





## The Environmental Impact of Reused CLT Panels: Study of a Single-Storey Commercial Building In Japan

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### Summary:

The study investigates the environmental benefits of reusing Cross Laminated Timber (CLT) panels. The Global Warming Potential (GWP) of a single-stored Coffee shop built in 2016 in Kobe city was calculated, considering different CLT reuse ratios, forest land-use and material substitution possibilities. The results showed that as the rate of reused CLT panel increases the total GWP decreases. Moreover, in all cases, the option with smallest GWP is when the surplus wood is used for carbon storage in the forest, revealing the importance of a growing forest for increasing the environmental benefits of timber utilisation. The results suggest the systematic reuse of CLT panels offers a possibility to increase the carbon stock of Japanese Cedar plantation forests and further mitigate the environmental impact of construction.

Online Access: Free

### Resource Link

[https://www.researchgate.net/profile/Rafael\\_Passarelli/publication/326989209\\_The\\_Environmental\\_Impact\\_of\\_Reused\\_CLT\\_Panels\\_Study\\_of\\_a\\_Single-Storey\\_Commercial\\_Building\\_In\\_Japan/links/5d44eec792851cd0469c2df0/The-Environmental-Impact-of-Reused-CLT-Panels-Study-of-a-Single-Storey-Commercial-Building-In-Japan.pdf](https://www.researchgate.net/profile/Rafael_Passarelli/publication/326989209_The_Environmental_Impact_of_Reused_CLT_Panels_Study_of_a_Single-Storey_Commercial_Building_In_Japan/links/5d44eec792851cd0469c2df0/The-Environmental-Impact-of-Reused-CLT-Panels-Study-of-a-Single-Storey-Commercial-Building-In-Japan.pdf)