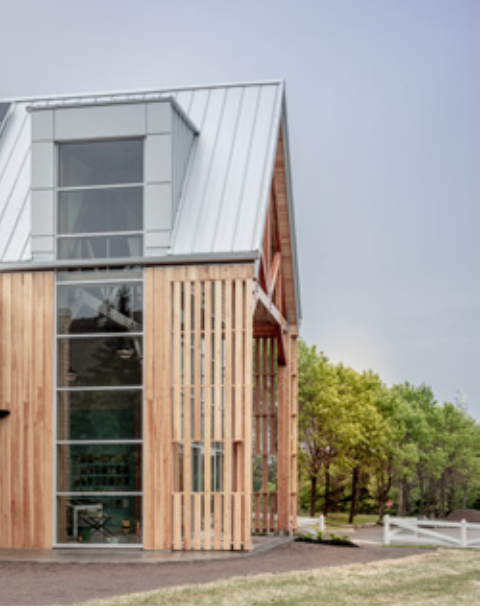
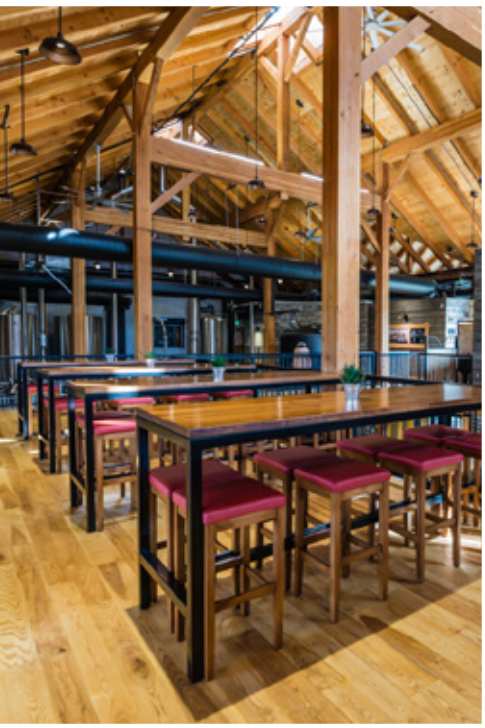
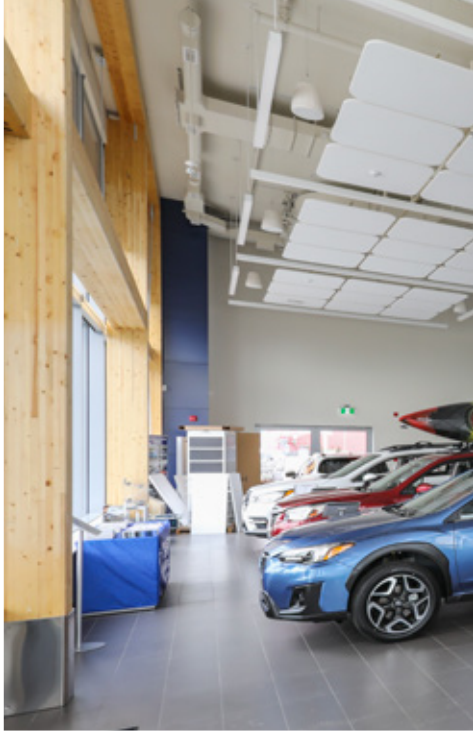


