



Since 1857

Gresham House

*Specialist asset management*

# UK FORESTRY

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## INVESTMENT FUNDAMENTALS



Forestry is a proven asset class for institutional, family office and private investors. UK forestry provides both tax free revenue and capital appreciation, with 100% relief from inheritance tax (after two years of ownership). It is asset backed and, as managed by Gresham House, is certified by the Forest Stewardship Council as a sustainable and socially responsible investment.



## Introduction

Investors in UK forestry have benefited from compelling real returns, which have little correlation to mainstream asset classes, but have a positive correlation to inflation, making forestry an effective diversifier to other asset classes and an inflation hedge.

The ability to invest in a portfolio with a mix of crop ages allows investors the flexibility to focus on income or capital growth, or to obtain a balance between the two.

An established state of the art timber processing industry in the UK provides forestry owners with strong competition for timber sales from multiple end users.

Global demand for timber is expected to increase substantially, as both global population and GDP per capita rise. Legislative and environmental constraints will continue to restrict timber supply due to reductions in unsustainable harvesting and illegal logging.

As these factors combine Gresham House expect that both global and domestic timber prices will rise significantly in the medium and long-term. Gresham House therefore believe that now is an opportune time to acquire UK forestry assets, in order to benefit from the expected rise in timber prices and therefore asset values.

## Contents

**Section 1: Forestry investment returns benefit from multiple drivers**

**Section 2: The UK has an investment grade forestry estate**

**Section 3: Forestry provides effective diversification from traditional asset classes**

**Section 4: Historical returns**

**Section 5: UK forestry taxation**

**Section 6: Forestry risks are clearly identified and managed**

**Section 7: Investing in forestry through Gresham House ensures access to a sustainable and socially responsible investment**

**Section 8: Gresham House's forestry management service**



## Section 1: Forestry investment returns benefit from multiple drivers



Forestry investment, as managed by Gresham House, comprises:

- **the ownership of freehold land with a growing crop of timber**

Forests are managed to maximise the crop yield, whilst minimising the risks for the owner. Value is realised through:

- **a sale of the crop (harvesting) or by disposing of the asset**

Returns from forestry are driven by three main variables:

- **biological growth of the crop**
- **increases in the value of timber**
- **increases in the value of land**

Gresham House also seek to enhance returns from “higher and better uses”, such as wind farm development and other activities that provide the owner with additional income.





Biological growth underpins a forestry investment. It provides investors with security of returns, as crop growth occurs irrespective of the global economic cycle.

### Returns are underpinned by biological growth

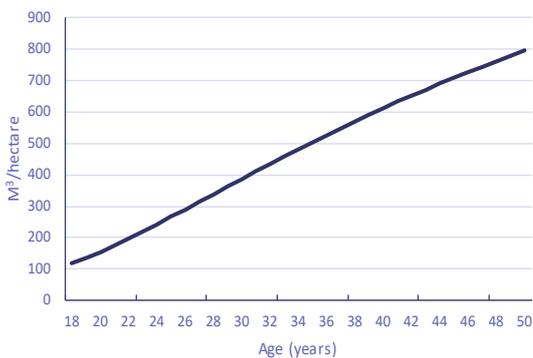
The physical growth of a tree results in an annual increase in the volume of timber. The main commercial tree species in the UK is Sitka spruce, which provides the greatest volume of timber in the shortest period of time and has the greatest range of end uses. Sitka spruce is ideally suited to the UK's maritime climate, requiring rotations of 35 to 50 years to reach maturity, compared to at least 70 to 100 years in Europe's main timber exporting regions, Scandinavia and the Baltics.

To maximise and enhance biological growth rates Gresham House employs cutting edge management practices. UK forestry owners benefit from excellent research from the Forestry Commission (FC), such that expertise in forest management practices, including optimisation of tree species and site selection, is amongst the best in the world. Such expertise and development helps enhance yields over those achieved on previous rotations.

Extensive long term research has also provided significant data on Sitka spruce growth rates in the UK. The resulting datasets allow accurate forecasting of tree growth rates, known as yield class. Yield class measures the productivity of the crop – the higher the yield class the greater the volume of timber produced over a given period of time.

As trees increase in size they also increase in unit timber value as the number of end uses rises. Smaller trees, with the lowest unit value, are used primarily for fibre products such as wood pulp. As the trees get larger, logs can be used in higher value applications, such as sawnwood for construction. The greater the number of end uses, the greater the competition from timber purchasers.

