Ambassadors Northwest

Thunder Bay, ON

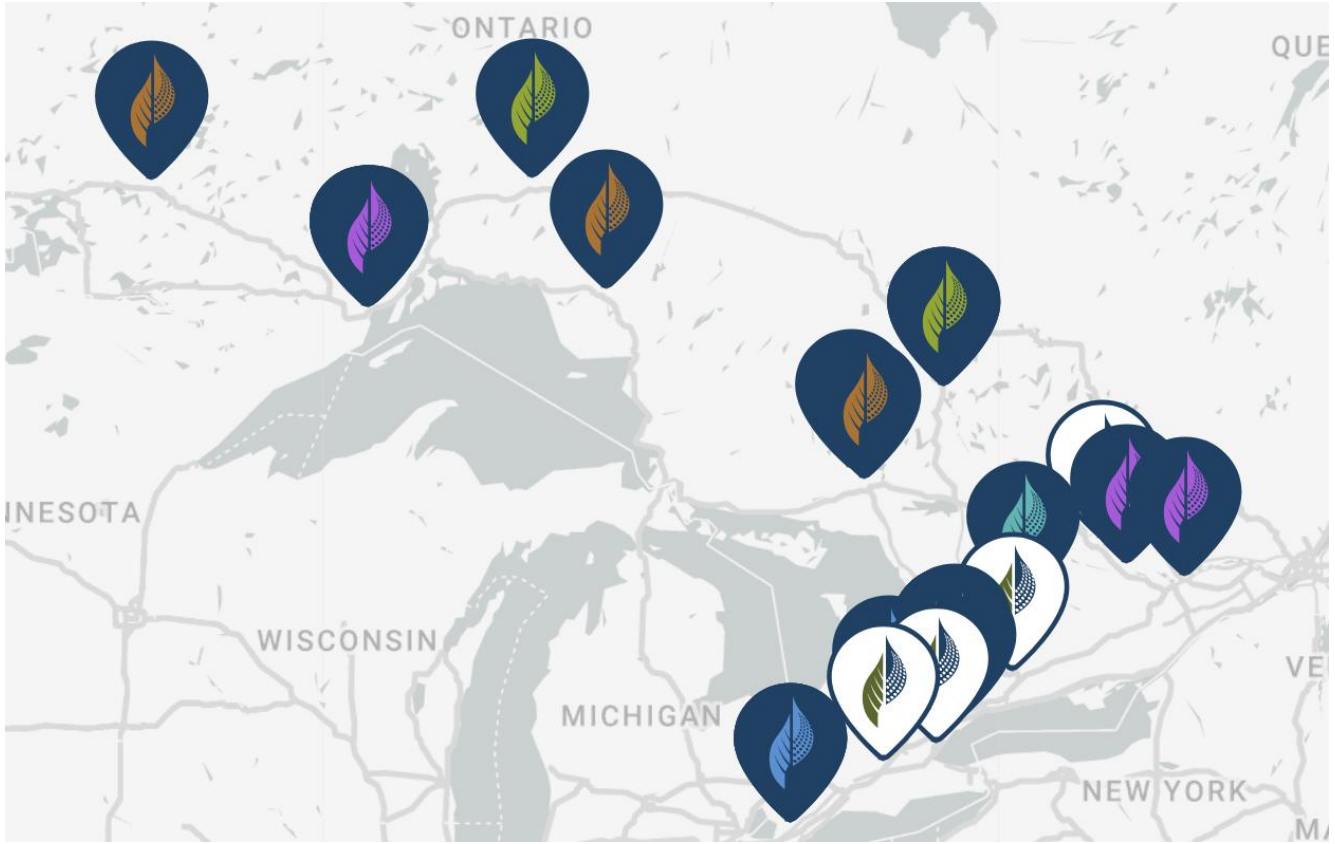
October 9, 2025

CRIBE | nextfor

Funded Projects

CRIBE is an enabler & accelerator

We fund innovative research & commercialization projects connecting **forest resources from Northern Ontario** with **innovative industries in Southern Ontario**.