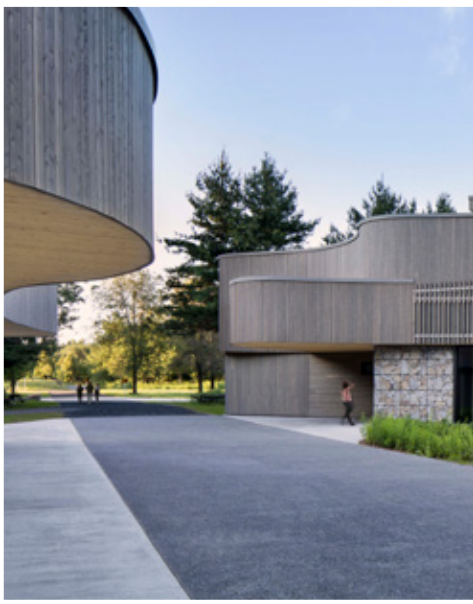


SPECIAL
8-PAGE SUPPLEMENT

SUSTAINABLE CONSTRUCTION

FALL 2019 – VOLUME 6, ISSUE 4





WHAT'S INSIDE

WOODWORKS! Program of the Canadian Wood Council
cecobois Centre d'expertise sur la construction commerciale en bois
Canadian Wood Council / Conseil canadien du bois

THE PARC NATIONAL DES ÎLES-DE-BOUCHERVILLE DISCOVERY AND VISITORS CENTRE
ÎLE STE-MARGUERITE, QC PHOTO: ADRIEN WILLIAMS

Wood Construction: The Natural Choice

Robert Swan was the first person to walk to the North and South Poles. As someone who had experienced the Earth from tip to tip, Robert offered valuable insight noting, "The greatest threat to our planet is the belief that someone else will save it."

Sustainability is, by definition, the ability to satisfy present needs without adversely affecting the ability of future generations to fulfill their needs. The design and construction industries are initiating change towards more sustainable solutions for the built environment. The buildings where we live, eat, work and play can have massive footprints on our environment – from the moment a building material is sourced and the building is constructed, to their service lives. Architects and engineers are changing the narrative of the built environment with sustainability at the front of mind; and they're turning to wood as a key component of the solution for climate change mitigation.

Wood is the only building material that grows naturally, is responsibly harvested within Canada and can sequester carbon dioxide. Throughout this Wood *WORKS!* magazine insert, we've provided examples where wood played a vital role towards achieving sustainable construction.

A sustainable future is everyone's responsibility, and we all have a role to play. Whether big or small, change is rooted in each of us, and all around us.

Learn more about the Canadian Wood *WORKS!* program by visiting: www.wood-works.ca.

Etienne Lalonde
National Director
Wood *WORKS!*

Interested in attending a Wood *WORKS!* educational opportunity in your region? Check out the events listed in this insert and get involved with your regional Wood *WORKS!* today.

This Wood *WORKS!* magazine insert was created to help inspire design professionals throughout Canada. Do you have a project that features wood as a primary building material? Take advantage of our Wood *WORKS!* magazine insert and get featured today! Contact Natalie Tarini at ntarini@cwc.ca, and share your story.

Mark your CALENDARS

2019 EVENTS

October 10
Wood Solutions Conference
RBC Convention Centre
375 York Ave.
Winnipeg, MB
wood-works.ca/alberta/wsf

November 5
Wood Solutions Conference
Vancouver Convention Centre East
999 Canada Place
Vancouver, BC
woodsolutionsconference.com

November 22
Wood Solutions Fair
The International Centre
6900 Airport Rd.
Mississauga, ON
wood-works.ca/ontario/wsf

November 25
Atlantic Wood *WORKS!* Wood Design Awards
DoubleTree by Hilton Halifax Dartmouth
101 Wyse Rd.
Dartmouth, NS
wood-works.ca/events/category/atlantic-events

November 26
Atlantic Wood *WORKS!* Wood Design Symposium
DoubleTree by Hilton Halifax Dartmouth
101 Wyse Rd.
Dartmouth, NS
wood-works.ca/events/category/atlantic-events

November 27
Wood Design Luncheon Conference (10am-2pm)
Victoria Conference Centre
720 Douglas St.
Victoria, BC
wood-works.ca/bc/educational-events/luncheon-conferences

