

case study to investigate the life cycle carbon emissions and carbon storage capacity of a cross laminated timber, multi-storey residential building.

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**ABSTRACT**

Forests are a store of carbon and an eco-system that continually removes carbon dioxide from the atmosphere. If they are sustainably managed, the carbon store can be maintained or even increased, while the trees removed and converted to timber products can form a long-term carbon store. The total carbon store in the forest and associated products therefore increases over time, given appropriate management. This increasing store can be further enhanced with afforestation. The UK's forest area has increased steadily since the early 1990s, although the rate of increase has declined since the late 1990s, and it is a similar picture in the rest of Europe. The increased sustainability for construction is a key market incentive for afforestation, which can make a significant contribution to reducing carbon emissions. The case study presented in this paper illustrates the carbon benefits of a Cross Laminated Timber (CLT) solution for a multi-storey residential building.

## A Case Study to Investigate the Life Cycle Carbon Emissions and Carbon Storage Capacity of a Cross Laminated Timber, Multi-Storey Residential Building

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