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Nova Scotia Innovation Hub

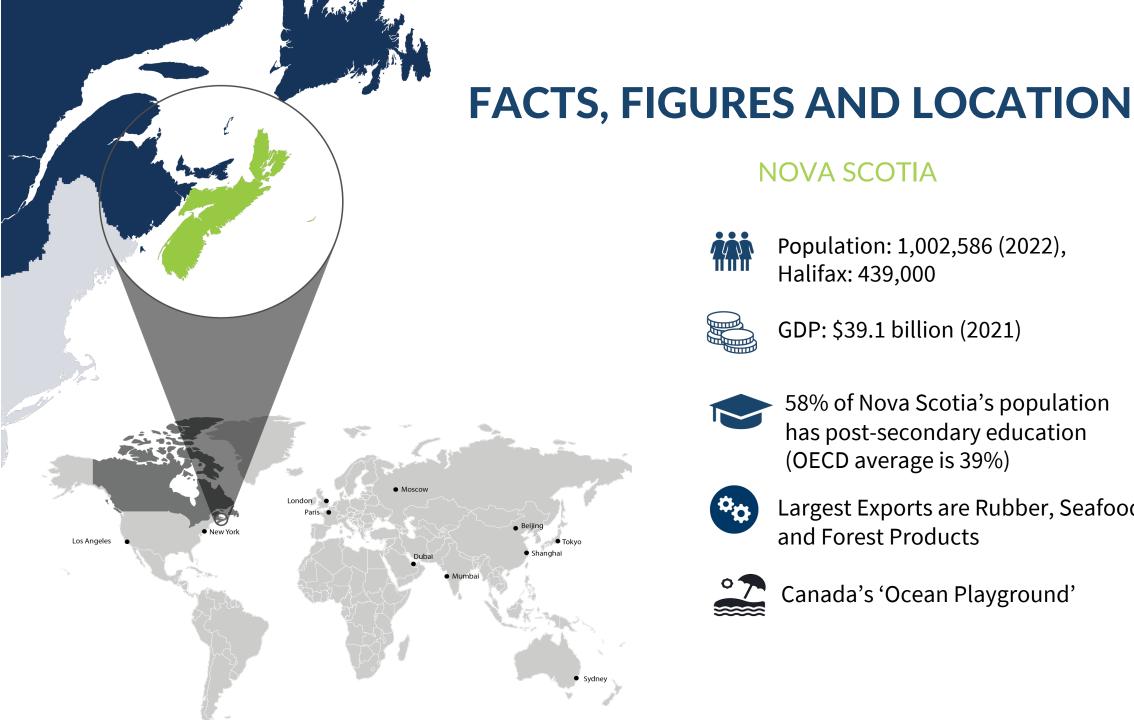
SUPPORTING NOVA SCOTIA'S LOW CARBON, BIO-CIRCULAR ECONOMY











NOVA SCOTIA



Population: 1,002,586 (2022),

Halifax: 439,000



GDP: \$39.1 billion (2021)



58% of Nova Scotia's population has post-secondary education (OECD average is 39%)



Largest Exports are Rubber, Seafood and Forest Products



Canada's 'Ocean Playground'



OUR STAKEHOLDERS























Agence de promotion économique du Canada atlantique

Supporting the advance of Nova Scotia's low carbon, bio-circular economy



VISION OF SUCCESS:

NOVA SCOTIA BIOPROCESSING









"...a facility that processes biological material (wood chips, ag crops, and even waste!) to produce products such as fuel, electricity, and commercially useful chemicals..."