November 29
Wood Design Luncheon Conference (10am-2pm)
Delta Hotels by Marriot Grand Okanagan Resort & Conference Centre
1310 Water St.
Kelowna, BC
wood-works.ca/bc/educational-events/luncheon-conferences

December 4
Wood Solutions Conference
Edmonton EXPO Centre
7515 118 Avenue Northwest
Edmonton, AB
wood-works.ca/alberta/wsf

For upcoming events and updates, please visit: *cwc.ca/event*

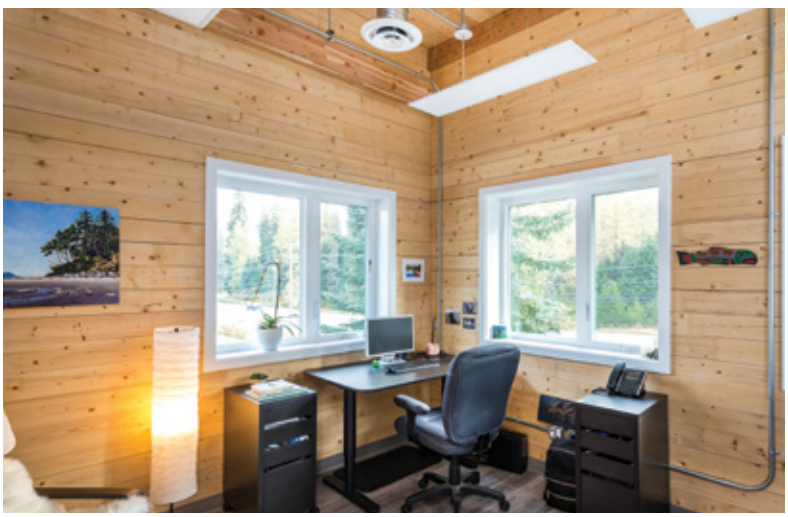
QUICK FACTS

This wood building is highly repeatable, cost-competitive and offers enhanced environmental performance.

BRITISH COLUMBIA

WHISTLER COMMUNITY SERVICES SOCIETY BUILDING

Whistler, BC



Architect: AKA architecture + design

Owner: Whistler Community Services Society

Structural Engineer: Fromme Engineering

Wood Engineer: Fast + Epp

Wood Supplier: Structurlam Mass Timber Corp.

Photography: Andrew Doran (top), Andrew Dalton (middle), Fast + Epp (bottom)

The Whistler Community Services Society (WCSS) is a not-for-profit organization that provides a wide variety of social services to the local residents, including a food bank and a broad range of community programs. The region's snowy climate restricts the construction season, for concrete work in particular, to the six months from May to October. The first priority was to determine whether a mass timber building could be designed and delivered within the client's tight time and cost constraints. From a cost perspective, the design team had a known tender price for a steel and concrete building; in the end, the two solutions were almost identical in cost. With only three months between the award of the contract to the required start date on site, speed was of the essence.

According to Carla Dickof, Senior Technical Specialist at Fast + Epp, "The dimensions of the building as originally designed made it perfect for CLT." The enhanced environmental performance of mass timber, including lower greenhouse gas emissions together with the carbon already sequestered in the material, fits well with the ecological values of both the architect and municipality. Exposing wood inside the building also creates a warm and welcoming atmosphere for employees and visitors.

This is the first building of its type in Canada and demonstrates the potential of mass timber construction to compete in this sector, with comparable costs and enhanced environmental performance.— *Excerpt from Wood* WORKS! *BC Industrial Buildings case study*

SCOTT SUBARU PASSIVE HOUSE DEALERSHIP

Red Deer, AB

Owner: Scottsville Auto Group

Architect: Cover Architecture Collaborative, in partnership with Sublime Design Studio

Structural Engineer: LEX3 Engineering Inc.

Wood Supplier: Home Building Centre, Red Deer

Photography: Courtesy of Cover Architecture Collaborative

QUICK FACTS

The anticipated annual heating and cooling cost is $200 for the 14,000-sq.ft. building.

