

An aerial photograph of Helsinki, Finland, showing a wide river in the foreground, a multi-lane bridge crossing it, and a dense urban skyline with various modern buildings and construction cranes in the background under a cloudy sky.

**Helsinki**

# **Air Quality and Noise Abatement Plan (ILME) 2024–2029**







## **Summary**

Helsinki has a new Air quality and noise abatement plan (ILME) for 2024–2029. The plan is a compilation of new effective measures to improve the city’s air quality and soundscape.






Helsinki has been working towards improved air quality and a better soundscape for a long time, and many air quality and noise abatement measures are well established. However, the further measures included in the ILME plan are necessary, as street dust, noise and exhaust gases from traffic and emissions from small-scale combustion continue to adversely affect human health and the comfort of the environment.

## Objectives and measures

The city's vision is that the air quality and soundscape in Helsinki will be excellent in 2040. The aim is to ensure that exhaust fumes from traffic, street dust and emissions from small-scale combustion do not impair air quality in Helsinki and that residents are not constantly exposed to high levels of traffic noise. Sensitive sites, such as daycare centres, schools and service homes, are not exposed to traffic noise or air pollution. Green spaces have clean air and a peaceful soundscape. There will be quiet oases all over the city in the future as well.

| Objectives  | Measures  |
|---|---|
|  <b>Street dust is reduced through maintenance</b>   | <b>1.1. Optimisation of gritting</b><br><b>1.2. Dissemination of street dust control information to property maintenance companies</b><br><b>1.3. Development of dust control on arterial routes</b><br><b>1.4. Collection of information on best dust control measures</b><br><b>1.5. Consideration of maintenance needs in street planning</b><br><b>1.6. Analysis of the impact of changes in the operating environment on maintenance and its resource needs</b>  |
|  <b>Harms caused by small-scale wood combustion are reduced</b>  | <b>2.1. Development of communication on clean wood burning</b><br><b>2.2. Prevention of smoke nuisances in the planning of new areas and urban infill in existing areas</b><br><b>2.3. Development of an internal city policy to deal with smoke nuisance incidents and reduce smoke nuisances</b>  |
|  <b>Percentage of residents protected from traffic noise increases</b>   | <b>3.1. Implementation of the planned noise barriers</b><br><b>3.2. Evaluation of the effectiveness of noise-absorbing road surface materials and update of the target network</b><br><b>3.3. Preparation of a noise assessment as a starting point for the renovation of the properties of Helsingin kaupungin asunnot Oy located in noise zones (over 55 dB)</b><br><b>3.4. Inclusion of appropriate noise abatement solutions in traffic and street plans</b><br><b>3.5. Support for old housing companies in areas with high noise levels to improve soundproofing</b><br><b>3.6. Calculation of the number of occupants in structurally protected buildings in noise zones</b> |
|  <b>The city's soundscape improves</b>   | <b>4.1. Improvement of the soundscape of two green areas or the development of an area with a peaceful soundscape</b><br><b>4.2. Conceptual design of the Green Noise Barrier product family</b><br><b>4.3. Survey and communication on peaceful oases</b>  |
|   <b>Harms from traffic are prevented</b> | <b>5.1. Cooperation with the state to lower speed limits on state roads in Helsinki</b><br><b>5.2. Study on structural solutions to improve the sound insulation of the building envelope for use in design</b>   |

 Improves air quality  Improves soundscape

| Objectives  | Measures  |
|---|---|
|  <b>Harms caused by studded tyres are reduced</b>                    | <b>6.1. Promotion of the introduction of studded tyre fees</b><br><b>6.2. Development of communications about friction tyres</b><br><b>6.3. Study on the possibilities for the city to promote the use of friction tyres</b>  |
|  <b>Noise and air quality conditions at sensitive sites improve</b>  | <b>7.1. Improvement of noise and air quality conditions at three sensitive sites</b><br><b>7.2. Closer multidisciplinary cooperation to improve noise and air quality conditions at sensitive sites</b><br><b>7.3. Prioritisation of sensitive sites in spring street cleaning</b><br><b>7.4. Consideration of sensitive sites in measures to calm down traffic</b><br><b>7.5. Awareness raising on groups particularly vulnerable to air pollution and noise nuisance</b><br><b>7.6. Improvement of the accessibility of air quality information</b> |
|  <b>Emissions from public transport are reduced</b>                  | <b>8.1. Accelerated electrification of HSL's bus fleet</b><br><b>8.2. Update of the planning guidelines for tram transport</b><br><b>8.3. Study on dust suppression on tramways</b><br><b>8.4. Reduction of the noise impact of the tram fleet</b>  |
|  <b>Emissions from heavy-duty vehicles and machinery are reduced</b> | <b>9.1. Promotion of the use of electricity, biogas and hydrogen in the maintenance fleet</b><br><b>9.2. Promotion of the use of electric machinery at the city's worksites</b><br><b>9.3. Reduction of emissions from heavy-duty vehicles and machinery in the port area</b>   |
|  <b>Dust and noise abatement on construction sites improves</b>    | <b>10.1. More effective dust and noise abatement on construction sites</b><br><b>10.2. Development of dust control on area construction sites</b>   |

