City of Helsinki

2016

# Environmental report

# Contents

# Review by the Deputy Mayor

This will be my last Environmental Report to the City Council. During my term of office that has lasted for nearly 14 years, the City of Helsinki's environmental management has made significant progress, even if I say so myself. Before, we only had the Public Works Department's environmental programme available.

The role of environmental reporting has become clearer since the Council approved the City's environmental policy in 2012. The annual Environmental Report functions as a monitoring tool for the implementation of this environmental policy. In recent years, the City's environmental policy has also been increasingly used within the subsidiary community, in which environmental management has become notably stronger.

**"All the climate commitments between countries will ultimately have to be realised by cities."**

Although environmental matters have become part of the normal routines of all the City's operators, our work is not done. The state of our planet's environment and particularly global warming demand even firmer solutions on all policy-making levels – both in the EU and the European countries, as well as in the cities and municipalities. During the Paris Climate Change Conference held in December 2015, New York's former Mayor Michael Bloomberg made a memorable summary: "All the climate commitments between countries will ultimately have to be realised by cities."

We will see how the environmental policy will be implemented in the City's new organisation that will begin its work in June 2017. I have functioned as the chairperson for the climate workgroup appointed by the Mayor, and its objective is to update Helsinki's climate goals for the new council strategy. The new City Council will decide whether the goals proposed by the workgroup are sufficient or whether the bar must be raised even higher. Regardless, the City Plan approved by the Council last autumn creates a fine opportunity to develop the urban structure towards sustainability for the environment and the climate.

I wish to express my heartfelt thanks to all of my cooperation partners for all these years that have gone by so quickly. I trust that Helsinki will continue to have the courage in the future to be the pioneer and trendsetter for sustainable development.

**Pekka Sauri**
*Deputy Mayor*

## Greenhouse gas emissions have decreased by

# 25 %

Helsinki has

# 54

nature reserves

The annual limit's exceedance area of $NO_2$ has decreased by

# 30 %

since 2008

A total of

# 759 560

tonnes of excavated earth mass was utilised in the construction of public areas.

**Maximum time constraints for concerts that end after 10 pm have been defined in the ending time policy**

**Five events received a 30% discount on their location rent thanks to using the EcoCompass Event system**

**The water consumption of Helsinki residents was**

**181 litres day/resident**

**75 %**

**of all centralised procurements include environmental criteria**

**The Helsinki Zoo's Night of the Cats and Easter Island events drew in over 28,000 visitors, and over 24,000 citizens took part in the spring cleaning bee**

**The city bike system has**

**500 bikes and**

**50 bike stations**

# Helsinki in a nutshell

Helsinki is the centre of a rapidly growing large metropolitan city area. Helsinki, together with the municipalities of the Helsinki Metropolitan Area (Espoo, Vantaa, and Kauniainen) and eight neighbouring municipalities, forms an area with a population of over 1.4 million residents, which is referred to as the Helsinki Region. As of 31 December 2016 Helsinki had a population of 635,591 As of the end of 2016 the population density was 2,967 residents per land area square kilometre. The city of Helsinki's surface area is 715.48 km$^2$, of which 213.75 km$^2$ (29.9%) is land, 0.86 km$^2$ is inland waters, and 500.87 km$^2$ sea waters. The majority of the city's green areas are forest (37.2 km$^2$), parks (9.9 km$^2$) and landscape fields or meadows (8.0 km$^2$). There were a total of 421,500 jobs in Helsinki in 2016. Helsinki accounts for 17.2 per cent of Finland's jobs. The business demographics of the city are similar to other European capitals – strongly service-oriented: the service sector provides 87 per cent of all jobs.

From an environmental perspective the City of Helsinki is amongst the most significant actors. In Helsinki, greenhouse gas emissions resulting from energy consumption and other consumption account for approximately five per cent of Finland's greenhouse gas emissions. The greenhouse gas emissions resulting from energy production and transport in the Helsinki region account for seven per cent of Finland's greenhouse gas emissions. The Viikinmäki wastewater treatment plant cleans the wastewater produced by approximately 800,000 people. Additionally, the City is Finland's largest employer, due to which the City's operations have significant environmental impacts because of the volume of office work, for example.

The Helsinki Group comprises the following communities:

- The City as a parent community (27 departments and 4 municipal enterprises)
- subsidiary communities, i.e. organisation which are owned directly by the City (83 subsidiary organisations and 11 foundations)
- associated communities, i.e. companies, foundations and joint municipal authorities in which the City has a 20–50 per cent ownership stake (38 associated companies and 6 joint municipal authorities)

At the end of 2016, the City employed 38,056 people.

# Environmental management and partnerships

Environmental matters are a part of the City's strategy. The Environmental Policy complements the strategy and its realisation, and with the indicators this realisation will also be monitored in the environmental report. The information in the environmental report and statistics is open data. The environmental management in the City organisation is described on the next page.

The simplified EcoCompass environmental management system has proven to be a functioning system for the City's organisational departments and subsidiary communities. The system is currently in use or being implemented in 13 organisational departments and 12 subsidiary communities.

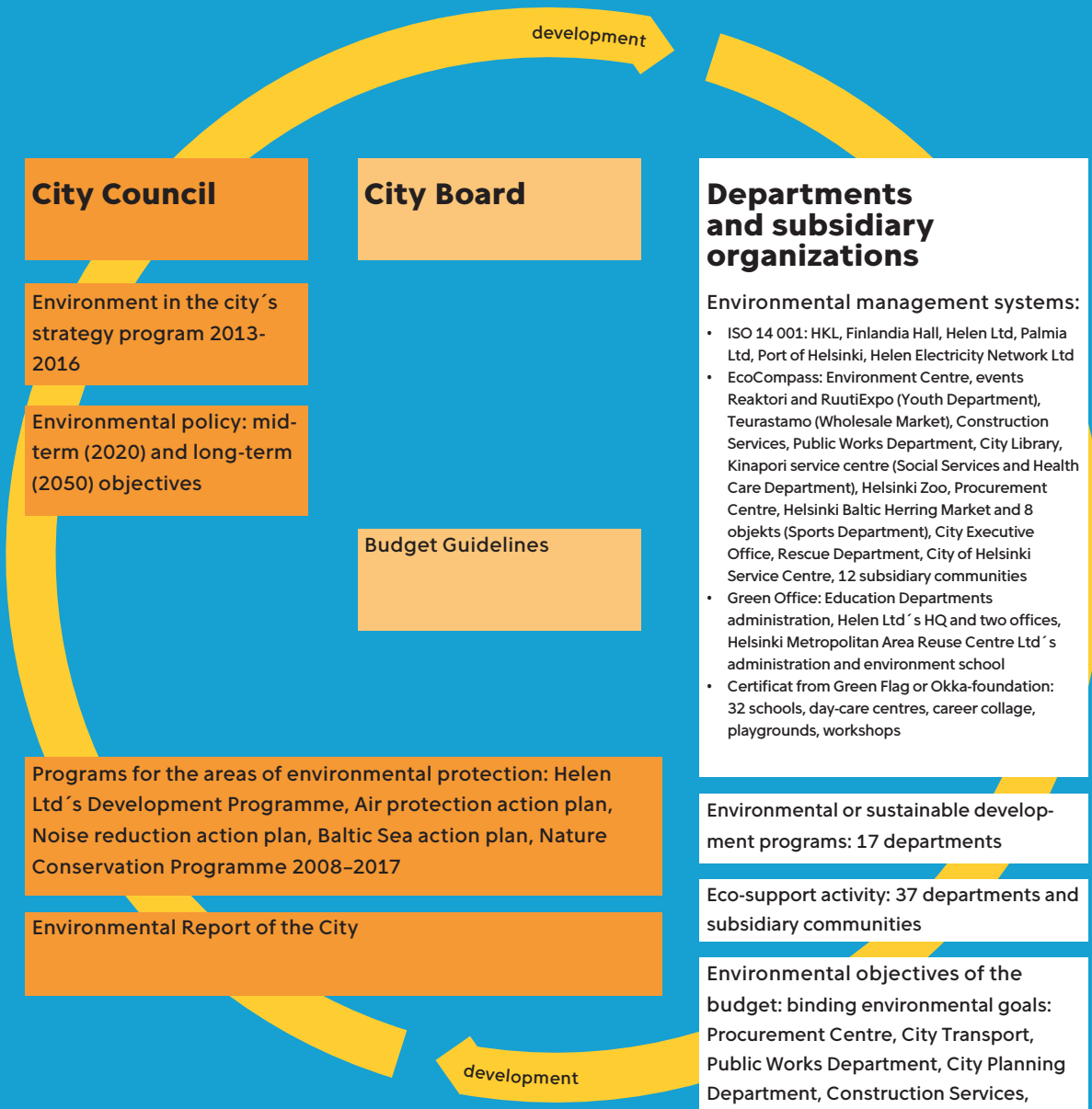
The Helsinki Zoo began building the EcoCompass system in 2015 and it was audited in spring 2016. The goal in 2016 was to reduce energy consumption and the amount of mixed waste and to enhance environmental communication. Energy efficiency was promoted by means such as replacing lightbulbs with LEDs and installing light switches. The amount of mixed waste was reduced by more efficient sorting. Environmental communication was increased in Helmi intra and, for the customers, in social media. In addition to the current measures, water consumption will be monitored and the staff's movement mapped in the future. EcoCompass also includes the Carbon Neutral Helsinki Zoo project, which is being realised in cooperation with the climate network. Several studies were initiated in 2016, and Helen Ltd installed two systems of 30 solar panels each in the Zoo, which were connected to the island's electricity network so that the output from every network can be used for the entire island's electricity consumption. In addition to the 20 kWp currently installed, the plan is to install 80 kWp worth of more production in the coming years, increasing the total wattage to 100 kWp and the total output to 85,000–90,000 kWh per year.

The Procurement Centre's EcoCompass was audited in June 2016. The measures within the environmental programme include separate collection of plastic. On average more than 300 kg of transparent packaging plastic was collected separately at the logistics centre. The plastic is transported via Suomen Raaka-aine Kierrätys Oy to be re-refined. With the plastic collection, the amount of waste at the Procurement Centre has been reduced by an amount corresponding to recycling.

The Helsinki Baltic Herring Fair held at Market Square in October attracted over 50,000 visitors. The EcoCompass Event environmental management system was used to develop the event held in 2016 towards being even more environmentally friendly. The goals of 2016 were successfully met, and the Helsinki Baltic Herring Fair was granted the EcoCompass certificate. The cafes used biodegradable dishes during the opening day, more waste sorting facilities were organised for the vendors and visitors, the focus was on the environmental matters concerning the subcontractors when signing the agreements, and environmental matters were communicated to the stakeholders. Responsibility was also a theme in the programme content in events such as the Rowing for Herring, organised for the benefit of the Baltic Sea.

Helsinki Marketing is in charge of many events organised in Helsinki. Environmental matters play an essential role in event organisation, which follows the Neat Event environmental guide, and the cooperation partners are also encouraged to use this guide. Environmental matters are visible in the events in many different ways. At LUX Helsinki, attention is paid to the environmental friendliness of the light art installations. The Children's Independence Day Celebration is required to serve organic food and the buses must be at least category EURO4.