The design and construction community is facing mounting pressure to reduce greenhouse gas emissions produced by the built environment. The team at Scottsville Auto Group is embracing the shift in environmentally conscious architectural design with its recently completed Subaru dealership location, which will be the world's first certified Passive House dealership.

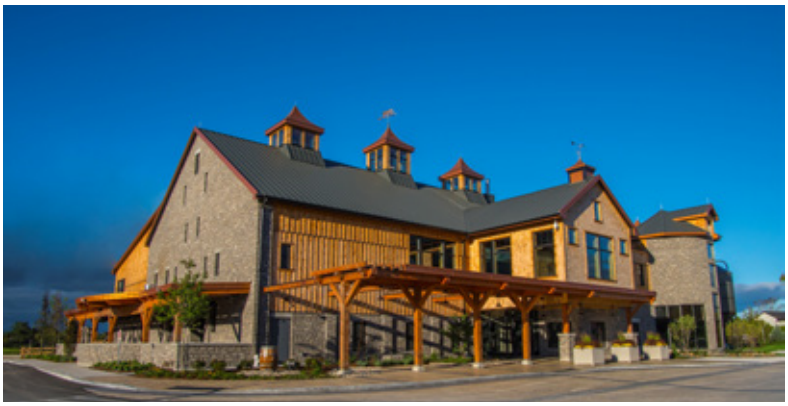
The $6-million building features locally sourced wood and other building materials, while meeting health and safety requirements and demonstrating the replicability of Passive House design for other commercial and industrial buildings. Principal architect Lukas Armstrong notes, "While the project was complex in a cold climate like Red Deer, I think this project shows that Passive House can be accomplished anywhere, for almost any building type."

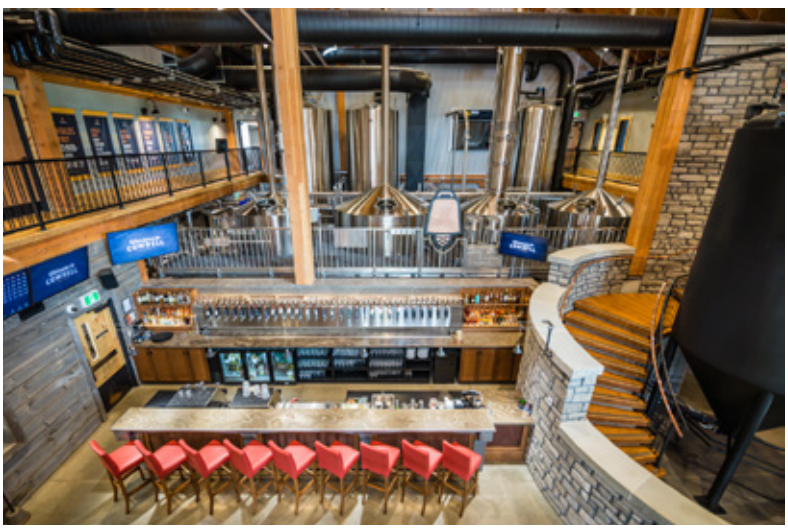
Scottsville Auto Group, which has been operating in Central Alberta since 1968, spent two years planning the project with Cover Architecture Collaborative, Sublime Design Studio, Peel Passive House Consulting and the Passivhaus Institut in Germany. "I think this is a great step forward, not only for the Subaru brand but also a great example for the province of Alberta," says Garrett Scott, owner and Chief Operating Officer.