Sitka Spruce Growth in the UK - Yield Class 18



Source: Forestry Commission Sitka Spruce Yield Class 18 Model (2.1m no thin spacing)

## Section 1: Forestry investment returns benefit from multiple drivers

In the UK there is flexibility as the harvesting window for commercial Sitka spruce is circa 15 years. Therefore, forestry owners also benefit from the ability to 'warehouse' timber (by leaving it standing) at times of market weakness, ensuring owners do not needlessly crystallise lower returns at times of lower timber prices. The trees continue to add both volume and value, which can be realised when prices improve.

### **The outlook for timber prices is strongly positive.**

Timber is an important component of many global economies, including the UK. As a population becomes wealthier its consumption of timber products rises. Uses include: construction, fencing, packaging, furniture, newspaper and magazines and biomass for electricity production.

Unlike investors in other real assets (such as real estate), forestry investors take comfort that forestry cannot be 'overbuilt', and is effectively finite. The ability to increase the supply of timber can only happen over long investment cycles, typically 40 years or more.

According to data from the World Bank the supply of global forestry is declining due to deforestation, mostly in the tropics. Between 1990 and 2015, the global forest area fell by 129 million hectares (3.1%), 5 million hectares per annum (an area two and a half times the size of Wales).

Increasingly, new 'engineered' wood products are being used as substitutes for building materials typically used in the construction industry. As an example, Cross Laminated Timber (CLT) is used in high rise developments, replacing the need for carbon intensive materials such as concrete or steel. It is 15% cheaper, 30% faster to erect and provides better fire resistance than steel and concrete (as it chars rather than buckles). CLT framed buildings have already been constructed at up to ten storeys in the UK, such as Dalston Works in London (which consists of 121 residential flats and over 5,000 square metres of commercial and retail space), with plans in place to erect a 70 storey building in Tokyo.



## Section 1: Forestry investment returns benefit from multiple drivers



Building with engineered wood products instead of more traditional materials can result in a significant decrease in the carbon footprint of a project. As new building regulations aim to reduce carbon use, timber is becoming an increasingly utilised building material, having risen from 23% of the new build market in the UK in 2011 to 27% in 2016. The Structural Timber Association predicts that this will increase to 32% by the end of 2018.

There remains a huge deficit in the supply of new housing in the UK. Approximately 190,000 new houses were constructed in 2017, which was the most in a year since the collapse in the construction sector in 2008, but still significantly below the government's target of 300,000 per annum. The government has made it clear that it sees offsite construction as crucial in reducing the deficit. Timber frame accounts for circa 90% of all offsite construction (which is also known as modular or pre-fabricated housing). Currently only about 5,000 timber frame houses are built annually, but the government would like to increase this to 50,000. Legal and General have invested £55 million in one factory alone near Leeds, which will produce 3,500 modular homes per annum. The China National Building Materials Group has announced plans to invest £2.75 billion in six house building factories in the UK, with the aim of producing 25,000 modular homes per annum.

Gresham House's view is that from an effectively fixed supply, demand for timber products is set to increase, both domestically and globally.

Trade of softwood lumber reached an all time high in 2017. Gresham House believe that global demand will continue to rise significantly. In the decade to 2016, which incorporated the global financial crisis, global consumption of industrial roundwood increased by 8%. Consumption in the developed world actually fell during this period (although it has been recovering since 2010, after a large fall from its peak in 2006), whilst consumption in the developing world continued rising throughout the global financial crisis.

Our **Global Timber Demand** paper, a copy of which is available upon request, discusses the global outlook in more detail.

Industrial Roundwood Consumption (million m <sup>3</sup> )				
	2006	2016	Change	%
Developed	999	905	-94	-9%
Developing	738	972	+234	+32%
Total	1,737	1,877	+140	+8%

Source: FAO

## Section 1: Forestry investment returns benefit from multiple drivers



The expectation is that timber prices will rise faster than the growth in consumption, as increased pressure is placed on a largely fixed supply which is already becoming more expensive to extract.

Gresham House forecast that UK timber prices could rise significantly over the next decade, driven by both rising demand and constrained supply. Over the ten years to March 2018 timber prices increased by 3.8% per annum, as evidenced by the Gresham House Timber Index.

