

Laboratory Sustainability Initiative: Recycling Glass and Plastic Wastes from Research and Teaching Laboratories (SPF0131)

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Significant volume of plastic and glass waste are discarded in research or teaching labs in McGill. Many of these items are singly-used prior to disposal (e.g. packaging, media bottles, solvent containers), non-hazardous and could readily be recycled if the proper infrastructure was in place.

To estimate how much **non-hazardous, plastic and glass waste** are generated in McGill labs, a pilot project was executed for over a period of 8 weeks. **A weekly average of nearly 118 lbs. of plastic and 305 lbs. of glass** recyclables was collected across 16 predominantly research labs. A conservative estimate based on pilot data and the total number of wet labs (~800) across campus, would be more than *130 tons of plastic and 360 tons of glass waste that could be recycled annually.*

To fully understand the environmental implications of a full-scale recycling project, we suggest to perform *Life Cycle Analysis (LCA)*. Performing LCA will determine if the full scale recycling project is an environmentally sound option, which steps would be bottle neck in terms of environmental burdens and more importantly net greenhouse gas emission, energy consumption and saving in carbon footprint in recycling processes compared to alternate waste management options.