Forest Research is the Research Agency of the Forestry Commission and is the leading UK organisation engaged in forestry and tree related research. The Agency aims to support and enhance forestry and its role in sustainable development by providing innovative, high quality scientific research, technical support and consultancy services.
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1 General economic trends affecting forests and the forest industries sector

1.1 Overview

The UK economy has experienced an uptick since the major downturn in 2020 due to the COVID-19 pandemic. GDP growth increased in Q2 2021, due to the loosening of COVID-19 restrictions. However, GDP growth has decreased in the second half of 2021, and Q1 2022 (Figure 1.1).

Figure 1.1 Real GDP Growth Rate 2009-2022, Selected Economies, %

Real Growth of Gross Domestic Product (GDP) in the UK, USA, Germany, France and the Euro area (EA19) over the last decade.

There has been a general decreasing trend in 2022 in the value of the Pound Sterling against the US dollar (Figure 1.2). This is due to the dollar’s broad-based strength and a worsening UK economic outlook. There have been more fluctuations in the value of the Pound Sterling against the Euro since a significant fall in spring 2020. Various factors may account for this including the UK’s new trading relationship with the European Union after it left the EU Single Market at the beginning of 2021.

Figure 1.2 Exchange Rate of £ against Euro and US Dollar, 2016 to 2022

The value of the Pound Sterling over time against the Euro and the US dollar. Source: Bank of England (2022), Spot Exchange Rate (Euro into Sterling), Spot Exchange Rate (Dollar into Sterling).
1.2 Monetary Policy

The Bank of England’s Monetary Policy Committee vote on whether to raise, lower or maintain the Bank of England’s Base Rate, upon which many other interest rates are based. Setting ‘the interest rate’ is one of the key macroeconomic instruments in monetary policy that help to achieve the Bank of England’s inflation target and stimulate economic growth.

Interest rates were reduced from 0.25% to 0.1% in March 2020. The Monetary Policy Committee voted unanimously in December 2021 to increase rates to 0.25% to help tackle rising inflation in the UK. The interest rate has gradually increased since December 2021 to control inflation. In August 2022, the Monetary Policy Committee voted to raise interest rates to 1.75%.

Despite low interest rates, the household savings ratio increased in the wake of the COVID-19, driven by lockdowns and continuing reluctance among consumers to spend in sectors such as retail, hospitality and travel. The Household Saving Rate in the United Kingdom has decreased following COVID restrictions being lifted. The Household Saving Rate decreased to 6.8 percent in the first quarter of 2022 from 18.3 percent in the first quarter of 2021 (Figure 1.3).
Figure 1.3 Households’ Savings Ratio, 2008-2022, %

Source: ONS (2022), Households’ saving ratio (per cent): Current price: £m: SA.
1.3 GDP Growth

Change in Gross Domestic Product (GDP) is currently considered the main indicator of economic growth. It measures the market value of all ‘final’ goods and services produced over a period of time (i.e. monthly, quarterly, or annually) in monetary terms.

Following the loosening of COVID-19 restrictions, the UK saw continued GDP growth. However, GDP growth decreased in the second half of 2021, and Q1 2022. This trend has continued with an initial estimate for Q2 (April to June) of a further 0.1% fall. Nevertheless, GDP in Q2 2022 is 0.6% above its pre-coronavirus level (Q4 (Oct to Dec 2019), and 2.9% higher than Q2 2021. In output terms, services fell by 0.4% in Q2 2022 with the largest negative contribution from human health and social work activities, reflecting a reduction in coronavirus (COVID-19) activities.
1.4 Inflation

The Consumer Prices Index, shows the rate at which prices are rising, or falling, in the domestic economy (Figure 1.4). The Bank of England’s (BoE) target for inflation is 2% per year. In March 2009, the BoE set interest rates at 0.5%. This was coupled with a sustained period of quantitative easing. A period of higher inflation in the economy followed, reaching a high of around 4.5% as credit became cheaper to obtain and demand for goods and services increased in the economy. The fall in the inflation rate between 2012 and 2015/16 is believed to have been largely caused by external factors to the UK economy, in particular a fall in energy, food and imported goods prices, which in turn were primarily due to fluctuations in exchange rates.

