Purifying the data

From the data that has been selected, particular modifications are made to enable the utilization of the statistics to calculate carbon dioxide emissions for the purposes of making policy analysis. Specifically:

- The Energy Balances include a listing of non-energy use of energy sources. This includes the use of petroleum products such as white spirit, paraffin waxes, lubricants and bitumen. As their use is *non-energy*, they are not *initially* combusted. Non-energy use does not, therefore, contribute immediately to carbon dioxide emissions. Therefore, from total primary energy requirements and total final consumption is deducted the figure for total non-energy use. It is acknowledged that further down the fuel cycle, non-energy use may well make a small contribution to CO_2 emissions. For the purposes of this analysis it is not possible to quantify this contribution accurately. Suffice to say it exists but that it does not distort the results significantly.

- Within the total industry sector of the Energy Balances is a sub-section listing *petrochemical feedstocks* as a part of chemical industry. This covers all oil, including naphtha, used within the petrochemical industry. To avoid double counting of any emissions that may come from these products, they are deducted from the total industry, chemical, total final consumption and total primary energy requirement columns. As with non-energy use, this method of calculation is not 100 per cent accurate as some additional emissions may be generated by the feedstock products themselves.

The quantity of oil and natural gas (in Mtoes) utilized in feedstocks throughout the OECD is listed in Table One.

Calculation of Carbon Dioxide Emissions

It is to these modified energy balance tables that the emission factors are applied to enable the conversion of million tonnes of oil equivalent into million tonnes of carbon as a unit of CO_2 emissions. This is done on both a country specific and regional basis. The initial emission factors utilised are those applied by the OECD Environment Directorate as recorded in "*Greenhouse Gas Emissions: The Energy Dimension*", page 71. (A Working Paper submitted to the White House Conference on Science and Economics Research Related to Global Change, 17 - 18 April 1990) and recently published by the OECD/IEA. A full discussion of the calculation of these factors can be found within this document.