

Groupe Savoie Biomass Recovery Challenge

Program Guide

Introduction

Groupe Savoie is seeking innovation to improve the efficiency, cost-effectiveness, and sustainability of the extraction and transportation of hardwood biomass from cut sites.

Overview

This challenge aims to enhance Groupe Savoie's efficiency in harvesting forest biomass, making it a viable source of biofuel. Successful solutions may involve innovations or modifications in forestry harvesting equipment and techniques, as well as the creation of logistical and data-driven tools to optimize the deployment of equipment and personnel.

A successful solution will:

- Recover an additional 15,000 tons of biomass for the same volume of roundwood harvested
- Ensure consistent supply to pellet mill and create opportunities to sell volume for green energy projects
- Reduce extraction costs by \$4/ton over 35,000 tons, saving \$140,000 annually.

Proponents should also consider the following for hardwood biomass extraction:

The successful technology will boost Groupe Savoie's extraction yield while minimizing fuel consumption through innovative solutions. Preferred solutions should address one or both of the following: streamlining operations to reduce equipment use, process complexity, and/or increase productivity. Stages 1 and 2 of Groupe Savoie's current biomass recovery process are shown below.

Stage 1: Recovering Biomass in Cut to Length Operation

Technologies should aim to:

1. Eliminate buncher from the harvesting process
2. Improve the fuel consumption of extracting round wood and roadside biomass by 30 - 50%.
Strong technology solutions will achieve a greater than 50% reduction in fuel use, which is

the desired outcome. Solutions offering 30 - 50% fuel savings are valuable opportunities to explore.

Table 1: Recovering Biomass in Cut to Length Operation -Current Fuel Consumption

Equipment	Consumption (L/hour)
Buncher	38
Processor	21
Forwarder Rnd Wood	15
	74
GMT/PMH Rnd Wood	15.5
GMT/PMH Biomasse <i>Generated on field</i>	3.41
Forwarder Biomass (L/PMH)	11
Production GMT/PMH <i>(1.8 load x 5.4 tmv)</i>	9.72
# Liters/GMT Biomasse <i>Biomass roadside</i>	23.7
Volume per year (GMT)	25,000
Hours needed	2,572
Fuel needed for the 25K <i>(for 25 000 tmv of biomass)</i>	61,054

* GMT (Green Metric Ton)

* PMH (Productive Machine Hours)

Stage 2: Adapted Forwarder

Technologies should aim to:

1. Increase Green Metric Tons per load. The low density and high volume of the biomass collected limit the mass of the material that is currently moved using the forwarder. This equipment can handle up to 20 tons of dense wood per load, but only 5.6 tons of the smaller wood and branches that make up the biomass to be harvested.

2. Improve biomass extraction's fuel consumption by over 20 - 40%. Strong technology solutions will achieve a 40% reduction in fuel use, which is the desired outcome. Solutions offering 20 - 35% fuel savings are valuable opportunities to explore.

Table 2: Adapted Forwarder -Current Fuel Consumption

Load	Consumption (L/hour)
Consumption (L/PMH)	11
# load per hour	1.8
GMT per Load	5.4
Production GMT/PMH	9.72
# Liters/GMT Biomasse <i>Biomass roadside</i>	1.1
# HMP per year	2572
Fuel needed (# liters)	2911

* GMT (Green Metric Ton)

* PMH (Productive Machine Hours)

Key Details

Challenge Outcomes

This Challenge offers a unique opportunity for the Challenge winners to collaborate directly with Groupe Savoie on a 12-month pilot, showcasing their solution in a real-world environment. The winners will gain industry recognition and the chance to make a significant impact on sustainable forestry practices.

Key Challenge Dates

- **Challenge Open:** January 13, 2025
- **Challenge Informational Webinar:** February 4, 2025, 1:00 pm AST | 9:00 am PT
- **Challenge Closes:** February 21, 2025
- **Winners Announced:** March, 2025

Eligibility and Assessment Criteria

- Improves efficiency in hardwood cut plots
- Technology Readiness Level (TRL 6-8)
- Applicants anywhere in the world can apply
- Willingness to pilot with Groupe Savoie

About the Challenge Partners

Groupe Savoie

Founded in 1978, Groupe Savoie has built a strong reputation as a leading producer of a wide range of top-quality hardwood products, including pallets and pallet components, cabinet and furniture components, hardwood lumber, tone wood components, ecological fuels, wood chips, and more. Their vertically integrated business model ensures optimal processing and transformation of forest resources into premium hardwood products.

Groupe Savoie's vision is to be a company recognized for adding the maximum value to available forest resources. Their mission has always been to manufacture products of exceptional quality—all while ensuring sustainable forest practices and contributing to the development and quality of life of our employees and communities.

New Brunswick Innovation Foundation

The New Brunswick Innovation Foundation (NBIF) helps people propel their innovative ideas onto the global stage. Since 2003, NBIF has invested more than \$175M into startup businesses and applied research in New Brunswick. These foundational investments have attracted an \$825M of additional investment, giving New Brunswick innovators \$1B to take their ideas further.

Foresight Canada

Foresight Canada helps the world do more with less, sustainably. As Canada's largest cleantech innovation and adoption accelerator, they connect public and private sectors to the world's best clean technologies, de-risking and simplifying the adoption of innovative solutions that improve

productivity, profitability, and economic competitiveness, all while addressing today's most urgent climate challenges.

Since 2013, Foresight has supported 1370+ ventures, 150+ industry partners, and 300+ investor firms to deploy \$2.16B in capital, achieve \$534M in revenues, and create 8,980+ high-paying jobs. Our domestic and international engagement includes working in collaboration with 2,000+ rights holders and partners.

Terms and Conditions

Registration and Application Submission

In order to participate, applicants must register and complete the application form in full. All applications must be in English and adhere to the requirements specified in the various sections of the online form (including the requisite attachments to support the submission). Applications not respecting the requirements may be rejected.

The deadline to submit an application is 11:59 pm PT, February 21, 2025. All applications must be submitted through the Challenge's application platform. Any submissions sent to the Challenge mailbox or made after the deadline will not be accepted. Applicants are encouraged to complete their submissions well in advance of the deadline. Partial or incomplete submissions will not be eligible for review. All required content must be uploaded and entered into the Challenge platform, and the submission must be finalized by completing all necessary online steps for the application to be considered complete before the deadline. Only the specified information requested in each section of the application will be reviewed. Any links to additional material or information submitted outside of the application form will not be considered during the evaluation. Applicants will receive an email confirming receipt of a completed submission.

Project-specific feedback will not be provided for unsuccessful applicants.

Intellectual Property

Proprietary information belonging specifically to the manufacturer/solution provider will not be shared outside of the project team. Information that is required for the evaluation of submissions or other necessary competition functions will be shared only within the project team.

Confidential information that is collected, used, or disclosed by Foresight will be handled in a manner that recognizes both the right of the individual to have their confidential information protected and the need of Foresight to collect, use, and disclose such information for the purposes of determining the Challenge winners and ensuring a fair process.

Contact

If you have any questions regarding this Challenge, please send them to:
challenges@foresightcac.com