

Project Description:

This project involves investigating combustion characteristics and pollution emissions of burning fast pyrolysis oil (also called bio-oil) in a small sized burner. Fast pyrolysis oil is a renewable fuel produced via thermal decomposition of biomass. It has potential to replace heavy fuel oil in many applications. Our project is a part of bigger project funded by the Government of Canada's Energy Innovation program which seeks reduction in green house gas emissions from pulp and paper industry by Co-firing fast pyrolysis oil at the Domtar's Mill located in Windsor, Quebec. Domtar operates 29 facilities around the world and is one of the largest manufactures of pulp in the world. The project aims to develop innovative technology that can produce advanced fast pyrolysis liquid which then can be burned to increase mills energy efficiency by 50% and reduce GHG emissions by 100,000 tons of CO₂ per year.

The project goal is to present Domtar with a set of recommendations and conclusions on combustion behaviour and commercial viability of that newly produced fuel.

Project Requirements:

1. Knowledge of combustion and fuels
2. Knowledge of LabVIEW
3. Knowledge of CFD
4. Hands on experience of working with tools
5. Knowledge of operating emission measurement equipment (e.g. FTIR, FID) will be a plus
6. Previous work experience in a laboratory or industry will be a plus