CHAPTER V

CONCLUSION AND RECCOMMENDATIONS

This study is to investigate the GHG emissions of an academic organization in Thailand. The Department of Environmental Engineering, Chulalongkorn University, was selected as the organization for this case study and its major GHG emission sources were evaluated and identified. The results show that energy use contributes to the highest portion of GHGs, accounting for 61.5% of the overall. GHG emissions from the department, followed by transportation, waste, and material use. The combustion of fossil fuels for electricity production releases greenhouse gases into the environment, and especially as electricity prices are currently rising, energy efficient use can result in both cost savings and pollution prevention. All means of transportation, apart from walking and cycling which are negligible, cause emissions. The worst means of transport are planes and cars, where the gases emitted are calculated according to the number of passengers, the efficiency of the mode, and the distance traveled. Waste minimization and management by recycling materials is more environmentally friendly than disposal in landfills. Moreover, landfill taxes are also increasing, and therefore alternative sophisticated ways should be introduced. Many products are eco-friendly, thus saving the energy required to generate new materials. The carbon footprint per capita of the department was 1.08 tCO_2e per person in 2009. This finding may at least point to inefficient energy use in the building where the department is located. Therefore, implementation of energy conservation measures is expected to cut down a substantial amount of energy consumption, which in turn would mitigate overall GHG emissions. An incentive program to create and raise awareness of energy consumption among the people in the institution is also of importance. The methods used in this case study can be extended to calculate the carbon footprint of the entire university or another academic institution. A carbon footprint database for the academic sector can help to enable the government to develop a long-term nationwide strategy for GHG emission reduction in academic institutions.