

How to make our cities more breathable?

Estonia

1. Is air pollution in towns in your country an issue/ a matter of public concern?

Air pollution is an increasing problem in Estonia. It contributed to 538 deaths in 2010 which means that in 2017 the number is even bigger.

Air pollution by particles is the main problem in Tallinn, especially in the centre, where there has been considerable growth in annual mean concentrations of PM (Particular Matter) 10 and in the number of exceedances of the limit value set for the protection of human health, 50 $\mu\text{g}/\text{m}^3$ daily mean.

Similar research has been done for four other cities of Estonia: Tartu, Kohtla-Järve, Narva and Pärnu. On average the results suggest 166 premature deaths each year, corresponding to 2 200 YLL and an average loss of about 8 months of life expectancy.



Picture: delfi

2. What are the main reasons for air pollution in your towns?

The main sources of the PM (Particulate Matter) 10 emissions in the centre of Tallinn are fuel burning in vehicle engines, especially diesel; road abrasion; automobile tyre and brake wear and also some construction works.

The large landfill at Kohtla-Järve has received waste from oil shale processing since 1938. The landfill now contains over 80 million tonnes of semi-coke, with the associated air pollution, including volatile organic compounds, and groundwater contamination.



Picture: OECD Environmental performance reviews Estonia Highlights 2017, page 9

The primary air pollutants found in Estonia are:

1. Sulfur oxide – This air pollutant generates from burning fuels, that contain sulfur. It is commonly found in Estonia, because Estonia is right next to Baltic Sea and it has a lot of harbors. The ship fuel contains sulfur.
2. Nitrogen oxide – Nitrogen oxide is similar to sulfur oxide, because it's commonly found in fuels, but this time, fuels contain nitrogen.
3. Carbon oxide – Carbon oxide spreads, when people make fires that contain a lot of wood or coal. Since there are many factories in Estonia this is commonly found there, but more in cities.
4. Carbon dioxide – Comes from fossil fuel burning, such as oil shale or natural gas.
5. Volatile organic compounds – This comes from solvent evaporation, such as oil(etc).

3. What are the consequences of air pollution in your towns? What are the consequences for the public and for you as individual?

The analysis in *Health impact assessment of particulate pollution in Tallinn using fine spatial resolution and modelling techniques* (Orru *et al.*,

2009; <http://www.ehjournal.net/content/8/1/7>) has shown that all the citizens of Tallinn are affected by poor air quality. Even though the levels of particulates are not high, negative health effects still occur. The analysis suggests that locally-emitted air pollution in the city could be resulting, each year, in 296 premature deaths, corresponding to 3 859 years of life lost (YLL), and 275 short-term hospital admissions. Air pollution is estimated to reduce the life expectancy of Tallinn residents by an average of 7.7 months – the corresponding figure for all EU citizens is 8.6 months. This makes particle pollution a significant environmental health issue in Tallinn.

Short term symptoms resulting from exposure to air pollution include itchy eyes, nose and throat, wheezing, coughing, shortness of breath, chest pain, headaches, nausea, and upper respiratory infections (bronchitis and pneumonia). It also exacerbates asthma and emphysema. Long term effects include lung cancer, cardiovascular disease, chronic respiratory illness, and developing allergies. Air pollution is also associated with heart attacks and strokes.

4. What is generally done and what could be done to tackle air pollution in your towns?

The public has clear right of access to environmental information and ample opportunities to take part in policy making, environmental assessment, permitting and spatial planning. The government is actively involved in environmental education and awareness raising.

There is no dedicated green growth strategy in Estonia, but several sectoral plans and programmes address environmental concerns, and a green tax reform is underway. Energy development plans encourage renewable energy, although they lack specific measures to minimise reliance on fossil fuels.

General government spending on environmental protection rose from 0.7% to 0.9% of gross domestic product (GDP) between 2000 and 2012, just above the EU-28 average.

5. What can you do to minimise air pollution in your towns?

Firstly, people should reduce the use of studded tire, create new sidewalks for pedestrians and bicyclists and inform people about air pollution and about the consequences. To minimise air pollution in towns we could use more public transport, walk or for short distances, ride a bike. Driving in city centre should be limited, but not proscribed.

Secondly, forests cover half of Estonia's territory, with pine and birch as the most common species. According to the OECD report, forests are used intensively. Over the past decade, logging increased considerably, providing for a forestry industry that represents 5% of exports. Estonia needs to further promote sustainable forestry practices through better co-operation between relevant ministries and dissemination of knowledge among private forest owners.

Figure - **Forests are intensively used**
Fellings related to annual productive capacity, 2014, top ten OECD countries
Source: OECD Environment Statistics (database)



6. What do you think of introducing driving bans in city centres?

Compared to big cities who are starting to introduce driving bans (such as Barcelona, Madrid, Oslo, Chengdu, Hamburg, Copenhagen, Athens, London, Paris, Brussels, Mexico, Vancouver) the population of Estonian cities is low, which should make introducing driving bans easier. Tallinn, the capital of Estonia, has already made public transport free for its citizens, which will help people use more buses and less cars.

Also, a good thing is that the capital of Estonia already has made public transport free for its citizens, which means people do not have to use their personal cars.

The problem with using only public transport in the city centres is that there are disabled people who cannot get everywhere by using only public transport, also the residents of the city centres want to get home and we cannot ban them from using their private vehicles.

Making city centres car free could affect institutions like restaurants or shopping centres from getting the income they would normally do so.

Also, introducing driving bans could affect the number of tourists. When being in foreign country, using rental cars makes getting by much easier.