investment and takes time, but with Sam's innovative thinking he was able to fill the income gap between tree establishment and future returns.

In the early years, Sam recognised that there was a strong tourism market in Devon and renovated old farm buildings to holiday cottages to generate revenue through recreation. Sam found that visitor stays were enhanced by the surrounding woodland, offering them a unique and remote experience in nature. As part of the deer management needed within the establishing woodland, deer stalking led to the creation of a successful venison business, selling high-quality burgers and sausages at shows across the county. Over time, as the woodland established, Sam brought further innovations to his business.

The principle of using woodlands to deliver long-term value to people and society is central to Sam's management plan – generating products that people need and use,

combining opportunities from already established woodland with the new woodland. Grascott Farm now has a healthy turnover as a successful business, incorporating:

- **Timber and firewood.** No part of the tree goes to waste, with saw logs going to the sawmill, smaller roundwood being used as firewood, and the canopy woodchip heating both the holiday cottages and the kiln which dries the firewood!
- **Biomass, supported by the Renewable Heat Incentive scheme.** In 2003 Sam was the third in the UK to install a biomass boiler. At the forefront of woodfuel development as it grew as a market, Sam set up his own woodfuel business in 2006. This start-up evolved into the biggest biomass supply company in the UK and has since merged with an international energy company that continues to flourish to this day.
- **Innovative forest products.** From wooden poles for glamping, tepee construction, and window displays for large retailers, to a ship's mast, foliage for florists, or sawdust for horse bedding – the opportunities are endless!



"I would always recommend looking to the future and thinking outside of the box – it's not just about creating woodland, it's about how you manage it into a growing, working, active forest, and make use of the markets available to you."

Sam Whatmore, Owner, Grascott Farm

Read the full Grascott Farm case study and others online at: gov.uk/forestry/tree-planting-case-studies





Making money from trees

In addition to enhancing other areas of your business, as trees establish, they can generate reliable income to support your farm business. The way this looks can vary depending on your objectives and woodland management plan.

Timber, wood products, and woodfuel

The demand for wood products in the UK hugely outweighs domestic production. We import over 80% of our timber, which was valued at £8.5 billion in 2020, making the UK the second largest net importer of forest products in the world². There is an active market for timber, and trees provide several opportunities to earn money for your business.

- **Quality timber.** The best quality timber from your woodland could be sold for sawlogs which can be converted into construction materials. This might mean learning some new woodland management skills, but well-managed woodland can be very rewarding.
- **Hardwood logs.** Big, straight, and strong tree trunks are perfect for timber framing or internal wood features, as they can be easily sold to timber processors and sawn into logs.
- **Smaller timber.** Which is also known as small roundwood, can be sold to make fence posts, or used as woodfuel.
- **Firewood.** Timber of lower quality can typically provide you with an income if it is sold as firewood. Bagging logs for sale or selling them in 1 tonne crates can add a huge amount of value to the product, especially if you are appealing to the log-burner market. 'Ready to Burn' certified woodfuel can fetch premium prices.
- **Biomass.** Wood chip can be dried and used as biomass, providing a renewable source of energy from even the smallest parts of a tree.
- **Specialist products and niche markets.** Very often high value specialist products are grown to order such as ship masts, film set props, and basket weaving. There are also niche markets for products for all parts of the tree including floristry materials, small handicrafts, and decorations, to name a few.

Some of these opportunities can be unique, so it is always best to research the market in your local area and consider the opportunities available to you. It's important to align what you want to grow with your woodland creation objectives, and a sound understanding of your market can help the success of your diversified enterprise.

Produce

If you see a niche in the market for fruits, nuts, and berries then pick tree species that will provide these in your woodland. Making your woodland produce complement your farm business, by introducing a new fruit in a horticultural enterprise for example, could help you move into new markets such as the production of jams or even woodland berry flavoured gins.

Carbon

As trees grow, they sequester carbon dioxide from the atmosphere and release oxygen. If you register with the [Woodland Carbon Code \(WCC\)](#), for each tonne of CO₂ captured, you will be able to sell independently verified carbon units. Before planting you must register your woodland creation project: complying with the WCC provides assurance to companies buying your carbon units as offsets for their carbon emissions that the project is credible.

Projects registered with the WCC can apply for the [Woodland Carbon Guarantee \(WCaG\)](#). If successful, you can sell verified Woodland Carbon Units (WCUs) to the government for a guaranteed price that is index linked for the life of the project contract, every five or 10 years up to 2055/56. However, to allow you flexibility and the ability to make income from a rising market, you can still choose to sell your carbon units on the open market as Pending Issuance Units (PIUs) – 'a promise to deliver' at any point in time.

To find out more about woodland and carbon, [read our fact sheet on GOV.UK](#).

