

## New Forests and Management for the Future

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The United Kingdom is facing challenges in an already fast changing 21<sup>st</sup> Century. Increasing global temperatures and human demands on land put great strain on our isles, impacting economy and ecology alike. Coupled with this, the much-debated effects of Brexit have led to an atmosphere of uncertainty in a time when vision and direction are sorely needed. We must rise to this challenge to obtain the available opportunity. We, as foresters have a responsibility to create and implement strategies at this time that will develop our country not just sustainably, but productively.

The forestry industry is in a unique position among other major sectors. Forestry can provide services to mitigate the impacts of anthropogenic climate change through carbon sequestration, whilst providing space for increased biodiversity and recreation. Targeted wood processing can ensure products are created that lock up carbon for long periods. The challenge is ensuring how the industries can do this with maximum effect.

Trees are long lived, meaning considered practices must be used throughout the production process. To reflect this, this report is divided into two sections to capture important steps throughout.

### Phase 1: Plant new forests

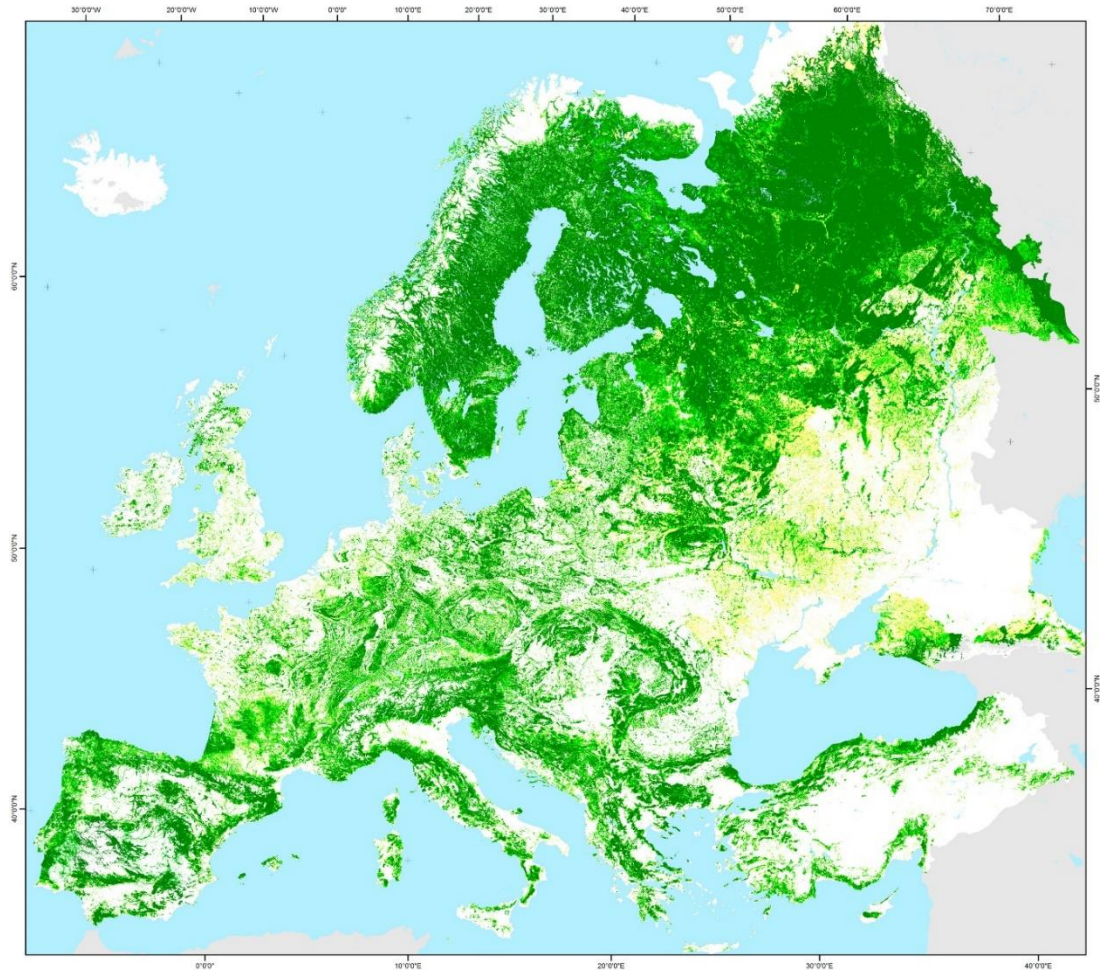
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The UK is one of the least forested areas of Europe (Fig. 1). The level of forest establishment in the UK has been steadily decreasing since 1990, and in many areas stands are reaching the end of their rotation. This has led to widespread calls for increased tree planting - an idea so well supported it made it into the recent budget announcement. This call for more tree planting must be answered in the most beneficial way.