# Model for City of Helsinki's environmental management




The observance of environmental issues in Helsinki is governed by the strategy programme and the environmental policy approved by the City Council, as well as the budget guidelines approved by the City Board. The city also has several programmes for a number of sectors in the field of environmental protection, all contributing to the environmental management of the city. The environmental programmes of the administrative branches support city-level environmental management.

At the opening ceremony of Finland100, the electricity production contractor was required to use renewable fuel acquired by the client in its generators, the waste and sanitation company was required to use an environmental management system, and the fireworks company was required to factor in the environmental aspects and have a plan for leaving the least amount of waste possible in the environment. The supplier of Helsinki Day's coffee and refreshments is required to use organic coffee and tea, and the participants are encouraged to arrive to the event by public transport.

Five events (the World Village Festival, the Helsinki Festival's Huvila Festival Tent, the Great Beers – Small Breweries event, Delicacies of Finland and Syystober, and Flow) in Helsinki were granted a 30 per cent discount on their location rent in return for using the audited EcoCompass Event system.

The systematic environmental management begun by Slush in 2015 was made visible in the concrete choices it made in 2016 in order to further promote responsible event production. The main emphasis was on waste sorting and communication concerning recycling, favouring tap water over bottled water, and switching into using eco-labelled electricity. In addition, the Slush production team took part in the meeting that discussed the role of the teams in the work done for the environment. The implementation of EcoCompass has also had positive effects on other Slush events, because it has inspired the Slush events of Tokyo, Singapore and Shanghai to consider how to better factor in responsibility. The environmental work done by the events is important, and measuring their environmental impact will increase the awareness of the activities' footprint and help find ways to make this footprint smaller. At the same time, the event visitors will be provided with more information on responsibility, and they can be encouraged to make responsible choices outside of the event, too.

EcoCompass has become a permanent part of Kopio Niini's practices. Waste sorting is purposeful and functioning, and metal, electrical and electronic waste, fluorescent lamps and lighters, batteries, packaging plastic, cardboard and waste paper, etc., in addition to mixed and energy waste, are also sorted. In order to ensure the correct sorting of waste, the bags and containers intended for energy waste are now a distinct orange in colour. Neat paper left over is donated to daycare centres. Heat, electricity and water consumption, as well as the dispatch vehicles' fuel consumption, are actively monitored, and the smartest routes are chosen when planning the driving routes. GPS-based location devices have been installed in the dispatch cars, allowing the dispatch organiser to monitor the drivers' driving behaviour and the idling time, and forward the pick-up requests to the nearest vehicle. A fully electric car and a hybrid are also in use and have produced positive experiences.

The first eco-supporters were trained in Helsinki in 2006, meaning that by 2016 the City of Helsinki had been providing eco-support for ten years. During this time, more than 1,300 eco-supporters have been trained for the City's 28 organisational departments and nine subsidiary communities. The operation has also spread from Helsinki to 24 other municipalities, to the Uusimaa Centre for Economic Development, Transport and the Environment, the Helsinki Region Environmental Services Authority (HSY) and the Uusimaa Regional Council. In celebration of the centennial, the climate network of mayors expressed their shared social commitment for sustainable development through eco-support. During the year, the coordinator took part in staff meetings at several offices on the eco-supporters' request to give lectures on practical sustainable choices.

The Climate Partners network of industries and the City of Helsinki awarded prizes to the five most interesting climate acts of the year. Two tools for institutional kitchens received a prize in the food sector. CGI's Aromi helps get more seasonal food into the institutional kitchens and with the help of L&T's Hävikkimestari application the amount of food waste in restaurants can be decreased. St1 received a prize for its Lähienergialaitos concept, which enables properties to use locally produced energy. Kesko received its prize especially for the largest building-specific solar power station it built on the roof of Tammisto's Citymarket. Gaia received a prize for its sustainable charcoal project initiated in Tanzania, where charcoal, which causes deforestation, is replaced by a product made from agricultural waste.

# Climate protection

The climate work in Helsinki is guided by the City's strategy programme and Environmental Policy. Together with neighbouring municipalities, the Helsinki Metropolitan Area's climate and adaptation strategy was drawn up. The climate work will be extended to the grass-roots level with a road map that is intended in particular for the City's inhabitants and businesses.

The City Council approved the new City Plan in October 2016. The City Plan will steer the City's development far into the future, and its reservations will enable the number of inhabitants to grow to 860,000 and the number of jobs to 560,000 by 2050. The City Plan solutions are based on a vision of Helsinki as a railway network city with a strong inner city area that has expanded from its current size. The public transport is based on the expanding railway network. Walking and cycling will become more important modes of transportation. The aim is also to secure a sufficient number of recreational areas for the growing population. The green areas' network will become stronger, the recreational areas and services, as well as the sea, will be easily accessible.

The climate workgroup appointed by the Mayor compiled a report, which describes the BAU scenario and an average scenario of six different options for Helsinki's emission development by 2030 as well as the related measures. Based on the report, the workgroup proposes for the City's new strategy that emissions be decreased by 60 per cent by 2030 from the amount of emissions in 1990, and the year 2040 to be the new goal for carbon neutrality. In addition, the workgroup proposes policies for adjusting to the climate change for preparing the City's strategy. The policies for the adjustment are proposed to be in effect for two City Council terms 2017–2025. The policies propose an adjustment vision for a climate-proof city for 2050.

The climate network of the City's employees organised eight events during the year that were connected to climate change mitigation and adaptation. One of these events was a seminar organised in cooperation with the Environmental Forum of the University of Helsinki, which attracted researchers, business and media representatives, NGOs and the City's residents to discuss Helsinki's energy turn-around. During the year, the network also took actively part in the Carbon Neutral Helsinki Zoo project.

The Energy Guidance project targeted at the consumers in the Helsinki Metropolitan Area ended in 2016. An operating model for providing energy guidance to housing associations was created in the project. At the beginning of 2017, the energy guidance was transferred over to the HSY's Ilmastoinfo.

The third consecutive energy efficiency agreement period between the City of Helsinki and the Ministry of Economic Affairs and Employment ended at the end of 2016. The City Board approved the new agreement for the term 2017–2025 in September 2016. The objective of the agreement is a 7.5 per cent energy saving by 2025 compared to the year 2015. A more detailed report on the energy consumption will be included in the Energy Savings Board's energy report.

Helsinki received Horizon2020 funding for the MySmartLife project together with Forum Virium, Technical Research Centre of Finland, Helen Ltd, Fourdeg Oy and Salusfin Oy. The project tests solutions that promote smart energy efficiency and electric transport in Helsinki, Hamburg and Nantes. The project will continue to provide guidance to housing association and residents in Merihaka's target locations, and pilot demand elasticity of heat.

The Integrated Storm water management (iWater) project that began in December 2015 was initiated with a kick-off event, with more than 50 experts in environmental protection, land use planning and construction taking part. The green factor tool and the City's rainwater run-off programme will be updated during the project. The flooding area of the combined sewer at Munkkiniemi beach was selected as the target location for the project's design pilot, and background information was gathered from the area for the construction plans.

## JANUARY 2016

- The Environment House became Helen Ltd's first biogas district heating customer
- Information on good climate practices was communicated via the **www.stadinilmasto.fi**
- The 50/50 project, which promotes energy savings in schools, continues in Helsinki – half of the savings to schools

## FEBRUARY

- The Carbon Neutral Helsinki Zoo project began
- The Mayor appointed a climate workgroup
- The evaluation of the climate impact of Iso Roobertinkatu's renovation was discussed by the Public Works Committee

## MARCH

- Helen Ltd's Hanasaari power plant began burning pellets
- In the Smart Kalasatama project, climate-positive experiments were conducted and a model created for experiments between businesses, the City and its inhabitants

## APRIL

- Helen Ltd built Finland's largest solar power plant in Kivikko

## MAY

- The Association of Finnish Local and Regional Authorities granted a prize for the climate work conducted by the City of Helsinki

## JUNE

- The Smart&Clean foundation was founded **www.smartclean.fi**
- The Helsingin luontoon! brochures and guidebooks on nature can be used to become familiar with the City's recreational areas and nature reserves
- Helen Ltd began using the largest electricity storage facility in the Nordic Countries, located in Suvilahti

## JULY

- Iso Roobertinkatu's energy efficiency map and climate activities are available as open data **http://ilmastokatu.fi/en/**
- "The builder's eco-calculator" was updated **www.rakentajanekolaskuri.fi** (in Finnish)

## AUGUST

- The opportunities provided by photovoltaic power systems for the City's service buildings were mapped
- The flood protection at Vartiokylänlahti continued, and the work will be completed in 2017

## SEPTEMBER

- The Transition Cities project tested the Cluster Mapping tool **www.climate-kic.org/projects/transition-cities/**
- A 720-metre-long levee was constructed to protect the Oulunkylä Community Garden

## OCTOBER

- The climate network's energy turn-around seminar discussed how the City can support and direct its residents to increase their own energy production and decrease their energy consumption
- Smart Kalasatama to join Climate KIC's Smart and Sustainable Districts network

## NOVEMBER

- The topic at the annual seminar of the Climate Partners was the TOP5 climate acts **www.ilmastokumppanit.fi/en/**
- The buildings' 3D city model presents the amount of solar radiation of all the City's buildings
- The evaluation of the climate impact from the Tullivuori area was discussed by the Public Works Committee
- Helen Ltd installed solar panels in the Helsinki Zoo

## DECEMBER

- The MySmartLife project began in order to turn Helsinki into a model city of smart energy consumption and transport

## JANUARY 2017

- The climate workgroup made a proposal on new climate objectives and adjustment policies

## FEBRUARY

- The 3D climate atlas programme began with the aim of collecting data on the energy consumption and conservation potential of buildings, photovoltaic power and solar energy, as well as heat leaks and geothermal energy
- iWater project organised a workshop, where tests were made to see how green elements could be used at properties to increase green efficiency with the help of the green factor tool

The climate streets (Iso Roobertinkatu, Tikkuraitti, Asematie) are used for finding solutions that work in the built urban environment to lower emissions and energy consumption. During 2016, the carbon footprint evaluations, images from the thermographic camera, energy reviews and photovoltaic power mappings were completed. The first solar power plant in an inner city block of flats began operating in June, and the Urban Image Board approved the promotion of photovoltaic power in protected real estate, as well, with Iso Roobertinkatu forming a precedent. Service design was used to inspire entrepreneurs and real estatets to conduct climate-smart business, joint procurements, designing energy efficient lighting and climate change adaptable indoor surfaces. Quick experiments provided new solutions for the monitoring of the buildings' energy consumption and reducing food waste. The street plan for Iso Roobertinkatu was completed, and it will be implemented in 2017. The weighting of the environmental criteria in the tendering was 15 per cent. Additional points were available for acts aimed at decreasing the carbon footprint (e.g. offering environmentally friendly materials or a low-carbon service).