Taxing trees

There is guidance available about tax implications for woodlands. If you're interested and want to find out more, check out our [woodland owners tax guidance](#) page on GOV.UK and speak to a financial advisor about your individual situation.



A look at woodland finances

There is huge diversity in woodland and before calculating potential income you would need to consider a few factors, including the woodland type, species mix, percentage cover, yield class (an index that measures potential productivity of even-aged groups of trees), spacing, rotation, gross area, as well as your management plan and much more. Therefore, this case study won't be representative of every woodland, but it gives you an idea of what is possible.

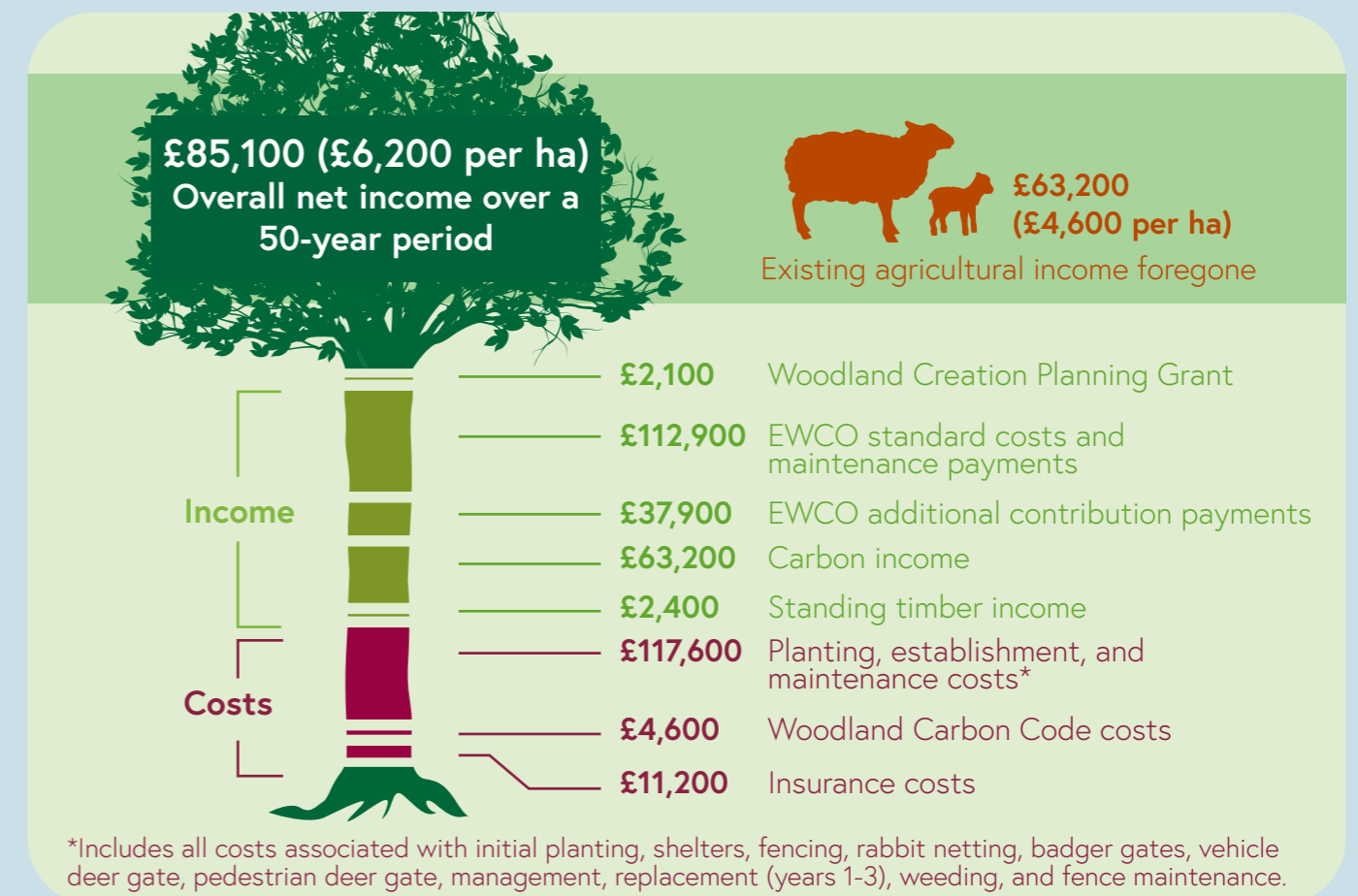


Case Study: A project to enhance the local landscape, improve biodiversity, and create a legacy for future generations

When the owner inherited their family farm in the northeast of England, they immediately began to transform it into a Green Energy hub with ground source heating, a wind turbine, and multiple solar panels. The land had been exclusively grazed by sheep and cattle for over 50 years and was home to a small sheep flock. The owner, who had a profession outside of their work on the farm, felt as though there was only a small financial gain from the farm and

wanted to leave a long-lasting impact. This led them to consider alternative land use options, and as an environmentally-conscious person, the owner decided to create over 10 ha of new woodland to benefit the planet.