More recent falls in inflation since 2018 were associated with a dampening of economic activity, followed by a sharper decline in 2020 as a result of the COVID-19 pandemic. However, there have been sharp rises in inflation in 2022, following the drop in inflation caused by the COVID-19 pandemic. Annual increases in the Consumer Prices Index (CPI) are currently around 10%. The July figure of 10.1% was the highest annual CPI inflation rate in the National Statistic series, which began in January 1997. The figure for August was slightly lower but it is too early to conclude whether this signals a trend.

The largest upward contributions to the annual CPI inflation rate in July 2022 came from housing and household services (principally from electricity, gas and other fuels, and owner occupiers’ housing costs), transport (principally motor fuels), and food and non-alcoholic beverages. Higher energy prices are one of the main contributors to this sharp rise in inflation. Russia’s invasion of Ukraine in 2022 has

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1 The Bank of England creates new digital currency in order to purchase assets, such as government bonds. Buying assets in large quantities increases the price of these assets, which reduces the yield, or return, on that asset. This encourages owners of these assets to sell them and use the money from the sale to invest in alternative assets, such as company shares and bonds, which enables businesses to invest, boosting the economy.
led to large increases in the price of gas. Since May 2022, the price of gas has doubled.

**Figure 1.4 Consumer Prices Index including owner occupiers’ housing costs (CPIH), 2011 to 2022, %**

Source: ONS, CPIH Annual Rate 00: All Items 2015=100
1.5 Employment

Recent years have seen the employment rate in the UK increasing to record levels, until the COVID-19 pandemic. Following an increase in the employment rate since early 2012, the rate decreased from the start of the coronavirus (COVID-19) pandemic. Despite the COVID-19 pandemic, the levels of employment in the UK have remained high (Figure 1.5).

**Figure 1.5 UK employment rate % (seasonally adjusted), 2011-2021**

Source: Office for National Statistics (ONS) Labour Market.
2 Policy measures

2.1 Forestry policy in the UK

Domestic forestry policy in the UK is a devolved matter. Devolution of forestry was completed in April 2019, but some cross-border collaboration remains for a number of functions as agreed by Ministers. Scotland, England and Wales are each delivering some of these functions (commissioning and monitoring of forestry research, management of the UK Forestry Standard and Woodland Carbon Code, Plant Health (forestry) and Forest Reproductive Material functions, provision of economist advice).

Both the UK Government and the devolved administrations are committed to sustainable forest management, as articulated in the Forest Europe Ministerial agreements. Sustainable forest management serves as an overarching concept and framework and the UK approach to delivery is set out in the UK Forestry Standard (fourth edition) published in 2017.

International forestry policy remains a reserved UK Government matter.

In March 2019 the UK Government announced ambitious woodland creation targets for the UK to help meet ‘Net Zero’ commitments made in May 2019 and to improve habitats and provide public benefits such as biodiversity, water regulation and benefits to human health. The target is to plant 30,000 hectares a year by 2025. Current planting rates are around 14,000 hectares.
2.2 Government priorities

2.2.1 England
Priorities in England are set out in the England Trees Action Plan published in May 2021 and include expanding and connecting the woodland resource; enhancing the role of our trees and woodland as part of the green economy, protecting and improving the woodland resource and connecting people with trees and woodland.

New plant health requirements were introduced in Spring 2022 to further control the spread of Ips typographus in Kent and East Sussex. Action is also being taken on Phytophthora pluvialis.