Helsinki's emission development and the effects of various technologies were evaluated with Siemens' City Performance Tool. According to the study, the biggest reductions in emissions could be attained through vehicle pricing, utilising building services engineering, photovoltaic power and shore-side electricity solutions for ships. The people of Helsinki can have an influence, for example, by switching into using public transport or electric cars and by improving the energy efficiency of their homes. Emissions can be reduced by 13 per cent with energy-efficiency solutions for buildings compared to not making any additional investments at all. The new investments would amount to approximately 1.9 billion euros, but the savings they would produce during the next 15 years would be 2.2 billion. Investing in tested technology would provide Helsinki with as many as 23,000 person-years in operation, instalment and maintenance by 2030.

The evaluation model for the investments' climate impact underwent piloting during the drafting of Iso Roobertinkatu's street plan and the street and park plan of Tullivuori. The evaluation on Iso Roobertinkatu focused on the carbon footprint of the street's surface materials and taking this into account as a procurement criterium, and on using seasonal plants as greenery for the street. The evaluation on Tullivuori emphasised water management at construction sites during building and the effective use of surface materials, among other things. The purpose of the evaluation is to increase factoring the climate impacts as part of project planning and to increase the policy makers' knowledge on the projects' climate effects. Both evaluations were discussed by the Public Works Committee. Based on the experiences, the Public Works Department is studying how evaluation could be made part of all the environmentally significant street and park plans. In 2017, evaluation will be tested in the City's housing production projects.

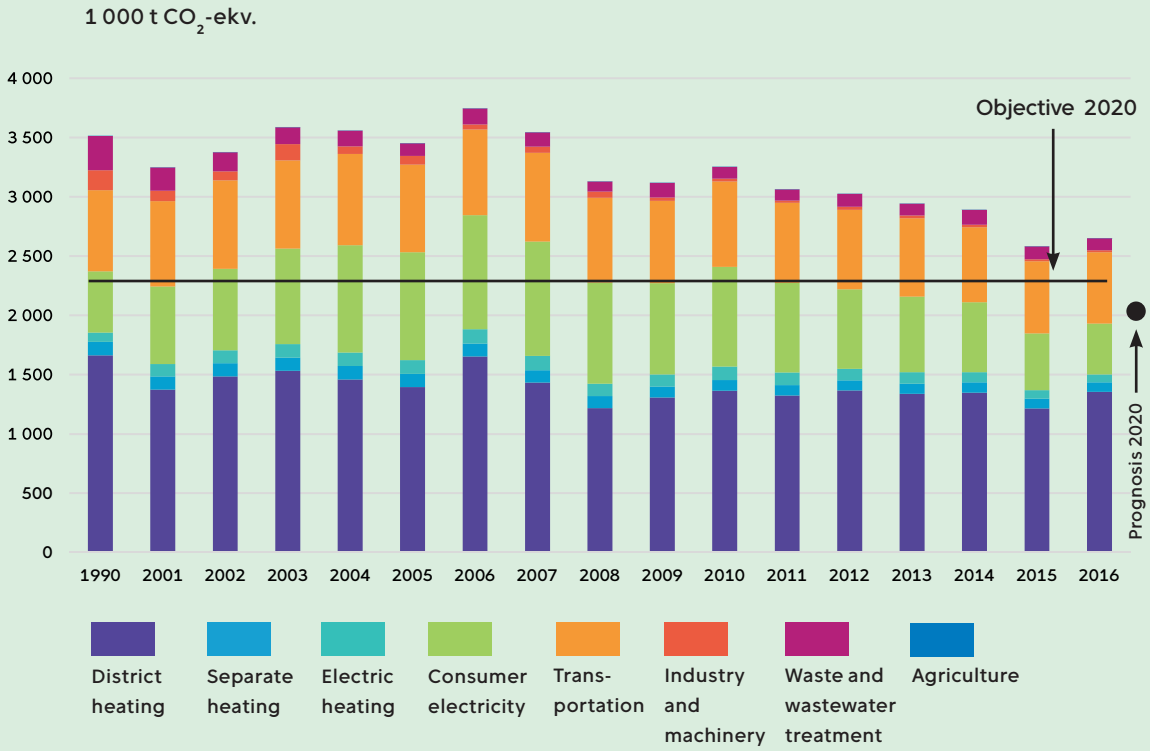
The energy consumption of all the city-owned heated buildings are been monitored and by the end of 2016 around 550 service buildings had been reviewed.

In 2016, the low-energy construction of new buildings and renovation continued. The energy planning instructions, aiming close to zero energy, were integrated into the City's general HVAC design instructions for service buildings. The Energy Efficiency Directive for buildings requires that starting in 2018 all public buildings must be constructed as near zero-energy buildings.

The energy studies for the City's construction projects evaluate solar and wind power, as well as heat pumps and geothermal cooling options, which will be taken into account in both new construction work and renovation projects. The Real Estate Department examined the possibilities of photovoltaic power construction in more than 1,200 service buildings. A more detailed examination has been done on approximately 600 service buildings' possibilities of producing photovoltaic power. In 2016, solar systems were built, for example, in Kalasatama's Korttelitalo and the Finlandia Hall.

The environmental documents for infrastructure and building construction were completed towards the end of 2016, and they moved on to the piloting phase. A street design area in Oulunkylä, the housing area south of

# Greenhouse gas emissions




Tullivuorentie and Day Care Lapinmäki were chosen as subjects for the pilot. The document will also be used in the Kruunusillat project. The documents include the Planning Officer's instructions, the Environmental Document (a commercial document for tendering the contract) and the base for an environmental plan at the construction site. The implementation of contract-specific reports (water, energy) is being discussed, based on the document. During the piloting, the contents and approach of the documents will be polished, after which a proposal can be made for the principle to become a requirement for third parties, as well.

The climate workgroup commissioned in 2016 a prognosis for the climate objectives. According to the prognosis Helsinki has good opportunities to achieve the emission objective and even exceed it (-40 % by 2020). Also the 20 per cent renewable energy objective by 2020 will propably be achieved (23 %), but not quite the 20 per cent energy saving objective 2005–2020 (-17 %).

In 2016, the total greenhouse gas emissions produced by Helsinki's residents, services and industry were 2,651, 000 t CO2e (+3 % from 2015). The increase of the emissions is mainly caused by the emission increase in district heating emissions (+12 %). The emissions increased, because it was cheaper to use coal than natural gas mainly because of low prises of electricity and allowances. The total emissions were newertheless 25 per cent lower than in 1990. The emissions calculated per capita were 42 per cent lower than in 1990. The emissions from electricity use (-10 %), waste management (-8 %) and traffic (-1 %) reduced.

The total energy consumption in the city area increased by 1.0 per cent, but resident-specific consumption stayd the same as previous year. The total weather-corrected consumption of district heating in Helsinki increased by 1.0 per cent due to the growing building stock and the use of electricity by 2.0 per cent. The share of renewable energy in the city area was 18 per cent.

Global temperatures in 2016 reached unprecedented highs third year in a row. The National Oceanic and Atmospheric Administration in the US reported that the average global temperature was 0.9 degrees warmer than in the 1900s.

# Air protection

Although the air quality in Helsinki is good on an international level, the annual limit of nitrogen dioxide, specified in the EU's Air Quality Directive, is exceeded in the city centre's street canyons. The reason for this is the exhaust emissions from traffic, in particular diesel vehicles. The annual limit's exceedance area is approximately 5.7 km and has decreased from 2008 by approximately 30 per cent. The new Air Quality Plan approved by the Environment Committee became effective at the start of 2017. Residents and stakeholders were requested for comments during the plan preparation. In addition to traffic, the theme's of the plan include street dust and small-scale wood burning that also have a significant effect on air quality, and the plan contains 48 measures to be implemented in 2017–2024.

## The Environment Centre published the Good Air for Helsinki brochure.

In accordance with legislative requirements, the programme includes measures for reducing nitrogen dioxide emissions resulting from traffic in street canyons. According to models, the pricing of vehicles would be the most effective way of reducing the amount of traffic and lowering the nitrogen dioxide levels. Other effective means include the reduction of emissions from buses, parking fees and allowing only public transport on Hämeentie. According to HSL's prediction, the local emissions from buses will go down more than 90 per cent by 2025, due to the development of the fleet and buses using electricity and biofuel. The Environment Centre published the Good Air for Helsinki brochure, which explains the reasons behind the air quality problems and the measures that the City is taking, as well as what the residents themselves can do to improve air quality. Cycling and using public transport, as well as burning clean and dry wood in the fireplace, are good ways of influencing air quality.

In 2016, the concentrations of respirable particles ($PM_{10}$) were clearly below the limit values, and the limit values have not been exceeded since 2006, due to effective dust prevention. However, street dust continues to weaken the general air quality in spring and the risk of exceeding the limit exists in particular in street canyons with heavy traffic. Therefore, it is important to continue the prevention of street dust, and such measures have been included in the new Air Quality Plan. Street dust and its effects are being studied in the "Sources of street dust, emission reduction means and air quality impacts" project together with the City of Vantaa, HSY, Metropolia and Nordic Envicon Oy. Among other things, the project reviews emissions from studded tires, dust impact of tramways and the sources of street dust.

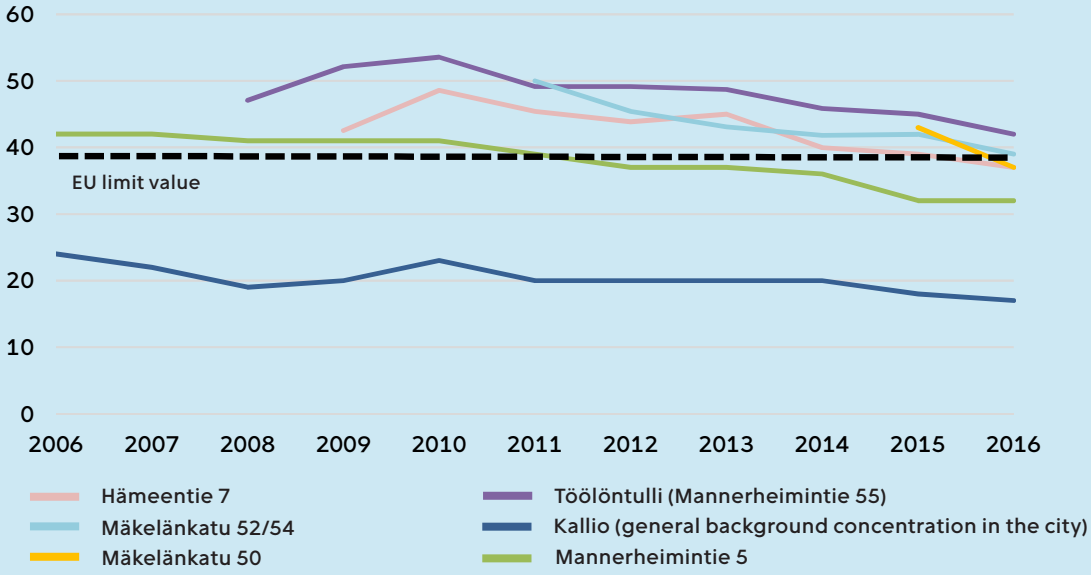
Since 2011 the City has granted cars that fulfil low emissions criteria a 50 per cent discount on parking charges. The nitrogen oxide and nitrogen dioxide emissions from diesel cars have been shown to be considerably higher than what the manufacturers have stated, which is why the criteria was reviewed. The City Board decided that from the beginning of 2017 the carbon dioxide emissions from a diesel vehicle may not exceed 50 g/km to make the vehicle eligible for the discount, which removed the eligibility of ordinary diesel cars. In the City's procurements, the criteria will become effective at the beginning of 2018.

