

Development

ACTIVITIES PERFORMED IN THE PROJECT

Energy Background Analysis in Chile: The first stage of the project was focused on the analysis of the energy market in Chile. Actually, the Chilean energy policy is directed towards the diversification of the energy matrix. The base for the matrix is the generation of electricity from non-conventional renewable energy sources (ERNC in spanish). Waste Energy Recovery (WER) presents itself as an interesting alternative to explore. WER can be used to complement the energy matrix of the country and recover the waste that usually ends up in landfills.

Waste Classification: During the project there three waste classification campaigns entering the Quilicura Transfer Station (QTS); Winter and Spring of 2008, and Summer of 2009. The waste came from 24 different municipalities around the Santiago metro area and they were classified in 20 categories. Humidity and density tests were performed for each classified waste sample.



Weighting and identifying the samples



Measuring the volume and apparent density



Sorting the initial sample



Extracting the sample for analysis



Sorting the waste into manageable samples

Waste Heat Power Analysis:

Every waste sample classified was analyzed. We were able to calculate the heat power of the waste entering the QTS. The results show the an energy recovery factor when samples are incinerated.

Weighting different samples



Waste Treatment, Life Cycle Analysis: The work performed by the Swedish Research Institute (IVL) applied the Waste Management Planning System (WAMPS) technique to the information obtained from the waste samples collected in the different municipalities around the Santiago metro area. WAMPS was developed by IVL and it allows to analyze the life cycle of the sample and calculate the energy produced, emissions, and related cost related with the different types of handling given to the waste samples.

Preparing humidity samples.
Humidity measurement after drying process.

