

A Visual Life Cycle Analysis

for architects and policymakers

*The impact of urbanizing 400 million people in China in 20 years.
A comparative analysis of common structural materials with bamboo as a promising alternative for (semi) high-rise developments.*

research

Transport, End of Life scenarios and Lifespan are essential factors in a Life Cycle Analysis (LCA). The Building Use itself is becoming less relevant as 'Zero Energy', or 'Energy Positive' buildings can be designed already. Therefore the focus shifts to the production of buildings. About 50% of the environmental footprint of the building is directly related to the building structure.

The positive potential of laminated wood and bamboo (lamboo) as structural materials is hardly comparable to the carbon intensive processing of concrete and steel. The latter have great qualities, however the properties of wood and especially bamboo are still generally misunderstood. But wood and bamboo are now upcoming materials in the building industry.

design

A 30-story termite hill shaped apartment tower mixed with commercial functions, built from lamboo. It is situated in the centre of Shanghai and grows its own material on-site, in 20 years.

Hutong inspired courtyards are spread among the tower, bringing the traditional qualities of the old neighbourhoods into a future proof design concept. The building is an open frame for people to design and create their own home, with possibility to combine office or a workplace.