44
Projects to Date

$162.9M
Project Value

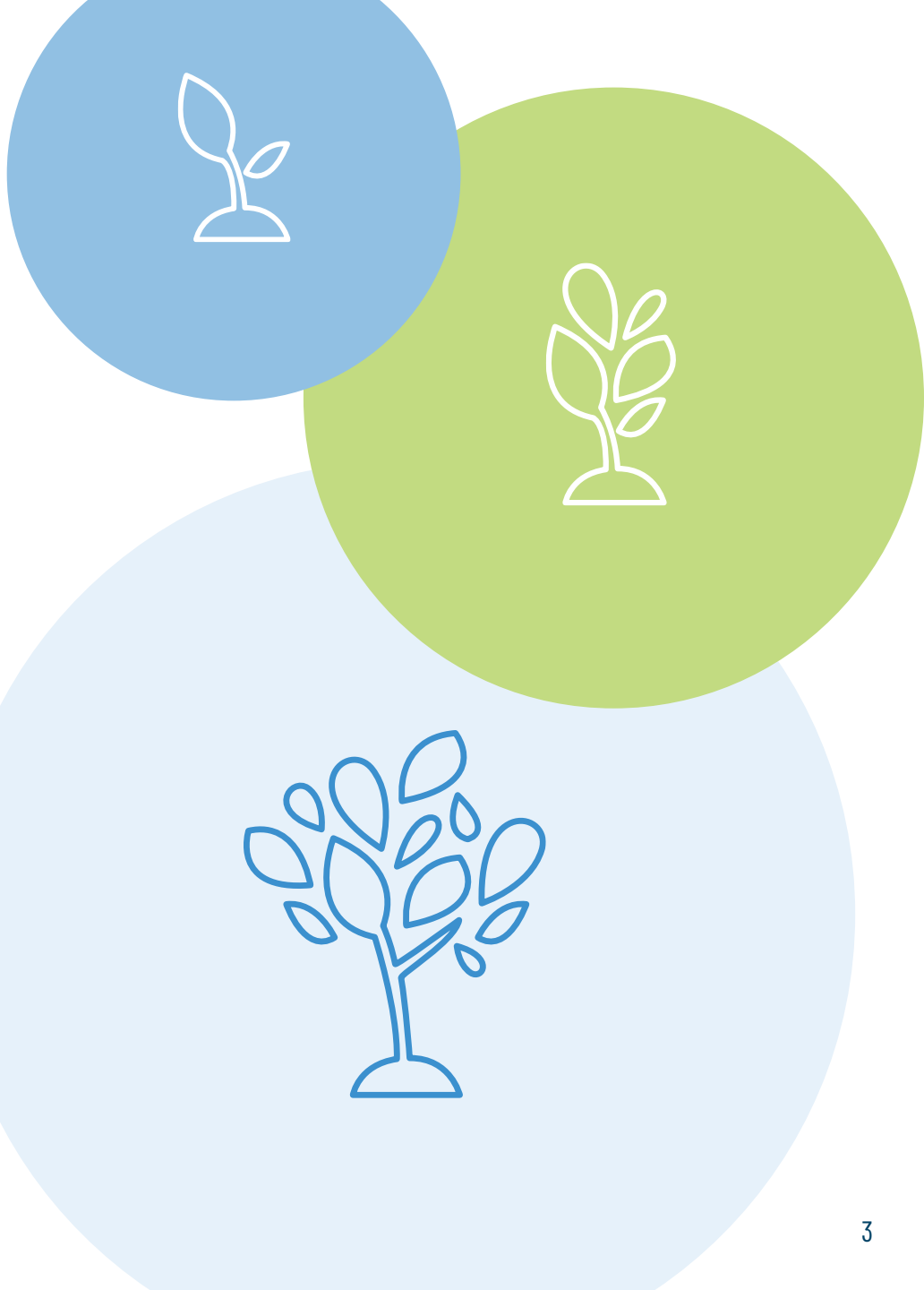
CRIBE

Our Vision & Mission

CRIBE will develop and promote a **sustainable**, **socially responsible**, and **profitable** forest bio-economy in Ontario.

Our Scope

Ontario-focused,
Forest-based,
Next-generation.



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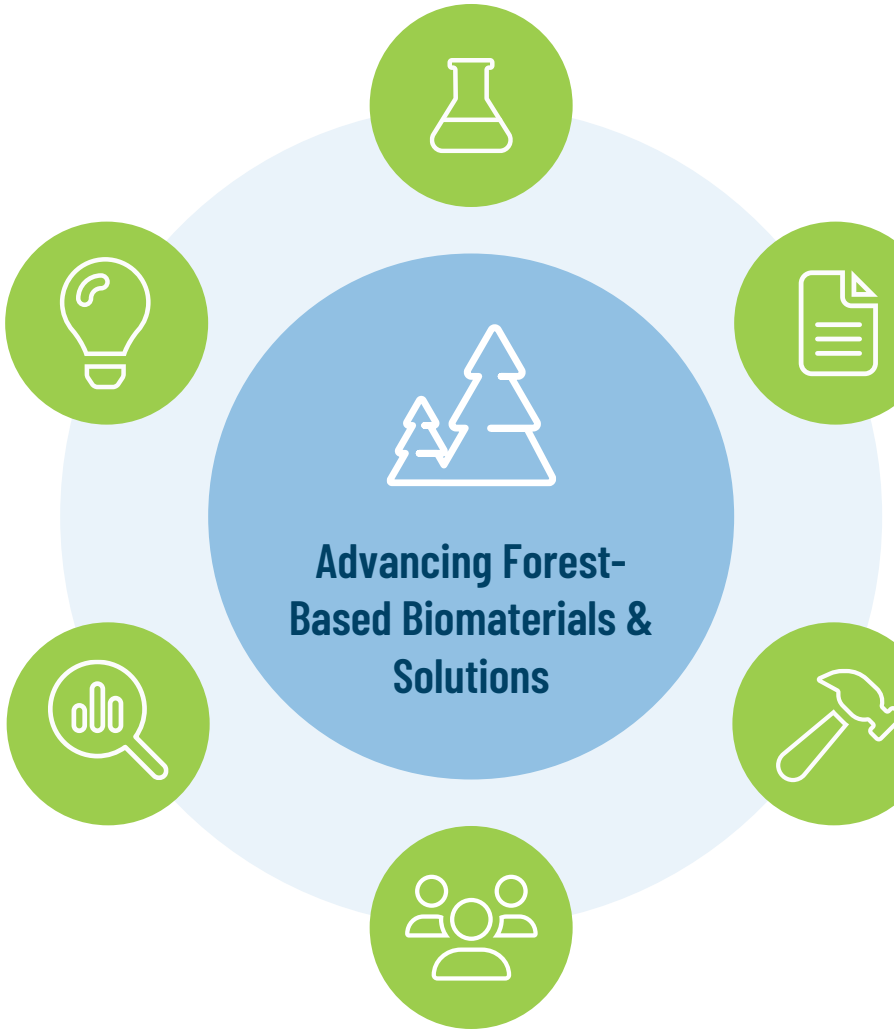
Our Key Activities



Research & Development

Prioritize Ontario Fibre
Long-Term Innovation Plan
Standardized Data Sources

Fostering a Culture of Innovation

Local Sourcing
Success Stories
Life Cycle Assessments

Regulatory & Educational Initiatives

Regulatory Support
Educational Campaigns
Professional Development

Capacity Building & Market Development

Financial Incentives
Market Strategies
Workforce Training
Support Ontario's Existing Innovation Ecosystem

Pilot Programs

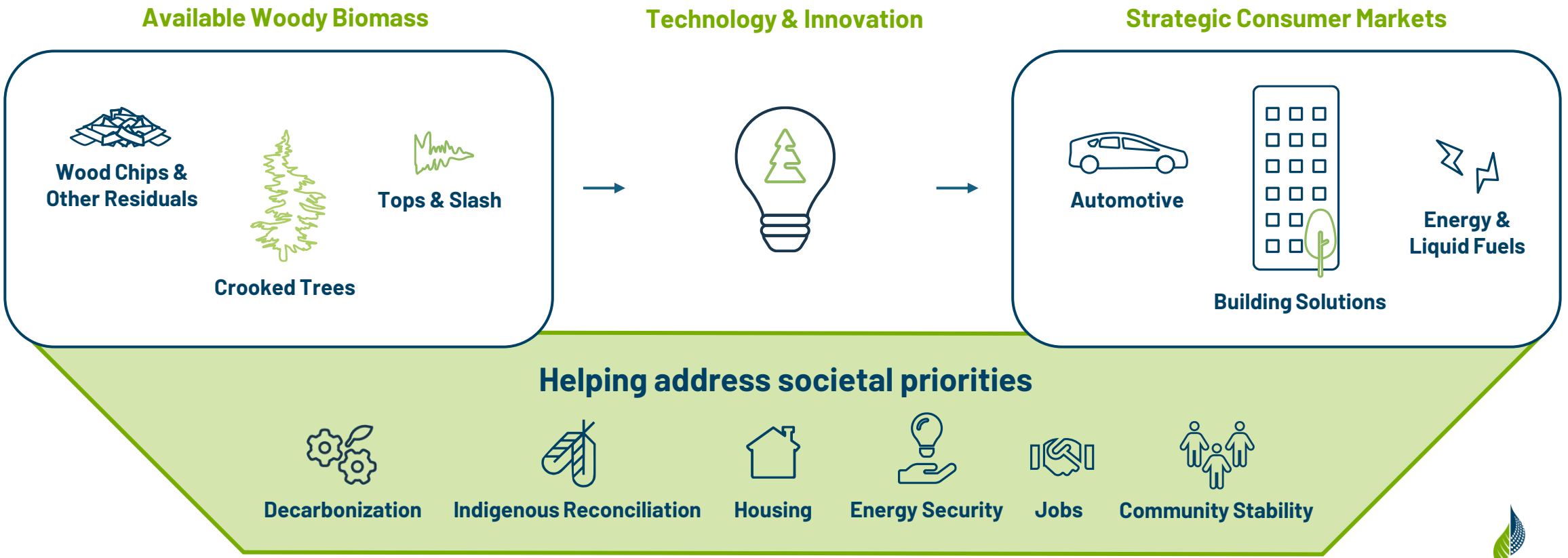
Demonstration Projects
Adoption Strategies

