

A2 OZONE CONCENTRATIONS

 **Key policy question:** Do ozone concentrations in Malta meet EU air quality standards?

Ozone (O_3) is formed from the reaction of nitrogen oxides and volatile organic compounds emitted from traffic and power generation emissions in the presence of sunlight.¹⁴ However the majority of O_3 affecting Malta is of transboundary origin.¹⁵ O_3 is a harmful pollutant at ground level since it causes respiratory and cardiovascular health problems, and damages plants.¹⁶ EU standards set the following limit values for O_3 , which require real-time monitoring: $120\mu\text{g}/\text{m}^3$ 8-hourly running average limit value for human health protection, not to be exceeded more than 25 times per year (6.8% percent of days measured); and also $180\mu\text{g}/\text{m}^3$ hourly information threshold for human health protection, which should never be exceeded.¹⁷ In 2010, the 8-hour limit value was exceeded on 37 out of 335 of days measured in Għarb, while exceedances were recorded on 3 out of 357 days measured in Żejtun. No exceedances were recorded in Msida. In 2010, national annual average concentrations over the diffusion tube network showed a marginal increase from $102.8\mu\text{g}/\text{m}^3$ to $102.9\mu\text{g}/\text{m}^3$. However, EU limit values have not been set for annual average O_3 concentrations, hence these values can only provide an indication about the trend. The highest O_3 concentrations continued to be recorded in rural localities less affected by traffic, with Għarb in Gozo again registering the highest annual average concentration ($136.5\mu\text{g}/\text{m}^3$).¹⁸ With respect to individual sites, readings at Għarb registered the highest annual average O_3 concentration ($155.2\mu\text{g}/\text{m}^3$) in 2010. The number of sites with an annual average concentration exceeding $100\mu\text{g}/\text{m}^3$ decreased slightly from 75 out of 131 sites in 2009 to 73 out of 131 sites in 2010.

