Land, Bioenergy & Waste: Forestry

This lever controls the sub-levers listed in the table, and ambition levels are for the end year shown on the right-hand side.

In 2015, there were 35,000 km^2 of woodland and small woods in the UK, making up 14% of the land area. By comparison, 197,000 km^2 of land was used for arable crops, livestock, and other land use. Woodland cover has more than doubled from 5% at the beginning of the 20th century.

Afforestation (increasing woodland area) provides the UK with a way in which to reduce net CO_2 emissions by absorbing CO_2 from the atmosphere through photosynthesis. However, in reality there is a time lag between planting forest and seeing meaningful reductions in CO_2 as trees grow, and the way we manage the forests affects how much they absorb.

Greenhouse gas inventory projections show a decrease in absorption up until the 2030s, due to low planting in the 1990s and 2000s coupled with thinning and harvesting of mature trees planted in earlier decades. However, harvested forests have to be re-planted and these trees, coupled with higher anticipated afforestation rates lead to CO_2 absorption by forests increasing again after 2040

Key Interaction

The land area of the UK is finite and the way in which it is used has an impact on the emissions released into the atmosphere. The land area needed for livestock and food crops can be reduced using the Farming Yield & Efficiency lever, so freeing up this land for Forestry.

Woodland also provides bioenergy material in the form of saw dust from saw mills, and branches and saplings that are trimmed away as part of managing the forest. The amount of forest material collected for bioenergy is controlled by the Land for Bioenergy lever. Further emissions savings are possible through using wood as a carbon store (for example timber in construction) and hence avoiding emissions associated with the products that are replaced.

Level 1

After 2020 planting of forest ceases, and current levels of forestry remain the same.

Level 2

Afforestation of 280km2/year (roughly double the rate over the past 30 years) is maintained.

Level 3

The historic maximum afforestation rate of 400km2/year (achieved in 1972) is maintained.

Level 4

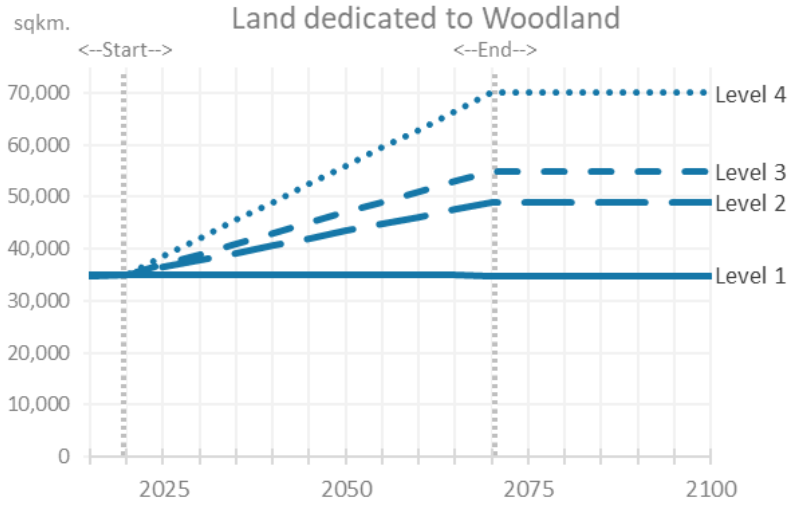
Afforestation of 700km^2/year is maintained long-term. Changes to the regulatory framework are made to promote forestry over other land uses and leads to a doubling of current woodland cover by 2070. This large change in forest cover would represent a land-use change mostly away from land for livestock.

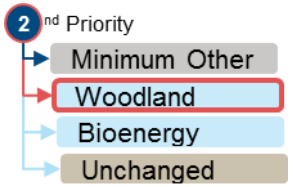
[1] https://uk-air.defra.gov.uk/assets/documents/reports/cat07/1703161052_LULUCF_Projections_to_2050_Published_2017_03_15.pdf

Default Timing

Start year: 2020, End year: 2070

Sub-Lever	Units	2015	Level 1	Level 2	Level 3	Level 4
Land Area - Woodland	km^2.	35,000	35,000	49,000	55,000	70,000





Lever Priority

Land for Woodland is the second priority, after land for food, livestock and settlements ('Minimum Other').

If insufficient land is available, land for forest will not be applied. If lever settings do not require land to be converted it retains its original usage.