

Timber's tipping point: why global demand is set to outpace supply by 2050 according to Gresham House analysis

The ongoing increase in Greenhouse Gas emissions from human activities since the industrial revolution is a major contributor to climate change and rising global temperatures; average global temperatures have risen by 1.2°C according to The National Centre for Atmospheric Science, 2025. There is a strong global consensus that urgent and extensive action is needed, both to limit future warming and to adapt to a changing world to reduce the impact of climate change.

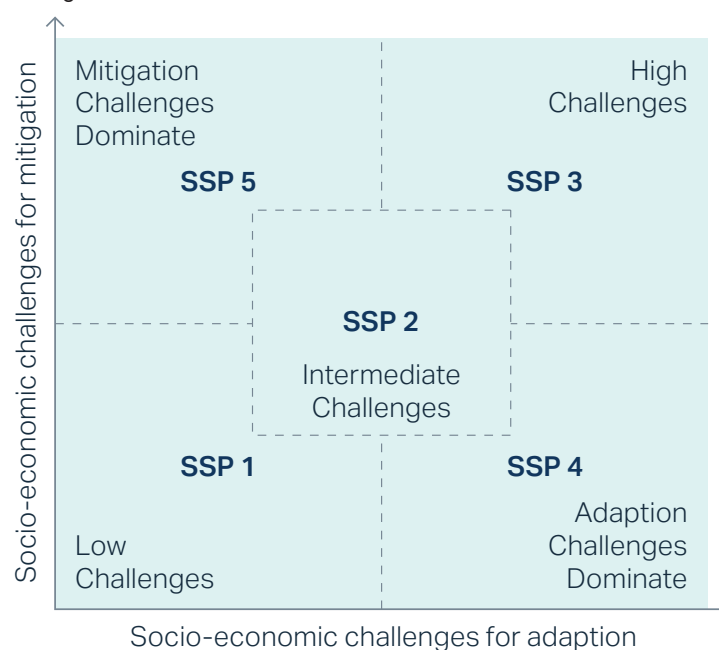
The construction industry is one of the main contributors to global carbon emissions and represents c.38% of worldwide emissions (Construction Industry Council, 2025). To reduce the carbon footprint there is a need to transition to more sustainable and less carbon intensive building materials. We believe timber has an important role to play in replacing carbon intensive building materials such as steel and concrete.

The sixth assessment report from the Intergovernmental Panel on Climate Change (IPCC) outlines Shared Socio-economic Pathway (SSP) scenarios. These scenarios describe the potential future climate trajectories based on consistent assumptions about population growth, economic development, education, urbanisation, and technological advancement.

In its latest Global Timber Outlook: The impact of climate change on forestry, **Gresham House analysed** three of these scenarios:

- SSP 1 represents a best-case scenario, characterised by sustainable development and significant efforts to reduce GHG emissions
- SSP 2 serves as a baseline scenario, where trends follow current patterns without significant intervention

A diagram overview of the SSP scenarios

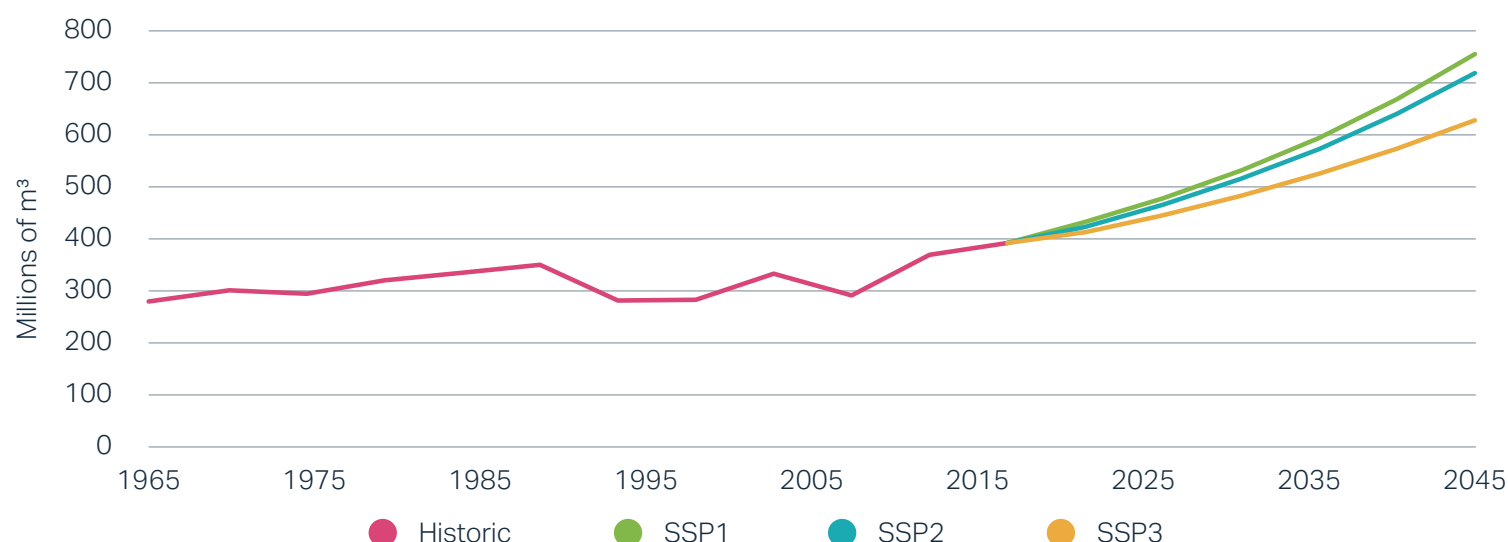


Source: O'Neill, et al, 2017

- SSP 3 in contrast depicts a worst-case scenario marked by fragmented global efforts, high levels of inequality, and continued reliance on fossil fuels, resulting in severe challenges in addressing climate change

These scenarios provide valuable insights into the potential

Historic and forecast coniferous sawnwood demand



Source: FAO Stat, August 2024

impacts of different policy choices and global developments on climate action.

