UK: The right tree in the right place

How productive forestry and timber matters for climate change mitigation

Stefanie Kaiser, Confederation of Forest Industries, October 2021

UK CLIMATE TARGETS

We need to do something, and quick!

- UK's **world-leading target** of cutting net emissions by 78% by 2035 (UK Gov 2021)
- **Little progress** has been made in areas such as farming (a 7% improvement) (Green Alliance, 2021)
- **Forestry and timber** is relevant for several of government priority areas:
  - Replacing high-carbon materials such as steel and cement.
  - Producing farm subsidy policies that will capture CO2 emissions
  - Heat and building strategy

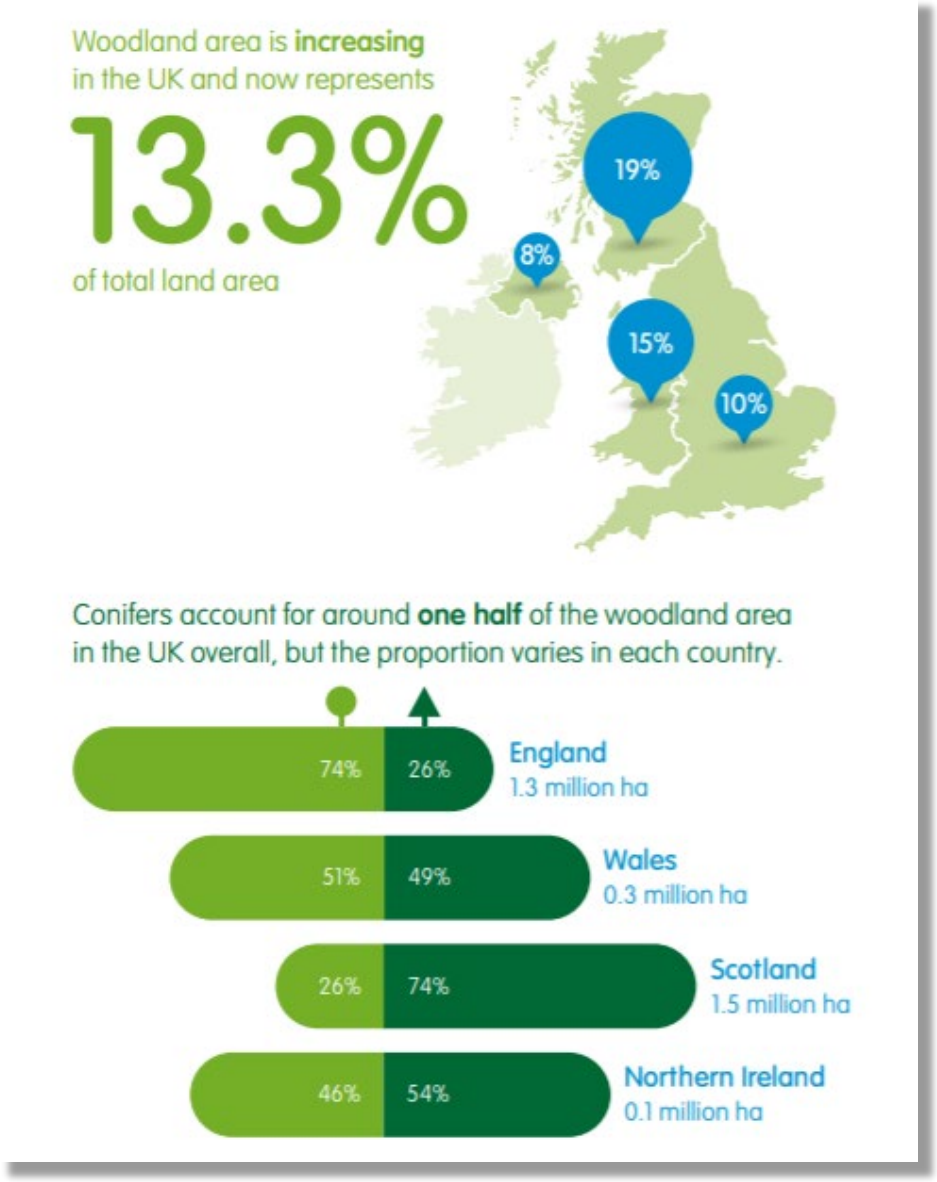
- Woodland Trust (21 Oct): "Huge rise in cheap tree imports puts UK's trees and climate targets at risk"