Between March 2015 and June 2016, VTT studied the true emissions of Euro VI buses from three different manufacturers using a PEMS measuring device. The project was funded by the City of Helsinki, HSL and Trafi. According to the measurements, the buses' nitrogen oxide emissions increased somewhat in cold temperatures, but the NOx emissions were approximately 75 per cent lower than with the EEV buses of the previous emission level. VTT decided to continue this project by measuring the emissions from eight buses between 2017 and 2019.

The Environment Centre participated in the Air Quality Innovation and Centre of Expertise programme's ILMA project, which aims to accelerate the latest insight and innovation activity that relates to outdoor air quality and public health.

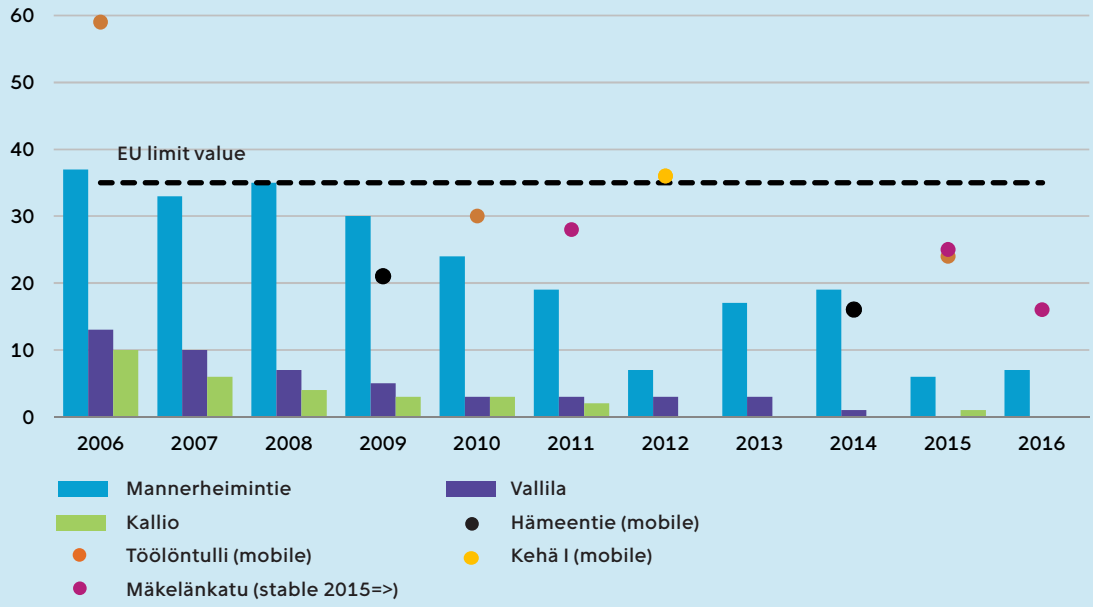
# Nitrogen dioxide ($NO_2$) concentrations in ambient air

**Annual average nitrogen dioxide ($NO_2$) concentrations measured by HSY's monitoring stations and passive samplers**




# Particulate matter ($PM_{10}$) concentrations in ambient air

**The number of days when the limit value level (50 µg/m³) for particulate matter ($PM_{10}$) was exceeded in the air quality measurement stations in Helsinki. The limit value is exceeded if the number of days with $PM_{10}$ levels above 50 µg/m³ is more than 35/year.**



# Noise reduction

Environmental noise weakens the healthiness and quality of living environments in many European cities, including Helsinki. The biggest cause of noise pollution is road traffic, and almost 40 per cent of the residents of Helsinki live in areas where the noise level caused by road traffic exceeds the limit value of 55 dB during the day. Locally, construction and repair works and public events, restaurants and deliveries may also cause noise pollution.

Noise prevention is guided by the revision of the City's noise prevention operating plan 2013, which contains a total of 26 measures. The objectives set for noise prevention are challenging, however, and they cannot be achieved without increasing the effectiveness of noise prevention significantly.

The preparation of a new operating plan for noise prevention began in 2016. The noise prevention measures of each responsible party will be recorded in the operating plan for the years 2018–2023. The work is based on the new noise study, which is conducted every five years in the Helsinki Metropolitan Area, according to the Environmental Noise Directive, and will be concluded in June 2017. The noise study is to be realised in collaboration with the cities of Espoo, Kauniainen and Vantaa and the Finnish Transport Agency.

Construction sites that were conducting construction work that causes noise or vibration disturbance near housing buildings at night between 10 pm and 7 am, for imperative reasons, were particularly challenging for noise prevention and monitoring. For example, the detonations at the excavation site of Käpylä's Baana, which is being constructed near the main railway line, were only performed at night when there was no train traffic on the line, due to traffic safety reasons. To prevent the noise and vibration disturbance from being unreasonable to the residents, night-time work was only conducted in small portions and advance notice was given to the residents in the site's immediate surroundings. Also the extensive neighbourhood construction locations in Jätkänsaari, Kalasatama, Kruunuvuorenranta and Pasila were challenging to monitor. A lot of pile driving and excavation work was conducted at these sites. Several temporary rock crushers were also in operation. To prevent the constructions site noise that will last for years from being unreasonable to the first residents settling in these areas, the Environment Centre did not allow conducting the noisiest work at evenings or weekends without a legitimate reason. Advance notice to the area's residents was also required for work causing noise.

## Ending time policies for preparing the decisions on the noise notification by large outdoor concerts were implemented in 2016.

Ending time policies for preparing the decisions on the noise notification by large outdoor concerts were implemented in 2016. These will help keep the disturbance level caused by large music events to the nearby residents reasonable. The policies factored in the results from a survey that was conducted in 2015 on suitable ending times and the number of concerts and was targeted at people living near the most popular venues. According to the policies, only a certain number of evening concerts may be arranged in each area, with their ending times specified in advance. The Environment Centre provided information on concerts on its website and in social media. Good prior provision of information has been shown to reduce the noise disturbance experienced by residents.

In 2016, four noise abatement projects were ongoing. The construction of a noise barrier began on Kirkonkyläntie between Tapaninvainiontie and Vanha Tapanilantie, and the construction of a surplus earth noise barrier and wall began on Porvoonväylä in Jakomäki. The construction of the Ring I noise barrier in Sepänmäki, which utilises surplus earth, and designing the Itäväylä noise wall for the Herttoniemi straight began.

# Traffic

The HSL area was ranked second together with Oslo in 2016's international BEST public transport study, after Geneva. Of the residents of the HSL area, 74 per cent were satisfied with the public transport.

Helsinki and Espoo decided on the realisation of Raide-Jokeri. Raide-Jokeri is a light-rail connection to be constructed from Helsinki's Itäkeskus to Espoo's Keilaniemi. The Helsinki City Council also decided on the implementation of the Kruunusillat bridge project. The bridges will link Laajasalo, Korkeasaari and Kalasatama as part of the inner city and offer a fast route for public transport, cyclists and pedestrians.

The City has invested in promoting cycling and walking in other ways, as well. The first phase of the city bike system was initiated in May. The service was exceptionally well received and its popularity exceeded all estimations. More information on the city bikes on the adjacent page. Winter-time cycling has been promoted by developing the winter maintenance methods of the bike lanes in cooperation with cyclists. A method of brushing and salting instead of using snowploughs on the bike lanes and using slipperiness prevention substance instead of salt has been tested during recent winters. The bicycle traffic planning instructions aim to promote the design of a safer and more attractive environment for cyclists and pedestrians.

Helsinki ordered 20 new Artic trams for the centre's tram lines and 29 light-rail cars operating in two directions on the Raide-Jokeri line. During 2016, 18 previously ordered Artic cars were delivered to Helsinki and ten old bendy tram cars were subsequently decommissioned.

The construction of Länsimetro did not progress as planned, and therefore its operation is due to start in 2017.

In 2016, HSL continued its ePeli electric bus project, in which for example electric buses have been acquired for the carriers to test out. The electric bus fleet expanded by six Finnish Linkker buses, and two charging points in Helsinki. Through the environmental bonus tender, HSL received 6.9 million litres of paraffinic biodiesel made from waste and residue raw material to be used by buses, in addition to which 600,000 kg of biogas was used. Through direct procurement HSL installed secondary processing devices of exhaust gasses for the bus fleet on line 550 to enable better control over nitrogen oxides.

The City's electric traffic workgroup designed a general plan for public charging points for electric cars, which consists of 115 charging stations around Helsinki.

The role of steering the transport modes as part of the traffic system development was already emphasised in HLJ 2015. Workplaces and schools, in particular, have been encouraged to choose smart transport options, with the help of HSL's Työpaikka, joka liikuttaa certificate, the Hyvä koulutie vie pitkälle diploma and Työmatkalaskuri, to name a few.

Helsinki's new City Plan was approved by the City Council in October 2016. According to the City Plan room for new neighbourhoods could be possible to get in the long run by turning next to motorway-like roads into city boulevards. An extensive light-rail network and the metro network expansion, that the City Plan makes possible, would improve the service quality of public transport.

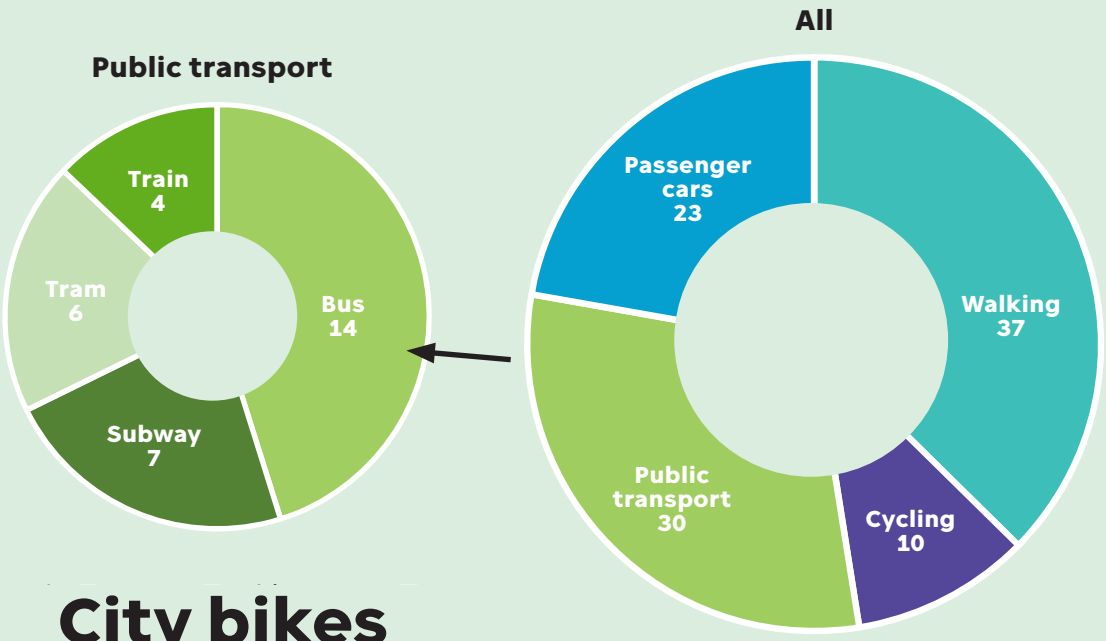
The amount of motor vehicle traffic in 2016 was smaller compared to 2015 in all of Helsinki's calculation lines except the inner city border. The change at the city border is likely a temporary one, adue to the Ring I road works.

