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Timber's Green Revolution

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This volume presents recent advances in sustainable timber systems, addressing the role of timber from forest resources to its application in the built environment. The contributions cover forest productivity and carbon stock assessment, as well as the development of innovative materials and their integration into construction systems. Several studies analyse biomass production, land use, and carbon sequestration, providing insights into the environmental performance of forestry systems. At the material scale, research explores bio-based products, industrial by-products, and engineered timber solutions, contributing to circular economy strategies and improved resource efficiency.

The volume places particular emphasis on the use of timber in construction, including prefabrication, seismic retrofitting, and the implementation of mass timber systems in mid rise and tall buildings. Environmental assessments, such as life cycle analysis and carbon storage evaluation, demonstrate the potential of timber to reduce embodied emissions while acting as a long-term carbon sink. By integrating perspectives from forestry, materials science, and construction engineering, this collection provides a coherent overview of the timber value chain and supports the transition towards low carbon and resource efficient built environments.

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