Collaboration & Community Engagement

Industry Collaboration
Public-Private Partnerships
Community Engagement

Forest Innovation for Every Industry

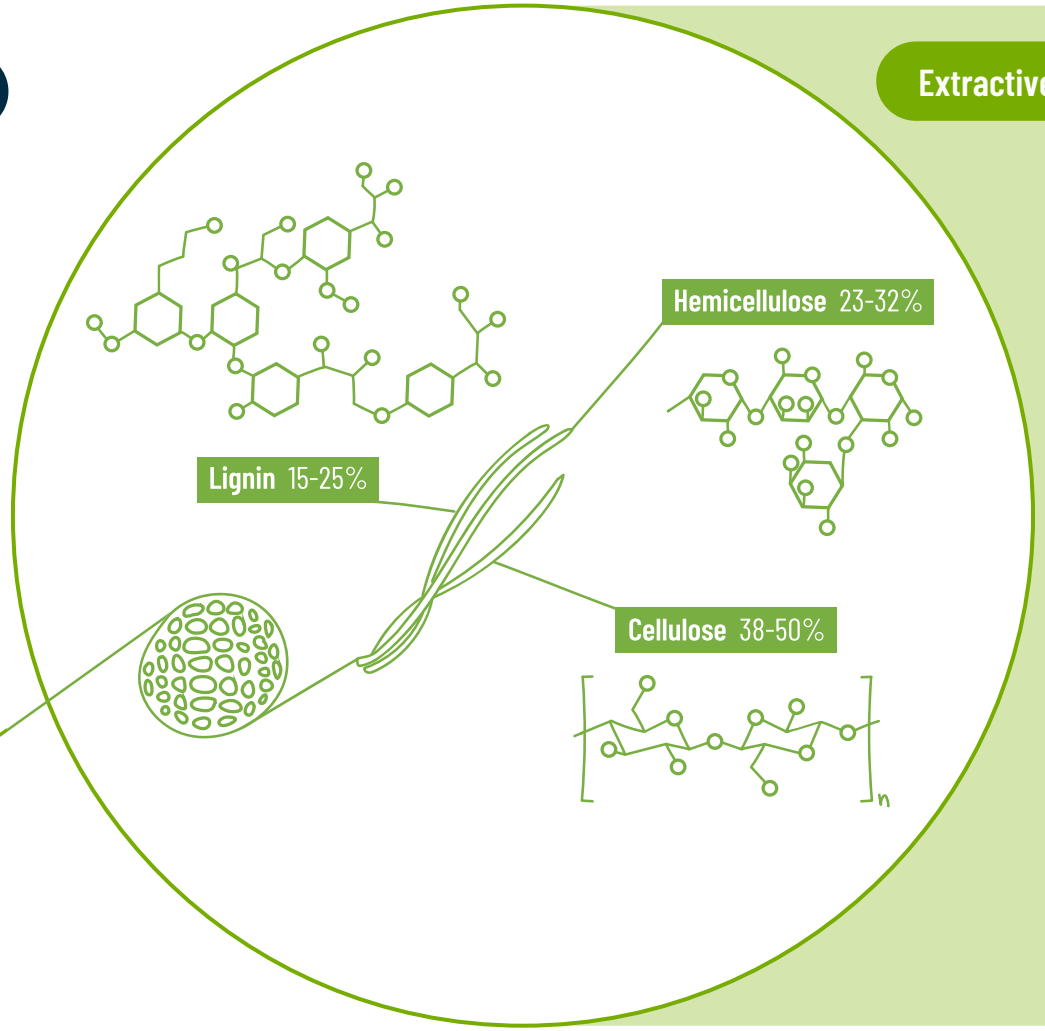
The bio-economy is deeply interlinked with the success of our country's economic and social well-being.
From the forest to your car or your local energy grid—trees have a massive hidden impact on our lives.



Extracting Whole-Tree Value from Ontario's Forest Resource

to accelerate the creation and adoption of low-carbon, made-in-Ontario, forest-based products.

Traditional Lumber Products



Extractive Products

CRIBE

Photo taken from: https://elementfive.co/a-mass-timber-solution-for-rapid-affordable-housing/

Investments in Low-Carbon, Forest-Based Building Solutions

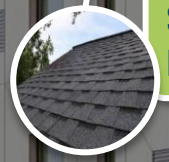
Ontario's Opportunity


Mass Timber


Dimensional & Composite Wood


Wood Product Resins, Adhesives & Coatings


Electrical/ Plastic Products


Sustainable Roofing Solutions


Low Carbon Steel


Bioenergy & Heating

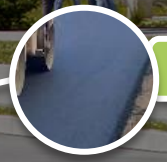

Flexible Foam & Rigid Foam Applications

Energy Storage (Emerging opportunity)


Low Carbon Cement


Plastics & Packaging


Fuels


Asphalt

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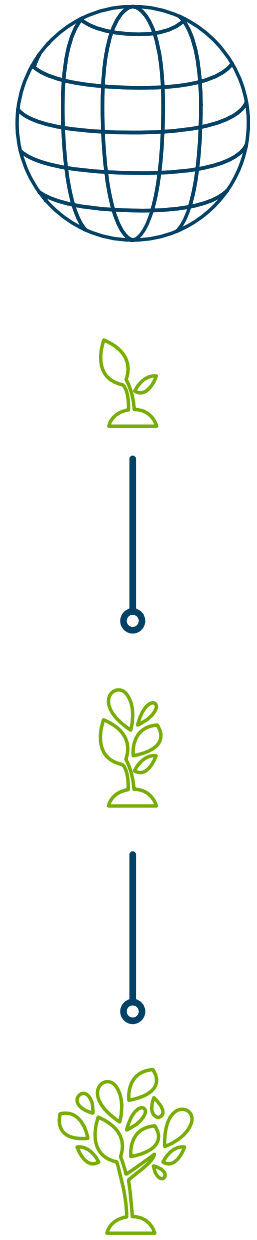
Previously Funded Projects (Highlights)



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LignoForce™ Pilot Plant Development

FPInnovations

NORAM

resolute Forest Products

Project: FPInnovations and NORAM Engineering jointly developed the LignoForce™ system, a patented technology for the recovery of high-purity lignin from softwood, hardwood or eucalyptus kraft black liquors. FPInnovations' Thunder Bay demonstration plant was constructed to evaluate this technology within Resolute Forest Products mill in Thunder Bay, Ontario.

