

The carbon story of UK wood and the benefits of circularity

Eilidh Forster, Bangor University

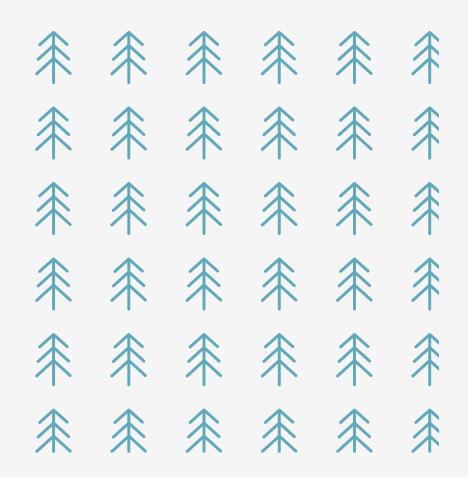
Carbon fluxes in forestry value chains

Forestry = terrestrial C fluxes: growth, removals and decay

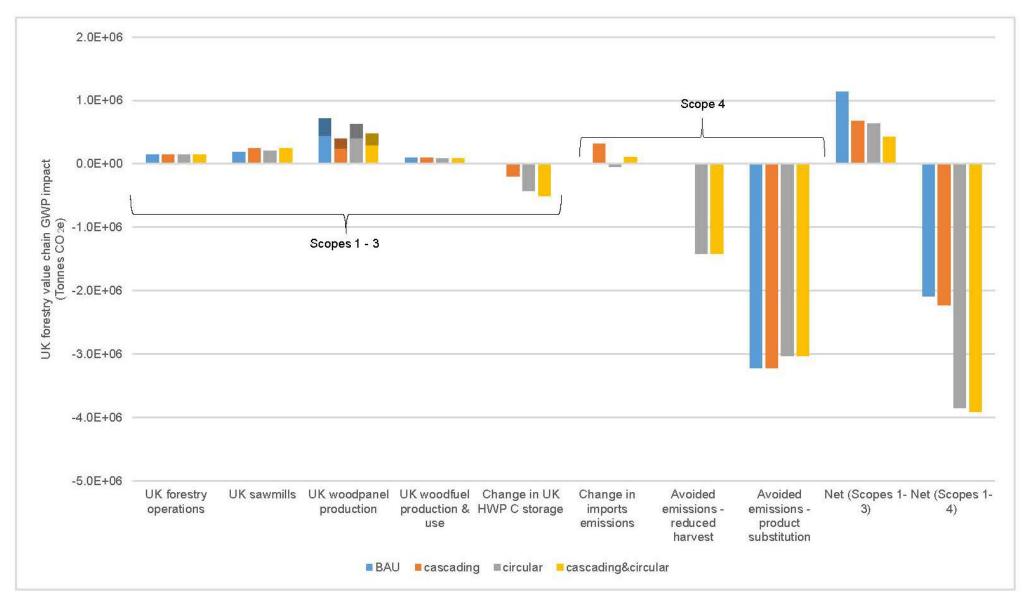
Wood processing = process emissions

Wood use = C storage

Wood use = avoided emissions (product substitution)



UK domestic forestry value chain



| Particle board | 13.6% |
|-----------------------|-------|
| Fibre board | 13.0% |
| Biomass (heat) | 5.9% |
| Biomass (electricity) | 15.8% |
| Pulp | 5.0% |
| Fence poles | 4.9% |
| Pallets and packaging | 10.0% |
| Fencing | 11.1% |
| Carcassing | 8.1% |
| Other | 12.5% |

Reference:

Forster, E.J., Healey, J.R., Newman, G., Styles, D. Circular wood use can accelerate global decarbonisation but requires cross-sectoral coordination. *Nat Commun* **14**, 6766 (2023)