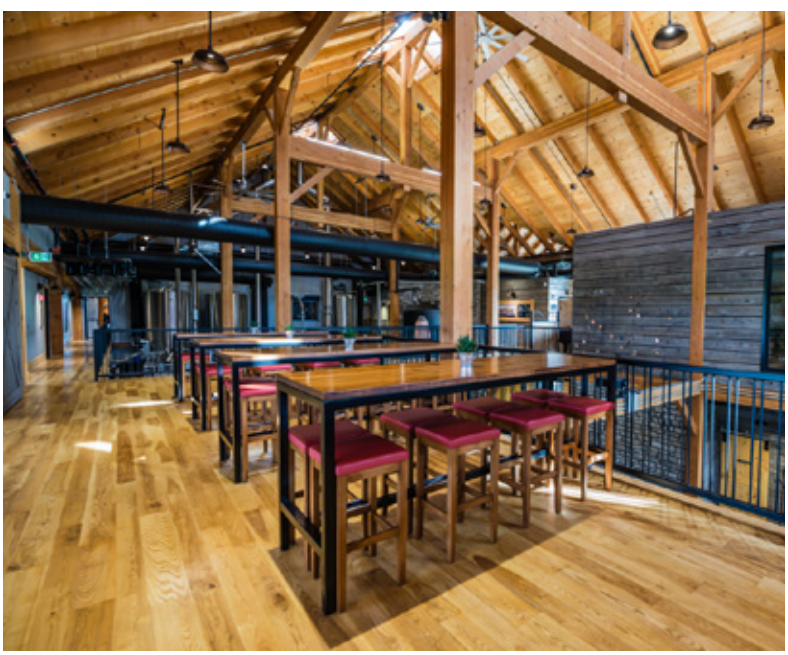
While the Passive House standard is most widely used in residential construction, any building can be certified, including commercial and industrial buildings. Although it is challenging to create a world first, the Scottsville Auto Group was committed to the project and with the help of their team, created a legacy.

QUICK FACTS

This multi-use building features 50-ft. clear spans and 45-ft.-high ceilings, using 650 Douglas fir beams, some weighing over two tons. All wood was responsibly sourced in Canada (certification of building materials through SFI and CSA).







ONTARIO

COWBELL BREWING CO.

Blyth, ON

Architect: Allan Avis Architects

Structural Engineer: Debbert Engineering

General Contractor: H. Bye Construction

Wood Suppliers: FraserWood, PineRidge Timberframe Inc., Gregus Millwork

Photography: Elyse Booth, Shutter Fotos

With both its architectural style and building materials, this stunning and sustainable new build pays tribute to the farming heritage in Huron County. A purposefully crafted, modern interpretation of traditional German bank barns, Cowbell Brewing Co. is built to withstand the test of time. The 26,000-sq.ft. building is home to a fully accessible brewery, 200-seat restaurant, two bars, retail store and indoor event space for 100 people. The extensive use of new and reclaimed wood throughout provides a warm and welcoming atmosphere.

The structure's heavy timber beams were CNC milled and treated with an application of linseed oil to reveal their natural beauty. Authentic mortise and tenon joint construction is visible throughout the interior. Special care and attention were taken in detailing and execution to celebrate this trade's time-honored tradition. Steel tie rod reinforcements in the large cellar and packaging hall allow for the impressive 50-ft. clear span structure.

Oak slabs, crafted into beautiful 5-in.-thick stair treads that are the showpiece of the curved staircase, were sourced only 25 km from Cowbell Brewing. The rough-sawn ash flooring was chosen for its beautiful grain, durability and the abundance of harvested ash affected by the emerald ash borer beetle in southwestern Ontario. The ash was milled locally by Mennonites in a traditional steam-powered sawmill.

Cowbell Brewing implemented a comprehensive approach to stewardship, passive conservation and building design. Through technology, best practices, timber construction and an on-site carbon sequestration program, it will be North America's first carbon-neutral brewery.