The numbers of travellers crossing the peninsular border on a weekday in autumn by public transport grew (+3.4%) in 2016 compared to 2015 whilst the numbers travelling by car fell (-1%). The numbers of travellers crossing the peninsular border in the morning in the direction of the city centre grew with both public transport (+1.7%) and cars (+1.2%).

The number of Helsinki residents owning a car went up 1.5 per cent (410 cars/1,000 inhabitants) and the number of cars in traffic use grew by 0.6 per cent (330 cars/1,000 inhabitants). This was the first time since 2011 when the number of cars in traffic use compared to the number of inhabitants has grown.

# Distribution of various transport methods in Helsinki in 2016

**The main transport method of trips inside the City of Helsinki, % of all trips**




## City bikes

**740 000** kilometres

**5-6** journeys per day/bike

**400,000** journeys

**500** bikes and 50 bike stations
2017: 1,400 bikes and 140 bike stations

The city bikes **received a 4** (on the scale of 1–5)

**The most popular stations**
**Itämerentori, Töölönlahdenkatu, the Kamppi metro station, the National Opera and Baana**

HSL and HKL received the Best Cycling Act of 2016 recognition. Grounds for the recognition included the implementation of the city bike system, well functioning and hugely popular already in its launching year, as well as setting the trend for the entire country. Thanks to the city bikes, everyone in Helsinki now has access to cycling. The competition was organised by the Suomi Pyöräilee project and the Pyöräilykuntien verkosto network.

# Water protection

The water areas in Helsinki include extensive marine areas, as well as the freshwater areas of River Vantaa, various streams, ditches, ponds, and springs. The water quality of the city is affected by the impurities in storm water, nutrients brought by scattered loading, cleaned wastewater led to the outer archipelago, human activities, the muddy waters flowing from River Vantaa, and the state of the Gulf of Finland. In addition to the Environmental Policy, water protection in Helsinki is regulated by the City of Helsinki's Small Water Bodies Programme (2007), the Storm Water Strategy (2008), the Flooding Instructions (2013) and Helsinki's action plan for the Baltic Sea Challenge (2014–2018).

**The quality categories between 2012 and 2015 varied from poor in the Seurasaarenselkä area to adequate in the outer archipelago.**

Over a million people live in the impact area of the River Vantaa, and the river winds over 100 km from Riihimäki to the bay in Vanhakaupunki. River Vantaa with its rapids is a valuable and attractive fishing location where Atlantic salmon and Brown trout travel up to spawn. In accordance with the ecological classification, the condition of River Vantaa is satisfactory, but the Kytäjoki area and the upper reaches of the river Keravanjoki are in good condition. Good ecological condition would be achievable in the lower reaches if the annual median of the overall phosphorus concentration were to reach a level of 60 µg/l. Phosphorus and nitrogen come from waste water and agriculture. Untreated waste water should no longer be able to enter the river at Riihimäki wastewater treatment plant following the completion of an expansion.

The Environment Centre monitors sea areas in accordance with the Helsinki Metropolitan Area's Common Monitoring Programme for Marine Areas. No significant anomalies have been observed in marine areas in 2016. However, the effects from saline pulses previously reaching the Baltic Sea were evident in the outer archipelago as record-breakingly high saline concentrations and extremely high concentrations of phosphorus in the water close to the seabed. In the spring and early summer, the surface waters were clearer than usual. No separate monitoring was done in 2016.

No significant, extensive presence of blue-green bacteria was formed in 2016 within Helsinki's marine area. At the end of July, some coves had blue-green bacteria floating on the surface, but the blooming period was relatively short. Occasionally, various species of dinoflagellate were present in Helsinki's marine areas in large numbers, sometimes turning the water brown.

A tool was created for determining the ecological category of the marine area around the Helsinki Metropolitan Area. The quality categories between 2012 and 2015 varied from poor in the Seurasaarenselkä area to adequate in the outer archipelago. In the future, the quality categorisation will be published in spring.

The City's organisational departments and HSY were preparing in cooperation the City's water management development plan for 2017–2026, and it will be completed in 2017. The plan will focus on identifying the change requirements due to the development of the community structure and the areas in need of water management that are outside of the current networks. At the same time, city-specific water management development plans with identical contents were also designed for the HSY area, Espoo, Kauniainen and Vantaa to serve the development of the cities' and the region's community structure and water management during the next decade.

A ground water monitoring programme was launched in 2016 together with the other Helsinki Metropolitan Area's municipalities, HSY and the Water Protection Association of River Vantaa. The Common Monitoring Programme includes ten Helsinki Metropolitan Area groundwater locations that have been prioritised as important reserve water supplies for the water management. In Helsinki, these locations included the Tattarisuo, Vartiokylä and Vuosaari groundwater areas.

The Environment Centre monitored the water quality of 36 streams and 21 ponds. The two-year-long enhanced monitoring continued at Mätäjoki, and samples were also collected from Mätäjoki's tributaries and rain water run-off sewers. According to the diatom samples taken in autumn 2016, the main stem of the Mätäjoki river is in an adequate condition. The land cover in the streams' water catchment area was studied in each partial water catchment area. 36 per cent of the surface in Mätäjoki's entire water catchment area is impervious surface.

The Public Works Department is renovating the Saunapellonpuisto pond in Viikki, which suffers from over eutrophication caused by a very dense fish stock. To lower the number of fish in the pond, fishing was organised and the pond's vegetation cut back. The Environment Centre is monitoring the water quality in the pond.

The vision in Helsinki and Turku's other joint programme of measures for the Baltic Sea between 2014 and 2018 is a clean, productive and shared Baltic Sea, and almost half of the programme's 75 measures were in use. Work concerning in particular the impact on the watercourses from agriculture and shipping, oil spill response preparedness and the planning of marine areas is underway in many fronts. In addition, cooperation within the City was developed concerning, for example, litter and snow management. The City's organisational departments' annual Baltic Sea seminar was organised in cooperation with the Urban Academy.

The chair of Economics of Baltic Sea Protection founded together with the University of Helsinki was granted a further term until the year 2021. The first five-year term yielded large amounts of economic research on the Baltic Sea to be used, for example, to support the City's decision making, and an information base of the University's Baltic Sea researchers was created.

Helsinki launched a unique phosphorus neutrality pilot for the City's municipal wastewater together with the John Nurminen foundation. Helsinki will become the first Baltic Sea city with phosphorus neutral communal wastewater when it neutralises the phosphorus footprint of the Viikinmäki wastewater treatment plant by funding the wastewater treatment in the Belarussian Vitebsk.

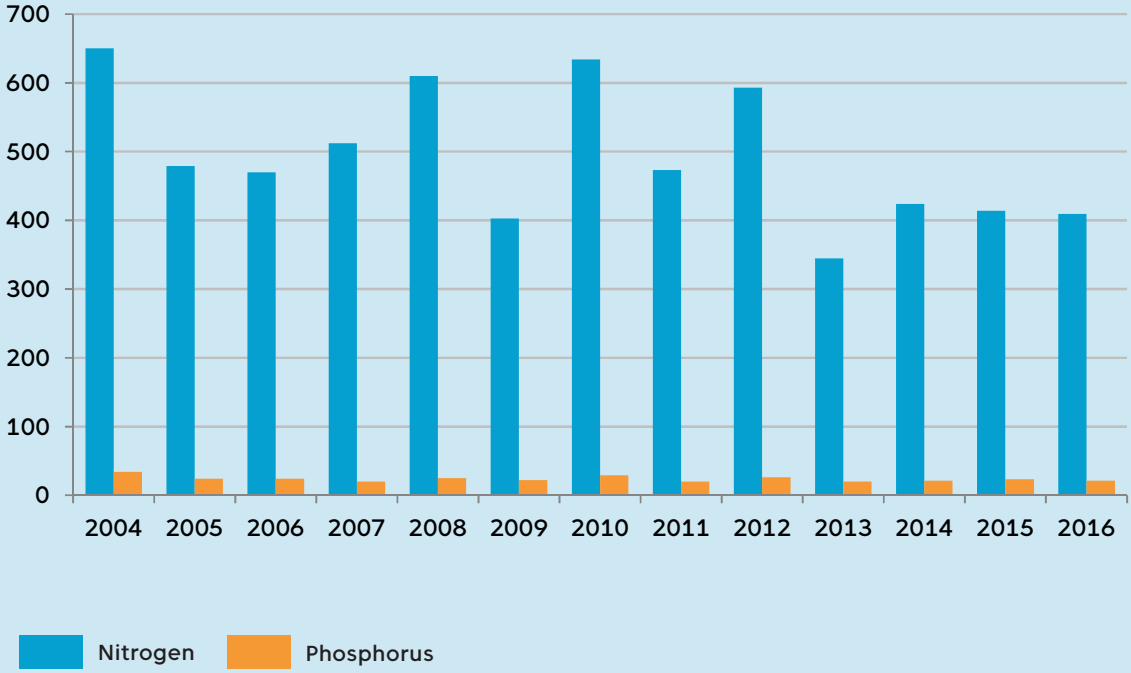
**Helsinki launched a unique phosphorus neutrality pilot for the City's municipal wastewater together with the John Nurminen foundation.**

The Baltic Sea challenge has a partner network of 250 organisations, and tools, events and forums are being created to support the network's water conservation efforts. In summer 2016, the network was activated into updating its commitments for the term of 2014–2018. Towards the end of the year, the network received approximately 20 new international partners simultaneously through the close cooperation done with the IWAMA project (Interactive Water Management).

The current status of snow reception and the related options in the long run were studied by the Public Works Department and the Environment Centre. The number of snow reception sites has decreased in the past decades due to more compact land use. The cooperation also produced a policy for the permit requirements concerning snow dumping. The City, the Finnish Environment Institute and the Keep the Archipelago Tidy Association also worked in cooperation related to litter accumulating on beaches. Site formation, dredging and shoreline construction increase marine litter. The amount of litter was studied regularly at several beaches. The development work related to snow reception and reducing the amount of litter on beaches will continue in 2017

# Load to the sea

Nitrogen and phosphorus load channeled to the sea from the Viikinmäki treatment plant, tons per year




A total of 93,3 million m³ of water was pumped into the water system within the HSY water treatment area in 2016. The water consumption per capita in Helsinki was 181 litres per day, which was the same as in 2015. A total of 99 million m³ of waste water was delivered to the Viikinmäki sewage treatment plant for treatment, of which 72 million m³ came from Helsinki. The amount of waste water was at same level as the previous year. The Viikinmäki wastewater treatment plant met all the environmental permit regulations. Combined sewer network overflows amounted to 0.3 per cent of the overall amount of waste water.