Long-term goal: Enhance the local landscape, improve biodiversity, and leave future generations with a better, cleaner, planet.



Discount rates. All figures have a discount rate applied. Discount rates are used to convert future cash flows into a present value. As this case study is looking at a period spanning 50 years, future costs and income need to be converted into a present value to make

everything comparable. Whilst there is no "correct" discount rate, a discount rate of **3.5%** (as derived from the social time preference rate outlined in the HMT Green Book³) is used for this evaluation. For example, £100 in 10 years' time is £70.89 in present value.



The scheme will generate income from grant payments, timber income, and carbon sales over a 50-year period:

- The scheme received **£152,900** from grant payments from both the Woodland Creation Planning Grant (WCPG) and the England Woodland Creation Offer (EWCO)
- The woodland is estimated to generate 3,160 Woodland Carbon Units (WCUs). Choosing to sell these as Pending Insurance Units (PIUs – a promise for future carbon capture), the scheme could bring in **£63,200** in private sales. This has been estimated using the weighted average price of successful bids at the Woodland Carbon Guarantee (WCaG) auction in May 2022 - £23.70
- Approximately a third of the woodland is expected to be thinned at 5-year intervals. Over the 50-year period, the woodland is estimated to yield 390m³ (80m³ per ha). Assuming timber income from the sale of standing trees (typically sold via an agent, the timber is harvested by the purchaser rather than the landowner, saving on costs and labour) at an estimated standing price of £21/m³ for a broadleaf stand, the present value from thinning is estimated to be **£2,400**

As with any land use change, there will be some costs associated with the establishment of woodland, such as purchasing trees or fencing. In addition to these costs, where the land was previously used for livestock, the landowner has foregone agricultural income. Using figures from the annual Farm Business Survey (FBS)⁴, a farm in the northeast of England had an average farm business income of £270 per ha over the period of 2016/17-2020/21. In this project, the income foregone per annum is estimated to be £3,700. Over a 50-year period this amounts to £63,200 (£4,600 per ha) in present value.

Comparing this to the overall net income of this scheme at present value **£85,100 (£6,200 per ha)**, there is a £21,900 increase in income over the 50-year period. This shows how a change in land use can bring financial benefits to your business. There are further advantages to consider as woodland management requires significantly less labour than agricultural activities. After the early years of establishment, when weeding and pest control is required, trees will begin to thrive on their own – with thinning every few years, and other management interventions such as pruning and squirrel control.

The income and costs for this scheme have been calculated over a 50-year period to show the long-term impact of woodland creation, though it is important to note that some finances impact a shorter duration of this period. For example, for grant payments, WCPG income would be made prior to the establishment of the woodland, while EWCO maintenance payments are only available for the first 10 years of the scheme. Thinning is at five-year intervals, and carbon income has been calculated for the scheme by selling carbon upfront at year five.