In recent years, much of the woodland planting in the UK has been native broadleaved species. This has undoubtedly improved opportunities for biodiversity - particularly in the removal of monoculture plantations in ancient semi-natural woodland. However, the shift to slower growing broadleaves has decreased our forests productivity. When timber productivity decreases so does the opportunity for carbon sequestration. There is a strong case for soil-held carbon providing a valuable sink, but the evidence for productive forests working alongside responsible soil management for maximum sequestration is strong. Therefore, new tree planting must consider productive conifer as a key element.

Intelligently designed new plantations that combine the productivity of conifer with the ecological benefits of native broadleaf can be created. This has been shown by the ambitious planting scheme at

Doddington North Moor, Northumberland – though it could be argued that slightly more conifer would have made this woodland more productive, but it is a step in the right direction. The removal of the Common Agricultural Policy (CAP) could enable policy makers to direct more funds towards schemes like this, with a focus on productive species capable of significant carbon sequestration.



**Figure 1:** Forest cover across Europe (indicated by green colour) (European Forest Institute, 2011).

#### Phase 2: Apply high quality forest management

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Once planted, forests must be managed to a high standard to ensure products are created that can sequester high levels of carbon. High quality saw log must be sought for the construction industry as timber used in this format has the potential to lock up carbon for long periods. High quality forest management, with well-considered thinning and harvesting practices can achieve this.

Thinning and harvesting operations must be performed sensitively to minimise soil disturbance, and therefore loss of soil carbon. The consideration of this has in-part led to an increase in continuous cover forestry in the UK, akin to the 'close to nature' style of forestry used heavily on the European

mainland. However, the use of clear-fell systems still has a place in sustainable forestry. Clear felling is more suited to forest stability in the upland areas of the UK, where most of our forestry is practiced. The stability afforded by this silvicultural system is essential in the UK and despite its decreasing use in recent years, still means our forests are more productive than those on the continent.

The biomass market in the UK has been growing in recent years and has been responsible for bringing some undermanaged woodlands back in to use. However, the carbon credentials of biomass are low once haulage and processing has been taken in to account. In addition to this, a worrying quantity of viable saw log is being chipped and sent to boilers across the UK. At most, thinnings should be the only harvested product aimed for biomass, with saw log utilised in construction.

The wood-processing and construction industries are using increasingly diverse methods of utilising smaller diameter wood for building material. Innovative materials such as glulam have potential to become valuable products if their use is increased. However, the demand for large diameter saw log for construction timber is still strong and affords the best present opportunity for carbon sequestration.

Initiatives between the construction and forestry industries could help ensure product is produced that maximises carbon sequestration. A grant scheme could be created that encourages production of saw log. This could be applied through incentives to apply longer rotations, more regular thinnings or high pruning in broadleaved stands. Ultimately, this will create a more economically and environmentally valuable end-product.

## Conclusion

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For forestry to be of most benefit to people and planet, long-term thinking is required. The end of CAP in the UK could be just the reset button we need to restructure our priorities. These priorities should acknowledge the part that the forest industry can play.

New productive forests with management practices targeted at producing construction-grade timber are required, and a well-designed grant scheme could facilitate this. Dialogue with wood processing and the construction industry should be used to ensure this is designed in the most workable way.

Industry leaders must make a case to policy makers to ensure frameworks are put in to place to help those on the ground put the best practices in place. Good policy and support will encourage a thriving forestry industry as part of a sustainable UK economy and environment. Here's to opportunity.