

## **Biomass as a Source of Heat for Greenhouse Industry in Lower Mainland BC**

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### **Poster**

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This paper presents an analysis of the impacts of technical and market changes on the economic feasibility of wood biomass to produce heat for an average-sized greenhouse in British Columbia. A previous techno-economic analysis determined that the installation of a wood pellet or a wood residue boiler to generate 40% of the greenhouse heat demand is more economical than using a natural gas boiler alone (Chau et al. 2007). As forecasts of future conditions are always uncertain, thorough sensitivity analysis is needed to avoid unfavourable decision. This paper extends the previous techno-economic study by assessing the effect of fuel price, energy contribution, and greenhouse size changes on the NPV of using a wood pellet or wood residue boiler with or without an electrostatic precipitator (ESP). The attractiveness of wood biomass projects will increase if carbon tax is applied to fossil fuels. Changes in energy contribution and greenhouse size will not affect the economic feasibility of a wood residue boiler. The installation of wood pellet boiler is economical for average-sized greenhouses (7-10 ha) and energy contribution of up to 70% of the total heat demand.