Rising global wood demand

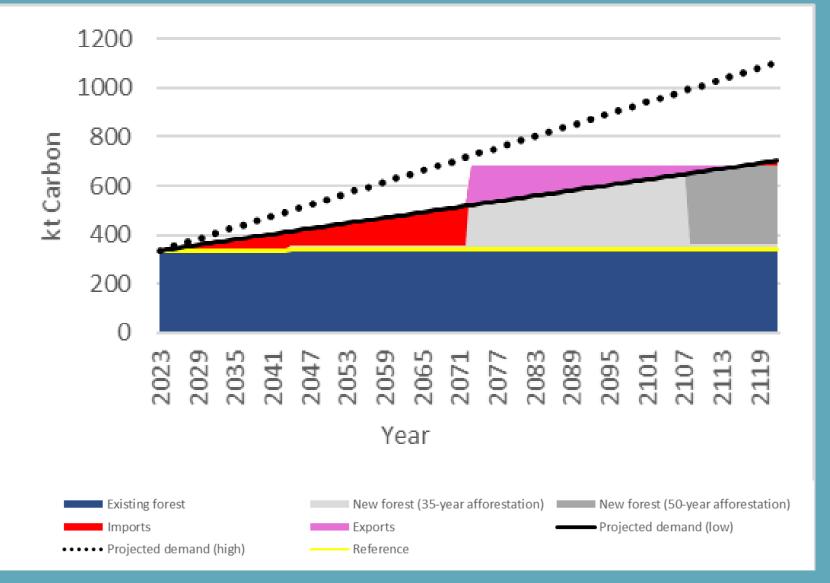
- > But demand isn't static
- > 44%+ increase globally by 2050 (conservative estimate, FAO, 2022)
- Sustainable supply close to limit (on global scale)
- Risk of offshoring forest degradation and loss
- > Afforestation 30-40 years till harvest
- > Business-as-usual wood production and consumption not an option

Rising global wood demand

 Temperate forest can't meet demand

Increases imports dependency

Can be mitigated with more circular and cascading wood use

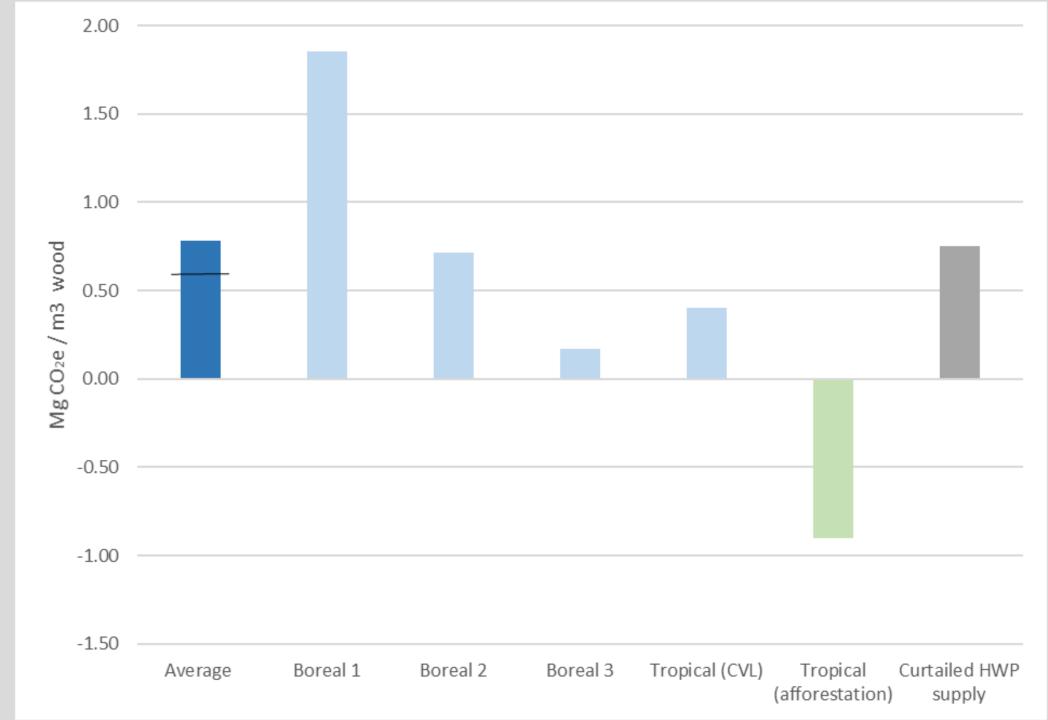


Reference:

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Reliance on imports risks climate-change mitigation efforts

Wood use can tip from mitigation to emissions.