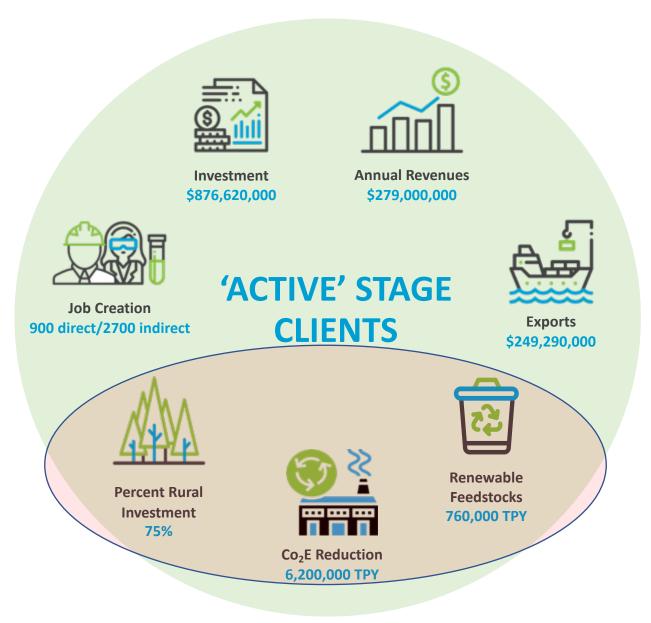


Nova Scotia Bioeconomy Projects/Pipeline Categorization

	FOOD	RENEWABLE ENERGY	'CARBON' MATERIALS	BIOCHEMICALS	LOW CARBON BUILDING PRODUCTS
Post Series A/ Project Financing		*	*	*	
Seed – Series A	* *	*	*	*	
Idea – Angel Funding	* * *		*	*	*



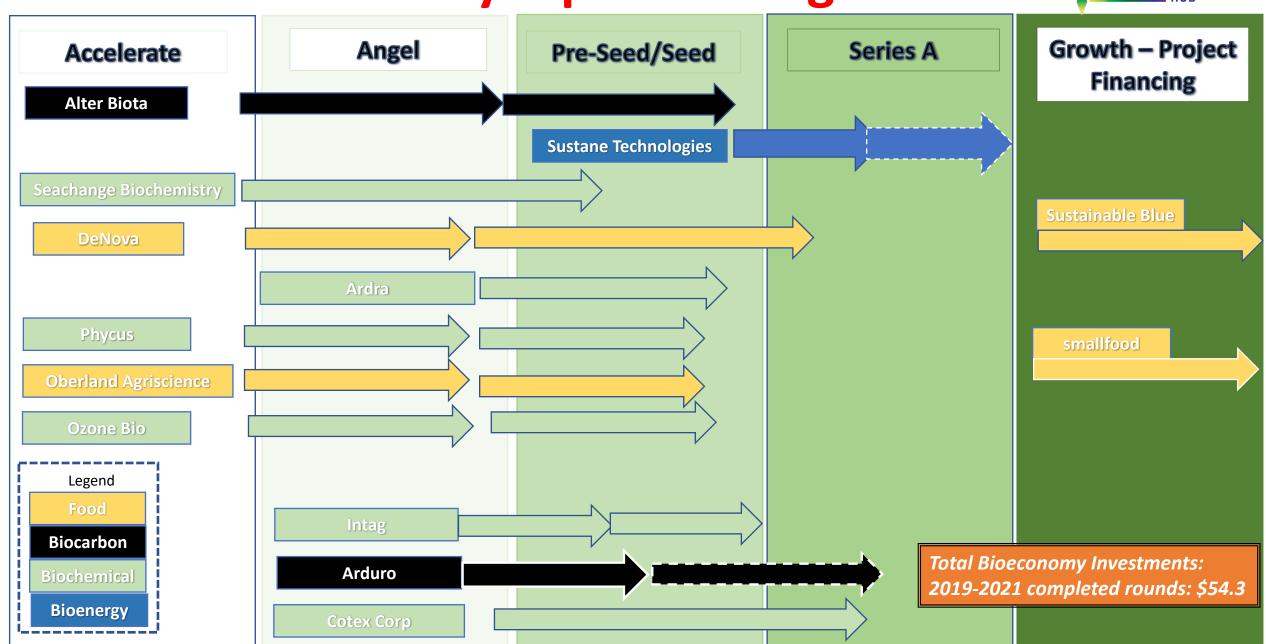
RURAL COMMUNITY FOCUS: PROJECTED IMPACT OF ACTIVE PIPELINE CLIENTS





Bioeconomy Pipeline Progress











How We Help







KEY BUSINESS LEVEL DATA



CONNECTION TO RESOURCES



MILESTONE FUNDING

Projects



GreenShoots Partnership



Since 2022:



