Innovative Woody Biomass Supply Chain Optimization

**Project Objectives**

1. Improve the economics and efficiency of logistics for the utilization of woody feedstock from environmentally sustainable sources,
2. Evaluate the potential for using new or presently underutilized woody biomass from forest and afforestation sources,
3. Develop user-friendly guides for knowledge transfer of information generated for various mid supply chain options, and
4. Generate optimization and mid supply chain data to increase the confidence of existing models and tools.

**Woody Biomass Options**

- **Purpose Grown**
  - Short Rotation Woody Crops
  - Concentrated Biomass
  - High Yield Afforestation

- **Opportunity**
  - Harvest Residues
  - Regenerating Forest Stands
  - Strip Thinnings
  - MPB Rehabilitation
  - Plantation Management
  - Wildfire Salvage

**Innovative Harvesting Options**

- Fecon Bio-Harvester
- Anderson Bio-Baler
- AAMC/CWFC Biomass Harvester
- Chipper
- Mulching Head
- High Compaction Baling System
- 800-1000kg Bales

**Project Components**

- Transportation Options
- Biomass Characterization + Facility Requirements
- Operational Productivity Analysis
- Woody Biomass Valuation Modelling
- Mid-Supply Chain Systems Development
- Technology Transfer

- Identifying Woody Biomass Options
- Harvesting Options
- Compaction and Densification Options

**Potential Product Options**

- Conventional
  - Landscape Mulch
  - Pellets
  - Briquettes
  - Feedstock for CHP

- Emerging
  - Drilling Mud Biomass
  - Bio-Oil
  - Activated Carbon

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**Team Members**

- Project Leads: Derek Sidders and Tim Keddy
- Project Team: Brent Joss, Jared Salvai, Laura Chittick, Melissa Gelineau
- Canadian Wood Fibre Centre

**Cooperators**


**Project End Products**

- Mid-Supply Chain Systems Technology Transfer – Field Demonstrations

**Processing Options**

- Secondary Processing Required Prior to End-Product Manufacturing
- Grinding and Chipping
  - Horizontal Bed and Tub Chipper and Screening
- Compaction and Densification
  - Gyro-Trac BBS
  - Mobile Pellet Plant
  - Mobile Briquetting Plant

**Project TBC (019)**

Innovative Woody Biomass Supply Chain Optimization: Development of innovative techniques and technologies to cost effectively harness and deliver woody biomass sources for a sustainable Canadian bioenergy industry. – Project Leader: Derek Sidders, CWFC

**Canadian Wood Fibre Centre**

Working together to optimize wood fibre value – creating forest sector solutions with FPinnovations