

Scotia BioChar

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Science-based, Environmentally Enhancing, Biochar

After 18 months of research, Scotia BioChar is ready to establish a connection between the science-backed method of biochar production they have chosen, and the environmental benefits it offers. Scotia BioChar will use the carbon dioxide (CO₂) naturally captured by trees and produce a biochar which will deliver benefits in the form of further sequestered carbon. These benefits include:

- Improved soil conditions for farmers and horticulturalists
- Reduction of CO₂ and methane emissions from livestock
- Stronger concrete with a smaller CO₂ production footprint
- Correction to environmental damage caused by the 'forever chemicals'
- A feedstock for the first carbon neutral silicon carbide production facility.

Background

Scotia BioChar belongs to Metalo Manufacturing Incorporated's group of companies. Sister company, Labrador Sands Inc. (LSI) has a focus on beneficiating its silica sands for silicon carbide (SiC) production. SiC has been identified as the next key raw material for advanced manufacturing (3D printing) and has many already established uses. Scotia BioChar was formed from an opportunity to use biochar as the carbon source for SiC production.

Science supports the case that biochar can be used as the carbon source in SiC production, rather than the conventional methods of pet coke or coal. This would make the SiC production facility the first, globally, to manufacture on a carbon neutral basis.

Biochar has a range of proven uses and its benefits date back over 2000 years. This foundation has helped Scotia BioChar solve the environmental challenges of production today, leading to a data driven approach for connecting biochar's use to its benefits.

Advancing from Science to Application

Production of biochar is well established throughout the world, with facilities operating at all stages and sizes. Delivering a proven business model, however, is where Scotia BioChar sees value. Scotia BioChar is risk averse to new technologies, and instead, sees value in scientifically establishing our parameters with proven technologies.

Using these proven technologies, Scotia Biochar will produce a high carbon and low ash (defined specifications) biochar, on a cost-effective basis using a woody biomass. The immediate application of the biochar will focus on solutions delivering up to three CO₂ credits/tonne of biochar. These credits have recently traded in the European Union for 140€ (C\$188). Any application will be supported by known science and Scotia BioChar will prove the more defined specifications for application.

Scotia BioChar will work with scientists to refine the applications it seeks to engage with. In doing so, Scotia BioChar seeks to create predictable outcomes via the connection between the science and the applications of biochar.

Market areas that Scotia BioChar is working to further define include:

- Proving the application and expected outputs for farming. In Canada, farmers must reduce their fertilizer use by 30% by 2030, therefore making this paramount. Scotia BioChar anticipates receiving maximum CO₂ credits for this application.
- Manure management. Define the specific benefits for both biochar consumption by livestock for CO₂ reduction, and the addition of biochar to manure piles.

- Concrete production. Define the benefits relating to the strengthening of the concrete as well as the further, more permanent, carbon sequestration.
- Wastewater management. Determine specifications for reducing harmful wastewater and stormwater runoff.
- Penetrate the biochar market from a new standpoint of environmental benefits.

Over 18 months of researching the biochar market and the above stated applications has allowed Scotia BioChar to establish its path and develop a viable economic model. Scotia BioChar is currently establishing its strategic sources for capital, to allow expansion from one plant to five, once operationally successful, in 2023. Scotia BioChar's science-based model has a broader range for environmental benefit than solely operating one plant.

Woody biomass is readily available across Canada. The global market for CO2 credits is nascent and expected to grow rapidly as it moves towards a balance between supply and demand. This balance could take years to achieve.

Scotia BioChar has targeted a range of capital partners who are operating under a non-disclosure agreement. Scotia BioChar is open to discussing, in more detail, our path and model with any firm that sees value in participating in this journey.

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The Company

Scotia BioChar is a standalone entity and start-up project company. It has been formed around a need for the midstream product, biochar.

Scotia BioChar is a sister company to Labrador Sands Inc. (LSI), whose efforts are focused on the beneficiation of its mineral sands deposit in Labrador. Once in production, Scotia BioChar plans to partner with LSI for the use of their sands. Mixing LSI's silica sands with this biochar, will create the first carbon neutral production of silicon carbide, globally.

Scotia BioChar's parent company is Grand River Ironsands Incorporated, who's largest shareholder, Metalo Manufacturing Incorporated, trades on the CSE under the ticker MMI.