

Assessing the carbon abatement potential of forestry residue biochar in British Columbia

About the projects

British Columbia's (BC) agricultural areas show limitations in term of soil's fertility and a systematic loss of soil carbon over time. In addition, an estimated 2.7 million dry metric tonnes of unused residues from BC's forestry industry are discarded every year.

Biochar (a carbon rich sub-product of biomass pyrolysis) is increasingly studied for its ability to improve soil fertility and sequester carbon.

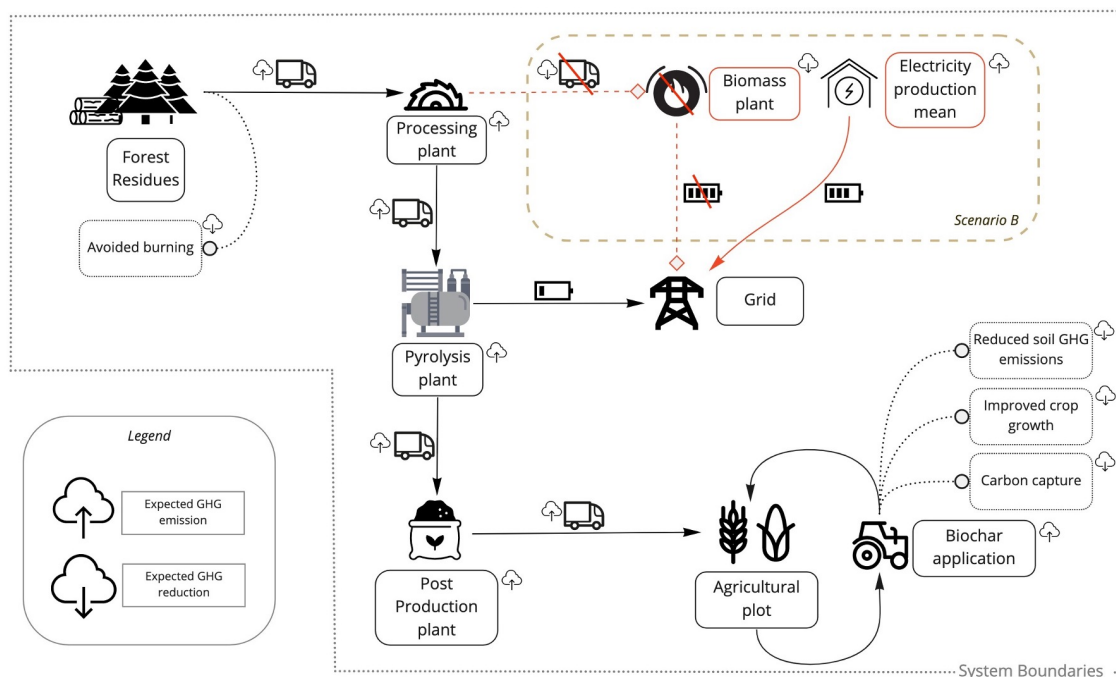
Producing biochar from these residues and applying it on agricultural fields could help processing the available biomass, potentially improve soil fertility, and sequester carbon.

This project aims to provide a comprehensive appreciation of the net carbon capture potential of using forestry residues as feedstock for biochar production and use throughout BC. The carbon capture potential will be assessed by balancing the greenhouse gas emissions associated with the production, transport, and amendment of the biochar on agricultural fields following a life cycle assessment approach, with a model of the soil carbon.



Doing so, the project aims to identify areas with high carbon capture potential and, conversely, areas with limited to no carbon capture potential through biochar addition.

The project's outcome will provide novel and highly valuable insights to both the science and policy communities, answering a biomass management and soil fertility decline challenge while providing long term carbon capture solution.



Project Highlight:

Using a soil carbon modeling and life cycle assessment approach, UBC researchers are mapping the carbon capture potential of biochar on the agricultural areas of British Columbia.

The Team:

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