Status: Complete

Impact: The plant is sized to produce up to 50 ODkg/day of lignin and operates on a semi-continuous basis. It offers the flexibility to test black liquors from external mills to produce kraft lignin in the base form as well as lignin in the acid form.

Uniquely Canadian Approach to Significantly Increase the Renewable Content in Automotive Polyurethane Foam

WOODBRIDGE®

Project: Establish the capability to provide 8% renewable content in automobile foam, made possible by the use of wood-based amorphous carbon made exclusively from renewable Canadian forest products.

Status: Complete

Impact: Product in market, being commercially produced by Woodbridge.

Renewable Carbon Production as Viable Substitute to Fossil Products

HALIBURTON FOREST BIOCHAR
FORGING SUSTAINABLE PATHWAYS

Project: To support a commercially-viable demonstration facility to produce high-carbon (70 to 95%) biochar.

Status: Complete

Impact: Haliburton's goals over the project's 7-year duration have included developing a novel biochar technology and creating a new market for biochar, using sustainably harvested feedstock from Haliburton Forest & Wildlife Reserve Ltd. (HWFR).

Ontario CRIBE | nextfor

Renewable Natural Gas in the North

Project: Conduct a feasibility study, namely a Class 5 engineering and design, to derisk the commercial development of a next generation biofuel facility in Nipigon, Ontario.

Status: Complete

Impact: The facility, which will be operated by a 51% Indigenous owned limited partnership between LNFMI and CHAR Technologies Ltd. (CHAR), is expected to begin operations in 2026.

The Forest EDGE

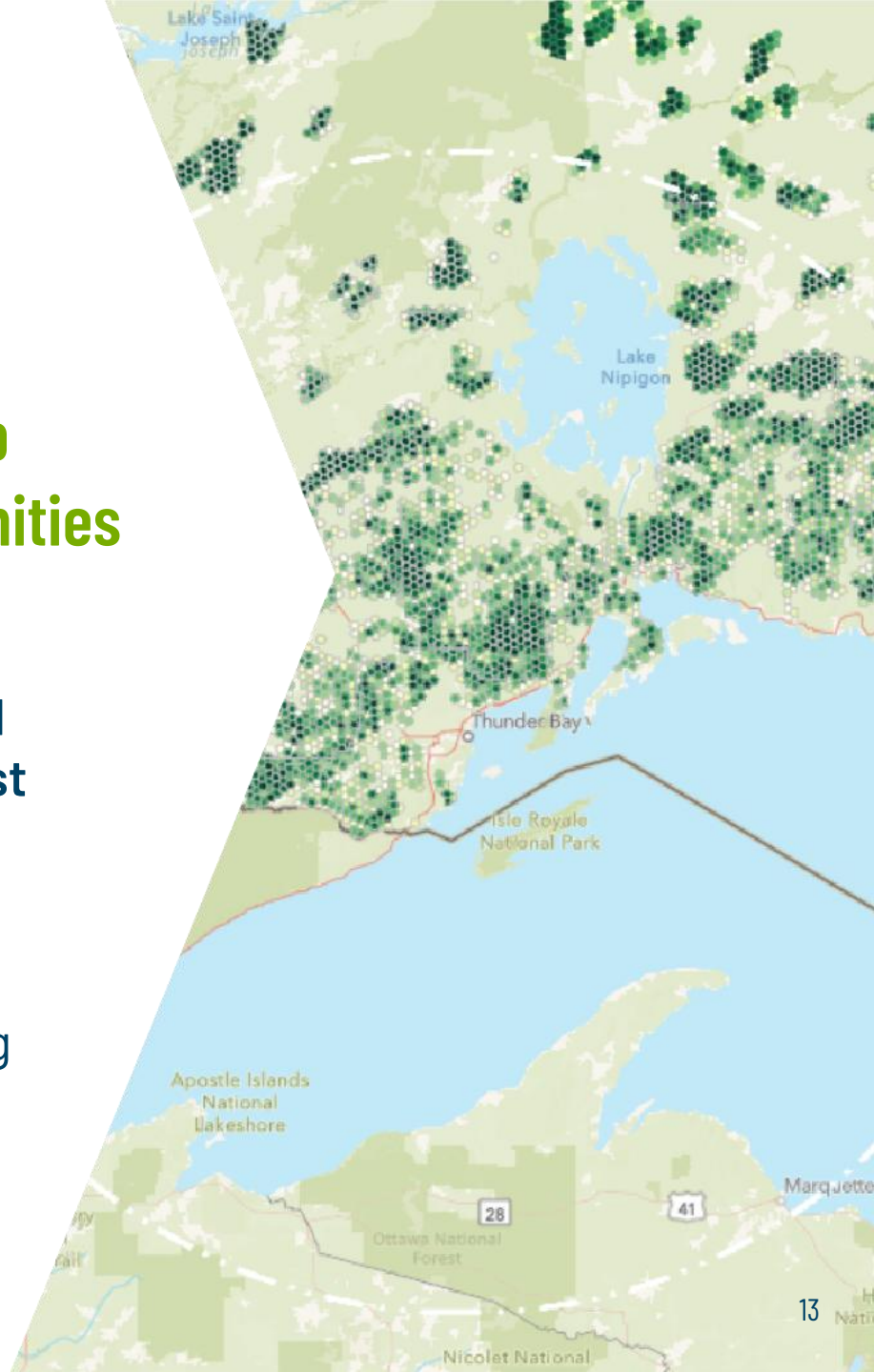
Geo-Spatial Toolkit

FOREST EDGE

Forestry & publicly available data help connect the dots to potential opportunities

Utilizing industry & GIS expertise, we have developed the ForestEDGE to **help potential investors better understand Ontario's forest ecosystem** and its role in the bioeconomy.

