

Qatar University Life Science Symposium 2016: Biodiversity, Sustainability and Climate Change, with Perspectives from Qatar

## Waste audit: Pathway to attain sustainability at Qatar University

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### ABSTRACT

Waste audit has proved to be a valuable first step in development of a viable waste minimization and recycling program. Waste characterization has been successfully used at many educational institutions in the United States and elsewhere for advancing campus sustainability plan. As part of the requirements for the special topic course: "Solid and Hazardous Waste Management," taught by the first author at the Department of Biological and Environmental Sciences, Qatar University, in Spring 2016, students conducted waste audit of selected buildings on the campus. The designated buildings were visited before performing the waste audit and a questionnaire was used to record vital information about each building. Using common materials along with a portable electronic balance, the students sorted the waste into various categories to determine relative amount of each type generated at a particular building. The audit was conducted twice at each of the four buildings to obtain an average value. While the waste stream at the four buildings consisted essentially of paper, plastics, metals, and food waste, it was found that the relative abundance of each of type of waste was a function of the purpose and use of the building. Details of the waste audit procedure, materials and methods, along with discussion of the results obtained are included in the presentation. Results of the waste audit should provide baseline data for developing a sound waste minimization and recycling program at Qatar University. This information, combined with assessment of energy and water use on the campus, would serve as major steps in reduction of greenhouse gases by preventing recyclables from ending up in landfills; saving natural resources by increased recycling; and conservation of energy and water resources. Recommendations are made for expanding waste audit to cover all buildings on the campus to obtain comprehensive data for advancing Qatar University's sustainability plan. We recommend that a concerted effort be initiated to encourage the campus community to sort paper, plastic, metal, and food waste before tossing them into the trash receptacles; avoid co-mingling the waste, and to practice energy and water conservation.

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