

Waste Characterization Survey, Qatar

EDESSA was retained by Keppel Seghers, acting on behalf of the Ministry of Municipal Affairs and Agriculture (MMAA), to conduct a waste characterization study for the entire wastes generated in the State of Qatar. The results of the study were used by Keppel Seghers to assist in the following:

- The design of waste recycling system with a Domestic Solid Waste Management Center (DSWMC) that accommodates 1,550T/d of mixed waste materials. Operations at the facility will include the sorting of organics, plastics, ferrous/nonferrous metals, paper/cardboard, and glass from other waste constituents for potential recycling.
- The design of waste to energy incineration plant.
- The design of compost plant for treating organic fractions within the Municipal Solid Waste (MSW).

The Waste Characterization survey was conducted in accordance with ASTM D 5231-92, “Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste”. A total of 21 samples of about 150kg were randomly selected from various sources within the entire country and sorted over a period of one-week.

Each waste component was sub-classified into the following different categories:

- **Plastics:** HDPE, PET, LDPE, PVC;
- **Glass:** Clear, Brown, Green;
- **Putrescibles:** Garden, Food;
- **Paper/Cardboard**
- **Textiles**
- **Ferrous Metals:** Steel cans, Other materials;
- **Non-Ferrous Metals:** Aluminum cans, Other materials;
- **Miscellaneous:** Combustible, Non-combustible.

Furthermore, a single waste component was also sub-classified in terms of sizes (<45mm or >45mm).

Following the completion of the survey, the data was analyzed and the results were presented in order to provide the best estimates of waste composition.

As part of the project, randomly collected samples during the seven-day survey duration were analyzed for chemical and calorific values using internationally approved standards. The samples were shipped daily to accredited laboratories in Lebanon for the analysis the following parameters:

- Carbon
- Chloride
- Hydrogen
- Nitrogen
- Oxygen
- Sulfur
- Moisture Content
- Inert Content
- Total Organic Carbon