FORESTRY AND TIMBER

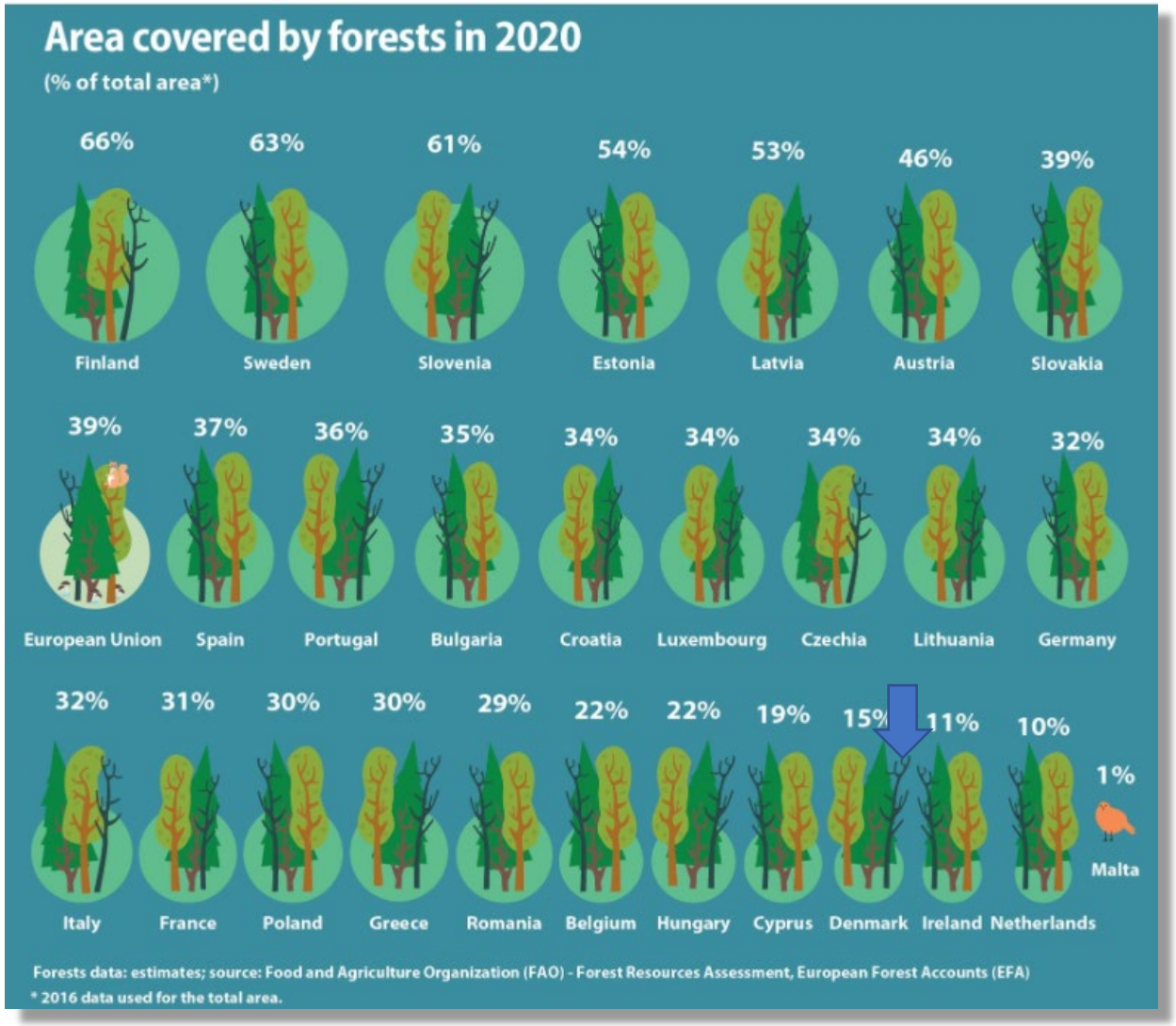
Is part of the solution to reach our net zero ambitions

Photo: Mark Simpson

- Increasing tree planting and wood use is a **low-cost climate mitigation** action that is ready and tested to use.
- Forests deliver a range of ecosystem services, besides the sequestering of carbon
- **Right tree in the right place:** A mix of restoration forestry and productive forestry is needed
- Productive forestry can play an important role in climate change mitigation
- **Timber** replaces more carbon-intensive materials and demand is increasing
- We currently **import 80% of our timber** in the UK – which comes with a climate impact, too!