 Improves air quality
  Improves soundscape



Photo: Roni Rekoma.

## Air pollution and noise are detrimental to comfort and health

Air pollution is the single most significant environmental health risk. It causes respiratory and heart diseases and premature death, among other things. Noise, on the other hand, affects health by impairing sleep quality and increasing the risk of heart disease, for example. Children, older people and people with long-term illnesses are particularly vulnerable to air pollution and noise. Air pollution and noise also have a significant impact on the pleasantness of the environment.

The main source of problems with air quality and the soundscape in the city is traffic. The challenges will increase in the future as the urban structure becomes denser, with new housing developments built along busy traffic routes.

### Air quality in Helsinki

Air quality in Helsinki is, on average, fairly good by international standards. However, street dust, exhaust fumes from traffic and emissions from small-scale wood burning continue to have adverse effects on people's health and the pleasantness of the environment. The current binding EU limit values are not exceeded, but the WHO's health-based guideline values are exceeded extensively. The EU's limit values will become stricter in 2030, making them challenging to meet, especially for street dust.

Exhaust emissions have decreased due to factors such as the electrification of transport and advances in vehicle technology, but street dust will continue to reduce the quality of the air we breathe.

In detached house areas, wood burning in fireplaces occasionally causes high levels of fine particles, particularly during winter evenings and weekends.

### Noise situation in Helsinki

39% of the residents of Helsinki live in areas where the noise level caused by road traffic exceeds 55 dB. The proportion of residents living in noisy areas has slightly increased over the past decade. The increase is mainly due to new construction in these areas. New housing designs take the noise situation into account by means such as setting soundproofing requirements for building envelopes and placing playgrounds and outdoor recreation areas in courtyards away from noise. However, there are many old residential areas and old buildings in Helsinki with inadequate noise abatement measures.

Quiet and peaceful areas are very important to city residents. Often, large natural areas are considered to be quiet areas. In addition to these, Helsinki has a fair number of relatively quiet areas or places perceived as quiet, such as parks or courtyards. It is important for city residents to find revitalising places with a pleasant soundscape close to home.





## From planning to implementation

Air quality and noise abatement in Helsinki are the responsibility of several different parties, so the ILME plan was prepared in cooperation between these parties. Each measure in the plan is assigned a party in charge, a timetable for implementation and the necessary budget. The parties in charge will ensure that the measures set out in the plan are included in the annual action plans.

The implementation of the plan will be measured by the progress of the measures and a set of indicators. The development of the air quality and noise situation will be monitored annually with the following indicators:

- Number of days per year when the daily average amount of inhalable particulate matter (PM<sub>10</sub>) exceeds 45 µg/m<sup>3</sup>.
- Annual average amount of inhalable particulate matter (PM<sub>10</sub>).
- Annual average amount of benzo(a)pyrene in detached house areas.
- Percentage of people living in a noise zone and percentage of people living in buildings protected by noise abatement measures.
- Proportion of winter tyres made up by friction tyres.

The ILME plan was developed in consultation with residents and relevant organisations. The discussions carried out confirmed the importance of the measures set out in the ILME plan. The plan will be implemented in cooperation with residents and organisations.

## Impact assessment

The preparation group has assessed the extent of the impact of the measures on air quality and the soundscape. The impacts can be locally significant or improve the situation in the city as a whole. The impacts often only become apparent in the longer term. Many of the measures also have other positive environmental effects, such as the reduction of climate emissions.