This **geo-spatial resource** features four helpful tools containing detailed forest information & regional modelling, promoting economic development in Ontario with over 2000 users monthly.



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FOREST EDGE

Forest Information Reference Encyclopedia

Learn more about Ontario's forest practices, policies, and existing industry through these interactive maps and dashboards.

Forestry Management in Ontario

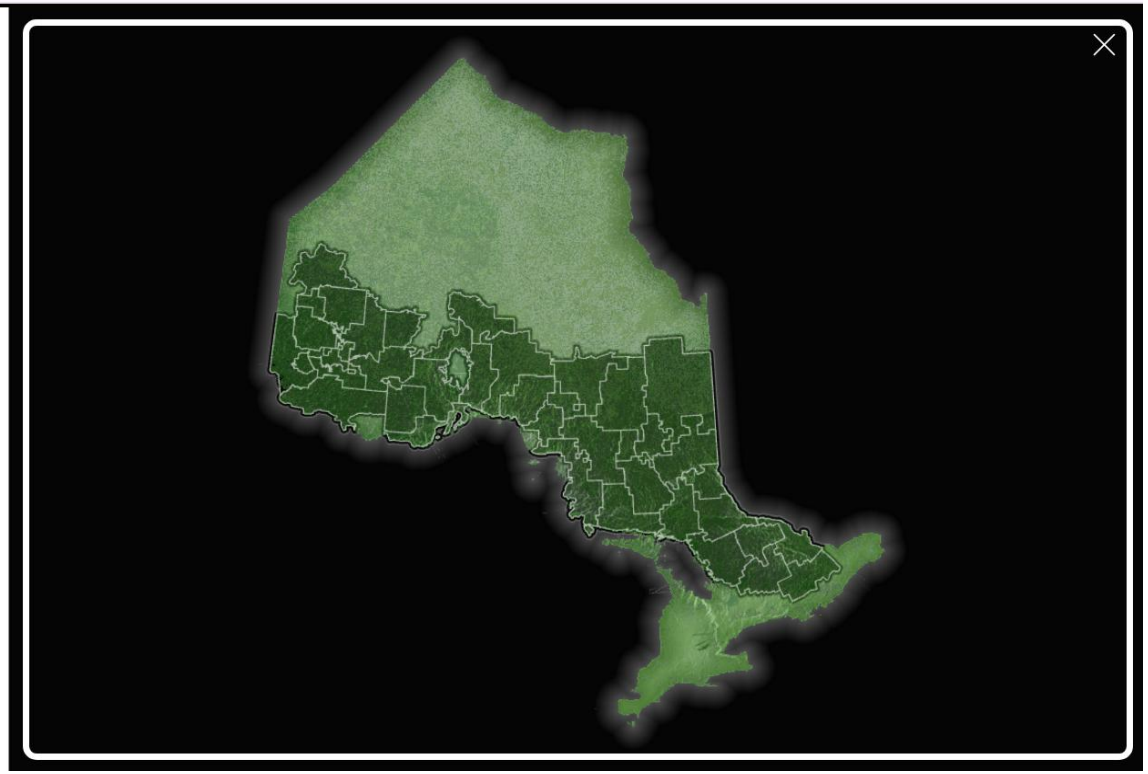
Forest Management Units

Ontario's Crown forest is divided into geographic planning areas, known as forest management units. Most of these units are managed by individual forest companies. A forest management unit is identified by an assigned official name (e.g., Black Spruce Forest) and a unique numeric code. https://nrip.mnr.gov.on.ca/s/forestry-definitions

There are 39 forest management units in Ontario. Each is managed in one of six different tenure models:

- Single entity Sustainable Forest Licence
- Shareholder Sustainable Forest Licence
- Algonquin Forest Authority,
- By the Crown
- Local Forest Management Corporation
- Enhanced Sustainable Forest Licence

Learn more at:



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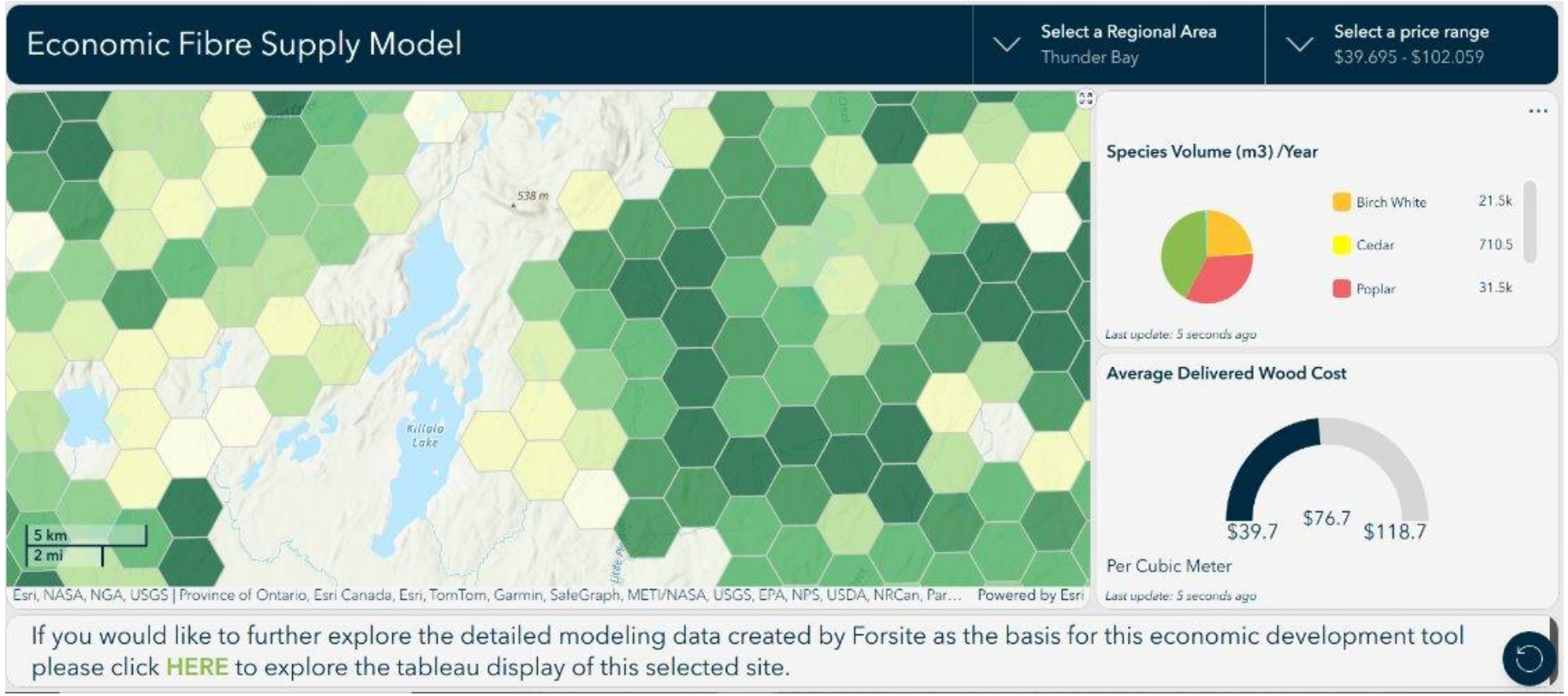
FOREST EDGE Economic Fibre Supply Model

This Dashboard displays "available wood". Forest inventory information and potential facility locations help you estimate average delivered fibre costs per cubic meter.