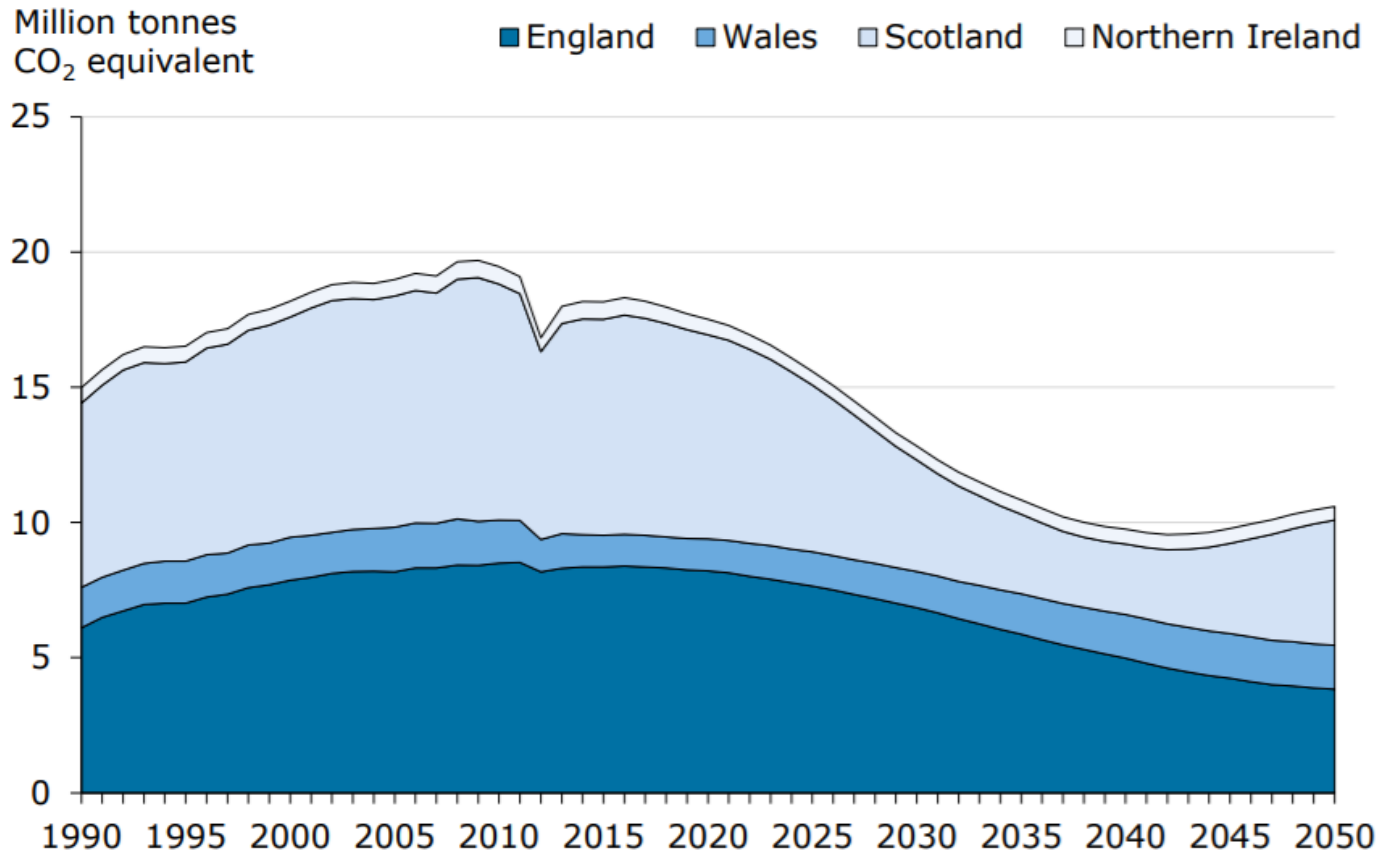


Source: Forestry Commission (2021)



Source: Eurostat (2021)

Figure 4.1 Net annual change in carbon (CO_2 equivalent)[1] in UK woodlands



Source: UK Greenhouse gas inventory: inventory and projections dataset (June 2020)

