



Tall Wood Building Demonstration Initiative

BACKGROUND

In 2013, the Government of Canada announced funding dedicated to tall wood building construction in Canada through the Tall Wood Building Demonstration Initiative (TWBDI). The program addressed technical barriers in the design and construction of tall wood structures and encouraged greater acceptance of engineered wood products in tall building applications.

From 2013 to 2017, the TWBDI linked new scientific advances with technical expertise to showcase the application, feasibility and environmental benefits of innovative wood-based structural solutions for buildings taller than 10 storeys.

RESULTS OF THE TWBDI

The TWBDI supported the design, approval and construction of two tall wood demonstration buildings in Canada: Brock Commons Tallwood House and Origine Écocondos. It also funded the development of a guide for the design and construction of tall wood buildings in Canada.



Photo credits: Stephane Groleau

ORIGINE ÉCOCONDOS



Tallest all-wood
condominium in
North America at
40.9 metres
(at the date of completion)

13-STOREY
mass timber condominium:
12 storeys of mass timber
(CLT and glulam) on top of a
1-storey concrete podium and
an underground
parking garage



**Elevator and stairwell
shafts** made with **CLT** in
addition to **balloon-type
CLT shear walls**



**TWBDI funding supported
design, approval and
construction**

as well as
critical research
on fire, structural,
and acoustics
performance of
mass timber.



[Time-lapse video of
the construction of Origine](#)



[Canadian Wood Council's
case study on the Origine
condominium](#)



BROCK COMMONS TALLWOOD HOUSE

The 18-storey Brock Commons building was constructed using a hybrid mass timber system.



Tallest hybrid mass timber
building in the world at
54 metres,
when completed in September 2017

18-STOREY

student residence for **over 400 students** at the
University of British Columbia in Vancouver



17-storeys of mass timber construction
above a 1-storey concrete podium with
2 concrete stair and elevator shafts

**Building structure made with
three Canadian mass timber
products:**

- cross-laminated timber (CLT) floor panel
- glue-laminated timber (glulam) columns
- parallel strand lumber (PSL) columns



**Showcases advanced
mass timber design
including:**

- the mass timber slab on post
concept, without beams
- innovative connection systems



Took only
**9.5
WEEKS**

to assemble at the
rate of two storeys
per week

Using prefabricated structural wood elements
helped the construction finish two months
ahead of schedule.

**TWBDI funding contributed to the design,
approval and construction, including**



structural and fire testing and
developing protocols to improve
construction site safety and to protect
mass timber during construction.



[Time-lapse video of
the construction of
the Brock Commons
Tallwood House](#)

(The video is not narrated, and the on-line text is English.)



[Canadian Wood
Council's case study
on the Brock Commons
Tallwood House](#)



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Impact of the TWBDI

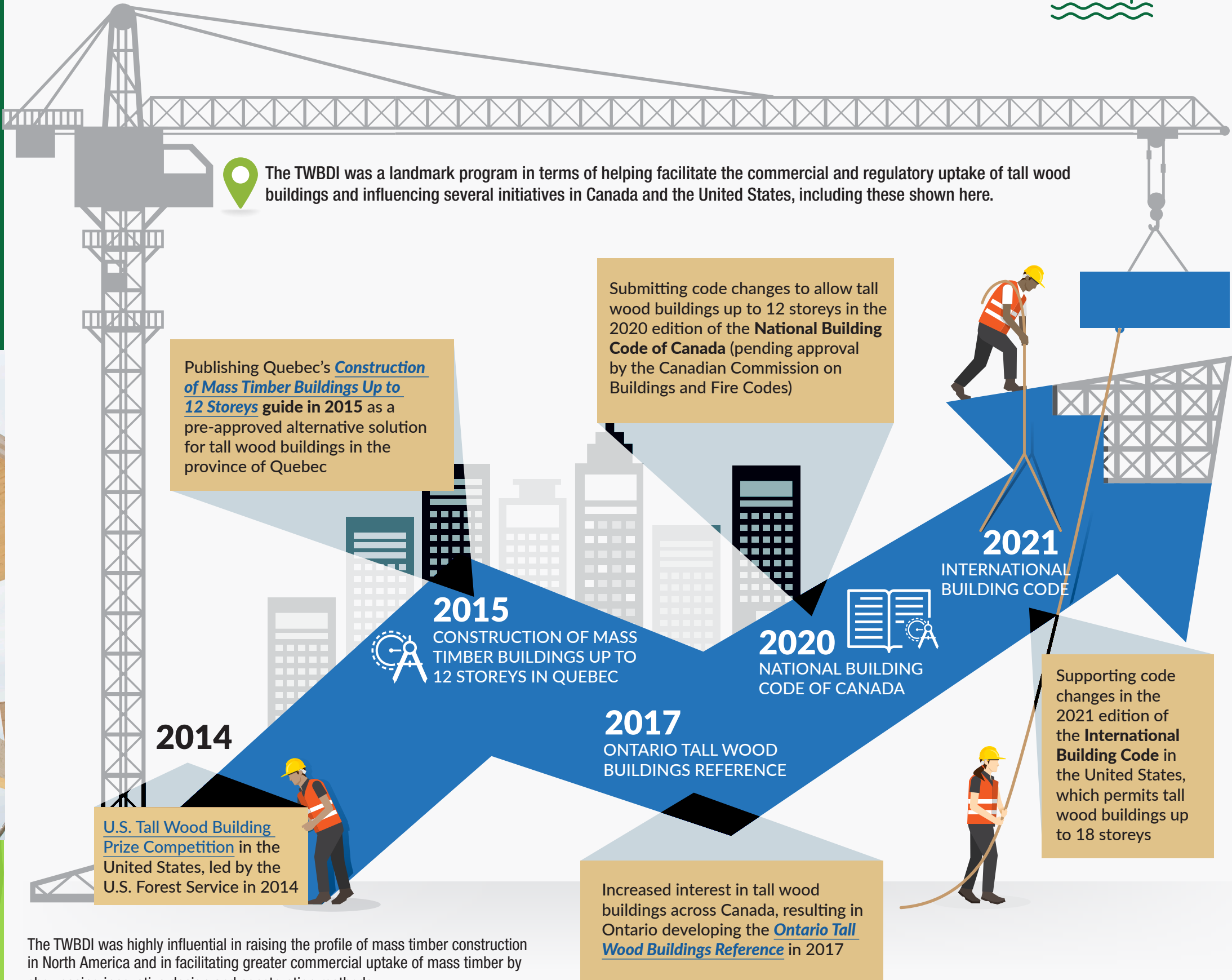


TECHNICAL GUIDE FOR THE DESIGN AND CONSTRUCTION OF TALL WOOD BUILDINGS IN CANADA

With funding from Natural Resources Canada, FPInnovations produced the *Technical Guide for the Design and Construction of Tall Wood Buildings in Canada* in 2014 to use as a reference for the demonstration projects under the TWBDI. This comprehensive technical guide leveraged insights from more than 80 professionals, aiming to assist designers, code consultants, developers, and building owners in addressing the design and construction challenges associated with tall mass timber buildings.



Photo credits: Stephane Groleau



The TWBDI was highly influential in raising the profile of mass timber construction in North America and in facilitating greater commercial uptake of mass timber by showcasing innovative design and construction methods.