The UK imports circa 82% of its annual timber consumption. Any weakness in Sterling results in the cost of imported timber rising. In turn, this allows domestic plantation owners to increase the price of their timber, thereby improving the returns generated by the asset class.

Gresham House's view is that in most cases forestry investors should hold the freehold land as well as the growing crop, to ensure that returns from future increases in timber value and the underlying land are both fully captured.

Rising timber prices not only have an impact on the value of timber, but also have a substantial impact on land values. As an example, a 50% increase in timber prices, from £50 per tonne to £75 per tonne, results in an approximate 100% increase in land value, as the land becomes more financially productive.



## Section 2: The UK has an investment grade forestry estate



The UK conifer resource totals 1.6 million hectares, 45% of which is State owned through the Forestry Commission, with 55% owned by the private sector.

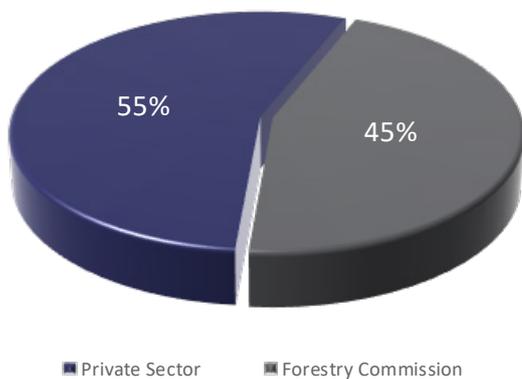
Conifers grow particularly well in parts of the UK, benefiting from the warm, wet maritime climate which provides for a long growing season. Productivity is significantly higher than in the regions which supply much of the UK's timber requirements; Scandinavia and the Baltics.

Growth rates are measured in terms of yield class. In the UK the national average yield class for privately owned commercial forests is between 12 and 14 (yield class 12 = 12 cubic metres of timber growth per hectare per annum, throughout the crop rotation).

Gresham House target highly commercial plantations, generally with an average yield class of 16 and above.

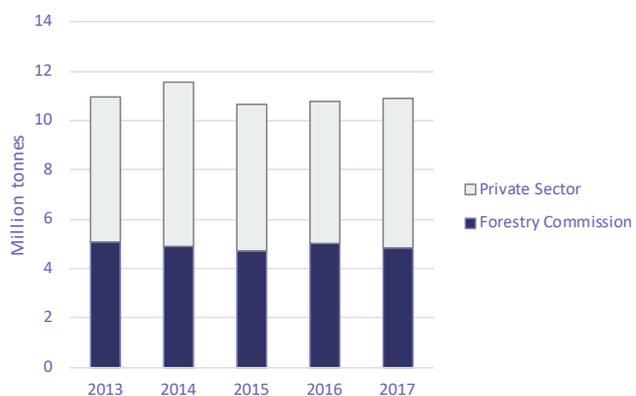
The forestry estate in the UK produced 10.9 million tonnes of softwood timber in 2017.

### UK Forestry Estate Ownership



Source: FC Forestry Facts & Figures 2017

### UK Softwood Production



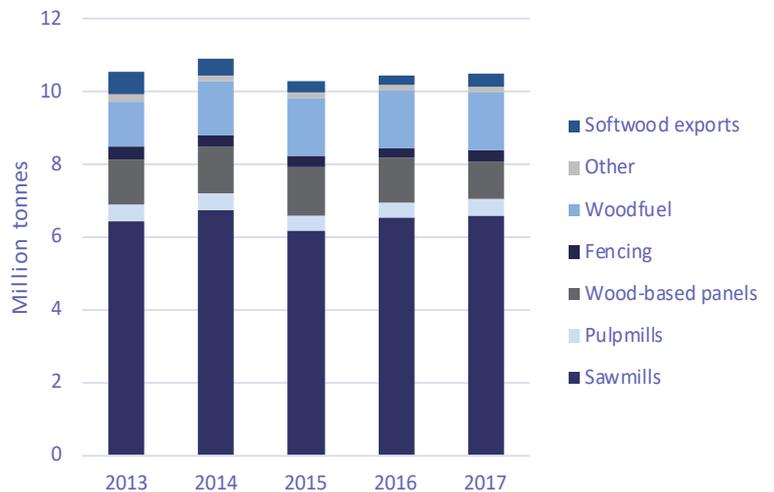
Source: UK Wood Production and Trade - 2017 Provisional

## Section 2: The UK has an investment grade forestry estate



UK forestry owners benefit from diversified, well established timber markets, ranging from sawmills producing construction grade timber, through to biomass for electricity generation, promoting strong competition for all grades of timber.

