

6-2 PARTICULATE MATTER IN AMBIENT AIR

Particulate matter in the air (PM) varies greatly in size and nature dependent on its origins. On account of its oxidant and pro-inflammatory properties, it affects the respiratory and cardiovascular systems, thereby significantly impacting the health of the sizeable exposed population.

KEY MESSAGE

In 2012, annual mean concentrations of PM_{10} and $PM_{2.5}$ ¹ complied with the European norms for the protection of human health² in all air quality monitoring stations in Wallonia³. The daily limit value, defined solely for PM_{10} ⁴, was exceeded in 4 of the 23 stations. The exceedances were observed in the industrial/urban stations of Engis and Jemeppe-sur-Meuse and in the urban/residential stations of Mons and Angleur.

For monitoring stations with series of continuous data, annual mean concentrations of PM_{10} decreased by 30 to 47% between 1999 and 2012, dependent on the station's location. The number of days for which the daily limit value was exceeded also decreased. This progress is associated with the emission reductions observed since 2000. It is not yet possible to determine the trend for $PM_{2.5}$ concentrations, as these have only been monitored since 2008.

To achieve the European objectives with regard to PM, the Walloon Air-Climate Plan⁵ should be replaced soon by a new Air-Climate-Energy Plan (PACE)⁵.

Evaluation

Slightly unfavourable but improving situation

[1] Particulates with a median aerodynamic diameter of $\leq 10 \mu\text{m}$ and $2.5 \mu\text{m}$ respectively.

[2] Annual limit value of $40 \mu\text{g}/\text{m}^3$ for PM_{10} ; annual target value of $25 \mu\text{g}/\text{m}^3$ for $PM_{2.5}$ (Directive 2008/50/EC)

[3] The more stringent values of the WHO guidelines (2006) ($20 \mu\text{g}/\text{m}^3$ for PM_{10} and $10 \mu\text{g}/\text{m}^3$ for $PM_{2.5}$) were exceeded in 14 of 23 stations for PM_{10} and in 18 of 23 stations for $PM_{2.5}$.

[4] $50 \mu\text{g}/\text{m}^3$ per 24h, max. 35 exceedances a year

[5] <http://www.awac.be>

Fig. 6-2 Particulate matter concentrations in ambient air in Wallonia (2012)