QUEBEC

THE PARC NATIONAL DES ÎLES-DE-BOUCHERVILLE DISCOVERY AND VISITORS CENTRE

Île Ste-Marguerite, QC

Owner: SÉPAQ (Société des établissements de plein air du Québec)

Architect: Vigeant Architectes

Structural Engineer: WSP

General Contractor: R. Bélanger

Wood Suppliers: Éco-Cèdre, UsiHome, Art Massif

Photography: Adrien Williams

With locally sourced FSC-certified wood, a curved form that blends harmoniously with the surrounding environment and high environmental performance, the Parc National des Îles-de-Boucherville Discovery and Visitors Centre is the perfect example to demonstrate that architectural quality and sustainable development can go hand in hand.

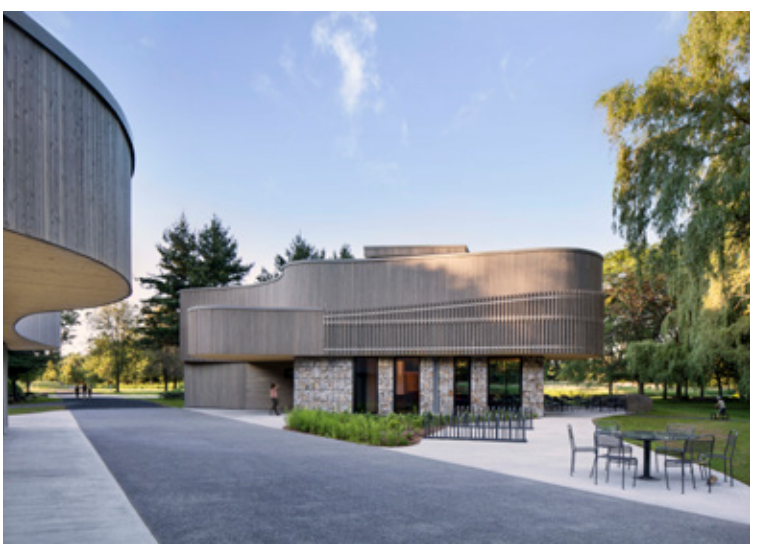
The SÉPAQ wants to be an ambassador for excellence in wood construction, and the architect responsible for the project, Smith Vigeant Architectes, was looking for an opportunity to design a building entirely in this material. The result is a remarkable building – at once very contemporary and a little retro – that showcases wood in a unique way, both as interior and exterior cladding and as a structural element.

The $3.5-million building was erected using a combination of light wood framing and glulam wood. "We encountered some conceptual challenges, including 7- to 8-m. overhangs and large window openings," explains architect Daniel Smith. The firm and the structural engineers were able to solve these complexities by integrating glulam into the design. Smith adds that this hybrid solution was also advantageous in terms of the budget.

In addition to enhancing the eye-catching aesthetic quality, the fluid lines of the building were designed in a way that would reduce the number of trees needed. These curves are accentuated by wooden strips covering the exterior facing, which also serve to filter the light. Numerous other architectural elements help to make the building a true model for sustainable development, including the air circulation process which, thanks to the well-positioned windows and a skylight, reduces the building's energy consumption by 40 percent.