2.2.2 Scotland
In Scotland, forestry is recognised as having an important role in contributing to emissions reduction targets through carbon sequestration which is a specific objective of woodland creation. The current Climate Change Plan (third report on policies and proposals), updated in December 2020, sets out how the Scottish Government will meet its greenhouse gas emission reduction targets for the period 2017-2032. The 2020 update to the Plan set out more ambitious woodland creation targets, rising from the current 12,000 hectares of new woodland per year to 18,000 hectares per year from 2024/25. The update also added a commitment to increase the woodland carbon market by at least 50% by 2025, through the UK Woodland Carbon Code managed by Scottish Forestry.

To complement woodland creation, a framework to better control woodland removal is also in place and the Climate Change Plan sets a goal of a further increase emissions abatement through greater use of Scottish timber in building construction and refurbishment.

These targets will be taken forward in a sustainable way and require the creation of a range of different woodland types, on different sites, with different objectives. The Scottish Government is committed to supporting the creation of between 4,000
hectares of new native woodland a year, following an agreement in August 2021 between political parties in the Scottish Parliament.

To support the delivery of the Climate Change Plan, the Forestry Grant Scheme offers financial support for the creation of new woodland and the sustainable management of existing woodland. All applications are assessed against the UK Forestry Standard and associated guidelines.

From April 2019 the Forestry and Land Management (Scotland) Act replaced the 1967 Forestry Act in Scotland. The Act includes duties on Ministers to promote sustainable forest management and to publish a forestry strategy which will set out the Government’s priorities in relation to the economic, environmental and social benefits of forestry. Scotland's Forestry Strategy 2019-2029 was published in February 2019 and presents the Scottish Government's 50-year vision for Scotland’s forests and woodlands and sets out a 10-year framework for action. It was developed in consultation with a broad range of stakeholders.

2.2.3 Wales
As part of the Welsh Government’s plan to tackle the climate emergency it has committed to plant 43,000 hectares of new woodland by 2030, and 180,000 hectares by 2050, in line with the ‘balanced pathway’ set out by the Climate Change Committee.

Last year the Deputy Minister for Climate Change led an intensive deep-dive exercise to identify actions to remove the barriers to planting trees in Wales, and how we can use more Welsh timber in construction. We have begun to implement the recommendations of the deep dive. This includes offering every household in Wales a free tree, launching three new funding schemes for woodland creation, introducing Woodland Liaison Officers to support this work and advancing plans for an industrial strategy to coordinate the timber supply change and construction sectors.
The Welsh Government programme for a National Forest for Wales continues to progress well. The National Forest will create areas of new woodland and help to restore and maintain some of Wales’ irreplaceable ancient woodlands. In time it will form a connected network running throughout Wales, which will bring social, economic and environmental benefits. This year we have intensified our engagement with people across Wales to give them the opportunity to contribute to the National Forest. In March the DataMap Wales interactive map was launched, allowing people to tell us where they would like to see more trees planted and woodlands created near their homes. In July a second round of the Woodland Investment Grant (TWIG) a scheme was released to help owners of established woodlands and those who wish to develop new woodland, to apply for funding to help meet the National Forest for Wales Programme Outcomes.

Operational activities continue to address plant health issues with the removal of larch stands infected with Phytophthora ramorum.

Chalara Ash Dieback (Hymenoscyphus fraxineus) is now evident across Wales. It is expected that a significant proportion of ash trees in Wales will be affected by the disease in the coming years, some of which will subsequently die and/or may require removal for public safety reasons.

Priorities in Wales continue to be guided by Woodlands for Wales, the Welsh Government’s fifty-year strategy for trees and woodlands.

2.2.4 Northern Ireland

In Northern Ireland the Forest Service delivers forestry and plant health functions on behalf of the Department of Agriculture, Environment and Rural Affairs (DAERA).

The Forestry Act (Northern Ireland) 2010 requires the Department to promote afforestation and sustainable forestry, to encourage public enjoyment and recreational use of its forests. The Act defines forestry to include the production and supply of timber and other forest products, the maintenance of adequate reserves of growing trees and the management and development of forests to
contribute to the protection of the environment, biodiversity and the mitigation of, or adaptation to, climate change.

