Air pollution in Jamaica comes mainly from industrial activities and motor vehicles. The main industries that contribute to air pollution in Jamaica are: bauxite\alumina, electricity and steam generation, cement and lime manufacturing chemical processing and petroleum refining. The rapid growth in motor vehicle fleets has also contributed to the obvious deterioration in air quality in urban areas, particularly in the Kingston Metropolitan Region (KMR) where the refinery and cement plants and some electricity and steam generating plants are located.

Did you know that the motor vehicle fleet in Jamaica doubled from 171,000 in 1993 to 348,000 in 1999 and gasoline consumption also doubled from 2 to 4 million barrels between 1989 and 1996?

**IMPORTANT FACTS**

A volatile organic compound (VOC) is a compound that contains carbon and hydrogen and has a low boiling point.

The estimated emissions from vehicles in 1993 was 65,416 tonnes of CO, 11,230 tonnes of NOx, 9,867 tonnes of VOCs and 156.8 tonnes of lead.

**IMPLICATIONS OF AIR POLLUTION ON HEALTH**

There has been ongoing concern in urban areas about air pollution and also from communities that are located near specific facilities such as bauxite alumina plants and the sulphuric acid plants. There are reports of increased incidences of respiratory diseases in urban areas as well as in the vicinity of bauxite alumina plants in Jamaica. Mobile sources emit nitrogen oxides (NOx), volatile organic compounds (VOCs) carbon monoxide (CO) and particulate matter into the atmosphere. In the presence of sunlight VOCs and NOx undergo photochemical and thermal reactions that result in the formation of photochemical smog. VOC emissions from mobile sources include organic compounds such as benzene that are called carcinogens. The particulate matter emissions from vehicles can enter the human respiratory tract and these are sometimes carcinogenic and toxic.
Air Quality monitoring is not currently conducted routinely in Jamaica. As a result, ambient air quality monitoring data are limited. With the advent of the NRCA in 1991, ambient air quality standards were developed and measures were initiated to monitor air quality.

There are however, plans for the establishment of a monitoring network for the collection of air quality data.

NEPA’S ROLE

As the lead agency responsible for environmental management, the National Environment and Planning Agency (NEPA) has a responsibility to implement programmes that will ensure the control of air pollution.

Some of these programmes are the development of standards and regulations, development of an air quality network and conducting air quality monitoring throughout the island. These programmes are implemented in collaboration with the Environmental Health Unit (EHU) of the Ministry of Health, The Jamaica Bauxite Institute (JBI), Jamaica Public Service Company (JPSCo), Petroleum Corporation of Jamaica, Meteorological Services and Transport Authority.

STANDARDS AND REGULATIONS

Some standards and regulations have been developed to ensure the decrease and ultimate prevention of deteriorating air quality. Some of these are:

- Ambient Air Quality Standards (gazetted August 1996)
- Vehicle Emissions Standards (May 1996)
- Stack Emission Standards (October 1996)
- Draft Ambient Air Quality and Stack Emission Regulations (September 1999)

Vehicle Emission Standards / Regulations

This was proposed for heavy duty vehicles, light duty vehicles and light duty trucks. The proposed regulations include Inspection and Maintenance Programmes whereby visual inspections will be undertaken. Such programmes will include checks for:

- Leaks in the exhaust system
- Presence and integrity of emission control systems (catalytic converter)
- Presence and integrity of fuel cap
- Integrity of evaporative emission control system
- Integrity of exhaust gas recirculation system

Currently the programme involves visual inspection of vehicles in that, once a vehicle is discharging emissions that obscure visibility the plate is removed and a ticket issued for the vehicle to be repaired.