The 2016 treatment efficiency for phosphorus in Viikinmäki was 97 per cent. For biological oxygen demand, the removal efficiency was 98 per cent, and for nitrogen, 92 per cent. The wastewaters treated at the Viikinmäki wastewater plant are conducted through rock tunnels to the open sea, about eight kilometres away from the shore. The phosphorus load from the Viikinmäki wastewater treatment plant on the sea areas in front of Helsinki was 21 tonnes (-9% from the 2015 level), and the nitrogen load was 409 tonnes (-1% from the 2015 level). For eutrophication, the nitrogen load is more significant, because nitrogen is a minimum nutrient in the waterways in the Helsinki region.

# Securing biodiversity

The nature management policies approved by the City Board and the objectives of the LUMO programme will be adhered to in nature management. Land use planning strengthens the recreation and urban nature network and plans green infrastructure as an entity, by increasing green surfaces, providing compensation, supporting the green network and measuring green efficiency, amongst other methods. The impacts of climate change highlight the importance of measures planned for securing biodiversity.

The development plan for Helsinki's park and recreational area network (VISTRA II) stated that the compacting City's green areas, other public outdoor areas, beaches and the archipelago will be developed as a network-like entity that provides diverse ways of relaxing in all the City's neighbourhoods. The mutual connections within and attractiveness of the network will be further improved as the City's identity-defining factors, with the areas' characteristics and diverse cultural and natural values, such as the cultural environments that are located within the green areas and the forest network that maintains natural diversity, used as the starting point. In November 2016, the City Planning Committee approved the principles of Helsinki's network of parks and recreational areas, based on the plan. A regulation was included in the partial city plan of Vartiosaari on the use of the green factor tool in the area's land use planning.

**In December 2016, the City Board approved the strategic policies and measures in the City of Helsinki's green roof policy, "Stadinkatot elävät", as directives for the City's departments and public utilities.**

The good results received from the ecosystem service review that was piloted in Vanhakaupunki's area plan, and the methods and models for improving the ecosystem service that were developed during that work were compiled into a set of instructions. These instructions together with their method descriptions are mainly intended for regional planners and planning consultants. The perspective will be expanded in the next organisation. In addition, the Public Works Department has piloted water catchment area reviews into the area plans. The pilot will factor in a more extensive water catchment area than the area plan when planning the area.

In December 2016, the City Board approved the strategic policies and measures in the City of Helsinki's green roof policy, "Stadinkatot elävät", as directives for the City's departments and public utilities. The main aims of the strategy are better management of storm water during downpours, mitigation of the urban heat island phenomena, protection of urban biodiversity, and active utilisation of the roofs as a functional, financial and aesthetic resource.

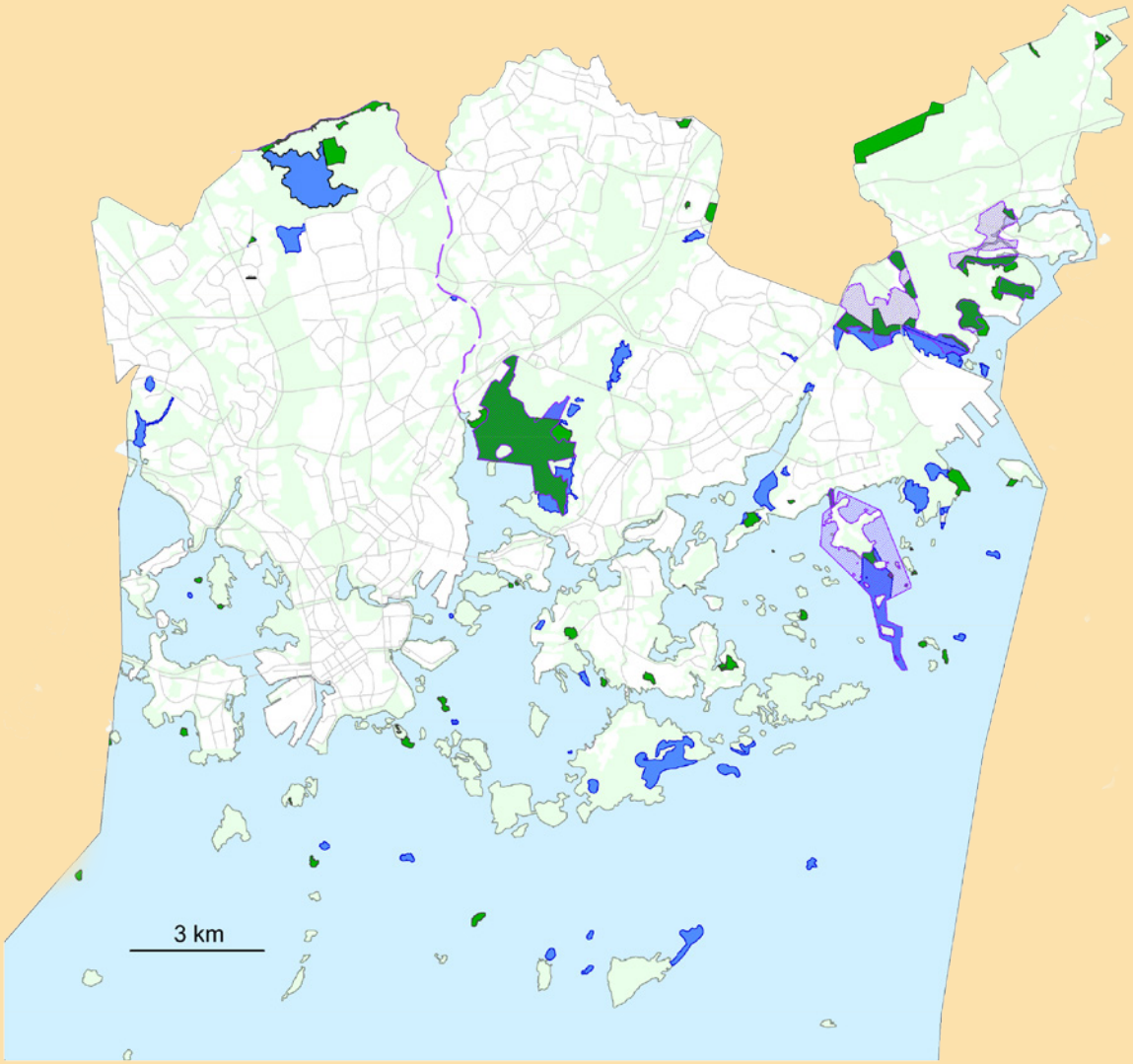
Helsinki's Nature Conservation Programme 2015–2024 was approved by the City Council in October 2016 as part of the city plan.

The management and utilisation plan for the Vanhankaupunginlahti bird wetland Natura 2000 area was published. The annual bird monitoring in the area was conducted in a normal manner. In addition, the vegetation development monitoring, which is repeated every five years, was done. Sediment studies were conducted in the Vanhankaupunginlahti Natura area, and their results will show whether dredging according to the management and utilisation plan can be done. A management and utilisation plan draft was also made for the Kallahti shoal, and it was presented at a public event.

Draft studies were conducted in the future nature reserves of Haltiala, Hallainvuori and Patterimäki, and in Roosinmäki, which is already protected. In order to plan the management of these areas, the presence of plant species that are endangered and species that are of special concern and in urgent need of protection was studied.

The Environment Centre commissioned a study on the number of Siberian flying squirrels,

# Protected nature areas in Helsinki




SEL 30.3.2017

Basemap © City Survay Division, Helsinki 2017

The map indicates the 54 currently existing nature reserves in Helsinki, the new nature reserves proposed in the Nature Conservation Programme (2015–2024) and the Natura areas. Currently, 2.2 per cent of all land area is nature reserves, as compared to 0.5 per cent of water areas. When including protected nature types, species protection areas, and Natura 2000 areas not protected by the Nature Conservation Act, the total protected area amounts to 3.6 per cent of Helsinki's land area and 1.0 per cent of water areas. The new proposed nature reserves would nearly double the area.

- Nature reserves
- Nature reserves in the Nature Conservation Programme 2015-2024
- Natura 2000 areas

because sightings of the species have increased. Compared to the previous inventory done two years ago, the number of Siberian flying squirrels has tripled. Five years ago, only random sightings of the species were made in Helsinki. Siberian flying squirrels thrive in mixed forests that consist of areas of varying ages and have young broad-leaved trees growing underneath spruce-dominant stands. Helsinki's forests have proven to be a suitable environment for the Siberian flying squirrel. The ability of the species to cross thoroughfares and adjust to living in park-like environments has been surprisingly good. In western Helsinki, the population has grown in the Tali, Munkkivuori and Meilahti areas and in particular in the Central Park, where the number of Siberian flying squirrel locations has doubled in two years.

**During the NATTOURS project, the cities' valuable nature locations will be restored in order for the residents and tourists to be better able to enjoy urban nature.**

The invasive species workgroup focused on preparing a prioritisation plan for controlling invasive species. The plan includes 25 plant species and five animal species to be controlled. In the regional prioritising, the priority will fall on nature reserves, endangered habitat types and locations with endangered plant species. The control resources will be targeted based on the prioritisations. Only the Persian hogweed will be completely eradicated from Helsinki, if possible, while efforts are made to keep the other species away from agreed areas.

The City controlled harmful invasive species in locations, such as nature reserves, that are valuable due to the species present there. The control was also done by volunteering residents and park pals. Prevention of Persian hogweed, rugosa rose, large-leaved lupin, Himalayan balsam, Japanese knotweed and giant knotweed, along with mink, raccoon dogs and rats has continued. The rabbit population control took place naturally, because tularemia reduced the rabbit population in Helsinki to a sustainable level. The situation was monitored and control was continued at selected locations. Rugosa roses were cut on Harakka and a voluntary event to get rid of Himalayan balsam was organised in Fastholma. Fishing for the Prussian carp was organised, as in previous years, at the Saunapellonlampi pond.

The EU funded NATTOURS – Sustainable Urban Nature Routes Using New IT Solutions project was launched in March 2016 in cooperation with Tallinn. During the project, the cities' valuable nature locations will be restored in order for the residents and tourists to be better able to enjoy urban nature. Information on several nature locations will be combined to create mobile applications that can also be used by school children. In 2016, the new nature trail structures to be realised in 2017 from Pornaistenniemi to Lammassaari and the Harakka island were planned in the NATTOURS project. The wooden structures will fit in the surrounding nature and will be made accessible for wheelchairs and pushchairs.

The brochures for Seurasaari, Meilahti and Vartiosaari in the Helsingin luontoon! brochure series were completed. The brochures offer hikers and walkers updated information on Helsinki's nature. A brochure on polypores in Helsinki's parks was produced as green year 2016 material.