Forest Service’s work substantially supports the Department’s vision of ‘Sustainability at the heart of a living, working, active landscape valued by everyone’ and the Strategic Outcomes in the DAERA business plan). Forest Service work streams are aligned to the Department’s strategic objectives as set out in Sustainability for the Future – DAERA’s Plan to 2050, its vision for ‘Green Growth’ and its contribution to Programme for Government Strategic Outcomes including ‘We live and work sustainably – protecting the environment’, for which DAERA has lead responsibility.

The ‘Forests for Our Future’ programme was launched in March 2020 and is aimed at helping achieve the UK’s net-zero carbon target by 2050 as well as contributing to the enhancement of the landscape and biodiversity, and improving the health and well-being of those that enjoy this natural resource. Over this decade the Forests for Our Future programme aims to plant 18 million trees or 9,000 hectares of new woodland and is a foundation initiative of the Executive’s Green Growth strategy which is being developed by DAERA. Forest Service will continue to actively engage in developing policies in agricultural and environmental land use to establish the role trees have within these policies in the pathway to net carbon zero.
2.3 Plant health


2.4 Carbon markets

Interest in carbon markets continues to increase, among landowners, intermediaries and users of carbon credits. The Woodland Carbon Code and the Peatland code continue to collaborate via the UK Land Carbon Registry, and new carbon standards are under development, including Farm Soil Carbon, Hedgerows, rewilding, lowland Peatland, Agroforestry, Saltmarshes and Kelp Forests. UK Government are developing an Ecosystem Markets Framework to ensure credibility in the marketplace as new methodologies for carbon and other ecosystems develop.

In England, the government’s Woodland Carbon Guarantee, giving landowners the option to sell their verified Woodland Carbon Units to government at a guaranteed price, has held 5 auctions, with a 6th planned for November 2022. The first 5 auctions offered carbon contracts to 110 projects planning to create over 2,700 hectares of woodland in England. Average prices for verified Woodland Carbon Units ranged from £17-£24 per tonne of carbon dioxide equivalent (tCO₂e).

Interim results² indicate that the number of projects registered with the Woodland Carbon Code sits at 1,640 as of 30 June 2022. The rate of registrations has continued to increase – 97 in 2019/20, 345 in 2020/21 and 826 in 2021/22. The predicted sequestration of registered projects has more than trebled since March 2020, increasing from 5.8 million tonnes of carbon dioxide equivalent at the end of March 2020 to 18.7 million tonnes of carbon dioxide equivalent by March 2022. In

²www.woodlandcarboncode.org.uk/uk-land-carbon-registry/wcc-statistics
June 2022, 387 projects had been validated\(^3\) to the Code, and issued over 7.5 million carbon units. Well over half of the validated carbon have been sold upfront as Pending Issuance Units, but there are also sales of the small number of verified\(^4\) Woodland Carbon Units to companies who are looking to formally offset their emissions. Two global initiatives, the Integrity Council for the Voluntary Carbon Market\(^5\), and the Voluntary Carbon Markets Integrity Initiative\(^6\), are currently consulting on frameworks and standards to ensure integrity in the market at the supplier and demand side respectively. This will ensure credibility and accountability as markets scale globally.

The [Woodland Carbon Code website](https://woodlandcarboncode.com) provides a ‘central point’ for buyers and sellers to connect.

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\(^3\) Validated: is the initial evaluation of a project or group against the requirements of the Woodland Carbon Code. Upon completion a project/group will receive a 'Validation Opinion Statement'. The project/group will then be certified for a period of up to 5 years.

\(^4\) Verified: Verification is the evaluation of a project as it progresses to confirm the amount of CO2 sequestered to date as well as that it continues to meet the requirements of the Woodland Carbon Code.

\(^5\) [https://icvcm.org/](https://icvcm.org/)

\(^6\) [https://vcmintegrity.org/](https://vcmintegrity.org/)
3 Market drivers

3.1 Overview

UK forest product markets largely recovered from the effects of the global COVID-19 pandemic in 2021, with production returning to pre-pandemic levels for many products.

