Likely Increase of Use of Wood in Tall Building Construction
By Bart J. Kemp

Wood – architecture’s oldest building material – has experienced a renaissance of sorts in recent years, in the process providing a boost to the forest and wood products industry. Wood-product proponents tout a range of benefits relative to alternative materials such as concrete and steel, including: renewability; a smaller carbon and environmental footprint; and lower cost. Many argue that advances in wood technologies – especially mass-timber products such as cross-laminated timber (CLT) – have been a “game changer” in the construction industry, with such products providing vastly improved strength, durability, seismic performance, and fire-resistance. Supporters also assert that mass-timber products are easily installed and generate almost no on-site waste since they are pre-fabricated. Despite these advantages, there is no full recognition in U.S. building codes for CLT, although its use could be authorized under the “alternate methods” of construction, § 104.11, and its use is recognized in Chapter 6 of the 2015 IBC.

In 2014, the U.S. Department of Agriculture (USDA), with private group support, announced the U.S. Tall Wood Building Competition. The 2015 west coast winner is a project which is a 12-story, multi-purpose building to be constructed primarily of CLT; the east coast winner is a 10-story condominium, which will be the largest wooden building in New York City. In London, the Oakwood Tower, at 1,000 feet, is planned to have a completely timber frame.

The emerging potential and promise of wood products in construction is exemplified by two recent developments: (1) the introduction in the U.S. Senate of the bipartisan Timber Innovation Act of 2016, and (2) the establishment of a new pilot project by the U.S. Green Building Council (USGBC) that expands the types of wood certification programs that may qualify for credits under the Leadership in Energy and Environmental Design (LEED) program.

The Timber Innovation Act of 2016

The enthusiasm for CLT and other mass-timber products – and their potential for use in the construction of tall wood buildings – recently reached the halls of Congress with the introduction of S.2892, the Timber Innovation Act of 2016. The Act was introduced on April 28, 2016, by Sen. Debbie Stabenow, ranking member of the Committee on Agriculture, Nutrition, and Forestry (the “Senate Agriculture Committee”) and a bipartisan group of senators. The Act authorizes several programs to promote: (1) mass timber (defined as “a type of building component or system that uses large panelized wood construction, including cross-laminated timber, nail laminated timber, glue laminated timber, laminated strand lumber, and laminated veneer lumber”) and (2) tall wood buildings. (defined as “a building designed to be constructed with mass timber and more than 85 feet in height.”). Programs created by the Act include:

- **Research and Development (R&D) and Competitive Grant Programs to Advance Tall Wood Building Construction** Section 4 of the Act requires USDA to establish separate R&D and competitive grant programs to advance tall wood building construction. Both programs would be carried out to achieve several priorities set forth in the Act related to tall wood building construction, including: improving commercialization and assessing safety; assessing life-cycle environmental footprint issues; identifying necessary building code modifications; and studying the impact that widespread adoption would have on wildlife and forest biodiversity.

- **Tall Wood Building Competition** Subject to the availability of appropriations, the Act would require USDA
to hold an annual competition for tall wood building design.

- **Wood Innovation Grant Program** Section 6 of the Act provides that USDA – in implementing the wood innovation grant program as set forth in “Request for Proposals: 2016 Wood Innovations Funding Opportunity” (80 Fed. Reg. 63498 (October 20, 2015)) – may make a grant available for the purpose of advancing innovation in tall wood building construction.

- **Educational and Technical Assistance** Section 7 of the Act requires USDA to carry out a program of education and technical assistance for mass timber applications.

As of May 26, 2016, no hearings have been scheduled on the Act in the Senate Agriculture Committee, nor has a companion bill been introduced in the House of Representatives. It therefore appears that it most likely will not become law in the near future. That said, the bipartisan support for the Act – as of May 26, 2016, five Republicans, five Democrats, and one Independent have signed on as cosponsors – suggests that it or a similar bill might find footing in future Congresses.

**USGBC Pilot Program – “Legal Wood”**

Shortly before the introduction of the Timber Innovation Act of 2016, the USGBC gave proponents of wood products something to cheer about with its establishment of a new Alternative Compliance Path (ACP) pilot that applies to both the LEED 2009 and LEED v4 systems. Under the ACP pilot – known as “Legal Wood” – LEED credit can be obtained where forest products meet verification requirements with respect to “legal sources,” “responsible sources,” and “certified sources” as these terms are defined in ASTM D7612-10 (2015): *Categorizing Wood and Wood-Based Products According to Their Fiber Sources*. In effect, the ACP pilot allows builders and architects to achieve LEED credit through their reliance on product certifications from a wide range of organizations, including the Sustainable Forestry Initiative, the American Tree Farm System, the Forest Stewardship Council (FSC), and other programs. Before the Legal Wood pilot, LEED credits could be obtained only through the use of wood certified by FSC – a stance that has been criticized by the forest products industry as overly restrictive. Accordingly, the Legal Wood pilot has generally garnered the support of the industry because it is viewed as incentivizing increased wood use in LEED projects. On the other hand, environmental groups such as NRDC and the Sierra Club criticized the effort, calling it a “surprise move,” and suggesting that it may be a “capitulation to big timber.”

**Conclusion**

These recent developments suggest that government is exploring ways to incentivize the expanded use of mass timber products, and that the USGBC has opened the door to crediting a wider range of wood in its LEED system. If these trends continue and gain momentum, the ripple effects will surely be felt in all aspects of the construction industry.