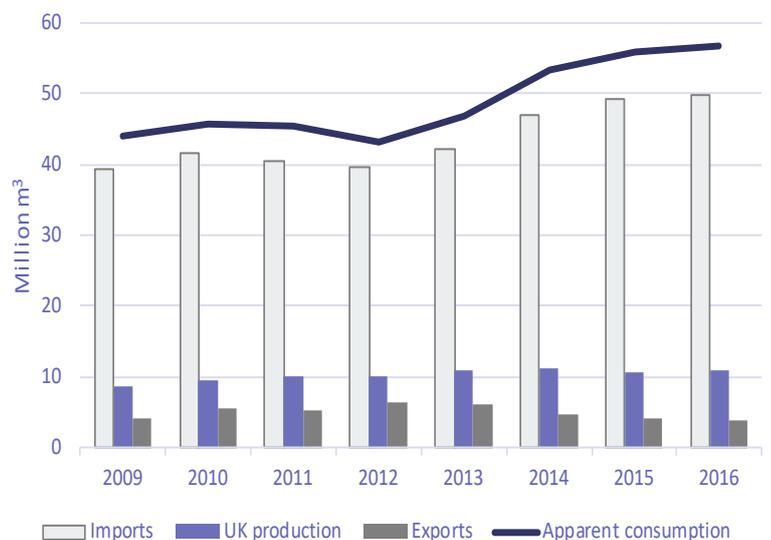
### UK Softwood Deliveries



Source: UK Wood Production and Trade - 2017 Provisional

The UK is reliant on imports for circa 82% of its overall timber requirement. When consumption fell in 2008, during the financial crisis, UK production remained fairly constant, whilst imports reduced. UK forestry owners therefore take comfort from a captive market for UK timber, from a vibrant, modern processing industry which has invested £1 billion in the past decade, with further large scale investments announced.

### Apparent Consumption of Wood in the UK



Source: FC Forestry Statistics 2017

## Section 3: Forestry provides effective diversification from traditional asset classes

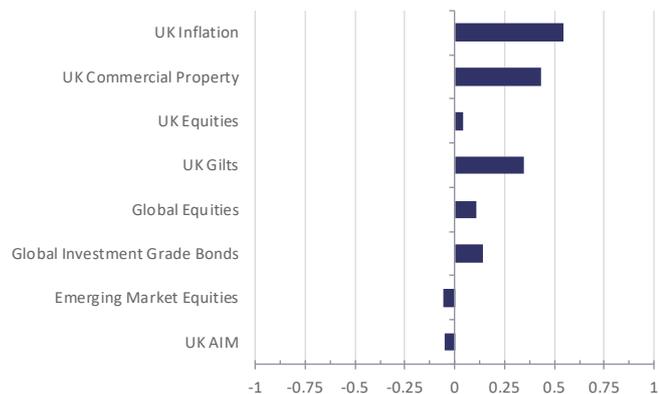


Returns from UK forestry have had little or no correlation with most mainstream asset classes.

Whilst not strongly correlated to most other asset classes, UK forestry returns have been positively correlated to inflation, thereby protecting real returns. As part of a managed portfolio, UK forestry provides effective diversification and risk mitigation, compared to mainstream asset classes.

The below graph shows forestry's relationship with other asset classes and inflation (1 = perfect correlation, below 0 = negative correlation):

