LifeCycle Tower

Overview Details Fast facts

- Study aiming to develop a timber system for **high-rise construction**.
- 320t of $C0_2$ will be saved by using timber as a substitute for conventional construction materials.

The LifeCycle Tower project aims to develop and demonstrate the feasibility of an **energy-efficient timber system** for high-rise construction in dense urban areas.

The use of wood for high-rise construction is increasingly appealing. Timber is carbon neutral and 100% renewable. The increasing scarcity of resources and rising prices for steel, insulation and concrete also make it a viable option.

Over 260t of $C0_2$ will be stored and another 320t saved by using timber as a substitute for conventional construction materials.

Wide-ranging study

Arup was commissioned as consulting engineer for **structural engineering**, building services, **façade engineering**, **fire engineering**, **building physics** and **materials** consulting. This study will take the detail design for a timber high-rise to 80% completion, enabling a study into commercial viability to follow.

The main drivers for the design are use of offsite prefabrication to minimise construction time, flexible structure and layout, energy efficiency and minimisation of carbon footprint.

No compromises can be made on any performance criteria in comparison with conventional structures. The key challenges are fire performance, acoustic performance and cost.

This study is part of the 'House of the Future' program, funded by the Austrian Research Fund.

The study aims to examine the feasibility of a timber system for high-rise construction.

Related services

Building physics
Energy strategy
Fire
Research
Materials

View all services

Related markets

Related projects

Related links