

# Air Quality

Air quality in the country is monitored continuously and manually to detect any changes in the ambient air quality status that may cause harm to human health and the environment.

## Continuous Air Quality Monitoring (CAQM)

The Department of Environment (DOE) monitors the country's ambient air quality through a network of 51 stations. These monitoring stations are strategically located in residential, traffic and industrial areas to detect any significant change in the air quality which may be harmful to human health and the environment. The CAQM stations are divided into five (5) categories. Out of 51 stations established in Malaysia, 26% are industrial stations, 57% are residential, 2% traffic, 2% background and 13% PM10 stations. Parameters measured in 4 categories of CAQM stations:-

Category	Sulphur Dioxide	Nitrogen Oxides	Carbon Monoxide	Ozone	Hydrocarbon	PM10	UV
Industrial	X	X	-	-	X	X	-
Residential	X	X	X	X	X	X	X
Traffic	X	X	-	X	X	X	-
Background	X	X	X	X	X	X	X
PM10	-	-	-	-	-	X	-

Data from all CAQM stations are pooled hourly and telemetrically by DOE to calculate the Air Pollutant Index (API) values.

## Criteria

The CAQM monitoring locations are chosen based on the following criteria:-

- Results of past and current monitoring;
- Representativeness;
- Accessibility;
- Availability of support services (power, telephone line etc.);
- Security; and
- Effects of any specific topography



Station CAQM Miri



Station CAQM Shah Alam



Station CAQM Banting

## CAQM design

Automatic monitoring is designed to collect/measure data continuously (24 hours a day)

during the monitoring period. Automatic Continuous Air Monitoring Stations typically include:-

- Measurement instrumentation (for both pollutant gases and meteorological parameters);
- Support instrumentation (support gases, calibration equipment);
- Instrument shelters (temperature controlled enclosures); and
- Data acquisition system (to collect and store data)

### Manual Air Quality Monitoring (MAQM)

The National Air Quality Monitoring network is also supplemented by manual air quality monitoring stations (High Volume Sampler) located at 19 different sites. At these sites, total suspended particulates, particulate matter (PM10) and several heavy metals such as lead mercury, iron, sodium, copper, etc. are measured once in every six days. The measurement is manually collected and delivered to a laboratory for analysis. MAQM data are obtained monthly from ASMA.



Picture 2: High Volume Sampler (HVS)



Map 1.1 Malaysia: Location of Continuous Air Quality Monitoring Stations, Peninsular Malaysia, 2010