The Helsinki Zoo was admitted as a member in the International Union for Conservation of Nature. The Helsinki Zoo is also a member in the European Association of Zoos and Aquaria and works in close cooperation with zoo experts and various conservation organisations around the world. The most significant animal events of the year included the birth of Siberian tiger and manul young ones, the arrival of muskoxen and male markhors at the Helsinki Zoo from the Moscow Zoo, and the Finnish forest reindeer Life project that began in October with the aim of introducing young forest reindeer born in zoos back in nature, in order to strengthen the Finnish population of this endangered species. The Zoo continued to support the conservation work in the habitats of Siberian wild cats, snow leopards, red panda and manul. The new projects to be supported were barbary macaques and the golden mantella frog, supported together with the Finnish Association for Nature Conservation.

# Restoration of contaminated soil and landfill sites

The most important restoration sites with contaminated soil were the areas of Kalasatama and Jätkänsaari, which are being converted into housing use, as well as the Central Pasila neighbourhood, which includes the renovation of the Pasila railway station, the Pasila bridge and street areas, as well as the construction of Tripla. In addition, large restoration projects included the final restoration of the Laajasalo Oil Harbour and Pasila's old engineering shop area. Each area included several separate restoration sites. Soil was decontaminated at approximately 40 different restoration locations. The soil restoration was usually done during the other construction work in the areas. The soil condition database created by the Ministry of the Environment features the details of 863 areas in Helsinki where research has shown the soil to be contaminated, where the soil has been assessed as being potentially contaminated or where the soil has been restored.

The soil was cleaned in the same way as in previous years, primarily by excavating the soil containing harmful substances and transporting it elsewhere for appropriate processing. Soil was also restored by isolating the contaminated soil matter on site. Below is an overview of how the contaminated soil matter was transported for treatment or final disposal in Helsinki in 2013–2016. Some of the excavated, contaminated soil matter was utilised in landfilling at construction sites, mainly for the base structures of parks, and in landfill sites.

The costs generated by the restoration of contaminated areas and landfill sites grew significantly from the last few years. The amount of soil matter excavated more than doubled from 2015 levels, which is due to increased construction. Below are details of the costs for the City of Helsinki caused by the restoration of contaminated soil and landfill sites in 2013–2016.

A total of 300,000 tonnes of contaminated soil was transferred to be processed or disposed of, which is almost 70 per cent more than last year.

In 2016, a total of 759,560 tonnes of excavated non-contaminated earth mass was used in the construction of public areas. 83,000 tonnes of non-contaminated earth mass was sent to external recipients.

**Contaminated soil matter transported for treatment or final disposal in Helsinki 2013–2016** Chart 1.

| | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|
| Soil, ton | 121 665 | 96 642 | 180 000 | 300 000 |

**The costs for the City of Helsinki caused by the restoration of contaminated soil and landfill sites 2013–2016** Chart 2.

| | 2013 | 2014 | 20145 | 2016 |
|---|---|---|---|---|
| Costs, euro | 9 100 000 | 7 310 000 | 10 370 000 | 23 480 000 |

# Procurement

The City's Environmental Policy sets ambitious objectives for the organisational departments in terms of making procurements more sustainable. Tendering processes are seen to consider environmental aspects if they are included in the mandatory requirements or in the comparison criteria for the tenders. The challenge will be, in particular, the monitoring of the procurements.

**For the second year in a row, the Service Centre won the Finnish organic food championship in the category of large public food service providers.**

The environmental network of the procurements aims to increase the internal cooperation in the City and exchanging information between the parties responsible for the City's procurements. The Environment Centre and the Procurement Centre are also making sustainable procurement consultation visits to the City's organisational departments, with the aim of offering aid with defining the environmental criteria for procurements. Good practices on sustainable public practices were exchanged in Motiva's Growth Through Green Procurement project between Espoo, Vantaa, Oslo, Stockholm and Copenhagen.

The biggest environmental impacts in the food services are the result of the ingredients used. In the Service Centre, environmental impacts are reduced primarily with means of product development and menu planning. In 2016, the main investments were made into the development of vegetarian food. A vegetarian food project is currently in process at schools, with the aim of developing vegetarian dishes that would be more attractive in taste, appearance and texture. A weekly vegetarian food day was implemented in daycare centres, and a vegan food experiment was launched in 20 daycare centres. 16 new vegetarian recipes were developed for the home meals and 25 for resident and patient meals. The importance of the environment is also visible in the choice of fish. The Service Centre follows WWF's seafood guide and continuously develops new sustainable fish recipes. The use and appreciation of roach, in particular, has been increased by fish loaf products that the customers enjoy. The fishing area of all the Finnish fish species being used is well known.

The use of organic ingredients has been increased in daycare centres since 2012, and daycare centres are on level three in the six-level Portaat luomuun ("Steps to organic food") programme. For the second year in a row, the Service Centre won the Finnish organic food championship in the category of large public food service providers.

Helsinki is a Fairtrade city. In 2016, the Service Centre used 3,458 kg of Fairtrade products and the City's organisational departments a total of 17,000 kg of Fairtrade coffee. In addition, Palmia Oy used 14,789 kg of Fairtrade products, out of which coffee was the largest product group, but the amount also included tofu, sugar and bananas.

The Procurement Centre remained actively involved in international cooperation on sustainable procurements. The City of Helsinki is the chair of ICLEI's sustainable procurements Procura+ campaign and a founding member of the Global Lead Cities on Sustainable Procurement workgroup.

Chart 3.

**Environmental criteria proportion in centralised acquisitions, i.e. in procurements which are put up for tender for the use of all organisational departments**

| Joint procurement unit | Proportion in euros | Proportion in numbers |
|---|---|---|
| Procurement Centre | 51,6 % | 51,1 % |
| Stara | 99,0 % | 92,9 % |

# Waste and material efficiency

At the start of 2016, a new decree of the Council of State became effective restricting the dumping of biodegradable and other organic waste, such as textiles, at landfills. The restriction did not affect the Helsinki Metropolitan Area's sorting instructions, because mixed waste is no longer being transported to landfills but to Vantaa Energy's waste-to-energy plant, instead, where it will be utilised as energy.

In 2016, the city organisation produced 4,500 tonnes of mixed waste, 3,500 tonnes of bio waste, 550 tonnes of recovered and office paper, 475 tonnes of cardboard and cartons, 120 tonnes of energy waste, 75 tonnes of plastic, 65 tonnes of metal and 50 tonnes of glass.

According to the consistency study conducted by HSY in 2015, the residents of the Helsinki Metropolitan Area produced 177 kg of mixed waste on average per year, which is similar to the previous years' levels. With waste collected separately from real estates, the amount of paper, cardboard and cartons, and metal in mixed waste had decreased compared to the previous years. As a comparison, the residents of the housing company Helsingin kaupungin asunnot Oy produced an average of 174.5 kg of waste in 2016.

Pipe collection systems of waste have been built in Jätkäsaari, Kalasatama and Kruunuvuorenranta areas. The collection points will automatically empty themselves to the waste containers of the collection station. The centralised collection decreases traffic emissions and noise and encourages to recycling, among others.

The use of cloth hand-drying rolls in the organisational departments improves material- and eco-efficiency. In 2016 a total of 115,735 rolls were used, which replaced 13–18 million paper towels.

Avoiding food waste is both economical and beneficial for the environment. The most efficient way of avoiding food waste at the Service Centre is to monitor the demand, based on which estimates can be made on the amount of food that needs to be prepared. The amount of food consumed at schools and day care is monitored daily. In addition, food waste is monitored particularly closely during the vegan food experiment at the daycare centres. At nursing care units, food waste is monitored at agreed times.

**In 2016, a total of 759,560 tonnes of excavated earth mass was used in the construction of public areas.**

The solar-powered BigBelly smart waste bins that compact rubbish were tested at the city centre parks, and the results were positive, due to which the number of bins was increased in summer 2016. The network will be expanded and the number of containers increased within the budget.

Coordinated management and utilisation of excavated earth reduced transportation and the resulting emissions. In 2016, a total of 759,560 tonnes of excavated earth mass was used in the construction of public areas. The amount increased by 65 per cent from the year 2015. Due to this use, 1.4 million litres of fuel were saved and the emissions were reduced by 3,519 $CO_2e$. Masses were utilised the most at the West Harbour project area.

A condition of circular economy is that the area has sufficient locations where masses can be stored and processed. The City has six sites, where materials such as blasted rock, surplus soil, ash from power plants and contaminated soil are stored and processed in accordance with the sites' environmental permits. Additionally, asphalt, concrete and brick waste are crushed and dredged sediment dried at the sites. At the end of 2016, mass stored at the sites totalled 1.2 million $m^3$.

In 2016, the Public Works Department used 101,000 tonnes of hot mixed asphalt. Recycled asphalt was used in 44 per cent, out of which 50 or 70 per cent was crushed asphalt.

# Environmental awareness and responsibility

Several events were organised to mark the green year 2016, with thousands of residents taking part. Flower bulb beds bloomed and new ones were planted. Park walks were organised in Roihuvuori's Kirsikkapuisto, Meilahti's arboretum and Lillkalvik's Ullas park, to name a few. Other events included the opening of the Niskala arboretum, the planting event Karhupuiston kummit 20 vuotta, the plant naming ceremony at Annala Manor park, the opening of the Töölönlahti park and Viikki's park bridge, the green year salute, i.e. scallion planting at Kauniala Hospital for War Veterans, and the memorial tree planting event related to the green year closing celebration.

The most popular nature excursions were the Herttoniemi Manor park, the Mother's Day excursion to Mustavuori and the spring migration of birds in Viikki. The spring cleaning bee attracted nearly 24,000 volunteers.

Helsinki's Environmental Awareness Cooperation plan was implemented by developing the use of renewable energy, urban agriculture and by starting an apple orchard in Myllypuro. An exhibition on Viikki's birdlife was opened at the Herttoniemi resident cafe and a nature excursion was organised for the area's children.

The annual theme of the Helsinki Zoo was nearby nature. The theme was used, for example, in the Easter Island event, where residents built birdhouses. The previous visitor record was broken during the Night of the Cats with nearly 20,000 customers, and the Helsinki Zoo Day was celebrated on 4 October. In addition to these events, theme days, a nature school and other happenings were organised at Arkki's new premises.

Many types of environmental education for youth was provided at the Youth Department, and the Public Works Department's "Energy for second-graders" material package was given to more than 1,200 pupils and teachers.

Commuting plans for school trips were made at HSL's friendship schools in Helsinki. In addition, Matkakummi taught classes at schools and daycare centres on traffic and transport, and provided senior citizens, immigrants and other special groups information on public transport.

Helen Ltd encouraged citizens to save energy and focused on providing energy advice digitally. Helen launched the Enne service, which provides tips and information on improvement means that relate to energy consumption, and with these anyone can reduce their energy consumption and carbon footprint. Helen also used its Lämpölupaus campaign to encourage making cuts to the consumption spikes, and the aim of the campaign was to engage people in the climate work and test the consumers' willingness to realise demand elasticity. Furthermore, Helen published its Uutta voimaa blog on the progress of the development projects. During 2016, Helen talked about energy, its smart use and the energy industry at Energiatori, power plants and schools to 6,800 people, and supported twenty Finnish summer events that create good city energy with a sum of 30,000 euros.