Demand forecast: a growing appetite for wood

Gresham House analysis was performed using key historical demand drivers and future projections based on the independent variables aligned with various IPCC SSP scenarios, resulting in the base case, upside, and downside timber demand projections through 2050.

All scenarios revealed a significant increase in demand for coniferous sawnwood, with projections ranging from a 1.5-1.8x increase. SSP1 showed the highest demand, SSP2 the moderate level, and SSP3 the lowest.

SSP1 represents the upside, 'orange', scenario characterised by a global shift towards a more sustainable development path. This scenario emphasises respect for environmental boundaries, low material growth and a gradual move to a less resource-intensive lifestyle. The narrative aligns with higher uptake of the demand drivers, including increased uptake of mass timber, timber-based modular construction, and favourable wood-based construction policies. Furthermore, the SSP1 narrative emphasises global cooperation, strong and effective institutions, and the reduction of inequality, which collectively suggest a lower volatility environment.

SSP3 represents the downside, 'unsustainable', scenario characterised by a global shift to nationalism and lack of global coordination to address global environmental concerns. This scenario was deemed appropriate for the downside given current global conflicts and the resurgence of nationalism.

In this scenario, growing fossil fuel dependency and resource intensity slow growth and imply high challenges to mitigation, counteracting the demand drivers previously described. Furthermore, the SSP3 narrative emphasises limited and weak global institutions, international fragmentation, and the potential for large conflicts which collectively suggest a high-volatility environment, whilst still showing an increase in demand for timber.

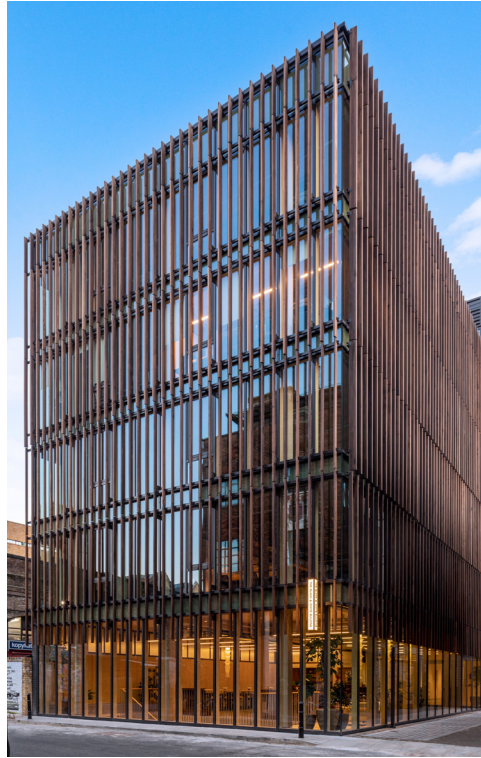
Supply forecast: a looming shortfall

The future supply of timber is derived from existing forestry plantations and the future rate of new forestry plantations, or afforestation. Forecasting future supply is challenging given the lack of credible and consistent data regarding future afforestation projects. Due to these limitations, a simplified projection approach was adopted that relies on historic supply, tree growth, and potential for forest disturbance events.

From our analysis, future supply is projected to fall short of demand, with the best scenario showing only a 1.1x increase in supply compared to current levels - significantly short of the projected 1.5-1.8x growth in timber demand. This demand-supply gap is even worse under the base case scenario where projections remain static at current levels, and the downside scenario which assumes supply will fall below today's levels due to heightened forest disturbances.

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What does this mean for investors in timber?

- **Rising forest asset prices:** The expected demand-supply gap points to a future environment of sustained timber price growth, which is likely to enhance the value of forestry assets. Current forest owners are well-positioned to benefit from this appreciation. Moreover, as more investors seek exposure to this asset class, market liquidity is expected to increase
- **Increased importance of ESG:** It is anticipated that there will be increased importance placed by all stakeholders on the environmental and social integrity of timber and other natural capital asset classes. Forestry assets certified under internationally recognised sustainable forestry management standards, such as the FSC and PEFC, are expected to become increasingly significant to stakeholders as global priorities shift toward sustainable development. Furthermore, we anticipate an increase in reporting and disclosure standards
- **Continued investment benefits of timber as an asset class:** The anticipated future supply demand dynamics are likely to enhance timber's capacity to generate stable cash flows and provide returns that demonstrate low correlation with other asset classes, making it a valuable tool for portfolio diversification. In addition to traditional timber revenues, timberland assets are increasingly generating income from various sources, including renewable energy initiatives, ecotourism, strategic land sales, carbon credits, and payments for ecosystem services. This trend is expected to persist as the transition to a low-carbon economy continues, driven by government initiatives and policymaker efforts

This excerpt has been taken from Gresham House's Global Timber Outlook. Please visit greshamhouse.com/forestry for the full report.