😐 Disability adjusted life years as a result of environmental factors

DPSIR

(DALY)	2002	2 003	2 004* central estimate
total	*33 248 (100 %)*	*35 908 (100 %)*	*92 429 (100 %)*
total PM10 & PM2.5	22 300 (67 %)	25 518 (71 %)	68 473 (74.1 %)
total ozone	785 (2 %)	879 (2 %)	669 (0.7 %)
total noise	6 528 (20 %)	6 528 (18 %)	19 151 (20.7 %)
total carcinogenic substances (except PM10)	2 032 (6 %)	2 009 (6 %)	3 155 (3.4 %)
total Pb	1 601 (5 %)	974 (3 %)	981 (1.1 %)
DALY/inhabitant/year	0.006	0.006	0.015
DALY/inhabitant/70 years	0.41	0.44	1.1

* For 2004 a different method was used to calculate the DALY from noise where the health effects of ischemic heart diseases and high blood pressure were taken, which results in a higher estimate. The method for the impact of PM2.5 was adjusted in accordance with European studies.

Source: VITO, Collier & Stassen (2007)

Disability Adjusted Life Years

The comparison of the impact of the different environment factors on health can only be done when the different effects are reduced to a common denominator. For this purpose, the *disability adjusted life years (DALYs)* was developed. This indicates the number of healthy life years that a population loses through death or illness, taking into account the severity and the duration of the illness.

Situation in Flanders

The number of disability adjusted life years lost was determined for a set of polluting substances and noise for Flanders. In 2004 an inhabitant of Flanders lost 0.015 DALYs due to this set of environmental factors. With lifelong exposure to the concentrations in 2004, this means a loss of a little more than one disability adjusted life year.

Exposure to PM10 and PM2.5 gives the largest number of DALYs (74 % of the total number of DALYs). The health effects that were included are premature death, general airway complaints, bronchitis and asthma.

In second comes exposure to environmental factor of noise, responsible for 21 % of the total. The following effects on health were calculated for noise: nuisance, sleep disturbance, increased blood pressure and ischemic heart disease.

Exposure to carcinogenic substances comes in third place (3.4 %). The selection of carcinogenic substances that were studied included UV light, benzene, PAHs (benzo(a)pyrene), arsenic, nickel and radon.