

February 5, 2020

**To: The Hon. John Yakabuski, Minister of Natural Resources and Forestry**

6630-99 Wellesley St. W  
Toronto, ON  
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Dear Minister Yakabuski,

The Mass Timber Institute (MTI) applauds mass timber being featured prominently in *A Blueprint for Success: Ontario's Forest Sector Strategy DRAFT*. We believe that Ontario, with its sustainable supply of wood, is well-positioned to capitalize on projected increases in global demand for wood and wood products. There are many synergies between MTI's goals and *A Blueprint for Success*. By working closely with the Ontario government and our network of educational, research and commercial partners, we can help position Ontario as a leading producer of mass timber both locally and globally. Is there any reason Canada should not be the leading global exporter of mass timber building systems?

The economic landscape that faces the Ontario forest industry today is challenging: the past twenty years have cost many jobs, especially in the North, and the current trade framework with the sector's largest customer, the United States, does not favor Ontario wood producers. Innovation and rising global demand provide two major pathways for the sector to overcome these challenges, but the forest industry may not be in the financial position to make the necessary investments themselves.

With proposed mass timber construction projects in and around Ontario, local demand for engineered wood products and mass timber is expected to grow rapidly. This opportunity, however, is one Ontario wood producers, and the communities that rely on them, could miss out on.

### **Recommendations**

1. *The Ontario government needs to move quickly with willing partners to assist in the development of provincial supply chains for mass timber.*
2. *Support small and medium-sized mills and a comprehensive assessment that identifies how woodlot owners and these mills can get their products to mass timber markets. Organizations such as the Eastern Ontario Model Forest, the Ontario Woodlot Association, Forests Ontario and the Sustainable Forestry Initiative (SFI) are in the best position to organize the mass timber supply chain involving numerous small woodlot owners.*
3. *Existing degree, diploma and apprenticeship programs and courses in Construction Management, Architecture and Technology, Civil Engineering and Technology, Renovation,*

*Carpentry and more should be enriched with wood and mass timber specific content.*

- 4. Develop a Mass Timber/Wood Graduate Certificate for industry professionals and others who are working and need specialized knowledge and credentials in the area. Expansion of these programs and development of new ones at additional universities and colleges across the province will be important for the mass timber industry to develop fully.*
- 5. The MTI believes that hybrid construction involving a greener<sup>1</sup> mix of products is suitable for Ontario. There will always be important functions for concrete and steel, but Ontario should also consider greater use of wood and mass timber products along with concrete and steel in design and construction.*
- 6. Temporary incentives and support or tax breaks specifically for the construction sector are needed to help encourage its adoption of mass timber construction over the short term.*
- 7. Ontario could assist academic projects such as George Brown College's the Arbour, U of T's Academic Wood Tower and others in identifying more financial support from public and other sources.*
- 8. Government collaborate with MTI and its network of partners to identify the research agenda that builds upon the excellent research being conducted in the forestry sector and identifies the research priorities for the mass timber transformation.*
- 9. New voices and different perspectives representing the broad mass timber sector are needed on the Advisory Committee in addition to Ontario's outstanding forestry expertise. Richard Lyall and Andrew Chapeskie are nominated to serve as members of the Advisory Committee to represent the mass timber sector.*

#### **Opportunities for a local mass timber supply chain (Recommendation 1)**

Proposed mass timber construction projects in Milwaukee, Chicago, Boston, Newark, and Philadelphia<sup>2</sup> will fuel a massive demand for the material in the next few decades. In Ontario, Sidewalk Labs has proposed<sup>3</sup> to build an entire neighborhood from mass timber on Toronto's waterfront. This project alone could support more than ten thousand construction jobs and catalyze the development of an entire 'Made-In-Ontario' mass timber industry. Importantly, this would bring revenue and expertise into rural and northern and central Ontario communities that produce the wood.

The problem today is that Ontario currently has no mass timber supply chain. Consequently, how is the projected rising demand for mass timber buildings to be filled by Ontario wood producers and the Ontario construction industry (which is 40% of Canada's construction market)? Furthermore, the majority of mass timber products are currently made-to-order<sup>4</sup> and there is no existing framework for consumers to purchase mass timber products from a general supplier. Instead, most mass timber

construction projects, including Ontario ones, must source their material by custom order from Austria, the United States, or British Columbia and Quebec. The latter two are obviously preferable suppliers and important allies for developing Ontario's mass timber sector.