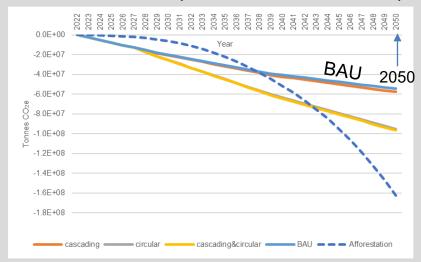


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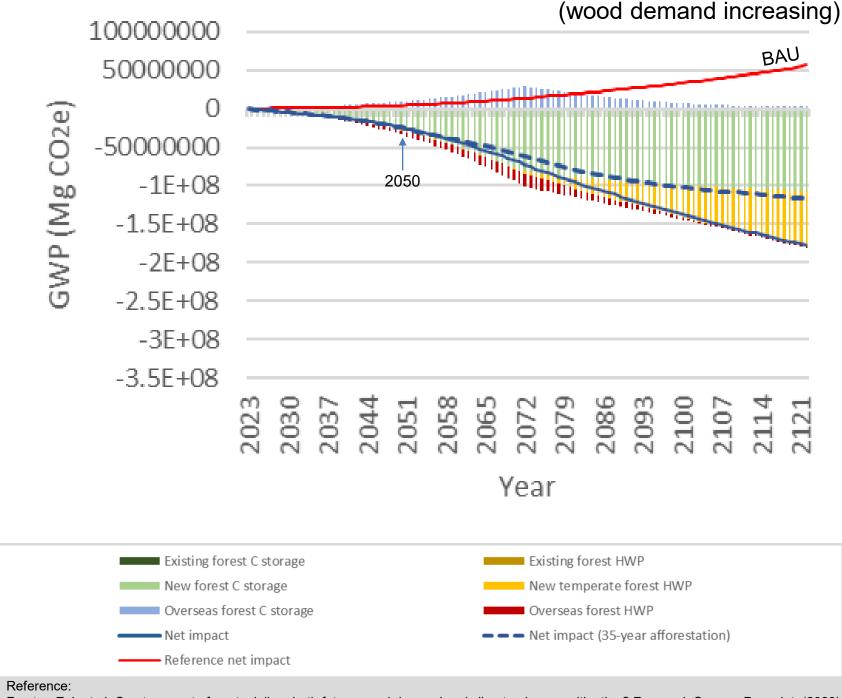
Wood use can tip from mitigation to emissions.

(wood demand static)



Reference:

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Wood use in a circular economy

- Forest expansion = <u>increase supply</u> of wood in future
- Efficient wood use = <u>reduces (relative) demand</u> for virgin wood
- Circular & cascading use = <u>reduces (relative) demand for virgin wood</u>
- Reduced demand = <u>fewer imports</u>, lower risk of exporting forest degradation

Better recovered wood use data + circular product/building design

Increase cascading and circular wood use

Reduce virgin wood demand (imports)

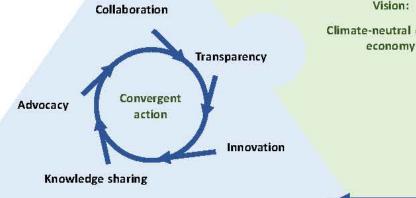
Reduce harvest intensity

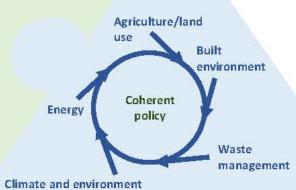
Increase Forest C storage (or reduced Forest C loss)

Change stewards Action for enhanced mitigation Trade bodies Grow more - use more - use more efficiently **Shared vision** Industry roadmap Consistent multi-stakeholder advocacy Coherent lobbying Create spaces for collaboration & learning Vision: Collaboration Agriculture/land Climate-neutral circular



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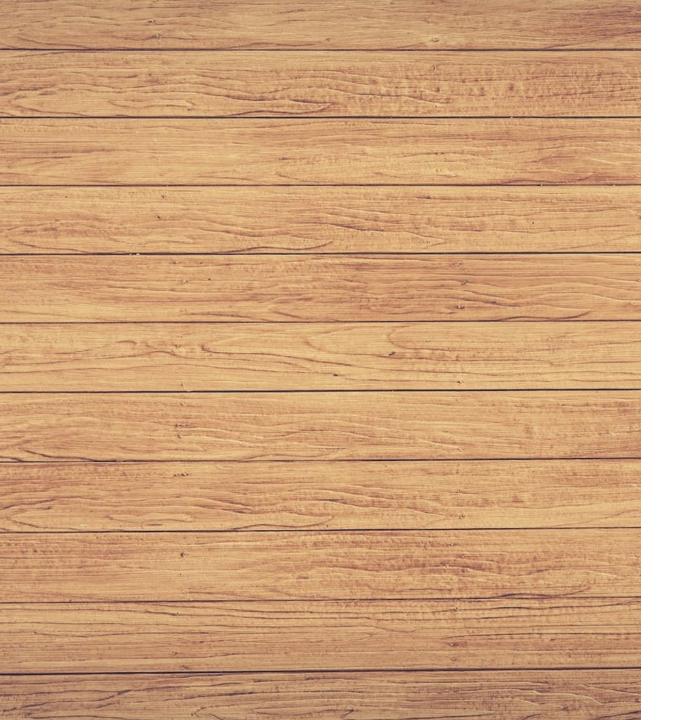




Forestry value chain

Regulation, Green Procurement, Financial Incentives

Government





Thank you