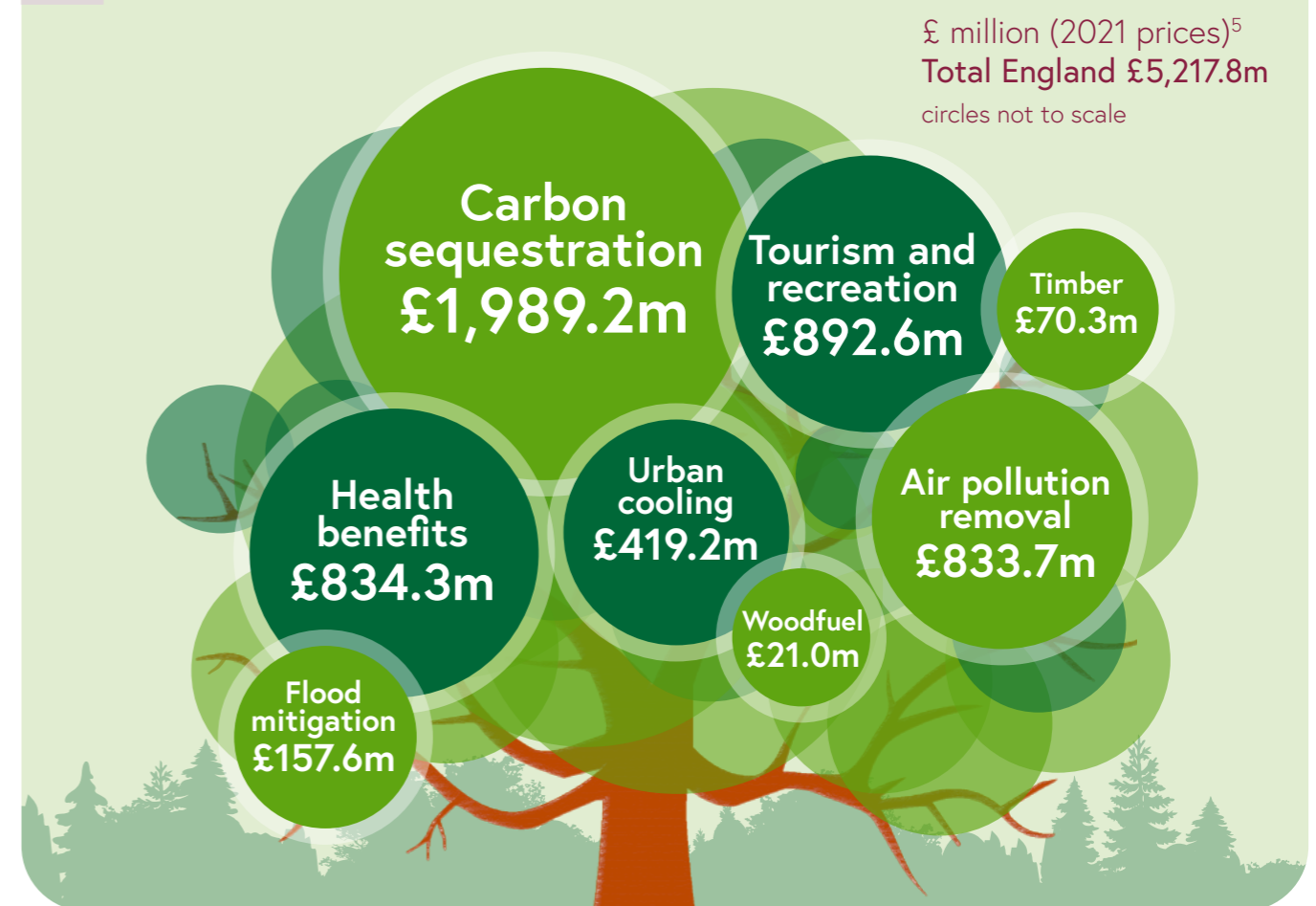


To read the full case study, including the breakdown of the income and costs for this project, and other schemes, visit [GOV.UK](https://www.gov.uk).

Natural capital of woodland

The value of a woodland is much more than its commercial capacity to earn money. The contribution of woodland to the economy and society is measured by the services it provides to increase natural capital. This includes flood protection, reducing pollution, sequestering carbon, improving water quality, providing a wider range of habitats for the natural world, as well as cultural services such as recreation and heritage.

Value of woodland ecosystem services in England 2020



The contribution of trees and woodland in the value of ecosystem services in England in 2020 was estimated at £5.2 billion, representing over 50% of the annual value of UK woodlands as a whole⁵.

While the economic case for nature is growing, natural capital markets are still in their early stages which means that payment isn't currently available for all ecosystem services, however this has already begun to change and is likely to develop in the future.



£ Stackable grant payments already recognise the natural capital of woodland

Under the England Woodland Creation Offer (EWCO), your woodland creation scheme may be eligible for additional payments for the public goods your woodland provides.

These extra payments can be on top of the capital and maintenance payments you'll already receive – in recognition of the value you are bringing to the environment, nature recovery, and the local community.



How woodland supports your business

In addition to providing an alternative source of income, trees and woodland can bring further agroecological benefits to support your business. It's harder to put economic figures to these, but with careful management, trees can have a positive impact on your farm productivity and help save costs, overall benefitting your business financially.

Agroforestry is a land use system that involves the integration of trees and shrubs with either crops, livestock, or mixed farming. These systems have some important benefits that can help both on-farm productivity and your bottom line. Each system can bring different benefits to your farm, and these are explored further within this section. Agroforestry includes: silvoarable (trees integrated with crops), silvopasture (trees combined with grassland and livestock), riparian (trees along watercourses), and windbreaks/shelterbelts (trees on the edge of fields).

For your essential guide to agroforestry and how to implement these systems on your farm, read the [Soil Association's Agroforestry Handbook](#)⁶.



