

Safe Schools for the Future

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A holistic approach beginning with a robust fabric, with efficient systems, delivered via a quality assured construction process, informed by learnings from the previous project. This publication shares in-use and design insights from 17 built timber-framed primary schools with consistent outcomes.



Cost

- 1 Construction costs have been as much as **19% below** industry average construction costs, benefiting from optimised supply chain from successive projects.
- 2 Using this approach, a school could save **£50,000 a year** in energy bills due to the highly efficient building fabric and very lean services strategy
- 3 Safe Schools for the Future can be built from **UK-grown** structural timber, supporting the growth of our forests and our rural economies

Timber

- 1 Structural timber can effectively be separated and **structurally unaffected** by internal fires through the use of encapsulation. New research demonstrates that there is **significant conservatism** in how the industry designs for fire resistance.
- 2 The bio-based materials store around **300 tonnes of carbon**, removed and prevented from contributing to global warming. This is the equivalent of offsetting 4 million cups of tea being enjoyed.
- 3 This approach utilises low-tech readily-scalable construction methods that also can be prefabricated and pre-panelised for on-site programme efficiencies.



Health

- 1 Healthy classrooms require a holistic approach, with all elements working in unison. Together, fresh air is efficiently and constantly provided to all learning spaces
- 2 Combining bio-based materials with efficient ventilation, harmful volatile organic compounds in the classroom can be **60% lower** than in other schools.
- 3 Visual connection to bio-based materials has been demonstrated to have a calming effect on school children, with **lower heart rates**, improving overnight sleep and recovery.

Performance

- 1 Learning from previous projects and closing the design loop is vital for continued learning. **CO2 levels were halved** between two generations of case study schools.
- 2 Operational energy use in the average England school is almost **3 times** that of the case study schools. This performance level is achieved through a holistic approach, underpinned by Passivhaus certification.
- 3 Embodied carbon emissions are up to **60% below** the current UK Net Zero Carbon Building Standard limit, due to bio-based materials and lean material use.

Project team:



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