

1 Greenhouse Gas Emissions



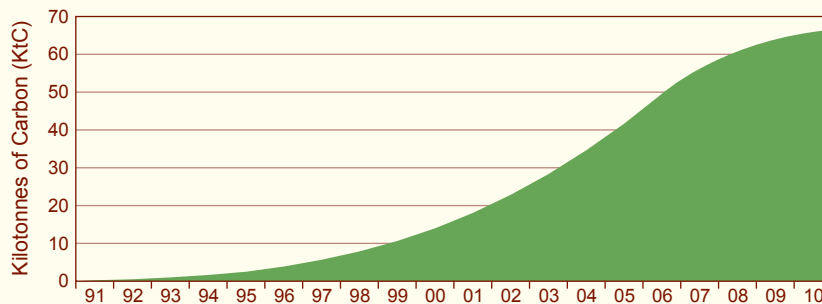
F

En

Woods and trees in the UK currently lock up 12 million tonnes of CO₂ per year, which is equivalent to 2% of the actual CO₂ emitted¹. The amount of carbon captured or sequestered by woodlands includes the carbon in the trees (both above- and below-ground biomass), the litter layer and the soil. The National Forest's specific contribution towards combating greenhouse gas emissions is through carbon sequestration. This is achieved by tree planting and promoting wood fuel as a source of renewable green energy. In addition, the Forest contributes to climate change adaptation by increasing overall landscape resilience, promoting shade and flood management and through education about the effects of climate change in its environmental programmes.

- Since 1991, 7.8 million trees have been planted².
- Over the period 1990–2010, it is estimated that 66 kilotonnes of carbon (ktC) were sequestered by The National Forest, an increase of 16ktC since 2006. This equates to a net removal of 241.8 million kg of CO₂ gas from the atmosphere; which is equivalent to the annual CO₂ emissions of 60,000 cars³.

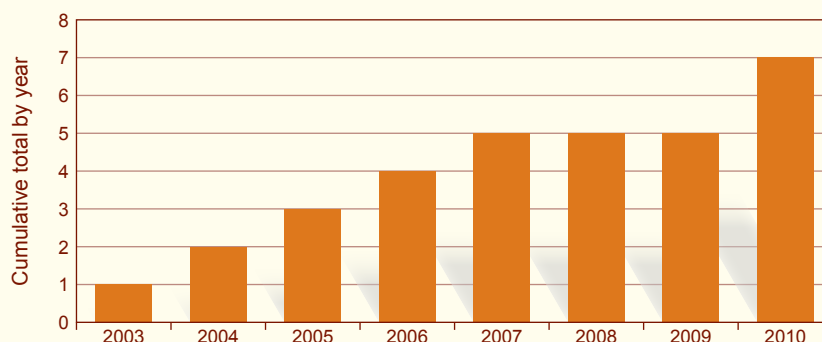
Sequestered Carbon 1991-2010



Future monitoring will also need to include potential contributions of the Forest to emissions, such as visitor traffic – no information is available for this at present.

- Based on the assumption that the NFC continues to plant 225ha of woodland per year, the Forest cover target of 33% will be achieved by 2044. It is estimated that, over the period 1990-2044, the carbon sequestered would equate to 0.4% of the UK's domestic climate change target of an 80% reduction in greenhouse gas emissions by 2050³.
- The current value of carbon sequestered by the Forest was estimated to be £9m (1991-2010) and projected to be £187m by 2100 (1991-2100)⁴.

Wood fuel installations 2003-2010



- In 2010, seven wood fuel heating systems are operating in the Forest. Of these, three have been installed since 2006, contributing 370kw of green energy⁵.
- The National Forest Company also promotes the use of timber as a sustainable construction material as a means of 'locking up' sequestered carbon.

NRP

CCE

SCP

*** ACTION:**

- 1) Continue to promote tree planting to achieve the Forest's creation.
- 2) Monitor the Forest's contribution towards reducing greenhouse gas emissions every 3-5 years.
- 3) Continue to promote the development of the woodland economy, including the use of wood fuel systems.

DATA SOURCES:

- 1) The Great Carbon Lock Up. The Woodland Trust [2010].
www.woodlandtrust.org.uk/en/support-us/carbon/Pages/lock-it-up-2.aspx
- 2) NFC annual monitoring [2010].
- 3) Updated estimates of carbon sequestration in The National Forest – Centre for Ecology & Hydrology [2010].
- 4) Initial Assessment of the Costs and Benefits of The National Forest – etfec [2010].
- 5) NFC estimates based upon current system outputs [2010].