27 Nova Scotia early-stage Bioeconomy ventures supported with guidance and funding



Investment of \$1.1M by the partners



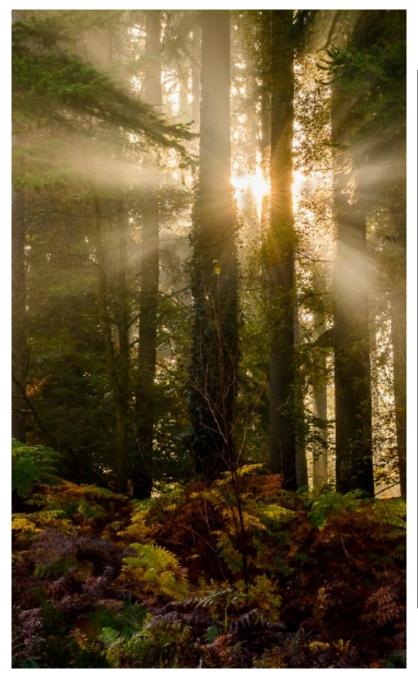
Over 70% have raised private equity, over \$40M in total



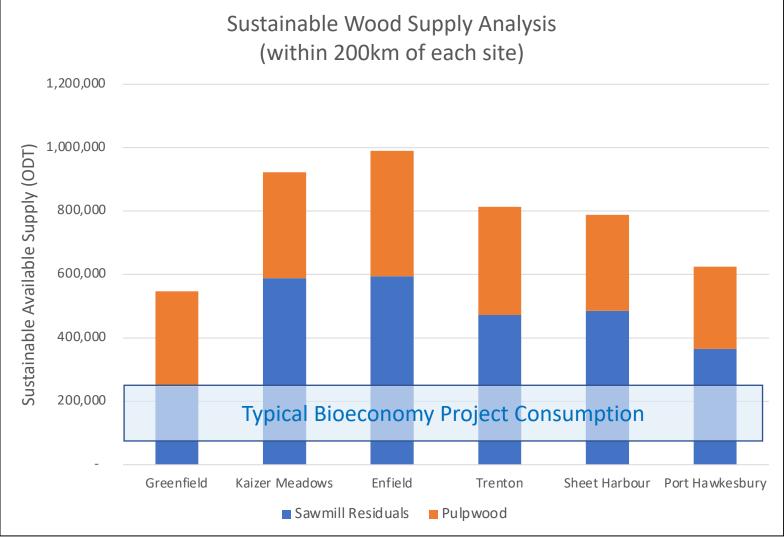
- Partnership with Ignite Atlantic to promote and create careers in the bioeconomy;
- Profiles employers and bioeconomy career opportunities
- Matches job seekers with bioeconomy firms looking for talent;
- Provides experiential learning as well as internship and permanent job opportunities;
- Have helped create positions for material and aquaculture technicians, lab managers, logistics, and others – 25 in total, target of creating 30 by December 2022.







Feedstock Supply and Sustainability - 2021





Wood Fibre Markets: Softwood Chip Exports

- AFRY 2021 Report indicated opportunities for softwood chip exports;
- Margins are challenging, but demand exists in the EU and Asia;
- Softwood has lower density than hardwood making shipping costs higher;
- Volume is key entry level contracts are 200,000 GMT + annually;
- Asian markets are of interest in short term as heat treatment is not required;
- Informal consortium of industry players currently exploring the opportunity;
- Plan also includes use of low-grade roundwood which would support implementation of ecological forestry + help private landowners struggling without markets post the Northern Pulp closure;
- Potential <u>short-term</u> pressure relief.