**Correlation Coefficient to UK Forestry Returns: 10 years (2007 to 2017)**



Sources: IPD, MSCI, PIMCO, NCREIF, ONS, LSE

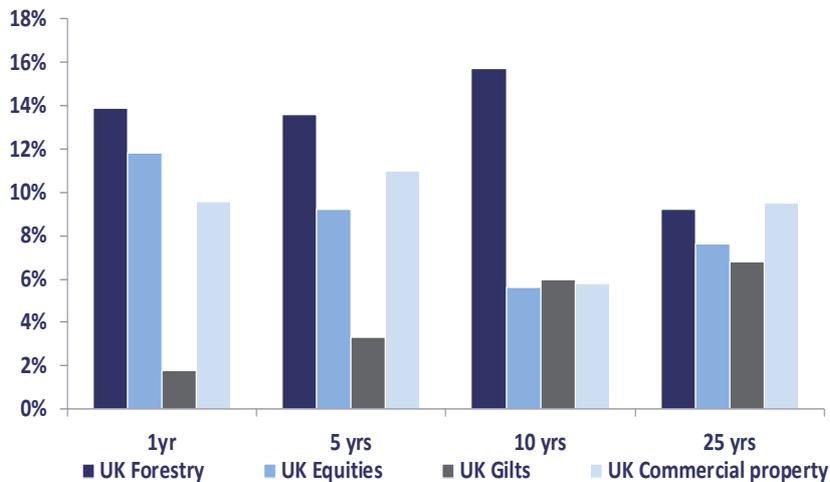
In addition to providing diversification in a traditional investment portfolio, UK forestry has many inherent diversifying properties, including geography, species, age class and end-use.

## Section 4: Historical returns



The latest IPD UK Annual Forestry Index (to 31 December 2017), substantiates the fact that annual returns on UK forestry have been highly competitive relative to mainstream asset classes, as shown below:

### Annualised Returns Over Period



Source: IPD

### Strong Risk Adjusted Performance

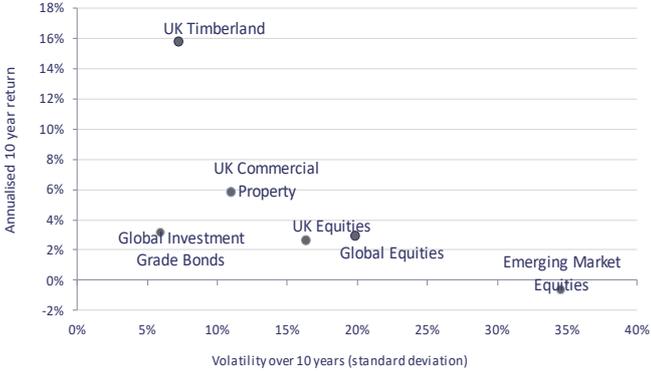
UK forestry has a long-term track record of producing strong performance with relatively low risk, therefore providing risk adjusted returns that are in excess of many traditional asset classes, with low volatility.



Over the 10 years to 2017 UK forestry generated an annualised return of 15.7%, with a standard deviation of 7.4%.

This return profile would have enhanced an investment portfolio by increasing returns and reducing volatility.

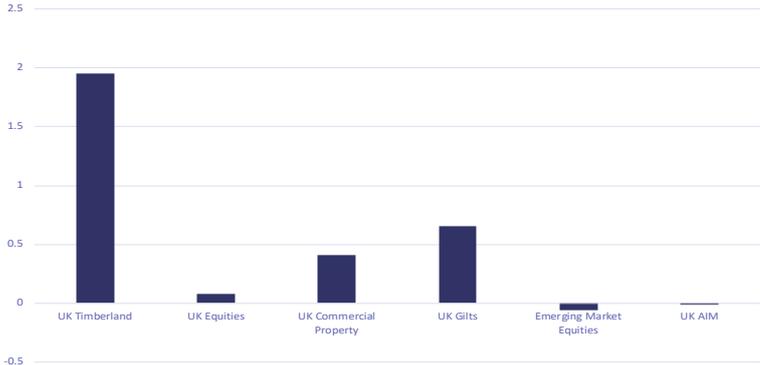
**Return vs Volatility: 10 years (2007 to 2017)**



Sources: IPD, MSCI, PIMCO

The Sharpe Ratio (which measures risk adjusted returns) for UK forestry over the 10 years to 2017 is 1.95, which is significantly better than mainstream asset classes over the same period. 1 = risk and return are equal. Greater than 1 = returns achieved are better than the associated risk.

**Sharpe Ratio: 10 Year Returns (2007 to 2017)**



Sources: IPD, MSCI

## Section 4: Historical returns



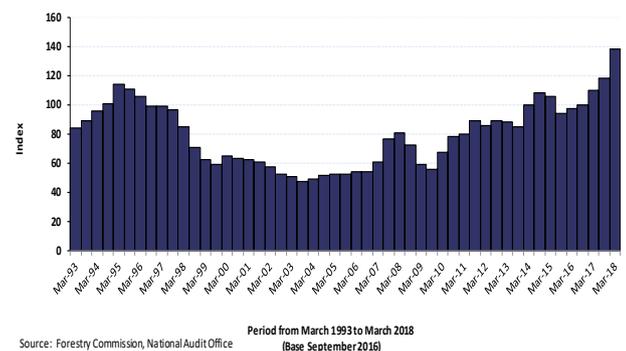
Performance over the past 10 years has arisen from rising timber prices and increasing capital values. Discount rates also hardened as UK forestry's favourable investment characteristics became better understood and investment prospects improved as timber prices continued to rise.

