Advising on a net-zero economy that is fair for all

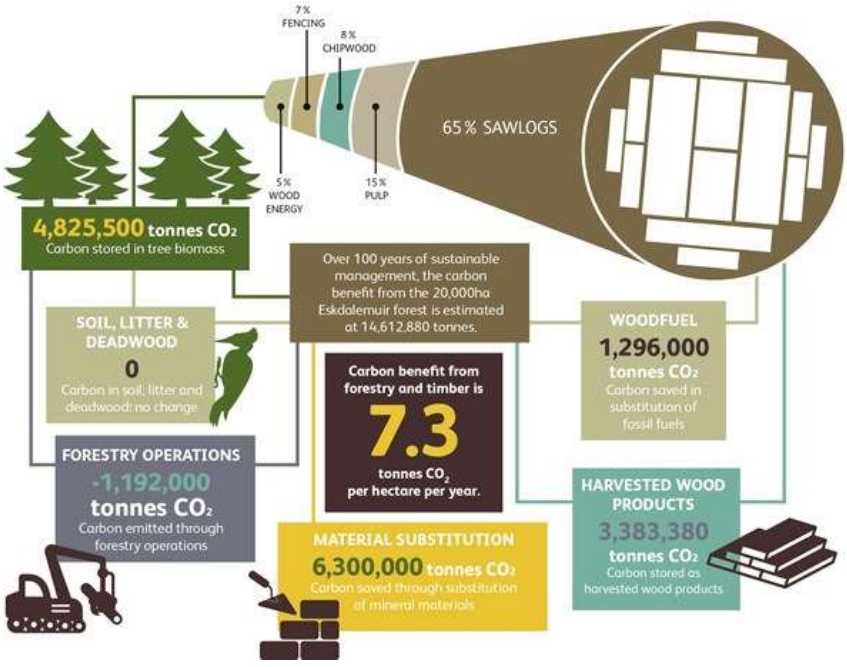
Just Transition Commission – Land Use session
26th November, Melrose

Please use the headings below as a steer when completing your submission.

1. **What are the main economic opportunities and challenges related to the change in land use required to meet the net-zero 2045 target?**

Forestry represents a major economic opportunity to align economic growth and decarbonisation, resolving many of the issues faced when they are regarded as opposing forces.

Forestry and timber are the only proven large-scale carbon capture and storage (CCS) technology at our immediate disposal; and unlike other CCS alternatives, it can simultaneously decarbonise our economy itself. Commercial forests can transform around 16 to 24 tonnes of atmospheric carbon dioxide per hectare per year into useable wood products. The retention of carbon in timber products for various lengths of time means that the forest's total store of carbon at any given time is almost doubled. Yet it is material substitution – the avoidance of cement, steel, oil and plastic – where the enormous carbon gains are almost doubled again. Over the long term, although eventually the carbon returns to the atmosphere through burning or decomposition, the growing store of wood products and the shrinking reliance on mineral materials for construction, fencing, packaging, energy generation and high-tech materials, means that forestry is estimated to deliver a continuous carbon benefit of 7.3 tonnes per hectare per year.



Graphic from Eskdalemuir: carbon benefit from forestry and timber

The world's timber requirements are expected to treble by 2060, even with greater recycling and efficiency. Reducing mineral use would increase demand even more.[1] The UK, with high demand and low production, is the second biggest net importer of

[1] OECD Materials Resource Outlook to 2060.

timber products in the world,[2] and will struggle to retain the share of global resource it currently enjoys as other countries develop. Producing more of this valuable resource will be central to Scotland's prosperity in future, and, as there is high demand for timber at home, will multiply opportunities for economic growth through timber processing and new technologies such as offsite timber construction.[3]

Forestry is a renewable resource, but it is not unlimited: it relies on a finite area of land, which must also provide our food, biodiversity habitat and space for human wellbeing. However, a well-designed forest will not merely subtract land from the available resource but multiply the benefits from one area. Despite the controversies surrounding the plantation forestry of the twentieth century, comparisons of closed canopy conifer plantations with ancient woodland in Ireland[4], and upland and lowland plantations with native woodland in England and Scotland[5] have found that commercial forestry sustains as wide a range of biodiversity as native woodlands. Thanks to the UK Forestry Standard, based on extensive scientific research and agreed between conservationists, public sector and industry, all UK forests since 1997 have been designed to deliver environmental benefit. The Standard requires all forests to diversify 25% of their total area with alternative species, native trees and open space; to avoid planting on sensitive sites such as deep peat, SSSI grassland or stream banks; and to incorporate management measures such as diversified age structure and deadwood retention: all of these measures ensure that the forest does not cause environmental damage and quickly creates rich wildlife habitat.

2. What are the likely wider social (health, community etc.) opportunities and challenges associated with the land use change required to meet this target?

Forestry provides an opportunity to enhance access and recreation opportunities. Visiting a forest can improve mood and concentration and reduce stress.[6] Many more people can experience a sense of solitude and tranquillity in a forest than on the same area of open land, infrastructure such as car parks and tracks are hidden; there is minimal danger of dogs harming livestock or mountain-bikes causing erosion; and the climate remains more stable in windy, wet, hot or cold weather, making forests a more attractive way for more vulnerable visitors to access the outdoors such as the very young or old. Under the UK Forestry Standard, any new forest is required to maintain existing paths and access routes and take opportunities to enhance access.