The strong demand from the repair and maintenance sector in the second half of 2020 and early 2021 has weakened considerably in 2022. In addition, constraints on the availability of other construction materials are limiting demand from the construction sector. Alongside this, there has been an increasing demand from the woodfuel market.

The situation in Ukraine and the impact on global energy markets, along with rising inflation, is also leading to an overall weakening in demand in 2022. It is expected that the reduced demand will continue into 2023.
3.2 Prices

Exchange rates are seen as a major influence on timber prices in the UK. As noted in the economic overview (section 1.1), the value of the Pound Sterling has fallen against the US dollar (Figure 1.2) in the first half of 2022, whilst the Euro has been more stable over this period. The value of the Pound Sterling against the Swedish Krona has also been relatively stable over the first half of 2022.

Figure 3.1 Exchange Rate of £ against Swedish Krona, 2016 to 2022

Source: Bank of England (2022), Spot Exchange Rate (Swedish Krona into Sterling).
Timber prices in the UK are monitored via three price indices, based on sales by Forestry England, Forestry and Land Scotland, and Natural Resource Wales. The coniferous standing sales price index for Great Britain was 40.5% higher in real terms in the year to March 2022, compared with the previous year. The softwood sawlog price index was 13.3% higher in real terms in the 6 months to March 2022, compared with the corresponding period of the previous year. A new index, the small roundwood price index, was 6.6% higher in real terms in the 6 months to March 2022, compared with the corresponding period of the previous year.

**Figure 3.2: Coniferous standing sales and sawlog price indices in real terms for Great Britain, 2013-2022**

![Graph showing coniferous standing sales and sawlog price indices](image)

Notes: base = 100 (Sept 2021)

Source: Timber Price Indices: data to March 2022 (Forest Research, May 2022)
3.3 Construction, manufacturing and distributive trades

3.3.1 Construction

The value of UK manufacturer sales of builders’ carpentry and joinery was £4.5 billion in 2021, a 19% increase from the previous year.


Output increased for the majority of construction sectors between 2020 and 2021, reversing the decline in the previous year.

Figure 3.3: Construction industry output, 2020 to 2021 percentage change

Source: Output in the Construction Industry (Office for National Statistics, August 2022)

Note:
1. Volume seasonally adjusted data.
2. RM = repair and maintenance.
The Construction Products Association (CPA) summer forecast (July 2022) anticipates construction output to grow by 2.5% in 2022 and 1.6% in 2023, as strong growth in warehouses and infrastructure offsets, a slowdown in private housing and a fall in private housing repair, maintenance and improvement from historic high levels.

**Figure 3.4: Construction industry output, monthly all work index, 2011 to 2022**

![Graph showing construction industry output index from August 2011 to August 2022](source)

Source: Output in the Construction Industry (Office for National Statistics, August 2022)
3.3.2 Manufacturing and distributive trades

UK manufacturing output rose by 7.2% between 2020 and 2021. Over the same period, the UK index of production for the wood, paper products and printing sector, rose by 12.1%.

Figure 3.5: Manufacturing output – index, 2018 to 2022

Source: Index of Production (Office for National Statistics, October 2022)
### 3.4 Energy

The share of UK energy produced by biomass and waste was 11% in 2021, unchanged from the 2020 level. This follows a period of increasing market share since 2011.

**Figure 3.6: Consumption of primary fuels, 2011 to 2021**

Source: Digest of UK Energy Statistics (DUKES Table 1.1.1), Department of Business, Energy and Industrial Strategy.

**Note:**
1. Excludes net electricity imports.
The use of renewables to generate electricity and heat has increased from 7.0 million tonnes of oil equivalent (Mtoe) in 2010 to 21.0 Mtoe in 2021. In addition to heat and electricity, renewables are also consumed in the transport sector as liquid biofuels and also biogases are injected into the gas grid. These uses totalled 1.2 Mtoe in 2010, increasing to 2.0 Mtoe in 2021. Plant biomass (including wood) accounted for 36% of renewables in 2021.