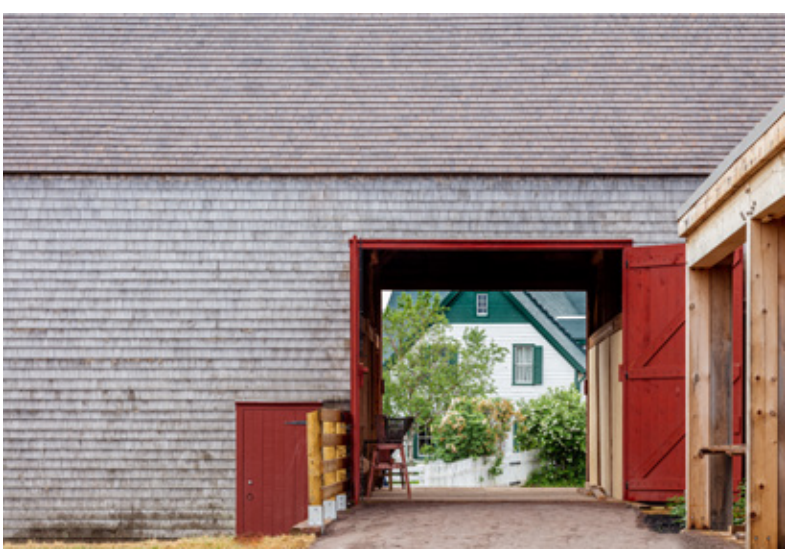
QUICK FACTS

With a surface area of 510 sq.m., this multiple award-winning centre showcases eastern cedar both inside and outside.



QUICK FACTS

The new visitor centre is five times bigger than the original structure and is completely powered by renewable energy.



ATLANTIC

GREEN GABLES VISITOR CENTRE, PHASE 2

Cavendish, PEI

Owner: Parks Canada

Architect: Kendall Taylor from Root Architecture

Structural Engineer: Stacey Myatt with CBCL

Wood Suppliers: Glulam by Goodfellow; lumber by Kent Building Supply

Photography: Julian Parkinson

Much as the story of *Anne of Green Gables* has captured the imagination of people from all over the world, Phase 2 of the Green Gables Visitor Centre was designed to do the same. The property has become one of the most visited federal parks in Canada, and as such, a truly captivating design was required. The architect wanted the structure to be beautiful and sustainable, while at the same time keep the visitor's focus on the Green Gables house itself.

In order to deliver on such an ambitious mandate, the architect conceived a wood post and beam structure. The traditional wood framing is a natural progression from the timber framing used within the original barn. The exposed wood fit into the aesthetic goals but was also the best way to pursue a more sustainable approach to the structural design. The glulam structure was complimented by NLT roof panels which were fabricated locally with regionally sourced lumber.

The exterior walls are staggered stud with 2 x 10 top and bottom plates to reduce thermal bridging and maximize R-values; the effective R-value for the walls is R33. Locally sourced eastern white cedar shingles were specified for the exterior to tie the building into the local vernacular. Keeping with the objective of using local wood, the vanities and ticket counter use a ThermalWood product from Bathurst, NB, which gives an appearance of weathered barn boards. The building systems are hidden from view using a screen of locally sourced maple slats.

Phase 2 of the Green Gables Visitor Centre will be seeking LEED Gold certification.

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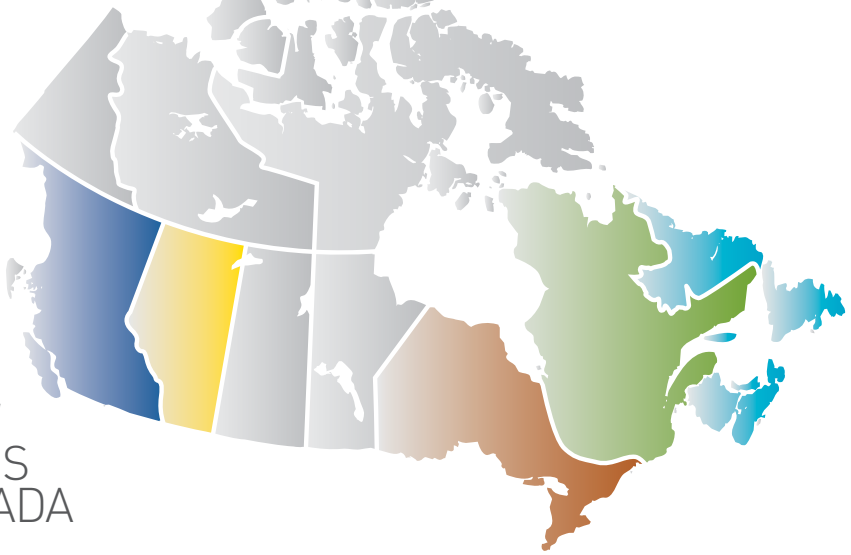

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