

## INDICATOR DATA SHEET

**Indicator:** Emissions of greenhouse gases

**Definition:** National aggregate of man – made greenhouse gases, GHG emissions: Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>) and Nitrous Oxide (N<sub>2</sub>O)

**Category:** Environment

**Theme:** Air

**Type:** Pressure

**Unit:** Gigagrams of CO<sub>2</sub> equivalent per year.

### Calculation Method

Methane and Nitrous Oxide emissions are converted into CO<sub>2</sub> equivalent by using global warming potentials (GWP).

GWP is calculated as follows: for CO<sub>2</sub> x 1  
for CH<sub>4</sub> x 21  
for N<sub>2</sub>O x 310

For example:

Total emissions of greenhouse gases in year 1994 =  
13803.1702 Gg of CO<sub>2</sub> + 21(52.41502 Gg of CH<sub>4</sub>) + 310(3.13208 Gg of N<sub>2</sub>O)  
= 15874.83 Gigagrams of CO<sub>2</sub> equivalent

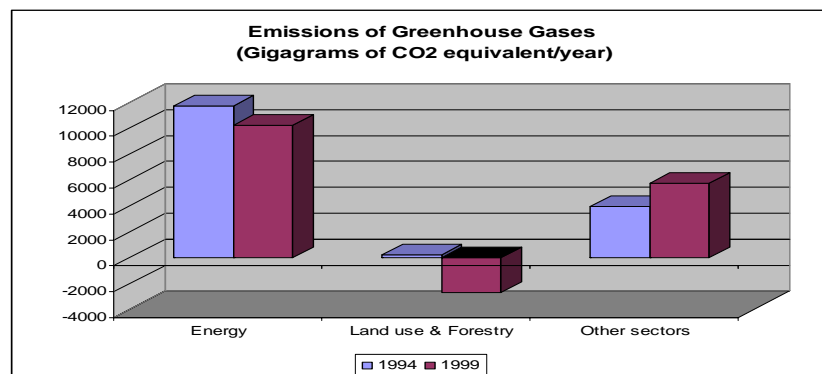
| Data Needed  | Source                  |
|--|-------------------------|
| Ambient air emissions of CO <sub>2</sub> per year  | Ministry of Environment |
| Ambient air emissions of CH <sub>4</sub> per year  | Meteorological Services |
| Ambient air emissions of N <sub>2</sub> O per year |                         |

### Frequency for Updating:

Five years

### Comments:

Other sectors include industry, agriculture and waste.



| Year              | Energy     | Land use & Forestry | Other sectors | Total     |
|-------------------|------------|---------------------|---------------|-----------|
| 1994 <sup>1</sup> | 11733.474* | 206.247*            | 3935.109*     | 15874.83* |
| 1999 <sup>2</sup> | 10195.1*   | -2662.6585*         | 5734.9815*    | 18592.74* |

\* The values are expressed in Gigagrams of CO<sub>2</sub> equivalent

### Source of Data / Year:

1-Lebanon's First National Communication under the United Nations

Framework Convention on Climate Change. Ministry of Environment, 1999

2- Lebanon's First National Communication, Summary Report, July 2002. MoE 2002

**Geographic coverage:** National