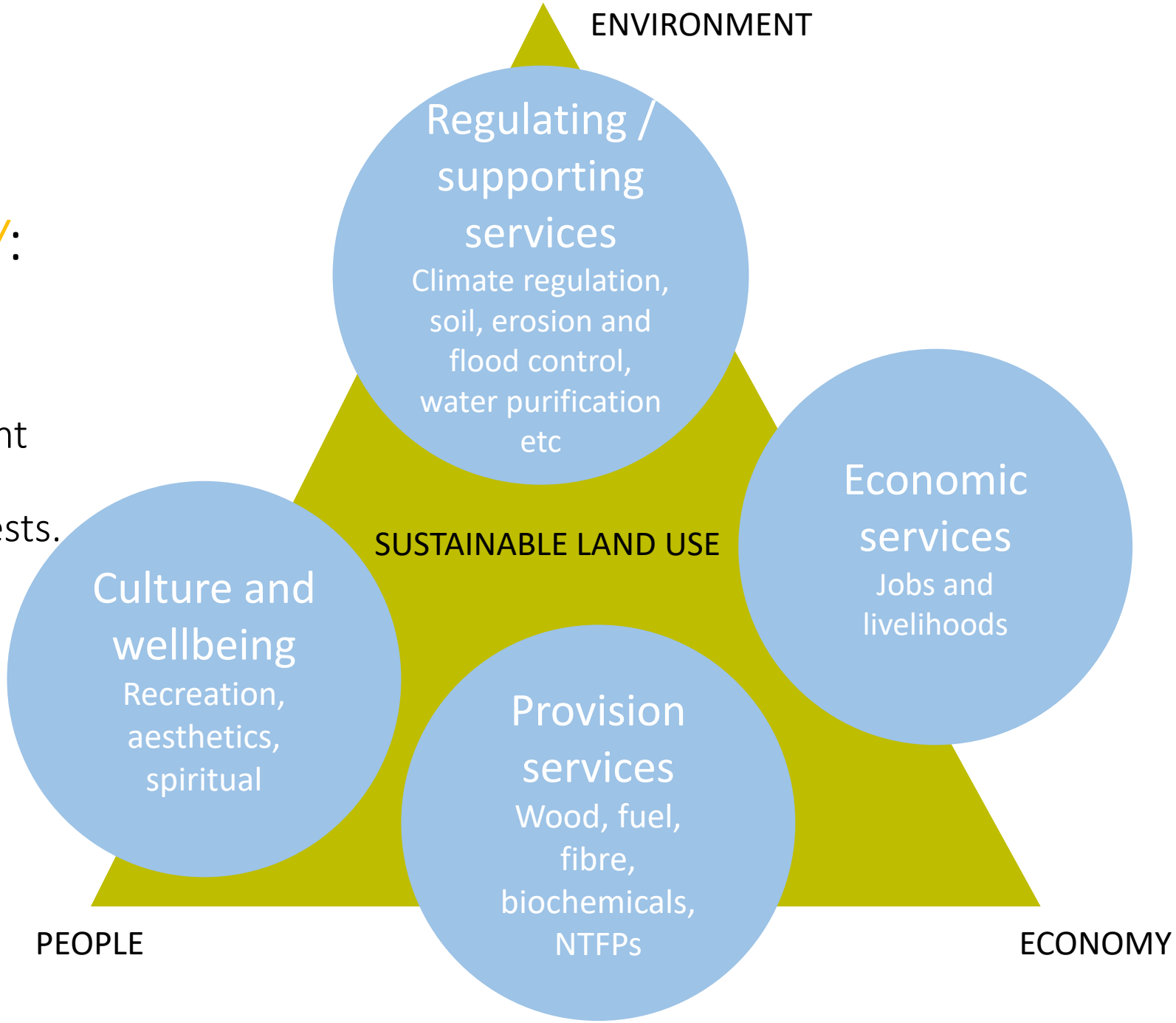
Carbon sequestration from UK forests is projected to fall

?

Should we just grow as many trees as possible and leave them to grow and capture carbon forever?

