



Bioeconomy Opportunities: Lil'wat Forestry Ventures

**Case Study:
Research**


**August
2024**

Foresight's Net Zero Innovation Network in British Columbia

Foresight Canada helps the world do more with less, sustainably. As Canada's largest cleantech innovation and adoption accelerator, we de-risk and simplify public and private sector adoption of the world's best clean technologies to improve productivity, profitability, and economic competitiveness, all while addressing urgent climate challenges.

Foresight's Net Zero Innovation Network in British Columbia de-risks and builds capacity for sectors working towards decarbonization and sustainability. Through our network and working groups, we partner with industry and develop solutions by building projects with innovators, academia, government, communities, and First Nations.

Tapping into BC's powerful natural resources, BCNZIN fosters collaboration and connection across four sectors:

 <p>Mining</p>	 <p>Transportation</p>
 <p>Forest Bioeconomy</p>	 <p>Water</p>

We gratefully acknowledge the financial support of Pacific Economic Development Canada and the Province of British Columbia through the Ministry of Energy, Mines, and Low Carbon Innovation.



Executive Summary

In the Southwest of BC, burning restrictions prohibit harvesting and fire prevention activities in some forested regions. This led Lil'wat Forestry Ventures (LFV), an economic development venture with traditional forestry activities and assets, to consider new pathways to remove forest waste sustainably. Furthermore, LFV considered how this biomass could be used in a value-added process to generate a new revenue stream for the First Nation. Having pre-identified biochar, a rich form of solid carbon, as a potential solution, LFV wanted to understand:

- The best small-scale biochar technology for forestry residuals in the local region
- North America's market for biochar

Foresight's work with LFV bolstered their decision to begin work on a new biochar venture project that could benefit the First Nation, local economy, and environment, including potential to:



Create New Jobs for the Community



Divert Wood Waste in the Broader Region



Reduce Wildfire Risk



Sequester Carbon

Finding the Biochar Opportunity

Lil'wat Forestry Ventures contracted Foresight to conduct a market study that would address their questions and support the development of a prospective biochar venture. The study's initial goals were to identify within North America:



Known Commercial Uses of Biochar



Technologies Available for Biochar Production



The Biochar Market and Carbon Credits



Funding Opportunities Available to Scale Project



Three-Phased Research Process

With LFV's goals in mind, Foresight's in-house research team used their expertise to compile what became a three-phased research process.

Phase One identified:

- Market data on potential competitors
- Large—and small-scale biochar production technology acquisition options
- Available prices for certified biochar-based carbon credits
- Available offtake options such as agriculture and horticulture markets.

These findings contributed to LFV's decisions to acquire the chosen biochar production technology and move forward with the venture.

Following the success of the first phase of research, LFV proposed a second phase to investigate the opportunity for their chosen technology to compete with existing wood waste disposal services in their operating market.

Phase Two evaluated:

- The opportunity of the wood waste disposal venture using LFV's chosen technology
- The assumed competitive advantages of LFV's chosen technology by comparing and contrasting it with publicly available information on comparable technology in the market and other local sources of biochar

After completing a successful second phase of research, a third and final phase expanded our shared understanding of biochar and its regional offtake options.

Phase Three identified:

- A business plan for LFV to sell and produce biochar utilizing an expanded analysis of Phase One research, including an evaluation of the venture's competitors, customers, and alternative revenue opportunities such as carbon credits.
- Quality standards for biochar based on best practices and assess the assumed quality of biochar produced by the chosen technology, compared to these standards.

Tangible Research

Outcomes

Our research helped LFV confirm biochar as a commercially viable endeavour for by identifying key offtake options, assessing biomass transportation costs, comparing biochar technologies, and analyzing the carbon credit market. We further bolstered their confidence in this endeavour by evaluating competitors and potential customers, identifying funding sources, and developing a scale-up business plan for LFV.

By the conclusion of our contract, Foresight's research team:

- Reviewed over 90 reports and academic papers to complete a thorough review of:
 - The scientific validity of biochar's merits as a commercial product
 - Available offtake options
 - The economics of biomass transportation in the region
 - Global product standards.
- Identified over 30 commercial biochar technologies in North America and their operating specifications, to compare and contrast with LFV's chosen technology.
- Analyzed the state of the biochar carbon credit market to identify average prices.
- Conducted market research on 100+ potential competitors, including biochar producers and wood waste removal services, and used internal data to profile the forest bioeconomy ventures in BC that may compete for local wood waste (e.g., biofuels, bioplastics, engineered wood products).
- Analyzed the potential customer base and conducted introductory market research on 40+ agriculture and horticulture companies.
- Reviewed 20 potential non-dilutive funding sources and created a shortlist of 7 for LFV to pursue that could support the venture.
- Developed a business plan for the scale-up of the venture, including a project budget.

Access **Tailored** Research

Our collaboration with LFV is an example of the power of quality research to transform concepts into tangible action plans. Our exceptional in-house research team uses their in-depth knowledge of innovation, economics, policy, science, and the environment to accelerate clean technology adoption. With the client's unique needs in mind, we collect, analyze, and distill information on technologies and markets to accelerate the deployment of critical cleantech solutions to global climate challenges.

Can we help with your research?

Contact Courtney Elliott
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