The Ontario government is to be commended for working with Element5 to construct the province's first large-scale, mass production, cross-laminated timber (CLT) plant in St. Thomas and should continue supporting this facility and its ambitious plans to open new markets for northern Ontario wood. Even so, can the demand from the Sidewalk Labs and other projects be met with existing infrastructure? If we do not move quickly, it is likely that the demand from these projects could bypass Ontario wood altogether. Large investments in the supply chain are needed to prevent this from happening. Once the necessary production facilities and distribution network are established in Ontario, it will be able to capitalize on local and global demand that favors Ontarians.

### **Using hardwoods and private lands forestry to help meet demand (Recommendation 2)**

As identified in *A Blueprint for Success*, Crown and private lands of south and central Ontario should be considered as sources of supply to fill some of the projected demand for mass timber. The small and medium-size mills in the Ottawa Valley or Bruce County, as examples, have important advantages in this regard: they are close to both the wood supply and the construction projects in the Greater Toronto Area, which will fuel the demand. Small to medium size businesses and small woodlot owners, however, cannot afford the investments that are needed to add mass timber to their product lines or to do forest management on their properties. Incentives for these mills and small woodlot owners will enable them to help develop the much-needed supply chain. Furthermore, the hardwoods and mixedwoods, which are plentiful in these areas, could be used to produce high-quality mass timber products<sup>5,6</sup>. While much of the focus around mass timber has been on material derived from spruce, pine, and fir (SPF) historically<sup>5-7</sup>, research shows that hardwoods and hardwood-softwood mixes can also be used to produce mass timber with excellent mechanical properties<sup>5,6</sup>.

Using hardwood from central and eastern Ontario in mass timber products may also provide a solution to one of the major forest management challenges in the area: beech bark disease. Recent research has shown that low-grade European beech can be used to manufacture hybrid SPF-beech CLT<sup>5</sup>. If the same is true of American beech, or if the material can be used to make CLT panels on its own, then beech, even low-quality beech, could potentially become a valuable timber species, which it is not currently<sup>8,9</sup>. Forest managers working to supply a feedstock for mass timber could use American beech, which also provides ecological benefits to forest wildlife<sup>9</sup>. With material from the mixedwood forests in the south in the mix, Ontario could easily become one of the largest global suppliers of mass timber.

Ontario's forests are vast and, to the credit of the forest industry, sustainably harvested. Yet, the current global leader in CLT production is Austria<sup>4,7</sup>, a country with only a tiny fraction of the forest area found in Ontario. At MTI, we believe that Ontario, with its rich forest resource, can and should become one of the leading producers of mass timber.

### **Building capacity through education and training (Recommendations 3 & 4)**

Mass timber construction can potentially revolutionize the construction industry. Pre-fabrication and CNC (computer numerical control) cutting of CLT panels and glulam beams, and assembly of the extremely complex fit-ups that are made possible by this technology, require specialized skills and training that is not currently integrated into existing curricula. In order to provide these skills, support is needed from provincial organizations such as the Council of Ontario Universities. This would enable us to develop a plan for integrating mass timber education and skills training into existing curricula so that the talent the industry needs is available locally.

If Ontario is to maximize the value-added potential of our wood supply in terms of revenue, job creation, and economic development across the province, then investment must be made in educating people to work in the value-added sector as part of “growing talent”.

Tall wood mass timber buildings, mass timber bridges and other related high value end products need skilled trades, project managers, engineers, architects, business experts and educators who are up to speed on the latest developments in this sector. The rest of the whole supply chain, after the wood has been grown and harvested, from the primary wood processors through the design and manufacture of the mass timber and other specialized wood elements needs specialized people with the latest skillsets. This could be accomplished by developing mass timber specific content in areas including: building science, construction materials and methods, estimating, project management, site supervision, health and safety, structures, foundation systems, high-rise construction, part 9 construction, building codes, design studios and labs, business skills, building life cycle analysis and carbon and energy modeling, and many more.

Wood educators, who will be developing and delivering mass timber education, will need support and their own training. This could range from funds to attend conferences and workshops, such as the excellent support of our partner, the Canadian Wood Council and its Wood WORKS! program, already provides for some wood educators’ workshops and for traveling and learning from industry experts around the world. These educators need to be up to date on the latest state of the art developments in their areas to perform their roles effectively. It only makes sense to invest in providing the most up to date, advanced education if Ontario is to become a leader in mass timber.