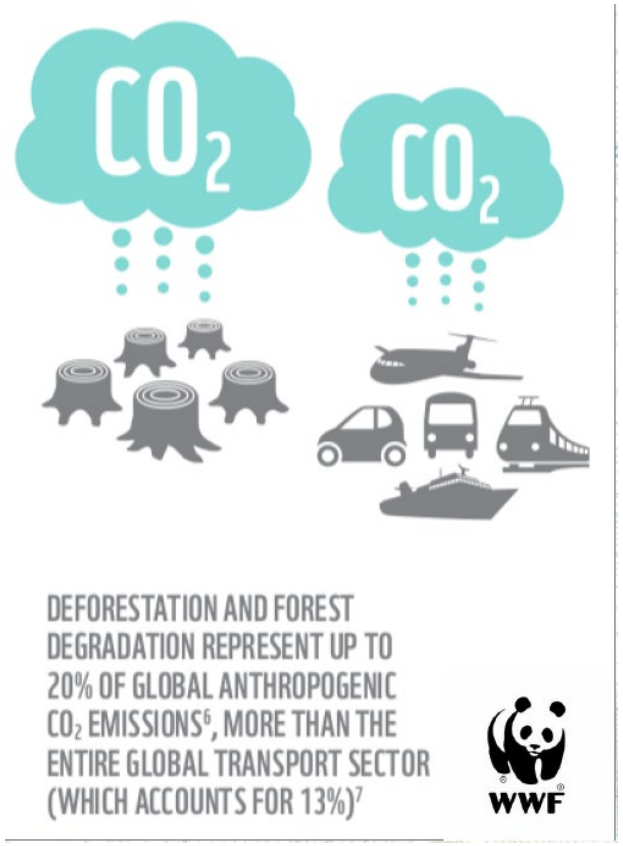
MODERN FORESTRY: THE RIGHT TREE IN THE RIGHT PLACE

We want a mosaic of different forest types or sustainably managed multi-purpose forests.

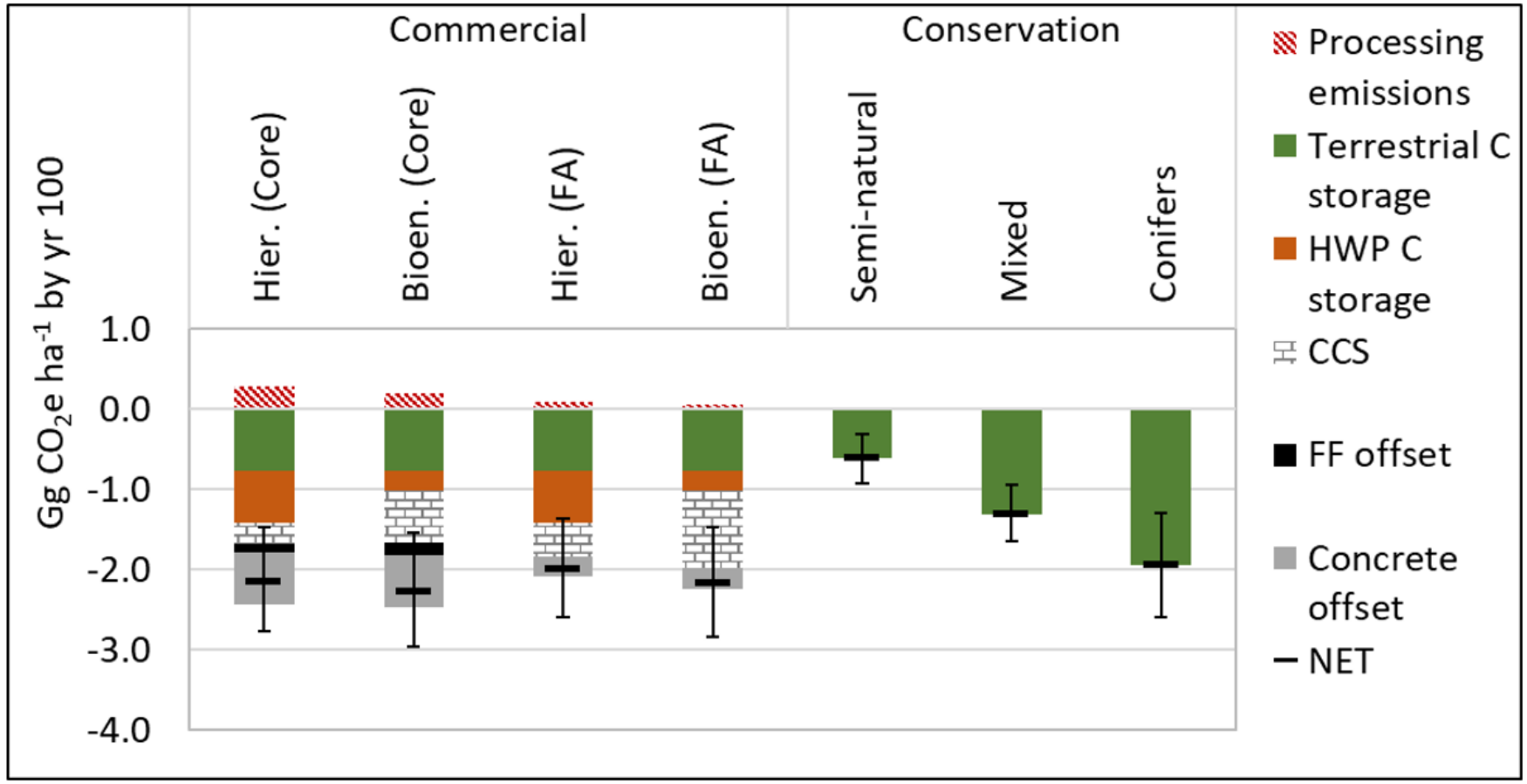


SOME FORESTS SHOULD PRODUCE TIMBER

Growing wood in sustainable productive forests can reduce deforestation elsewhere



Carbon sequestration in different forest types



? Is it true that

Restoration of native woodlands and conservation forests are much more important for climate change mitigation than 'timber plantations' because broadleaves capture more carbon and trees are not felled.