Trees and your land

Crops are reliant on two important natural resources – soil and water. Trees can both protect and enhance these elements by:

- **Protecting against erosion.** Soil is vital to our food system, and yet in many places it is degrading. Soil degradation is calculated to cost £1.2 billion every year, with over 2 million hectares at risk of erosion⁷. Trees can act as an added layer of protection from wind and rain, reducing the likelihood of nutrients being washed away. Their roots also help hold soil together, providing much needed structural stability – particularly important in hilly areas or alongside rivers. Shelterbelts are strategically planted strips of trees acting as a windbreak and providing shelter for soils, crops, and livestock.
- **Reducing flooding.** In the right place, trees can help slow the flow of water and reduce flood peaks by up to 65%. During flood events, the rough vegetation helps to slow water flow, and the volume of run-off can be reduced and slowed. Trees are also able to improve infiltration (water on the ground surface that enters the soil) and infiltration under a woodland is 60 times higher than it is under grass⁸.
- **Improving water quality.** Correctly placed and established woodland can act as a natural buffer between watercourses and neighbouring land. It acts like a filter, slowing the flow of water from fields, whilst removing nutrients that are either directly in the water or in soil particles in the water. This improves river water quality. Planting a 10-metre wide woodland between the field edge and a river can also decrease sediment run-off by 90-100%, nutrient losses by 20-80%, and reduce pesticide loss in run-off by 60-100%⁸, helping you to reduce inputs. By planting woodland buffers along the rivers on your farm you can directly help nature to recover.
- **Cutting farm pollution.** Shelterbelts can help to remove airborne ammonia pollution by reducing windspeed around animal housing units and slurry pits. They provide a rougher surface of tree leaves and needles that can help to capture ammonia from the atmosphere on your farm and close to the source of the emission instead of being deposited onto nearby sensitive habitats. Use the [UK Centre for Ecology and Hydrology's tree calculator](#) to understand how you could reduce your on-farm ammonia emissions.

Find out more about the importance of woodland soils for biodiversity in our [Woods for Nature fact sheet](#) and discover the further benefits of woodlands for water in our [Woods and Water fact sheet](#).

Offset your emissions and become a net zero farm

Trees act as a natural 'carbon sink', absorbing the atmospheric CO₂ and releasing oxygen whilst locking up carbon, which means they can go a long way in helping your business to reduce its emissions. Carbon is stored throughout every part of the tree, and 70% of all forest carbon in the UK is stored within forest soils⁹.

With the impacts of climate change becoming ever more apparent, you may already be thinking about how you can reduce your farm business carbon emissions to reach net zero targets. However, there will always be some unavoidable carbon emissions from your farm business. You can use new woodlands registered with the Woodland Carbon Code to offset these unavoidable emissions and make your business operate with a lower impact upon the environment. It's often good for business too, as the people that buy your farm produce are also looking for suppliers with a low carbon footprint and low impacts on the environment.

Trees and your crop

Alley cropping

Alley cropping is the practice of planting tree rows with a companion crop in between. When managed appropriately, alley cropping could help your farm by increasing yield, boosting income, and reducing the risks associated with monocropping. The combination of trees and companion crops planted in the alleys should be carefully considered, for example, it's important to have the right soil type to allow tree roots to grow deeply in the first few years to reduce competition with crops, and in the later life of the trees, crops that are shade tolerant would be more suitable.

Multicrop yields could prove more efficient for your farm business. Using the Land Equivalent Ratio (outlined in the Soil Association's Agroforestry Handbook) to calculate productivity under agroforestry verses monocropping, the Woodland Trust conducted research measuring yield over the course of one full crop rotation. The total biomass was modelled at 57 t/ha under the agroforestry system compared to 47 t/ha under just trees, and 32 t/ha under pure arable¹⁰. The productivity ratio calculation suggests that there is a 36% yield advantage for agroforestry compared to when the components are grown separately. This modelling can help you to compare agroforestry systems and crop combinations to maximise your output.

Crop evapotranspiration

UK agriculture is facing water shortages, particularly with instances of drought, which makes preventing water loss from crops an important management strategy, as well as offering cost savings thanks to reduced water use. Using UK climate change data, a 2010 study calculated that by 2050 there would be a 20-30% increase in aridity in summer¹¹. This implies that agricultural practices will need to improve crop water efficiency to maintain production levels.

