

Air Quality Report for Limerick

December 2017

**Introduction**

Limerick City and County Council has installed three air quality monitors in the metropolitan area of Limerick to provide live indicative air quality data to the public. These monitors are located in Limerick City, Mungret and Castletroy. They measure particulate matter (PM) which is commonly

used as an indicator of dust particles in air, including total suspended particulates, PM10, PM2.5 and PM1. Real time data from these monitors can be accessed at [www.airqweb.com](http://www.airqweb.com).

PM10 is particulate matter 10 microns or less in diameter, PM2.5is particulate matter 2.5 microns or less in diameter and PM1 is particulate matter 1 micron or less. PM2.5is generally described as fine particulates. As a comparison, the width of a human hair is around 100 microns so approximately 40 PM2.5 will fit along its width.

The particulate matter indices that are of primary concern for human health are PM10, PM2.5 and PM1 . These are the sub-fraction of particles which can penetrate into the alveoli (air sacs) in the lungs. Chronic exposure to particles contributes to the risk of developing cardiovascular and respiratory diseases, as well as of lung cancer.

*Air Quality Standards*

The CAFE (Clean Air for Europe) Directive sets air quality standards for member states in Europe and has been transposed into Irish legislation by the **Air Quality Standards Regulations.** The limit values for particulates are given below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pollutant** | **Objective** | **Averaging Period** | **Limit Value (µg/m3)** | **Basis of Application of the Limit Value** | **Limit Value Attainment Date** |
| PM10 | Protection of human health | 24 hours | 50 | Not to be exceeded more than 35 times in a calendar year | 1 Jan 2005 |
| PM10 | Protection of human health | calendar year | 40  | Annual mean | **1 Jan 2005** |
| PM2.5 | Protection of human health | calendar year | 25 | Annual mean | **1 Jan 2005** |
| PM2.5 | Protection of human health | calendar year | 20  | Annual mean | **1 Jan 2020** |

The World Health Organisation (WHO) provides guidelines for particulates as follow:

|  |  |  |
| --- | --- | --- |
| **Pollutant** | **Averaging period** | **Guideline** |
| PM10 | Calendar year | 20 µg/m3 |
|  | 24 hour | 50 µg/m3 |
| PM2.5 | Calendar year | 10 µg/m3 |
|  | 24 hour  | 25 µg/m3 |

**Air Quality in December**

The graphs on the following pages show the 24 hourly mean values of Total Particulates, PM10, PM2.5  and PM1 for the month of December at the three monitoring sites. The air quality standards for PM10 and PM2.5 are also indicated. There are no standards currently set for Total Particulates and PM1. At all three monitoring sites, the results for PM10 and PM2.5 indicated good air quality throughout December (Data from the Mungret monitor was unavailable from 27th Nov to the 13th Dec due to an electrical fault). Further information on air quality and health can be found at: <http://www.epa.ie/air/quality/index/#d.en.51478>

The long term mean values since the monitors were installed in May 2017 are shown in the table below and compared with the annual mean limits and guidelines. All values were below WHO guidelines.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Location** | **Measured long term mean (µg/m3)** | **WHO annual mean guideline (µg/m3)** | **EU CAFÉ directive annual mean limit(µg/m3)** |
| Total Particulates | O’Connell St | 14 | None specified | None specified |
| Castletroy | 11 |
| Mungret | 11 |
| PM10 | O’Connell St | 10 | 20 | 40 |
| Castletroy | 8 |
| Mungret | 8 |
| PM2.5 | O’Connell St | 8 | 10 | 25 |
| Castletroy | 6 |
| Mungret | 7 |
| PM1 | O’Connell St | 4 | None specified | None specified |
| Castletroy | 3 |
| Mungret | 3 |

µm/m3