



Ontario's Forest Biomass Action Plan Recommendations

ERO# : 019-3514

CHAR technologies Ltd. is pleased to submit the following recommendations to the *Ministry of Natural Resources and Forestry*: Ontario Forest Biomass Action Plan.

Recommendations

- 1. Regulatory Burden Restrictions: Thermochemical conversion, pyrolysis, should not face the same regulatory hurdles as the Wood-Fire Combustor Program.** Pyrolysis, by nature, is not a combustion process. There is no oxygen present to initiate a combustion event. Companies implementing thermal processing are required to meet burdensome criteria to demonstrate and ensure proper combustion even though by design combustion doesn't take place.
- 2. Regulatory Burden Restrictions: Thermochemical conversion should not have to comply with the Renewable Energy Approval Process (REA).** The use of forestry biomass to create renewable gases, such as green hydrogen and renewable natural gas (RNG), may trigger the REA process. REA is designed for large land impact technologies, such as wind power, yet the small footprint of pyrolysis systems might have to go through this process - which is a 5-year undertaking. This poses large challenges to further innovation and advance forestry biomass use with such burdens.
- 3. Streamline Permitting: Reduce the length of the regulatory process for Non-Combustion Thermal Process.** Consider adding forestry biomass processing, non-combustion thermal processes, to the Environmental Activity and Sector Registry (EASR). This would significantly reduce the time requirement to meet the current regulations.
- 4. Forest Bioenergy and Bioproducts: Include "black-pellets" in the Ontario Bioheat Initiative.** Black-pellets, also known as advanced wood pellets, are biocarbons while white pellets are pelletized wood. Unlike white pellets, black-pellets can be made from woody-biomass, using pyrolysis technology, to create two simultaneous value streams, renewable natural gas (RNG) and biocarbons "black-pellets" to be used as a substitute for traditional coal.
- 5. Pathways to Markets for Forest Biomass: Develop Life Cycle Assessment (LCA) to determine Carbon Intensity (CI).** The development of a proper LCA would allow Ontario companies access to lucrative foreign marketplaces via pipelines from Ontario. This would significantly aid Ontario companies ensure projects are financially viable.
- 6. Pathways to Markets for Forest Biomass: Increased support for the Centre for Research and Innovations in the Bio-economy (CRIBE).** CRIBE continues to be a value add to the Bio-economy. Any additional resources that can be provided to CRIBE increase their ability to facilitate innovation.

7. Suggested Graphic Additions:

Page 4 - Forest Biomass Advantage Chemicals:

- Include “activated charcoal” to the Chemicals Examples of Current Uses list.
- Include “biocoal and bio-coke” to the Examples of Emerging Uses

Page 6 - Deployable Technology Pathways for Low Grade Biomass Figure 1:

- Pyrolysis Syngas should also point to “Precommercial Development Stage: Renewable Gas”

On behalf of CHAR Technologies, I would like to thank the Ministry of Natural Resources and Forestry for the opportunity to contribute to the Ontario Forest Biomass Action Plan. Please don't hesitate to contact CHAR to participate in any initiatives that further Ontario's Bio-economy.

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