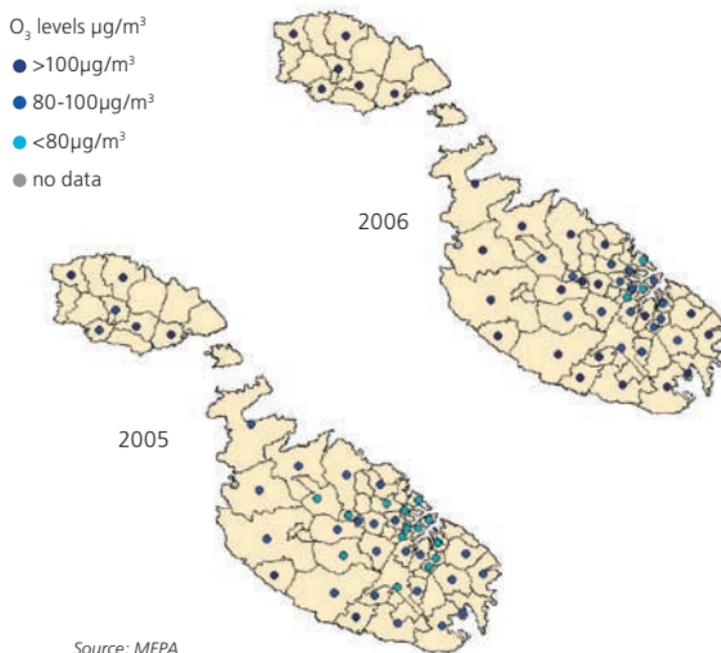


## A2 OZONE CONCENTRATIONS

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

Ground-level ozone ( $O_3$ ) is an air pollutant of major concern in Europe since above-limit levels have a significant impact on human health and the environment.<sup>14</sup> The main sources of  $O_3$  precursors are transport, followed by energy and industry,<sup>15</sup> however the majority of  $O_3$  affecting Malta is of transfrontier origin.<sup>16</sup> The annual average<sup>17</sup> concentration of  $O_3$  increased by 19% between 2005 and 2006, rising from  $85.9\mu\text{g}/\text{m}^3$  to  $102.2\mu\text{g}/\text{m}^3$  respectively. In terms of annual averages by locality, as in 2005, rural areas were the most affected by  $O_3$  in 2006, with Gharb, Gozo, registering the highest value ( $23.5\mu\text{g}/\text{m}^3$ ). With respect to individual sites, Santa Marija Estate in Mellieha registered the highest level of  $O_3$  in 2006 ( $147.1\mu\text{g}/\text{m}^3$ ). All localities and sites registering high  $O_3$  concentrations are areas less affected by traffic. This can be explained by the fact that air pollutants in traffic-prone areas



deplete O<sub>3</sub> by converting it into oxygen. Although there is no EU limit value for annual average ozone concentrations, an EU limit value does exist for 8-hourly concentrations, as well as an information threshold based on an hourly average. These are 120µg/m<sup>3</sup>, not to be exceeded more than 25 times per year or 6.8% of days measured, and 180µg/m<sup>3</sup> respectively. In 2006 the EU 8-hour average limit value was exceeded on 14% of days measured at San Lawrenz, 9.9% of days measured in Zejtun, 2.2% of days measured at Msida,

0.6% of the days measured in Floriana and in none of the days measured in Kordin. The 180µg/m<sup>3</sup> hourly limit was only exceeded twice in San Lawrenz, with the highest value of 260µg/m<sup>3</sup> recorded in June.

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14 EEA 2005.

15 EEA 2007a.

16 Nolle *et al.* 2005.

17 No EU annual limit value exists.