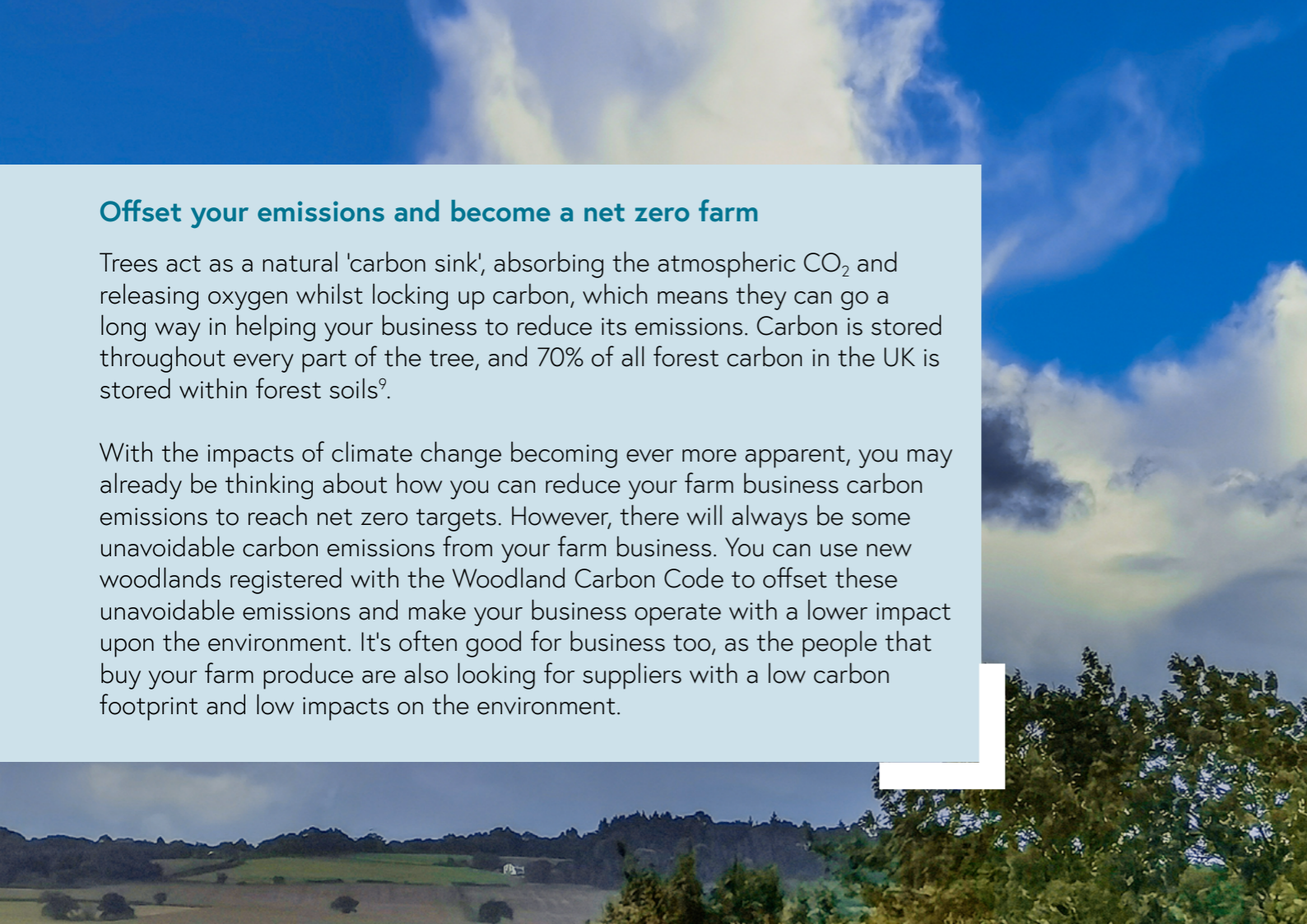
Crop evapotranspiration is a physical process where water passes from its liquid form to its gas state. It refers to two processes that occur concurrently in the natural environment, evaporation, and transpiration. This process is affected by weather factors, soil, and vegetation. Planting your crop in and amongst trees can reduce wind speeds and help to increase daytime temperatures, reducing evapotranspiration rate during periods of drought. Warmer temperatures have been shown to prolong growing seasons and trees can offer shade from intense sunlight: due to the reduced evapotranspiration rate, less water will move to its gaseous state thereby increasing the water use efficiency of the crop¹². These efficiencies will be essential in upcoming years as our climate gets hotter – allowing you to make savings now.

Trees and your livestock

Shade and shelter

It is natural for livestock to seek shade or shelter when they are facing prolonged or sudden adverse weather conditions. In warmer months, livestock can overheat or suffer from heat stress, which can lead to loss of appetite, lower yields, and reduced fertility, all of which impacts on farm productivity. For example, dairy cow milk yields can fall up to 20% when the air temperature goes above 25°C¹³. Trees on farms offer livestock natural protection from the heat and direct sunlight and can reduce solar radiation by as much as 58%, resulting in skin temperature 4°C lower than in open pasture⁶. When we move into the colder months, trees can act as a shelter from the elements, protecting livestock from harmful exposure to harsh winds, wet weather, and cold temperatures. Research has shown that shelter can reduce newborn lamb mortality rates, for instance¹⁴.