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FOREST EDGE Wood at Work Site Selection Tool

A dynamic site selection tool for the attraction of new bio-economy business in Ontario.

Our Collaboration Network

nextfor

Industry leaders working together to accelerate new technologies & products for Ontario's Forest Bio-Economy.

- Ontario forest-based **innovation network**
- Industry led system of open **collaboration forums**
- Open **information & communication sharing** platform (**www.nextfor.ca**)
- **Funding challenges** to support market realization

CRIBE | nextfor

Our Collaboration Network

CRIBE

Founded 2009

nextfor

Kickstarted in 2019

Grown to 600+ Active Members

Present Day

CRIBE created Nextfor as a means to engage Ontario forest bio-economy value chain – from forest to customer

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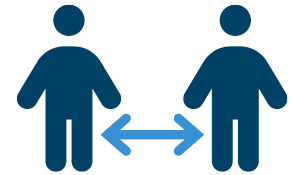
The Nextfor Approach

Value Chain Building

1. Collaborate to define **opportunities & barriers**

2. Roadmap **goals & actions**

3. Identify **projects & partners**



4. Support **market-based outcomes** and publicly share **results** & **lessons learnt**

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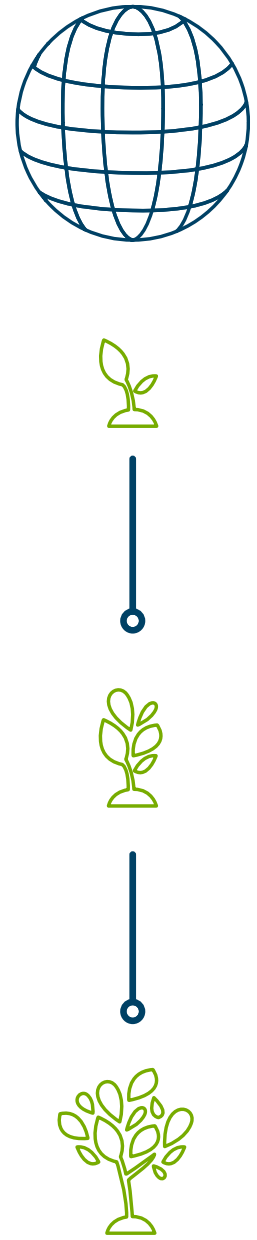
Current Projects (Highlights)



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The Vision: Growing Northwestern Ontario Economy

1. Increased northern **softwood pulp & lumber production capacity**, attracting investment in our **anchor** facilities and making them **net positive energy** producers supporting Ontario long term energy strategy.
2. One **new large hardwood consumer** in the region utilizing between 500k and 1.0 million m3 of fibre/year.
3. A **highly functioning regional innovation cluster**, made up of the full value chain across the region.
4. Attracting & enabling **Indigenous participation** in the sector as owners, investors, partners.
5. Our forest sector supports the **socio-economic health** of the region including the mining & minerals and energy sectors.
6. Regionally produced products are supplying Ontario's target of 1.5 million homes, supporting the *More Homes Built Faster Plan*.

CRIBE

UNLOCKING HARDWOOD POTENTIAL

Investment Opportunities in the Thunder Bay Region

CRIBE centre for research & innovation in the bio-economy

silvacom™

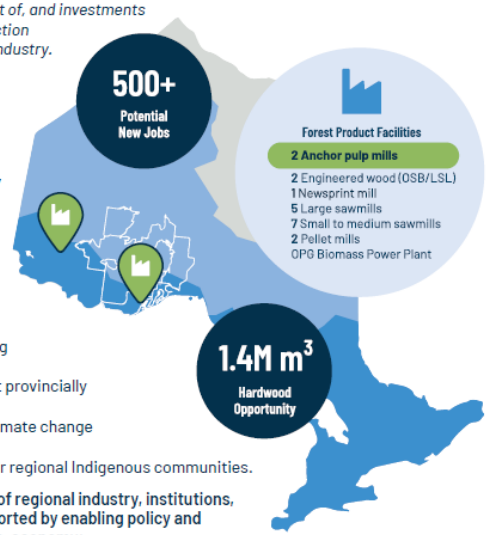
Published September, 2025

Advancing Biorefinery Capacity in Northwestern Ontario

Northwestern Ontario, *with its core competencies in softwood pulp and wood products production, is a global leader in the development of advanced, wood-based materials and sustainable forest management practices.*

Regional collaboration will support the development of, and investments in, Integrated Wood Based Biorefineries and production capacity centered around existing pulp and paper industry.

There is an immediate opportunity to build on the primary forest industry and the upwards of six hundred million board feet of wood products produced in the region. The opportunity is to increase the utilization of almost 1.5 million m^3 of available poplar and birch which will boost primary forest products production and supporting innovative new products.



Full utilization of our forests will lead to our regional partners, industry & communities:

- Achieving full social and economic valorization of our forests;
- Attracting investment supporting emerging technologies and research;
- Leading policy and economic development provincially and federally;
- Making positive contributions to shared climate change goals; and
- Contributing to economic reconciliation for regional Indigenous communities.

We will achieve this through the collective effort of regional industry, institutions, municipalities and Indigenous communities supported by enabling policy and sustained, legislative certainty focused on the bio-economy:

- Growth of biomass heat and power production and investments through long term power purchase agreements;
- Multi-year investment and de-risking mechanisms to support long term capital planning and expansion strategies;
- Dedicated resources to support and promote the Ontario forest industry as global leaders creating an investment jurisdiction of choice; and
- Long term financial support of innovation within the sector to support competitiveness and create emerging technology and new materials solutions.