Forster, E.J., Healey, J.R., Dymond, C. *et al.* Commercial afforestation can deliver effective climate change mitigation under multiple decarbonisation pathways. *Nat Commun* **12,** 3831 (2021).

Carbon sequestration in different forest types

Photo: Tree planter for Tomorrows Forests

Key findings by Forster et al (2021):

- First and foremost, productive forestry is a robust climate change mitigation solution, against decarbonisation and wood use options.
- Second, species choice is the overriding factor impacting climate change mitigation potential, regardless of whether harvesting is carried out.
- Thirdly, harvesting can lead to increased net climate change mitigation potential – but hierarchical wood use is important for optimising this.

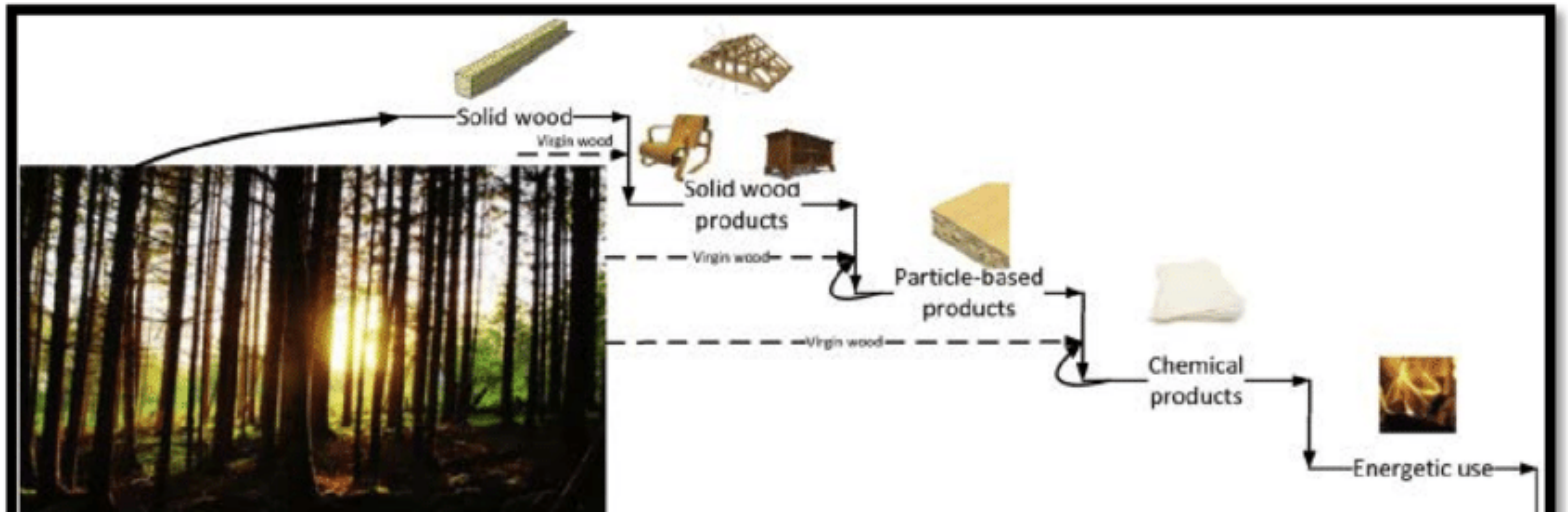
? **Why is that? …**

The role of timber in climate change mitigation

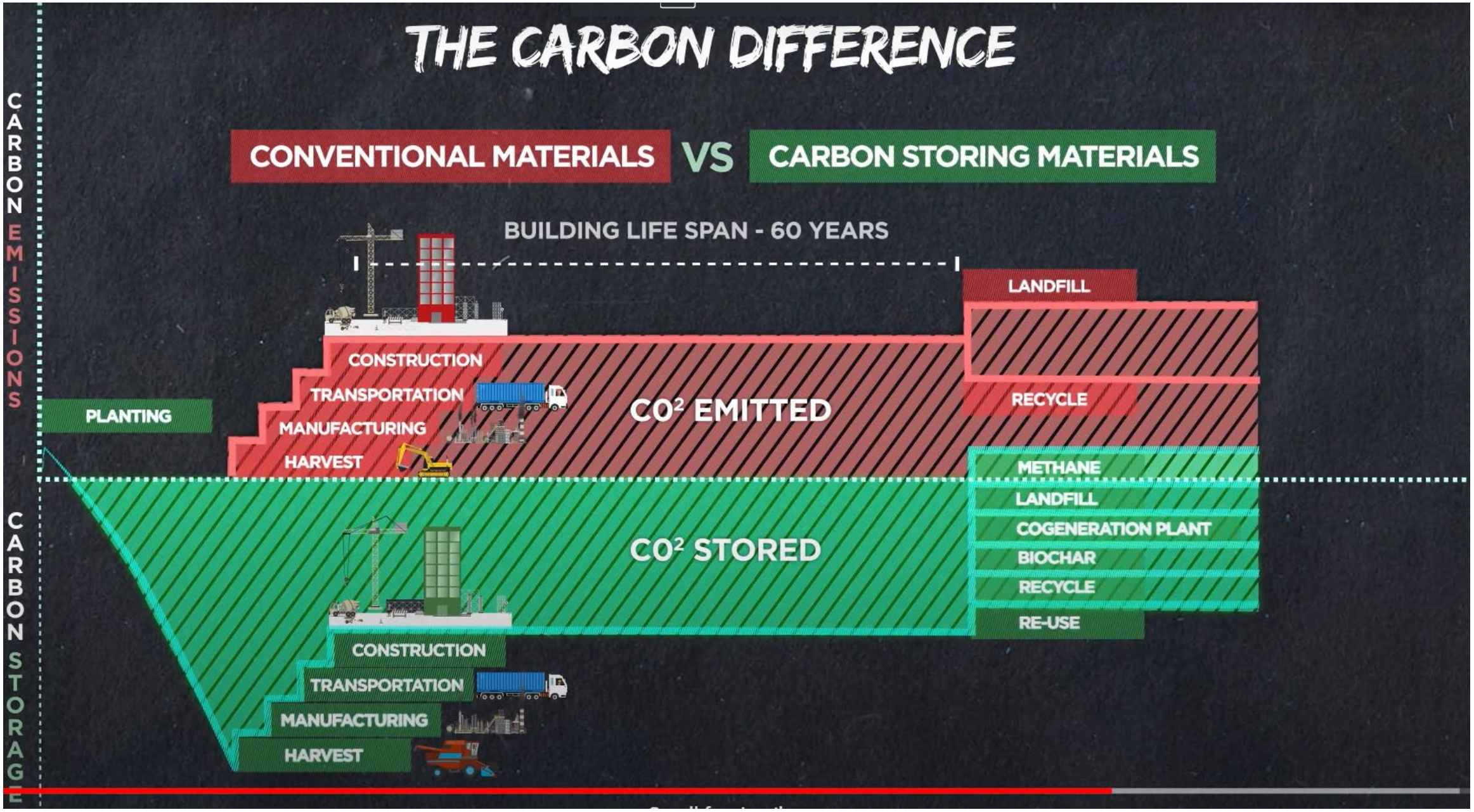
Timber has a significant potential of **Avoided emissions** from the materials it can replace:

- Brick, concrete, steel and other materials in construction
- Plastic and other fossil-fuel based materials in everyday products (straws, clothing, etc)
- Even fossil fuels

Each $1m^3$ of wood grown by a tree holds 0.9 tonnes of CO_2 'sequestered' from the atmosphere



Ideal Cascade Use of Wood Resource (Thonemann and Schumann (2018)