Trees can also encourage grass growth. In dry months, shelterbelts can substantially reduce water loss from evaporation of soil moisture, and during colder months the cover helps to maintain soil temperatures, extending the growing season. Areas protected by trees have shown an increase in pasture growth by 20% annually¹⁵. This could be vital when livestock are most in need of nutrition, resulting in higher weight gains by having access to grass for an extended period of time¹⁶.





Grazing and nutrition

Livestock and other browsing mammals like deer and squirrels should be excluded from new woodlands as they can quickly damage or even destroy a young woodland. However, carefully pollarding and coppicing certain tree species from an established woodland can provide a valuable source of nutrition for your animals from the branches, leaves, and bark you harvest. The nutrients provided from forest grazing compares favourably with grasses grown in the same environment, and the additional protein can improve growth, enhance wool quality, increase fertility, and improve health including an increased resilience to parasites¹⁷.

Grazing can be a sustainable tool for managing semi-natural habitats and is sometimes an option to aid the restoration of woodland ecosystems. When large herbivores are removed, the woodland ecosystem will begin to change and some plant species may become crowded out, removing certain habitats for wildlife¹⁸. Often the removal of grazing animals from a woodland is used as a tool to allow the understorey to develop and become a more diverse habitat for woodland animals. On the other hand, grazing with livestock could prove a useful management tool for achieving biodiversity objectives where the understorey is thick and impenetrable. Whichever option applies to your woodland, make sure that trees have the chance to grow and develop before introducing grazing. To understand more about grazing, species palatability, and management, use [Scottish Forestry's Woodland Grazing Toolbox](#)¹⁸.



Animal health and welfare

In addition to the health benefits already highlighted through shade and shelter, and trees as a source of nutrition, woodland can contribute to improve livestock health in a number of ways.

- **Trees can help to reduce the risk of infection and diseases.** Wet conditions underfoot can lead to issues such as foot scald or foot rot resulting in lameness, reduced weight gain, decreased milk and wool production, as well as decreased reproduction. Trees planted strategically in wetter fields will help to naturally dry soils creating conditions that are less favourable for bacteria to grow. These improved conditions can also help to discourage the mud snails which are vital to the liver fluke lifecycle¹⁵. Exposure to harsh winds can worsen teat lesions which can increase cases of mastitis-causing bacteria entering livestock udders and causing disease – tree shelterbelts as a method of reducing wind speed could therefore decrease the risk¹⁵.
- **Improve social interactions.** Trees on your farm may help your livestock function better as a group. Where there is plenty of shade provided by trees on your land, there's less competition for it, reducing stress in the flock or herd. Social interactions between the group further improve, for example, in cattle social licking accounts for 78% of interaction in silvopasture, compared with 48% where there is little or no shade present⁶.
- **Encourage natural behaviour.** Livestock will use mature trees in a field as a scratching post to help rub away old hair, dead skin, and parasites, helping to maintain healthy skin and coats. This behaviour can reduce heart rate and calm livestock.
- **Reduce herd-to-herd disease transfer.** If you plant woodland in the places where your livestock is likely to come into contact with your neighbours' animals, you can lower the transfer of diseases spread by nose-to-nose contact⁶.





Case Study: The Lakes Free Range Egg Company



Key Facts

Size: 15 hectares of woodland

Species: include oak, silver birch, sycamore, ash, field maple, hawthorn, blackthorne, wild cherry, holly, hazel and more

Date established: From 1997 to present day

Key objectives: Protective cover to ranging areas for free range hens, significant improvement to biodiversity, sequestration of carbon dioxide and ammonia

The Lakes Free Range Egg Company in Cumbria is one of the largest independent free range packing businesses in the UK and is a major supplier to national supermarkets. David Brass, CEO, began tree planting trials on his family farm in 1997 to improve his hens' welfare. Woodland provides a space for hens to range and encourages natural behaviours such as foraging and dust bathing, while helping them to feel more secure from predators under the shelter of canopy.

In large commercial flocks, stress can contribute to poor bird condition, feather pecking, and low-quality egg production. Studies have shown that there is a clear link between tree cover encouraging wider use of their range and reduced feather pecking. When chickens feel threatened it is a natural response to find a secure environment: in an open field this may be their barn, but in a wooded environment, hens will hide amongst the trees. David has found that an improvement in the flock's natural behaviour has resulted in better welfare and increased production.

As part of the McDonald's Sustainable Egg Supply group, David has worked closely with researcher Ashleigh Bright from FAI Farms Ltd to determine the effects that tree cover had on free range flocks. This 2012 peer-reviewed research covers two important production traits for egg producers – mortality rates and egg seconds.

At the time of the study, the average average mortality for free-range laying hens was around 12%, yet the research found that there is over 3% less mortality under tree cover. This could result in increasing the productivity of the flock, as well as reducing the number of resources wasted.