Figure 3.7: Renewable sources used to generate electricity and heat, 2010 to 2021

Source: Digest of UK Energy Statistics (DUKES Table 6.4), Department of Business, Energy and Industrial Strategy.

Note:
1. toe = tonnes of oil equivalent.
2. Other includes biogasses, animal biomass, biodegradable energy from waste, and heat pumps.
3. Excludes liquid biofuels in transport and biogasses injected into the grid.

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4 Developments in forests and forest products markets sector

4.1 Wood raw materials

UK coniferous roundwood production increased from 9.7 million cubic metres underbark in 2020 to 10.2 million cubic metres underbark in 2021, an increase of 5%. This is likely to reflect a recovery from the COVID-19 pandemic and increased demand. Production is expected to fall in 2022 to 9.1 cubic metres underbark, before partially recovering in 2023.

Figure 4.1: Coniferous roundwood production, 2003 to 2023

Source: Forest Research (2022).

Non-coniferous roundwood production has risen from around 0.5 million cubic metres underbark in 2002 to around 0.8 million cubic metres underbark in 2019, before reducing slightly in 2020 and 2021 to around 0.7 million cubic metres. Production is expected to remain close to 2021 levels in 2022 and 2023.
4.2 Wood energy

Wood energy in the UK is produced from a range of wood products, including roundwood, sawmill products, wood pellets and recovered wood.

The use of recovered wood for woodfuel has stabilised in recent years, with an estimated 2.5 million tonnes used in 2021.

The majority of wood pellets consumed in the UK are imported. In 2021, imports of wood pellets totalled 9.1 million tonnes, with around three quarters of this quantity imported from North America. A further 0.3 million tonnes of wood pellets were produced in the UK.

4.3 Certified forest products

There were 1.42 million hectares of woodland (44% of the total UK woodland area) certified in March 2022 under the FSC and/or PEFC schemes.

The proportion of certified roundwood produced from UK woodlands has largely stabilised over the last 10 years. In 2021, an estimated 82% of all coniferous roundwood produced in the UK came from certified woodlands.

Figures reported by sawmills and by round fencing manufacturers suggest that around 77% of sawlogs and around 68% of coniferous roundwood used by fencing mills was certified in 2021.
4.4 Sawnwood

Coniferous sawnwood production increased by 8% in 2021 to 3.6 million cubic metres. Production is expected to fall to around 3.0 million cubic metres in 2022 before recovering in 2023.

Imports of coniferous sawnwood rose by 14% to 7.6 million cubic metres. Estimates for 2022 suggest a decline of to around 6.2 million cubic metres, with a small increase in 2023.

Figure 4.2: Coniferous sawnwood production and imports, 2010 to 2023

Source: Forest Research (2022).

Imports accounted for 100% of apparent consumption of non-coniferous sawnwood in the UK and totalled 0.5 million cubic metres in 2021.
4.5 Woodbased panels

Particleboard (including OSB) and MDF consumed in the UK are both produced domestically and imported, while plywood and other hardboards consumed in the UK are imported.

The UK consumed around 6.9 million cubic metres of woodbased panels (plywood, particleboard and fibreboard) in 2021, an 18% increase from 2020. This is expected to drop to around 6.4 million cubic metres in 2022, with a smaller decrease in 2023.

Figure 4.3: UK consumption of woodbased panels, 2010 to 2023

Source: Forest Research (2022).

Production of particleboard (including oriented strand board) totalled 2.7 million cubic metres in 2021, a 17% increase from the previous year.

The UK produced 0.8 million cubic metres of MDF in 2021, up 22% from 2020.
4.6 Pulp and paper

Paper and paperboard consumption in the UK rose by 1% in 2021 to 7.5 million tonnes. It is estimated that consumption will stabilise around this level in 2022 and 2023.

Figure 4.4: UK consumption of paper and paperboard, 2010 to 2023

Source: Forest Research (2022).