o Carbon Buildings with Carbon Storing Materials, Endeavour Centre, 2021

Watch the video here: https://www.youtube.com/watch?v=RSstTiuuj-Y

Timber in the UK is in short supply…

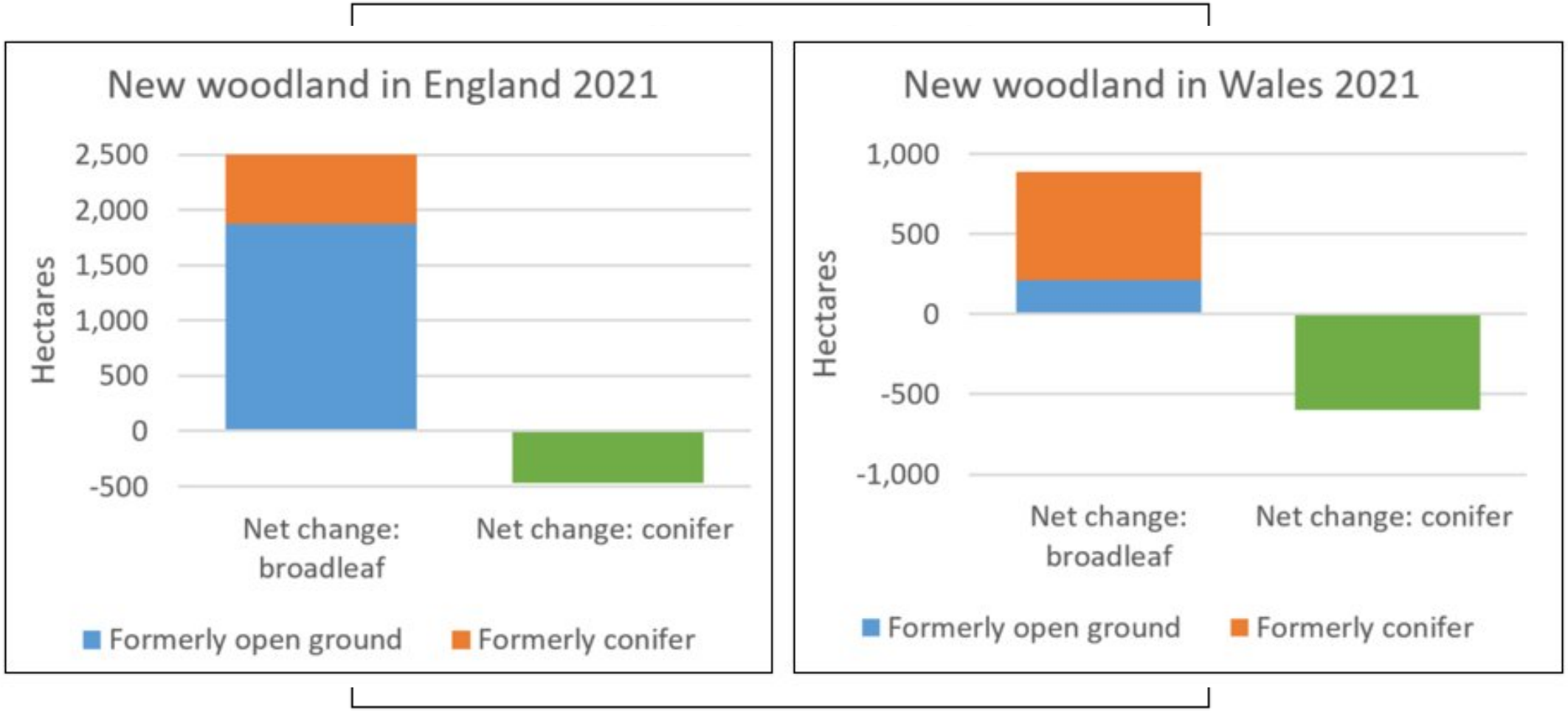
3% decrease in Uk roundwood going to mills

UK second largest net importer of wood (80%)

Shortage of timber supply already on horizon from 2040s

Demand likely to increase with net zero ambitions (bioeconomy, construction)

…but we are on a path of losing productive forests



Graphs: Interpretation of Forestry Statistics 2021 (FC) by Eleanor M Harris, Galbraith

RECOMMENDATIONS

Way forward

- Increase tree planting in the UK following a right-tree-in-the-right-place approach
- Well designed large-scale projects that deliver for timber, biodiversity and people.
- Big forestry investors (eg Gresham House) and environmental lobbies (Woodland Trust) should cooperate to make this happen.
- Within productive forestry sector, potential to further increase efficiency in resources use (from harvesting sites, cascade of wood use)
- Aim to channel more wood fibre into long-term products to lock up carbon (eg building insulation from wood fibre; bioeconomy solids)

Mixing species at Crofthead

Andrew MacQueen, Forest Manager, Tilhill

Crofthead is a new woodland creation project near Moffat, surrounded by mature plantations, native riparian woodland and neglected farm woodland. In its 54 hectares, it aims to link these habitats together in a diverse planting scheme including oak, hornbeam and cherry for quality hardwood timber, and improved birch, Sitka spruce, Douglas fir and diverse conifer growing fast-growing fibre. The forest aims to work with the ecology of the ground, expanding existing native woodland, mixing alder and Sitka to mimic the natural synergies of Pacific north-west forests (*Deal 2013*). It also supports red squirrel conservation, while accelerating carbon capture and timber production across the whole site through careful silviculture.

Sources

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