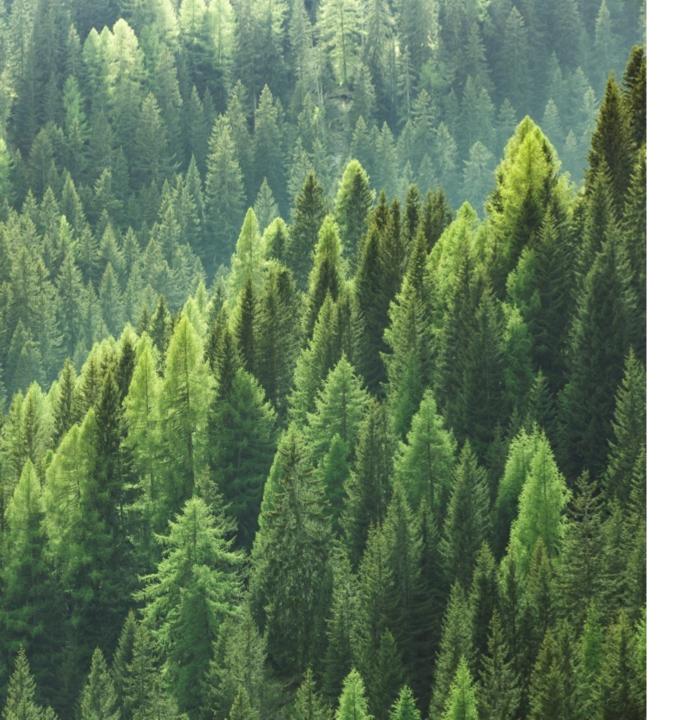


Wood chips from Nova Scotia - export opportunity assessment

Final Report – Prepared for Nova Scotia Innovation Hub

08/26/2021



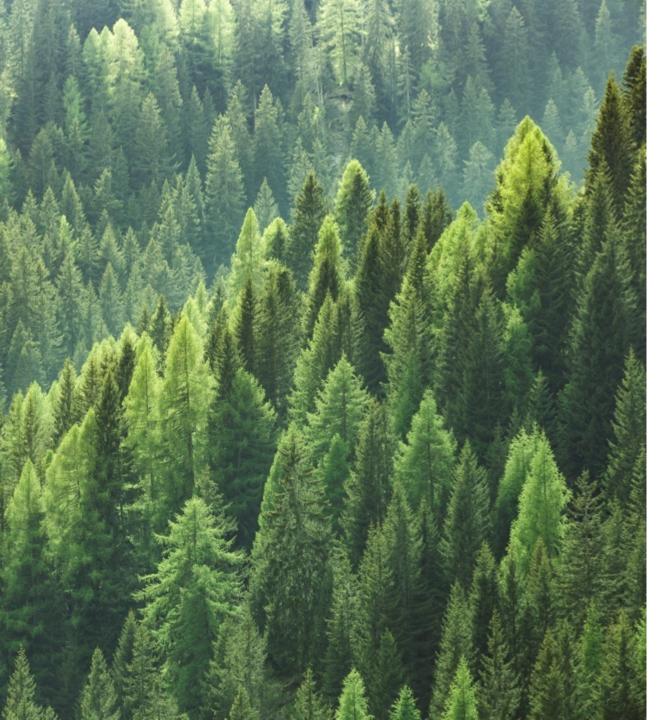


Alter Biota Bio-graphene for Cement Applications



- Early-stage business producing biographene that reduces weight and cost of cement without impacting performance of concrete;
- FITT-NSIH project has been helping Alter Biota with the regulatory process;
- Milestone Achieved: Nov 2021 ECCC grants permission for
 production volumes up to 10,000
 kg/year this will support
 manufacturing scale-up and
 customer trials.



