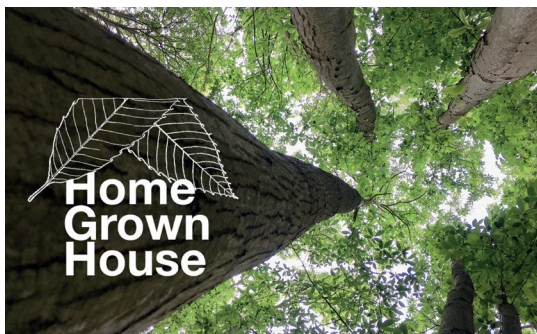


HOME-GROWN HOUSING

Architect **George Fereday**, associate teaching professor at the London Metropolitan University, explains the HomeGrownHouse project

SUMMARY

- Timber is forecast to see accelerated use in building
- Only 60% of woodlands in England are in active management
- The HomeGrownHouse project identifies the barriers to use of British-grown timber



Above: The project involves a broad range of stakeholders from across the supply chain

The case for timber in construction is incredibly compelling. Recent research has shown that building with timber can be 30% faster with up to 90% less waste, this within a general construction sector that accounts for 40% of global carbon emissions and a third of all waste.

Prefabricated timber homes are cheap, fast to manufacture and install, good for human well-being, energy efficient and low impact in terms of programme and transportation – yet only a tiny proportion are made from timber sourced in the UK. As well as promoting a sustainable green economy, timber and engineered timber building products offer long-term carbon capture and storage as part of a building fabric that also has the potential for adaptive re-use in the future as part of a circular economy.

The recent All-Party Parliamentary Group report, 'How the timber industries can help

solve the housing crisis' (2019) highlights the UK government's commitment to delivering 300,000 homes a year by the mid 2020s as a key driver for growth in timber-based housing. With the governments' commitment to net zero greenhouse gas emissions by 2050, timber is forecast to see accelerated use in building as the only widely available carbon negative building material.

Despite the numerous benefits of timber, in 2018 only 23% of all new housing projects in England were timber-frame based compared to over 80% in Scotland (figures from the Structural Timber Association) and only a tiny fraction of these homes in England were made from locally sourced, UK-grown timber.

In fact, the UK imports 82% of its timber and only 60% of woodlands in England are in active management as a result. This negatively impacts woodland productivity, the value of locally grown timber, biodiversity and amenity uses within under-managed woodland.

London alone generates roughly 30,000m³ of urban roundwood a year, enough material by volume to build approximately 6,000 timber homes, if it were all of viable quality. Currently this material ends up in landfill, is chipped for composting, or burnt as biomass.

THE HOMEGROWNHOUSE

To address these urgent and interrelated issues and to look again at the local timber resources available to us, the HomeGrownHouse project seeks to identify the barriers to use of domestically grown timber by involving a broad range of stakeholders from across the timber supply chain.

The consultation will help define concepts for sustainable, low-cost, prefabricated housing made from home-grown timber that can include small diameter roundwood grown locally in the South-east of England. The collaboration between Grown in Britain, London Metropolitan University, The Woodland Enterprise Centre and professional foresters, woodland owners, timber processors, architects and engineers, will create the connected oversight necessary to identify the barriers and opportunities available with local timber in a complex supply chain.

This will depend on regional abundance of trees and availability of seasoned timber as well as on existing bottle-necks with the wood processing and manufacturing sectors associated with engineered timber products.

The project will also look holistically at the timber resources we have in the UK, including much overlooked hardwood species. New building products made of sustainably sourced local timber will be developed and tested with a view to tackling the housing crisis in the region whilst simultaneously increasing woodland management as part of a net-zero carbon economy of the future.

REGIONAL TIMBER INNOVATION

The HomeGrownHouse project aims to reinvigorate a local timber vernacular brought up to date with modern methods of forestry, processing, design, engineering and assembly. Only by setting a new bar for product innovation made from local timber, can we hope to challenge the status quo in the construction sector and set out a new path for home building that benefits the local, national and global environment. The key to success in this endeavour lies in identifying unique regional timber abundance and designing products around these species that fit existing local supply chains and processes.

As a project funded by London Metropolitan University, the collaboration will absorb the risk associated with commercial product development in a bid to give back to society and promote a new green economy that offers environmental net-gain.

Far more of this holistic industry-academia partnership is needed to define the challenges, design the solutions and test local timber derived products needed for truly sustainable local homes. ■

FURTHER INFORMATION

London Metropolitan University will be launching a new course – MSc Sustainable Timber Buildings – in September 2021 located at its central London campus in Aldgate.