The Gresham House Timber Index increased by 25.6% over the year to 31 March 2018. Gresham House expect the current upward trend to continue based on further investment by the processing sector and rising global consumption.

The Gresham House Timber Index uses statistics published by the FC. It comprises an equal weighting of the Coniferous Standing Sales Price Index (CSSPI), being the average price of standing conifer sales, and the Softwood Sawlog Price Index (SSPI), being the average price of all softwood sawlogs sold on the FC estate.

Gresham House believe that, at current valuations, investment in UK forestry continues to offer the prospect of generating further attractive real returns, even before factoring in forestry's taxation advantages.

**Gresham House Timber Index  
(Nominal, including the effect of inflation)**



## Section 5: UK forestry taxation



Investment in commercial forestry is currently subject to favourable taxation treatment in the UK. Under current UK tax law there is no liability to income tax, corporation tax or capital gains tax (CGT) arising from growing timber. As a consequence, the majority of income resulting from a forestry investment is free of tax.

Commercial forestry should qualify for 100% relief from inheritance tax (IHT), through Business Property Relief (BPR), once held for two years.

Prospective investors should be aware that any change in the level and/or basis of taxation, in tax reliefs or in HMRC or Revenue Scotland practices, may adversely impact the value of a forestry investment and therefore returns to investors.

**Gresham House does not provide taxation advice.** Prospective investors are advised to consult their own professional advisers in relation to the financial, legal, tax, National Insurance Contribution liabilities and other implications of investment in forestry, which will vary in relation to their own particular circumstances.



## Section 6: Forestry risks are clearly identified and managed



With forecast increasing demand and continuing supply constraints, the major risks to forestry are not economic, but physical.

Physical risks that impact forestry are both identifiable and manageable. Incidences from these risks that actually result in a loss to investors (such as pests, disease and natural disasters) represent a tiny fraction of value over the long term.

The main physical risks in the UK which can be covered by insurance, are:

- Fire** Crops are generally most at risk up to 10 years of age. Should damage occur the site requires clearing and replanting.
- Windthrow** Crops are generally at risk from 20 years of age upwards, however from 36 years of age upwards, mature crops can usually be salvaged with minimal loss of value or increased working costs.
- Public Liability** Each property is covered up to £10 million.

The main risks for a forestry investment are physical.



## Section 6: Forestry risks are clearly identified and managed



The main uninsured risk is from the loss of crop due to pests or disease. However, there is currently no evidence of any significant problem impacting Sitka spruce, the main commercial tree species in the UK.

This risk can be mitigated through a portfolio providing geographic diversification, spread of age classes and sound, pro-active management.

Sitka spruce is vigorous and fast-growing, making it less susceptible than other species to pests and disease.



## Section 7: Investing in forestry through Gresham House ensures access to a sustainable and socially responsible investment



Trees absorb and lock-in CO<sub>2</sub> from the atmosphere. Through reduced deforestation, active forest management and more afforestation, global forestry could help to significantly reduce the impact of global emissions.

Once harvested the carbon sequestered by the trees is stored in the resulting wood products for the duration of their life. The total carbon storage capacity of the forest and its associated wood product chain therefore increases over time when properly managed.

There is growing acknowledgement of the environmental impact of global deforestation. Interpol's Project Leaf estimates that between 50% to 90% of logging in tropical countries is illegal. Globally, illegal logging is estimated by Interpol to be responsible for between 10% to 30% of total timber production.

In 2013 the 'EU Timber Regulation' came into force requiring companies to use a system of due diligence to ascertain that all timber they sell in the EU is harvested legally. Similar regulations had already been implemented in the US (Lacey Act).

Gresham House ensure that all forestry investments meet stringent standards regarding sustainability and social responsibility. Gresham House's clients' forestry investments are managed by qualified, experienced forestry managers, known to and selected by Gresham House, and are independently certified to Forest Stewardship Council's (FSC) approved standards under the UK Woodland Assurance Standard (UKWAS), prior to harvesting commencing. FSC is considered to be the most stringent of certification standards.