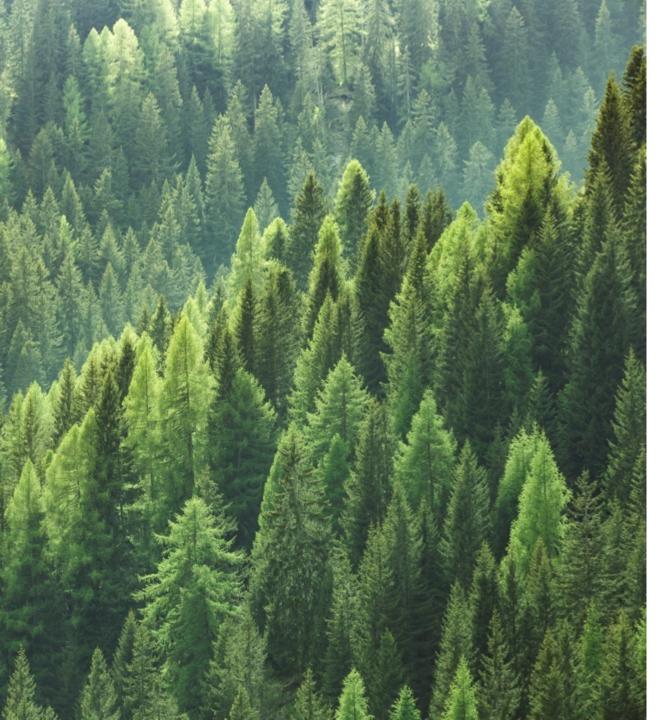


Maskwiomin
Birch Bark Oil for
Natural Health
Applications



- Early-stage business producing skincare products from birch-bark oil using;
- Background is based on traditional Mi'kmaq knowledge;
- The NSIH as been helping with marketing and branding
- Milestone Achieved: Dec 2021 ramp-up of product sales.



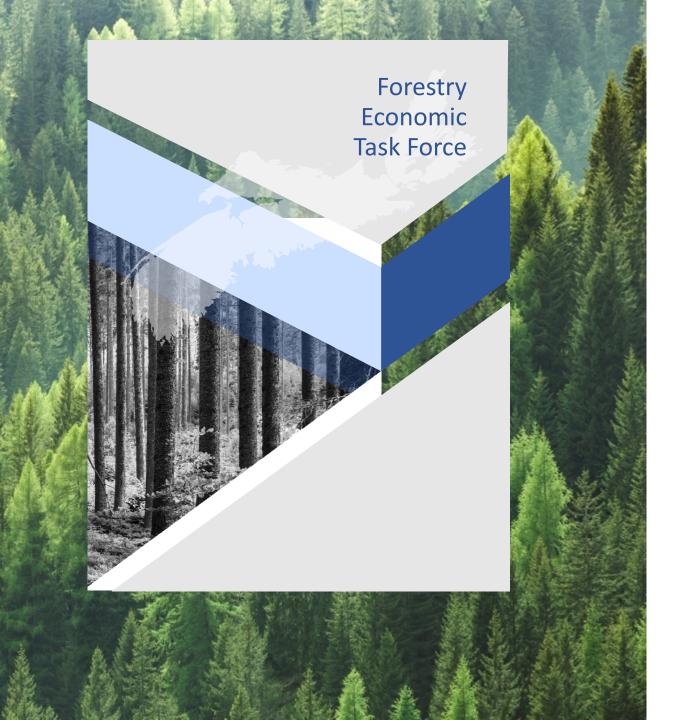


Mass Timber Company



- MTC are working to develop a project in Nova Scotia to manufacture Glulam, Cross Laminated Timber, and Nail Laminated Timber;
- They have partnered with three Nova Scotia sawmills who are contributing significantly through financial and in-kind investments;
- NSIH are supporting a project to help MTC develop the required code approvals that will enable the use of Nova Scotia SPF lumber in mass timber products.





Force Economic Task Force

- Consortium of Nova Scotia Forest Industry stakeholders working to develop and implement a strategy for the sustainable economic future of the sector;
- ❖ NSIH participating to provide insight in forest bioeconomy opportunities;
- Status: ED (Harvey Gray) in place and kicking off project.



NSIH Ecosystem Building Projects

Cellulosic Sugar Technology Review





 Project to assess stage of development of businesses/technologies that convert woody biomass to cellulosic sugars – potential feedstock for Nova Scotia's growing fermentation cluster!



NSIH Ecosystem Building Projects

Bioeconomy Asset Mapping Project





 Partnership with NSBI to identify and promote industrial sites throughout Nova Scotia that are potential bioeconomy host location



Launching in November....



www.NSBioeconomySites.com





THANK YOU!

