l and scope definition, inventory
ment and interpretation.

II. METHODOLOGY

2.1 Life Cycle Impact Assessment (LCIA)

Life cycle impact assessment involves the classification of emissions to appropriate impact categories. Impact categories include global warming, depletion of stratospheric ozone, eutrophication, acidification, photo-oxidant formation and many more.

2.2 Methods for LCIA

There are many existing LCIA methodologies, which differ upon the importance weights assigned to the impact categories considered
The six methodologies utilized are

1. Critical Volumes [2] – relative environmental impact is measured in reference to Philippine air quality limits.
2. Ecological Footprint [3] – translate the environmental impact based on the required area for sustaining the process considered. Area includes that needed for raw material extraction, energy provision, physical installations, staff support and waste dissipation in the ecosphere.
3. Environmental Design of Industrial Products (EDIP) [4] –
   The normalized total impact for category (j), NEP(j), is determined using:

   $$NEP(j) = EP(j)\,(T \times ER(j))^{-1} \qquad (1)$$

   Where: EP(j) is the total impact for category
   T is the projected service life in years of the product functional unit
   ER(j) is the actual impact generated by the average person
4. Chemical Exergy
   The general chemical exergy for equation for mixtures is shown in Equation 3 where x is the mole fraction, T is the temperature, R is the gas constant and e is the exergy value.

   $$e^{ch} = x_i\, e_i^{ch} + RT_o x_i \ln x_i \qquad (3)$$

III. RESULTS AND DISCUSSION

The results are shown below