Land use change for forestry changes patterns of land ownership and employment in the countryside. Like all economic shifts, this represents an opportunity which is

[2] Forestry Statistics, chapter 9 p.17.
[3] For more information, see the Scottish Forest and Timber Technologies Initiative.
[4] Irwin et al, The value of plantation forests for plant, invertebrate and bird diversity (Biodiversity and Conservation, 2014).
[5] Quine & Humphrey, Plantations of exotic tree species in Britain: irrelevant for biodiversity or novel habitat for native species? (Biodiversity and Conservation, 2010).
[6] Forest Visits and Mental Health (Ecologist, 17 May 2019).

often experienced as a disruptive and threatening challenge by communities in the short run, in particular by landowners and land managers who have enjoyed many years of subsidised agriculture. There is an opportunity for farmers to diversify by integrating forestry into their production: the shelter of trees results in feed costs going down and lamb survival going up, and land which is marginal for livestock can produce a valuable crop. Investment forestry brings significant new money into a rural community, often including activities such as the restoration of deserted buildings as well as the planting of trees.[7] All forestry creates jobs: around one job for every 40 hectares of mixed productive conifer. These include a wide range of professional careers and small business opportunities at local and regional level, including planting, fencing, deerstalking, forest management, harvesting, haulage, marketing and wood processing. Mills are major rural employers and rely entirely on a sustainable supply of timber from their surrounding forests. Finally, there are opportunities to diversify and localise land ownership in rural communities for example, through community forest ownership and community interest companies.

Two significant challenges of land use change for forestry should be noted. The first is the impact of forestry operations on local communities, including the visual impact of harvesting and the transport of timber on minor roads.The minor rural road network is aged and has limitations in terms of freight haulage but forestry does provide a clear economic demand for improvements which are anyway required for the wider rural economy.and can provide benefits in terms of increased connectivity for remote communities. The second is the difficulty of enabling tenant farmers to participate in a form of production which may run in cycles longer than the period of their lease.

3. What actions do you think Government should take to manage the opportunities and challenges mentioned above?

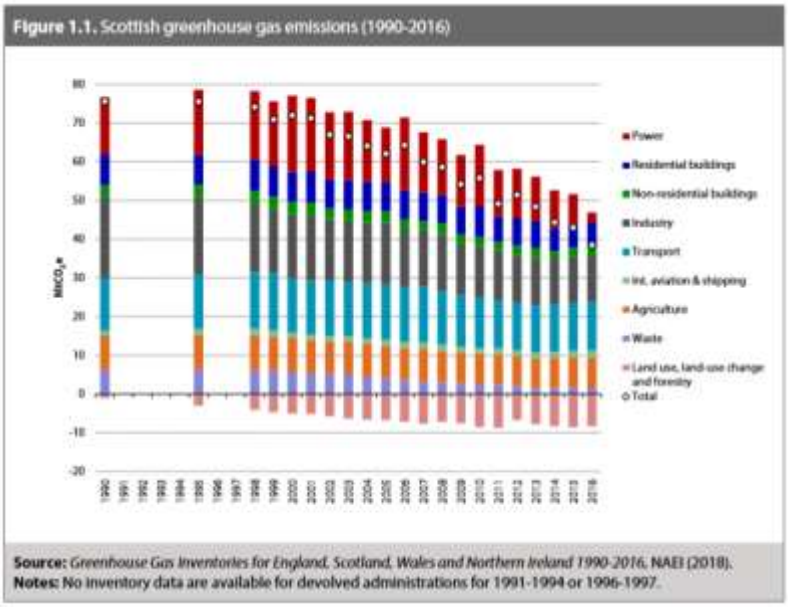


Figure 1.1. Scottish greenhouse gas emissions (1990-2016)

Source: *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland 1990-2016*, NAEI (2018).
Notes: No inventory data are available for devolved administrations for 1991-1994 or 1996-1997.

Government should continue to regard forestry and timber as an industry at the heart of a just transition to a zero carbon economy, not only as a carbon-negative land use and the only carbon-negative line on the graph, but, by providing a zero-carbon material suitable for both manufacture and energy generation, as the key to

[7] Forestry and Local Economy: case studies of Westwater and Larriston (Confor 2018).

decarbonising many of the other sectors and ensuring quality of life for all, in particular through the provision of warm, timber-rich zero-carbon homes.

Government should continue to ensure forestry meets the UK Forestry Standard and engage with industry to discuss where further evidence on carbon or biodiversity delivery may be required. It should be noted that any change in restrictions on forestry activity for environmental reasons should be based on sound evidence, as there is a risk that, rather than delivering the benefits intended, it will limit investment in this key industry.

Government should consider opportunities under future rural support payments to partner with forestry investors to improve access infrastructure in forests where appropriate, or to site forestry in locations of amenity benefit to communities such as near towns, where land prices would be prohibitive for investment for the market alone.

Government should continue to provide integrated advice on forestry through the farm advisory service, to ensure farmers and land managers are aware of the opportunities available through growing trees.

Government should continue to support the upgrading of timber haulage routes through the Strategic Timber Transport Fund and consider increasing investment in this vital infrastructure which provides co-benefits to remote communities.

Government should work with tenants and landlords to design ways to enable tenants to engage in forestry.

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20 November 2019