Sonja Wilson holds a Bachelor’s degree in Mechanical Engineering from the University of Alberta, and spent over four years working in industry before beginning her Master’s degree in Resource Management and Environmental Studies at the University of British Columbia. Sonja’s field of expertise is thermo-fluid systems, with her experience in industry focused on heat exchangers, boilers, combustion, micro-combined heat and power, and fluid handling systems.

Sonja’s research interest is in biomass-based combined heat and power systems for off-grid communities, specifically biomass gasification. Sonja’s goal is to synthesize the current academic literature and manufacturer data into a form that will aid communities, investors and decision makers in determining whether biomass gasification is a viable alternative to a fossil fuel based energy system in their community; and to present the basic system configuration alternatives so that they can be evaluated on their suitability to individual community requirements and resources.

Sonja is also interested in studying the direct and indirect benefits of replacing fossil fuel-based energy systems with biomass-based systems. These benefits include environmental effects such as improved local air quality, reduced risk of soil and groundwater contamination from leaking fuel tanks, and reduced GHG emissions; and socio-economic benefits such as job creation, revenue generation and self-sufficiency.