A comparative life cycle analysis of various coal-biomass cofiring scenarios in the Philippine context

D.W. Martinez*¹, N.S. Lopez¹

¹De La Salle University, Philippines

Abstract

The study assesses the net environmental impact of deploying biomass cofiring in terms of GHG emissions in the province of Philippine context. The methodology involves the resources and logistics mapping stage and the environmental life-cycle assessment stage. The first stage includes biomass resource assessment to specify the biomass material and potential biomass share for cofiring at the actual technological capabilities for cofiring. Biomass resource assessment selects the most dependable biomass feedstock for cofiring from different locally available biomass: forest residues, agricultural residues, and energy crop. The second stage sets up the base case scenario which consider combustion of pure coal only and two cofiring scenarios with the most dependable biomass type at different biomass shares as drawn from the previous stage. Results reveal important insights with potential energy planning and policy implications.