Educators at our various educational institutions, beginning in the north, but also at the University of Toronto, George Brown College and others, need the latest training and educational resources for the educators. Specialized training labs, instructional material and resources to develop these in order to provide the training and education related to mass timber.

The University of Toronto has a graduate certificate in Building Science, which has been running since approximately 1990, with courses students take in the evenings over a period of a few years. It is offered by the School of Continuing Studies at the U of T. Expansion of this program and the development of others are needed by mass timber industry professionals.

### **Creating more Jobs through Construction and Innovation (Recommendations 5 – 8)**

Cost is the driving factor for construction projects. While the building codes continue to evolve in response to evidence that building with wood and hybrid materials is safe, even for buildings up to 100 storeys, the cost of building with mass timber in North America currently exceeds the cost of building with concrete and steel. We would point out that the wood building industry does not enjoy the same level of government support that the concrete and steel industries have benefitted from for almost a century.

Providing similar support to the wood building industry would bring the cost of building with wood much closer to the cost of building with other materials and would benefit the forest sector substantially. For example, Quebec and British Columbia require the significant use of wood in all government buildings, unless it can be demonstrated that wood is inappropriate. This means consideration of wood construction for every school, hospital, arena and fire station. Hybrid building with mass timber and concrete, especially the potential for concrete to be made with carbon-enriched cement<sup>10</sup> and other greenhouse gas reducing technology, continues to push the limits of what is possible with wood construction and provides a path that enables us, as our American competitors say, to build bigger, better, and faster, and greener. We propose additional collaboration between the mass timber, concrete, and steel sectors to focus on optimizing hybrid construction and the environmental benefits associated with greener technologies in all three sectors.

Our partners in the construction industry have told us that they want to start building with mass timber but they need support in order to take on the financial and other risks associated with the new building systems<sup>2</sup>. We have observed that the first buildings will always be more difficult before the industry, the supply chain, the work force and solutions to other related challenges come together.

Two institutional tall wood mass timber buildings demonstration projects, the George Brown College Harbour, and the U of T Academic Wood Tower, the ‘first of their kind’, iconic and innovative wood buildings in downtown Toronto will be significantly more expensive to build than similar concrete and steel buildings, given to the infancy of the mass timber industry in Ontario and all of the associated challenges, from design through construction. George Brown and U of T are fulfilling provincial and federal governments’ mandates to promote mass timber construction, at great cost to both institutions, and they should be supported for their efforts.

Critical to innovation success is the role of research whether at educational institutions such as our partners at Lakehead University, Laurentian University and the University of Ottawa or others such as our partner FPInnovations. It cannot be stressed enough that the research necessary to accelerate the mass timber sector in Ontario must go beyond a focus on forest management and operations to the needs of the broader community including designers, architects, developers, builders, engineers and many others.



**Forest Sector Strategy Advisory Committee (Recommendation 9)**

If there is one thing to be learned from MTI’s perspective, it is that the development of a mass timber industry, from supply chain, to innovation, to education and research, requires both the forest managers who can supply the wood and the architects, developers, and builders who ultimately use it. The proposed advisory committee should include someone who can provide the construction perspective on mass timber. We believe that this person is Richard Lyall, president of the Residential Construction Council of Ontario (RESCON) who has three decades of experience in the building sector and is also an advocate for wood.

The *Blueprint for Success* recognizes that engaging with Indigenous communities is important for forestry by way of economics, their leadership and their constitutionally protected rights. There is a tremendous opportunity to develop a diversified (with robust Indigenous enterprise representation) mass timber sector that focuses on innovation. We recommend that the advisory committee include someone able to facilitate this engagement. Andrew Chapeskie, who has been Senior Advisor to the Whitefeather Forest Initiative of Pikangikum First Nation for more than twenty years, is in an excellent position to do this especially given their interest in mass timber<sup>11</sup>.

Our recommendations in this submission are formulated with the view that MTI’s educational, research and business partners can work with the government to accelerate the establishment of a significant mass timber sector. This will provide substantial long-term benefits to the forest sector and the many hardworking Ontarians that rely on it.

A handwritten signature in black ink that reads "Anne Koven".

Anne Koven, Ph.D, R.P.F. (Hon.)  
Director, Mass Timber Institute

A handwritten signature in blue ink that reads "P.C. Timusk".

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### Supporting Material

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