After harvesting, all Gresham House managed forests are restocked with young trees.

Existing UK forests are a large store of carbon and remove CO<sub>2</sub> from the atmosphere.



Section 7: Investing in forestry through Gresham House ensures access to a sustainable and socially responsible investment

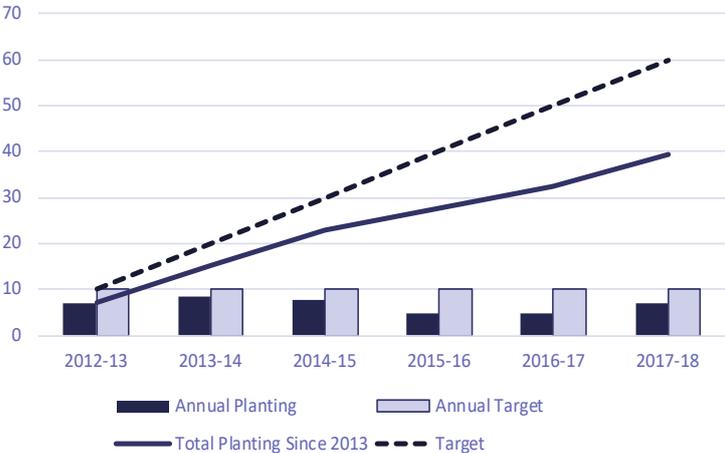


Currently less than 11% of the global forest area is certified, most of this being in Europe and North America.

As well as being a sustainable commodity, timber plays an important role in the UK economy. The forestry sector is a significant employer in rural areas where there are often few other job opportunities. The wider timber processing industry also adds value and employment through the processing plants, hauliers and contractors that it services and who service it. It is estimated that the forestry sector employs over 40,000 people in the UK.

The UK forestry estate is set to expand. The Scottish Government announced in 2013 a target of 100,000 hectares of new forest planting by 2022, equivalent to 10,000 hectares per annum. Since then, 39,000 hectares of new woodland, averaging 6,500 hectares per annum, have been created in Scotland. In spite of the missed target, in 2017 the Scottish Government announced plans to increase the annual target to 15,000 hectares by 2025.

**New Planting - Target vs Actual**



Source: Scottish Government

## Section 8: Gresham House's forestry management service



### Background to Gresham House and FIM

Gresham House plc is an AIM quoted specialist alternative asset manager, with over £2.3 billion in assets under management (AUM). The Group provides funds, direct investments and tailored investment solutions including co-investment, across a range of highly differentiated alternative investment strategies. Gresham House expertise includes, forestry, renewable energy, housing and infrastructure, strategic public and private equity (private assets).

Gresham House aims to deliver sustainable financial returns and is committed to building long-term partnerships with clients (institutions, family offices, high-net-worth individuals, charities and endowments), to help them achieve their financial goals.

In May 2018, Gresham House acquired 100% of FIM, a specialist forestry and renewables asset manager. The deal combined two leading specialist alternative asset managers and cemented the Group's position as a leader in UK forestry investing.

Gresham House's expertise encompasses all aspects of forestry investment management, from acquisition of properties, through long-term asset stewardship, to realisation through timber harvesting or property sale. By remaining independent of woodland managers and timber buyers, FIM has no conflict of interest in relation to woodland management and in forest timber harvesting activities.

The Group has managed forestry investments in the UK, the Baltics and New Zealand on behalf of a range of investors, including institutions, family offices, private clients and funds.

To discuss anything referenced in this paper, please contact us by email at [admin@greshamhouse.com](mailto:admin@greshamhouse.com) or by phone on 01451 844655.



## **Gresham House: Providing the Benefits of Independent Advice**

Gresham House does not undertake or profit from capital expenditure, maintenance or restocking operations in the woodland. This ensures that:

- Acquisitions are assessed solely on their merits, with no concern to maximise future management or contracting work or to favour a particular location.
- Management is undertaken by skilled professionals at competitive prices. Gresham House advise the client on the appointment of appropriate Woodland Managers. Detailed knowledge of different woodland management companies enables us to maintain strategic and budgetary control and ensure the client obtains best value for money.
- The assessment of the optimum method of realising the investment, be it harvesting the timber or property disposal, is not distorted by any potential desire to secure harvesting or replanting work.

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