Air Quality Information and Action Centre

Report December 2019

Air quality- transport for London reports: "Every child in London is breathing toxic air, mainly caused by road vehicles" (reference: Air quality - tfl.gov.uk).

Daily Air quality index from Department for Environment Food and Rural Affairs (Defra) informs the public about the levels of air pollution and provide advice. The index of 1 to 10 indicates one for low and 10 for high pollution level.

There are 3 steps to follow:

1- Determines whether you or your family are going to be at risk
2- If you are working outdoor and at risk check air pollution forecast
3- Follow the health messages referring to the high to highest forecast levels

The forecast level for low index 1-3, there is no risk. For moderate 4-6 people with lung or heart medical problem should reduce strenuous activity mainly outdoor. For index 7- 9, people with medical condition and older people, should reduce strenuous physical exertion mainly outdoor; also asthma sufferers should use their inhaler. For very high 10, people with medical condition must not have physical outdoor activities and inhaler users should use it more often. Defra Air pollution information is available online on daily basis. There is also a map of UK showing areas with Low,

Moderate, High and very high concentration in different colour to help reading the pollution levels (reference: uk-air. defra.gov.uk).

Air Quality Monitoring

As recent as 15 January 2019 air monitoring at Breathe London was launched following Mayor of London, Sadiq Khan using the world's most advanced technology and taken the initiative to monitor an unprecedented level of checking and analysing the air pollution impact on the environment in the city of London. The technology they used was AQMesh air quality monitoring pods, as well as, air pollution analysers. The AQMesh were fixed to a school outside wall at 2-4 m high. Analysers were specially time air quality via Web-enabled device.   The technology company Air Monitors designed and installed the equipment. The Analysers were installed inside a Google car.

The analysers measure Nitrogen Dioxide NO_2, Particulate Matter $PM_{2.5}$ PM_{10} and Black Carbon. The information shows how air pollution varying hour by hour and day by day. The information is then sent to the cloud (Internet data centres) available at Breathe London project for information about policy decision in government and also the people. The information about the levels of air pollutants, help the public to make informed decisions in connection with their daily outdoor activities. A highly detailed map is also shows factors, such as the road traffic, road layout and weather impact on local air pollution (reference: www.breathLondon.org).

 The BreatheLondon project is a good example of how easily one can set up a Non Governmental Organisation (NGO) or any private independent business centre providing air pollution details for the

general public. To start, we need to find an empty shop in the city, which in many cases the local authority provide help and support, and experienced staff also needed to be employed to work in the office with resources such computer with Wi-Fi. Adding to this we need a Google Car equipped with analysers and monitoring mobile devices for air pollution data collection at each designated location in the city.   The members of the public could take part in face to face communication for learning and interacting with staff at the Centre as to establish what informed decision they can make about their outdoor activities. Following this, they can discuss their experiences of exposure to toxic air pollution with staff and the details can be recorded at the office.

This centre can operate similar to other private businesses, NGOs or public bodies providing services for the public, such as awareness and warning of the dangers of the air pollutants levels that exist from various sources.   It can be done by collaboration and working together with others for the same goal. For example, we have Global BreatheLife campaign of the World Health Organisation (WHO), United Nation Environment and Climate Clean Air Coalition (CCAC), which are mobilizing cities and people to bring the levels to a safe standards and ultimately working towards achieving risk free environment goal.

We can also mention the observation of Air Pollution from space by National Aeronautics and Space Administration (NASA) satellite too. There are many other organisations, such as Coalition for Clean Air (CCA), Friends of the Earth (campaign for clean air), Earthjustice (environmental law organisation), Sierra Club (smog air alert) and Social Media (do-it-yourself air quality testing).

These desperate measures indicate towards the subject of Climate Emergency, which requires the atmospheric temperature to drop by 1.5 Degree Celsius by 2030. Despite all our efforts, the level of Green House gases is increasing. This clearly means our response has been totally inadequate. These environmental issues are of global and national. Why global bodies, such as United Nations (UN) have been positively vocal. The national government in the main have not seriously developed sufficient resources to overcome the Climate Change. However, the national government generally work through local councils and hence it is the responsibility of local councils to work with public and business sector importantly to improve air quality.

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