Egg seconds due to poor shell quality are a further cost to the egg industry and farmer, and in the UK are worth 30% of a Grade A egg. The research found that tree-cover provision resulted in approximately a 1% decrease in packing station seconds and 1% decrease in farm seconds, meaning that a 10,000 bird flock (at 24 dozen eggs/bird) would have 4,800 dozen eggs move from seconds to Class A. While production has moved on since this study (lower mortality, increased dozen eggs per bird), the same benefits from tree cover can be applied.



“There have been no disadvantages to planting trees. For us, it's all an upside. We get better production, reduced mortality, better egg quality, less seconds, less disease, and it makes you feel nice too. The cost of planting is recuperated ten times over in the first couple of years.”

As well as financial benefits, trees improve the overall quality of my farmland, increase wildlife habitats, and provide woodfuel for the biomass boiler that heats our farm. Trees are not just nice to have; they are business assets that lead to increased production and income.”

David Brass, CEO, The Lakes Free Range Egg Company

This case study was adapted from the Woodland Trust's 'Trees mean better business for egg production', other online resources, and interviews with David Brass. To view the original case study visit: www.woodlandtrust.org.uk/publications/2015/01/trees-mean-better-business-for-egg-production





The place for trees on your farm

Planting the right tree in the right place is key to help you reach your woodland creation objectives. This map illustrates where trees could fit on your farm.

- 1 Upland woodland stores rainwater - reducing flood risk downstream
- 2 Timber and woodfuel production generates farm income
- 3 New woods buffer water from field activities and connect ancient woodland
- 4 Trees shelter livestock from sun and severe weather
- 5 Locating simple leaky woody dams in woodlands in the upper catchment helps slow run-off
- 6 Well located new woods on chalk hills help to improve drinking water quality
- 7 Trees provide dappled shade to keep rivers cool for fish
- 8 Hedges with trees and hedgebanks slow run-off and provide wildlife habitat
- 9 Woodland and tree shelter belts capture ammonia emissions from livestock sheds



- 10 New woodland filters run-off from the farmyard
- 11 Trees and woodland provide a thriving wildlife habitat
- 12 Trees stabilise river banks and provide important new habitat
- 13 Planting new woodlands in field corners is a good use of space, especially if they lie wet or flood
- 14 Agroforestry or orchards give opportunities for livestock grazing, woodland hens, or growing fruit and nut trees alongside crops
- 15 Trees planted across the slope capture soil run-off from fields
- 16 Woodland or short rotation coppice are viable crops and can be planted on fields prone to flooding
- 17 Trees along watercourses capture eroding soils and nutrients, buffering the river



What next?

Your local Forestry Commission Woodland Creation Officer or one of our delivery partners can support you with expert advice on woodland creation and provide further guidance on the available grants listed below. **Find out your local Woodland Creation Team's contact details at:** gov.uk/forestry/contact

Forestry Commission grants

Woodland Creation Planning Grant (WCPG)

Contributes towards the costs of designing your new woodland in line with the UK Forestry Standard, and offers you access to expert advice from your local Forestry Commission Woodland Creation Team to assist in the production of your plan.

England Woodland Creation Offer (EWCO)

Covers standard capital costs and annual maintenance payments as your woodland establishes, with additional stackable payments when delivering wider benefits to society, nature recovery, and the environment. Applicants can also receive a contribution towards the costs of access infrastructure.

Partner grants

England's Community Forests Trees for Climate Fund

Expert support and up to 100% flexible and bespoke grant funding for up to 15 years. Open to all landowners within any Community Forest area.

The National Forest

Generous grants and support for tree planting, forest creation and habitat management in the Midlands, available to landowners within the 200 square miles of the National Forest. Grant schemes offer funding to cover design, planning and up to 100% of implementation costs.

Northern Forest

A partnership between the Woodland Trust, four Community Forests – Mersey Forest, Manchester City of Trees, White Rose Forest, Humber Forest – and the Community Forest Trust, with funding from the government's Nature for Climate Fund. You can secure up to 100% of the capital costs of woodland design, planning and creation, and a generous maintenance budget.

Woodland Trust

Offers three national schemes: MOREwoods and MOREhedges covering up to 75% of the costs for a range of woodland and hedgerow creation, starting from 1.25 acres or 100 metres of new hedging, and Trees for Your Farm, funding up to 100% of costs for bespoke agroforestry schemes.

Three steps towards woodland creation



1

Consider opportunities for woodland creation on your land

For guidance on woodland creation and information on grants and available support, visit: gov.uk/forestry/tree-planting-overview



2

Have clear objectives for your woodland

Find out how other farmers and landowners are benefitting from woodland creation, visit: gov.uk/forestry/tree-planting-case-studies



3

Speak to your local Woodland Creation Team or one of our partners

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