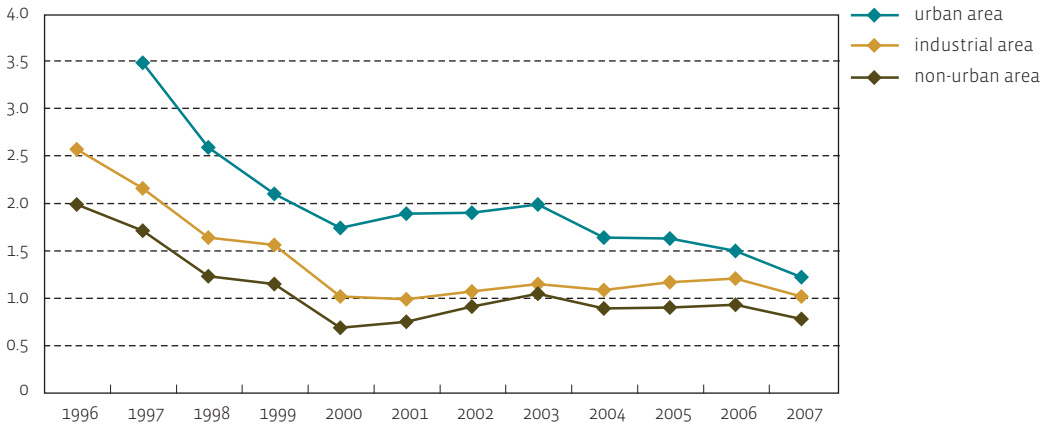


average benzene concentration ( $\mu\text{g}/\text{m}^3$ )



Source: VMM

### Average benzene concentration target reached

Benzene is a carcinogenic volatile organic substance, which also plays a role as an ozone precursor in photochemical air pollution. In Flanders the benzene concentration in the ambient air is measured in eight places. The concentration has strongly decreased between 1996 and 2000, but remains quite constant since then (average  $0.97 \mu\text{g}/\text{m}^3$  in 2007). It is well under the European target for 2010 of  $5 \mu\text{g}/\text{m}^3$  (2000/50/EC). In urban areas the benzene concentration is always higher than in other regions due to the busy city traffic. Here we have seen, however, a further decrease since 2003 (-19 % in 2007 compared to 2006).

The most important source of benzene emissions is road traffic, followed by industry. In the progress report from the Flemish NEM reduction programme 2008 measures are planned that will reduce the benzene emissions further. For road traffic, the policy concerning environmentally friendly vehicles and driving behaviour will contribute to this. In the petrochemical industry reductions are expected because of the LDAR (*Leak detection and repair program*) legislation included in VLAREM in 2008 and measures for the storage and loading of volatile products. At the filling stations, all measures for the recuperation of vapour between the car tank and storage tank (phase II) have been in effect since 2008.

### Locally higher concentrations due to traffic and indoors

Locally you can be exposed to benzene concentrations that are 2 to 3 times higher than the average concentration in the open air. Reasons for this are exposure to increased concentrations in traffic and indoors (among other things, from tobacco smoke and fumes from detergents, glue and paint). The Indoor Environment Decree (*Binnenmilieubesluit*) specifies the limit value in houses and public buildings as  $10 \mu\text{g}/\text{m}^3$  and the target value as  $2 \mu\text{g}/\text{m}^3$ .

average benzene concentration ( $\mu\text{g}/\text{m}^3$ )	1997	2000	2005	2006	2007
industrial area	2.15	1.01	1.16	1.20	1.01
non-urban area	1.70	0.68	0.89	0.92	0.77
urban area	3.47	1.73	1.62	1.49	1.21
Flanders	2.20	1.02	1.15	1.16	0.97