It is estimated that with the right enabling policy and an environment for investment there is upwards of $1.5 billion of capital to be invested in Northwestern Ontario creating between 500 and 1000 new direct and indirect jobs;

- New and expanded biomass heat and power capacity
- Expansion of advanced wood products production
- Two new advanced biomaterials, chemicals and fuels facilities
- Two new hardwood fibre consumers
- Softwood pulp production growth through optimization of existing mills

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Growing Ontario | Industry Promotion

Regional Colab: NOIC Forest Investment and Innovation Centre

Working with Northwestern Ontario Innovation Centre (NOIC) and other supporters to develop a dedicated forest products focused investment and innovation 'soft landing';

Project will see a dedicated program to support new business entrants with a 'forestry' focus, including forest tech, new product development, technology development and in-bound investment (e.g., AirForestry) into Northwestern Ontario;

- Soft landing (office space, desks, admin support etc.)
- Access to in house support (webdev, legal, business planning)
- Access to light manufacturing and applied R & D support (via Confederation College Manufacturing Hub)
- Includes a funded 'co-starter' program (investment in entrepreneurs, start-ups) and a soft-landing program for companies looking to do business in region, including access to manufacturing and applied R & D support

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SCALE
YOUR BUSINESS
IN OUR FOREST
THE BOREAL SPRINGBOARD
Connections • Resources • Growth
Tap Into Our Vibrant and Supportive Ecosystem With Our Soft Landing Program.
Land in our Region and Benefit From:
FORESTRY RESOURCES
Opportunities to integrate with 12 Sawmills, 2 Pulp mills, 2 Engineered Wood Facilities, 1 Newsprint Mill, 2 Wood Pellet Mills, 2 Biomass Power Plants, and numerous supply chain supports. A sustainable abundance of underutilized fibre with over 1 million m³ of hardwood.
CONNECTIONS & MARKET ACCESS
Derisk your expansion into North America through direct access to experienced advisors, forestry stakeholders, and industry leaders. Scale your business by accessing investors, first customers, and government supports.
R & D SUPPORT
Develop your product and technology utilizing resources and expertise at Lakehead University, Confederation College, and numerous labs and prototyping supports.
OPPORTUNITY AREAS
Inviting a wide range of solutions, including: advanced wood manufacturing, new process efficiencies, housing, AI, biochemical innovations, and more.
About The Boreal Springboard
A group of forestry industry experts, funders, and business development professionals focused on seeing your business grow and succeed in the best forest in the world.
Delivered by the Northwestern Ontario Innovation Centre
For more info, visit: www.BorealSpringboard.ca
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807-768-6682
INNOVATION
CRIBE
CEDC
Lakehead
Confederation
INGENUITY


START
YOUR BUSINESS
IN OUR FOREST
THE BOREAL SPRINGBOARD
Connections • Resources • Growth
Connect To World-Class Resources And Support Through Our Accelerator
Your Forest-Driven Start-Up Will Get:
FUNDING & RESOURCES
Seed your business with 20K in cash funding, coworking space, and tailored business workshops built to your needs.
MENTORSHIP & CONNECTIONS
Get one-on-one mentorship from experts and gain access to forestry leaders across the sector.
R & D SUPPORT
Boost development with top-tier expertise, equipment, and lab space in partnership with Lakehead University and Confederation College.
INVESTMENT & MARKET ACCESS
Scale your business by accessing investors and first customers.
Starts: Winter 2025
Location: Thunder Bay, ON, Canada
For more info, visit: www.BorealSpringboard.ca
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INNOVATION
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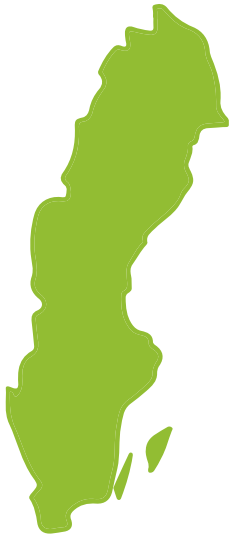
INGENUITY

Nordic Colab

Timeline of Work



BUSINESS SWEDEN

PAPER PROVINCE

Region Värmland

2019

CRIBE began a series of discussions with Nordic regions.

RISE, Paper Province and other Swedish & Varmland Region innovation partners visited Thunder Bay, ON to kick-off an **ongoing bio-economy focused collaboration between Ontario & Sweden**.

2020/21

Due to COVID, discussions continued virtually.

2022

May/June – CRIBE and Canadian delegation (19 individuals, 12 organizations) visited Sweden.

September – Paper Province, Sting Bioeconomy and various Swedish companies joined CRIBE and Canadian partners in Toronto, ON for the **Sweden-Canada Innovation Days.**

2022

October - CRIBE and a delegation of 5 individuals visited Finland to attend the Nordic Wood Biorefinery Conference, toured the VTT Bioyuukki Pilot Centre and the Sweetwoods demonstration plant in Estonia.

2023

Paper Province, Sting Bioeconomy and various Swedish companies join CRIBE in Toronto for a workshop & matchmaking event.

2023

Launched **Ontario Bioeconomy Opportunity Roadmap** with Business Sweden; and,

Attended **Regional Collaboration Meetings** in with Paper Province in Karlstad.

2024

Smart Specialization Learning Sessions with Region Varmland and Thunder Bay stakeholders

2024

Launching **Hackathon with Paper Province**

CRIBE

Enabling Programming – Biobooster Hackathon

- In collaboration with Swedish partners, Paper Province.
- Based on Biobooster Hackathon method.
- **Looking for a "Challenge Provider**" - Ontario-based company that has a challenge related to their business to solve. Solving this challenge would also:
  - **Benefit Ontario's forest products, advanced manufacturing, and building products sectors** through the use and deployment of Advanced Wood Based Materials and Chemicals; and
  - **Position Ontario as Canada's leading jurisdiction in the development and application of advanced wood-based materials** through cross sectoral and international collaboration and investments in innovation.

- **CRIBE and Paper Province will collaboratively attract "Solutions Providers" to participate in the hackathon and provide potential solutions to the Challenge Provider.**
- **Solutions Providers can be from the EU and Canada.**

CRIBE

[Stelumar Hackathon : Centre for Research & Innovation in the Bio-economy]

https://www.linkedin.com/feed/update/urn:li:activity:7376976654717550592

We know we can build with wood...

We know mass timber and engineered wood is a viable solution...

We know there is room to grow...

Is it enough?
Can we do more?

