

North America's Mass Timber Industry, and Its Ascent To The Global Stage

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The year was 2012, the first time cross-laminated timber (CLT) panels, combined with glulam beams and columns, were used as an alternative construction system – to concrete and steel – in North America. Only seven years later, mass timber is earning itself a well-deserved spotlight in North America's mainstream construction industry, arriving as a tried and true construction system that offers a more sustainable way to build without compromising on quality or structural design and aesthetic, and at competitive costs. Fortunately for us, North America is well-positioned to revolutionize its building practices to make mass timber the new construction standard, and level up to the calibre of the prominent and long-established industry in the European Union.

A comparison between North America and Europe

With a track record of over two decades, Europe has had far more time to experiment with mass timber than North America – mass timber development in Europe first took place in Austria, Germany and Switzerland in the mid-90s – but duration alone has not stopped North America from making noticeable strides in the industry.

A deeply rooted culture of building with wood means that North America has one of the highest usages of wood per capita in construction applications. This wood culture allows builders, owners, and developers to incorporate wood, not only in mid-rise buildings, but in multi-family residential and non-residential applications because of their comfortability with wood as a building material.

Our softwood lumber industry has provided great value to mass timber manufacturing, supplying lumber from some of the most productive, sustainable, and cost-competitive timberlands in the world. Furthermore, this softwood lumber industry provides standardized lumber products by dimension, grade, and length that are regulated by third-party grading agencies, creating a large wood basket across Canada and the US that is traded as a true market-driven commodity. The adoption rate of mass timber since its first appearance in North America in 2012 continues to occur at a fast pace. Consider that the North American mass timber market, having emerged a mere seven years ago, underwent the codification of CLT into both the Canadian and US building codes only a few years later between 2015 and 2016. North America also has a bi-national manufacturing standard that conforms to the design requirements listed in the Canadian and US building codes for CLT and glulam building products – another area in which Europe is lagging the North American market.

The quality assurance process, for CLT and glulam, aligns with manufacturing standards in North America, which is also controlled by third-party auditors and held up against lumber grading rules that assess design property compatibility, heat and moisture durability, and fire performance. These rigorous processes have yet to be established in the EU, making it a point of pride for the North American mass timber industry.

Another contributor to the rapid growth of North America's mass timber industry is the number of economies involved. 28 countries, and therefore economies, make up the EU, but there are only two in North America. Given the shared 'building with wood' culture with the US, North America as a whole finds itself with fewer regulatory barriers and approvals to go through. Many countries in the EU, however, have a construction culture that is focused primarily around concrete and masonry, making it much more difficult to impart the viewpoint of mass timber as a sustainable construction alternative to these mainstream building materials. With manufacturing standards already in place in North America, we find ourselves in a favourable position.

Laying the foundation for mass timber's inevitable growth

North America has demonstrated its expertise in building with mass timber through its usage in a wide range of building typologies – anything from a multi-family development, to Silicon Valley's tech campuses, to Vancouver-based UBC Brock Commons Tallwood House, and Carbon12 in Portland, Oregon. Each project, regardless of its building typology, successfully showcases the versatility of mass timber as a valuable building material that offers, without

compromise, both a clean design aesthetic and long-lasting structural performance at installed prices that are cost-competitive with the alternatives.

In Canada, both the federal and provincial governments have publicly displayed their support of mass timber construction through initiatives such as the [Green Construction through Wood \(GCWood\) Program](#). Created to encourage greater use of wood in construction projects, the GCWood Program will help guide the nation's transition to an even more wood-inclusive construction industry. On a local level, following the National Building Code of Canada (NBCC), the British Columbia government announced changes to its building code at Structurlam's Okanagan Falls facility in March 2019, now allowing the construction of mass timber buildings up to 12 storeys, up from six – this is intended to have positive implications for our economy. Similar developments are taking place in the US, particularly with the growing adoption of modular (or prefabricated) construction, which mass timber enables. This construction approach values lighter-weight materials that enable stunning design capabilities, precision in building, and productivity and efficiency – in the US, modular projects have a proven track record of accelerating project timelines by [20-50 percent](#), and have the potential to yield significant cost savings. All of this is to say that with the backing of North American governments, and with developers on board with the sustainable and fast-build aspects of mass timber construction, the North American industry is making its gradual and evident ascent to the global stage.

North America's future as a leading mass timber hub

Both Canada and the US will continue to see changes to their respective building codes over the next two years. Despite having already been approved in BC, approved changes to the National Building Code of Canada (NBCC) allowing the construction of mass timber buildings up to 12 storeys will go into nationwide effect in 2020. In the US, the country will see its next code iteration – by way of the International Building Code (IBC) – in 2021, which will allow for tall wood buildings of up to 18 storeys.

BC alone has made a tremendous imprint on North America's mass timber industry with acclaimed projects, such as UBC Brock Commons Tallwood House, which to some degree, are being viewed as lightning rods of change. With an inherent 'building with wood' culture, progressive building codes, and well-established manufacturing standards, BC's established players are contributing significantly to North America's success as a leading mass timber hub, serving as the inspiration for much of what's to come in US mass timber projects and tall wood building codes, and rivalling its European counterparts.