Residential Housing Wood Usage Study

Single Family Dwelling

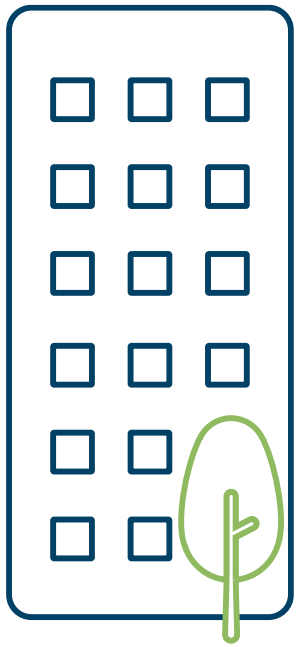
A two-story, single family dwelling constructed using light-frame wood methods, with an approximate area of 1,800 ft^2.

Wood Usage Per Building

2.6K Board Feet of Dimensional Lumber

4.2K Square Feet of Wood Panels

Six Story Mid-Rise



A six-story, multi-unit residential building constructed with light-frame wood techniques, featuring floor plates of approximately 10,500 ft^2 each, for a total building area of 63,000 ft^2.

Wood Usage Per Building

65.8K Board Feet of Dimensional Lumber

100.1K Square Feet of Wood Panels

Ontario needs to build **1.5M** Homes

Which would require approx (single family) **3.9B** Board Feet of Dimensional Lumber & **6.3B** Square Feet of Wood Panels *

* calculations based on Studio VMA Inc. study.

Biopathway opportunities for wood-to-liquid transportation fuels in Ontario

Final Report prepared by AFRY Management Consulting, Inc.

31 JULY 2025

CRIBE AFRY

Emerging Tech

Through it's Emerging Technology Funding, with the support of their government funders, CRIBE accelerates the deployment of made-in-Ontario solutions; mobilizing research from within the province.

- **CRIBE has awarded conditional approval to support full value-chain development** (Advanced Materials);
- Multi-year project that will see three (3) new product platforms being tested/prototyped; construction materials (x2) and consumer product;
- Consortium to test multiple forest-based feedstocks from across Ontario;
- Seven private sector companies in consortium;

Lessons Learned: 2018 - Now

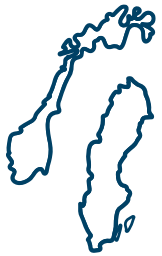
Key Findings from CRIBE's 2018 – 2024 programming, and industry feedback:

SFCMs & Global Decarbonization:
Wood-based Sustainable Fuels, Chemicals, and Materials (SFCMs) are critical for a sustainable future but require significant investment to lower production costs.

Regional Clusters Drive Success:
Integrated Wood Biorefinery Clusters foster collaboration, attract investment, and improve cost-competitiveness.

Integration Reduces Costs:
Leveraging existing pulp mills and supply chains optimizes resource utilization and minimizes capital costs.

Collaboration is Key:
Active participation from industry, government, and academia, supported by multi-year public-private investments, is essential for success.



Learning from International Partners:
Nordic innovation ecosystems demonstrate the value of collaboration and smart specialization; fostering innovation and regional growth.

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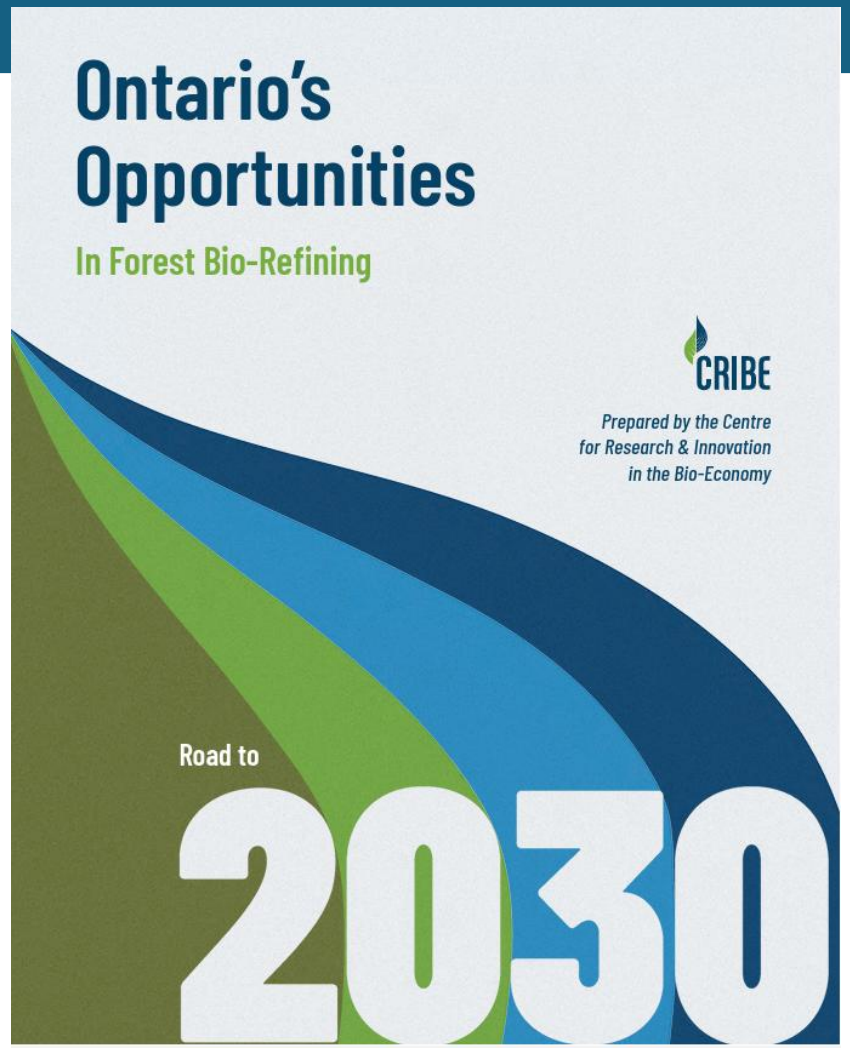
Growing Ontario: What's Next?

- Continue to strategically fund innovation challenges and case studies that are regionally relevant;
- Initiate co-lab discussions in Northeastern Ontario and build out Southeastern Ontario capacity;
- Continue to support and evaluate market opportunities through benchmarking and B2B engagements;
- Continue to support and evaluate investment opportunities in Ontario;
- Quantify actual investment opportunity and increased production as identified in Road to 2030 and other reports/roadmaps
- Explore and support multi-ministerial outreach, communication, identification of enabling policy and path forward to fulfill government objectives.

CRIBE

Growing Ontario: What's Next?



- Quantify/benchmark key opportunities (wood supply, technology readiness, market availability, capital costs)
- Create a platform for discussion and collaboration on next steps

CRIBE

Stay Engaged & Collaborate with Us!

Access information and learn about events by becoming a Nextfor user at: www.nextfor.ca/register

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