Ilmastoinfo's Kasvislankeemus campaign recommended switching to vegetables – one meal at a time. Climate Match took the work to the campuses and encouraged people to become familiar with the climate-friendly choices. The "Food or waste" campaign spread to the Unicafé restaurants, and the Food Waste Week culminated in the Food Waste Festival. The 30 Seconds is Enough campaign took part in Heka Oy's theme year of water, the Aurinkosähköä kotiin campaign was organised for the third time, and the Tasapainota talo campaign provided help for housing associations in the energy-efficient maintenance of their heating and ventilation networks. Ilmastoinfo also took part in the Urbaani puuvaja project, which produces guidance material as well as storage and service solutions enabling better firewood drying for small-scale wood burning. The energy advisor provided guidance to housing associations, SMEs and citizens on improving energy efficiency and utilising renewable energy..

# Environmental risks

Due to climate change, extreme weather conditions will increase and forecasting will become more difficult. Invasive species also cause harm, and the risk of an oil incident at the Baltic Sea is great. From the City's perspective, the most significant environmental risks are fires, oil and chemical spills, soil and water contamination, deterioration of air quality, diminishing biodiversity, disruptions in the railway network, and the challenges posed by extreme weather phenomena to healthcare, in particular. Preparing for these risks is done through organised actions.

In 2016, Helsinki prepared its policies for climate change adjustment. The key objective is the integration of the measures with the City's planning system. The measures are decentralised and are also used with the rainwater run-off strategy, the flood strategy, the LUMO programme and the nature management policies.

The Public Works Department is preparing for the risks caused by plant diseases or pest infestation to trees. Evira's risk analysis concerning Dutch elm disease was completed in spring 2016. It is possible to control this disease successfully through cooperation between Evira and local operators. Although efficient control of this disease is costly, it is considerably cheaper than allowing the disease to spread freely and having to replace the trees with new ones. Also the spreading of the dangerous Asian long-horned beetle was mapped together with the University of Helsinki and Evira. The beetle was not sighted in Helsinki, but due to its extended lifecycle inside of trees these pests might still be present. A Master's thesis studying this work functions as an Asian long-horned beetle risk analysis, according to the invasive species strategy. The Public Works Department has also began preparing procurement and seedling logistics with Stara and enhanced its market intelligence.

In January 2016, the "Safe building heights on Helsinki's shores in 2020, 2050 and 2100" study was completed. The study measured the waves, wind and water levels, and the data was used to estimate how high the uniform green water can rise on a steep shore. This information will be used in the construction projects in the shoreline area.

**In 2016, Helsinki prepared its policies for climate change adjustment.**

Helsinki's oil spill response preparedness was improved and a pier was built at Santahamina's oil spill response depot, making the loading and unloading of the oil spill response equipment faster. Training in oil spill response continued throughout the entire open water period and was provided for the City's organisational departments according to a plan. In the autumn, an extensive practice session for oil spill response was organised by the Finnish Environment Institute at the surroundings of Santahamina and Isosaari. The Rescue Department managed the operation from two mobile control centres, a control centre vehicle on Santahamina and a mobile control environment on Isosaari. The practice session showed that the inner marine area in Helsinki's archipelago can well be cut off as planned, thus protecting the inner archipelago from the possible spreading of the oil. Also the booming done by different operators was successful and went according to plan.

The operational responsibilities of the Helsinki Zoo in case of an oil disaster have been determined. In 2016, training was organised together with the Rescue Department in connection to the care of injured wild animals.

Chart 4.

## Oil spill damages in Helsinki

| | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|
| Drainage system | 51 | 24 | 39 | 31 |
| Important ground water areas | 11 | 1 | 2 | 10 |
| Other areas | 303 | 294 | 317 | 303 |
| TOTAL | 365 | 319 | 358 | 344 |

# Environmental economy

The incomes, costs and investments that have been made for environmental reasons are been presented in the environmental economy. The environmental-economic information is presented for the departments, and as complemented with Helen Ltd's environmental-economic figures and the numerical proportion of HSY's waste management and waste water treatment as well as pipe collection companies´ waste management.

## The City's largest expense items were the costs of sanitation and waste management of the areas (24%) and promoting climate and environmentally friendly transport (18%).

Helsinki's environmental costs, including amortisations, Helen Ltd's environmental costs and HSY's and pipe collection companies´ shares [1], added up to a total of 210 million euros in 2015 (+18% from 2015). Helen Ltd's share was 64 million euros, HSY Water Management's 15 million euros, HSY's Waste Management's 39 million euros, HSY regional and environmental information's 0.8 million euros and pipe collection companies´ share 0,2 million euros. The environmental costs based on the City of Helsinki's own operations were 91 million euros (+27% since 2015). The environmental costs resulting from the operations of the City made up 2.1 per cent of the City's total operating costs, equalling 143 euros per capita. The City's largest expense items were the costs of sanitation and waste management of the areas (24%) and promoting climate and environmentally friendly transport (18%). The increase in the City's costs can be explained, for example, with the fact that more than 15 million euros was spent on restoring contaminated soil, when in 2015 that sum was one million.

Helsinki's environmental investments, including Helen Ltd's environmental investments and the shares [1] of HSY and pipe collection companies, added up to a total of 224 million euros (+27% from 2015). Helen Ltd's share was 17,7 million euros, HSY Water Management's investments relating to cleaning of waste water accounted for 50 million, HSY Waste Management's investments 5.3 million euros and pipe collection companies´ investments 2,2 million euros. The environmental investments made by the City of Helsinki added up to 148 million euros, which is 22.4% of the total capital expenditure of the City. The City's environmental investments grew significantly from the previous year, which can be explained by the investments in the promotion of climate and environmentally friendly transport (HKL´s investments to new metrotrains and trams), which were greater than during the previous year, and the restoration of contaminated soil.

Helsinki's environmental income, including Helen Ltd's environmental income and HSY's shares [1], added up to a total of 114 million euros (+2% from 2015). Helen Ltd's share was 1.5 million euros, HSY's wastewater treatment income 58 million euros, the transportation and processing fees for waste collected by HSY 47 million euros and the incomes of pipe collection companies 0,1 million euros. The internal environmental income for the City of Helsinki added up to some 7.6 million euros, making up 0.7 per cent of the total operating income of the city. The greatest sources of environmental income for the City were the proceeds from the ticket sales of the Helsinki Zoo.

The value of environmental responsibilities in the financial statements on 31st December 2016 was 23.1 million euros. The responsibilities concerned preparing for the restoration of old landfills and decontaminating soil.

[1] The City of Helsinki's computational share of the cash flows resulting from the environmental services and operations of the Helsinki Region Environmental Services Authority (HSY) and pipe collection companies in Jätkäsaari, Kalasatama and Kruunuvuorenranta areas.

# The city's environmental income

## City organisation in 2016, thousand euros

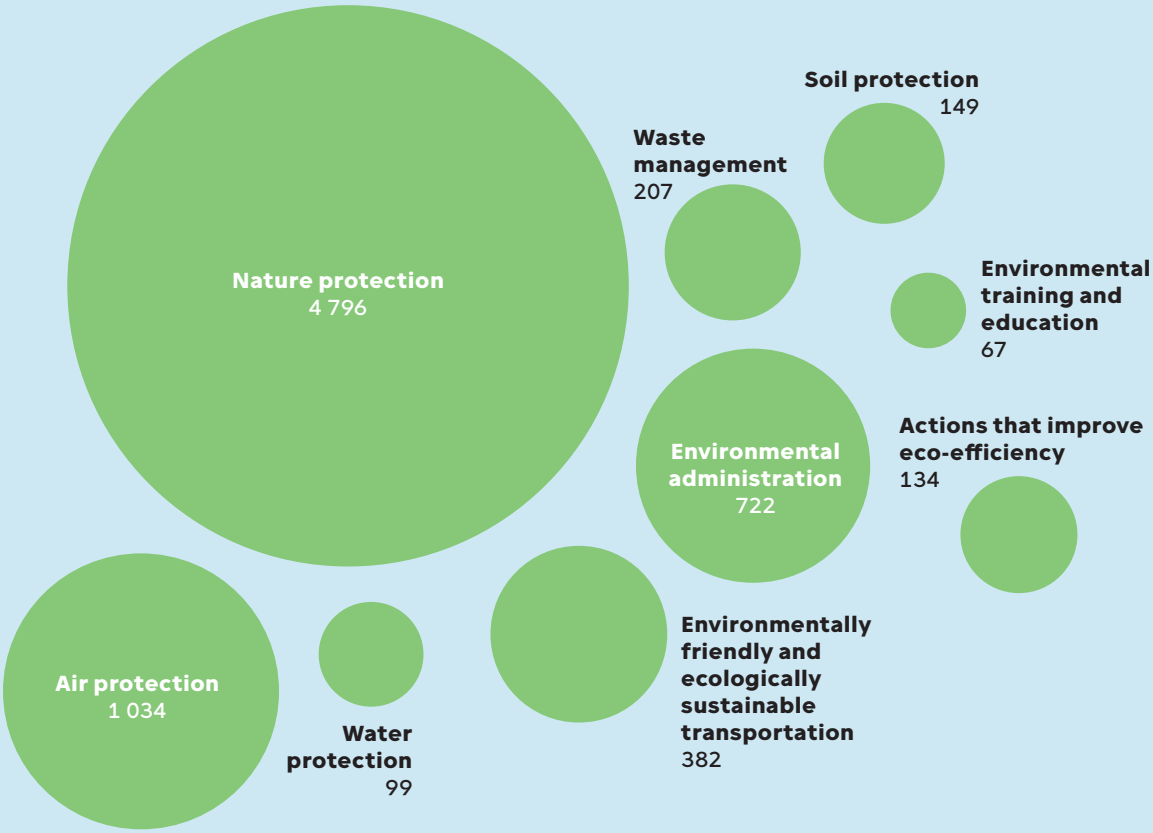



Chart 5.

| | City organisation | | Helen's environmental accounting and computational share of HSY's and pipe collection companies´ figures included | |
|---|---|---|---|---|
| | **2 015** | **2 016** | **2 015** | **2 016** |
| Air protection | 955 | 1 034 | 955 | 1 034 |
| Climate protection | 0 | 0 | 525 | 1 462 |
| Water protection | 99 | 99 | 56 153 | 57 870 |
| Waste management | 290 | 207 | 47 793 | 47 309 |
| Soil protection | 149 | 149 | 149 | 149 |
| Nature protection | 4 406 | 4 796 | 4 406 | 4 796 |
| Environmental administration | 957 | 722 | 957 | 722 |
| Environmental management | 64 | 0 | 125 | 0 |
| Environmental training and education | 65 | 67 | 113 | 67 |
| Environmentally friendly and ecologically sustainable transportation | 0 | 382 | 0 | 382 |
| Actions that improve eco-efficiency | 171 | 134 | 171 | 134 |
| **Environmental income** | **7 157** | **7 590** | **111 347** | **113 543** |

# The city's environmental costs

## City organisation in 2016, thousand euros

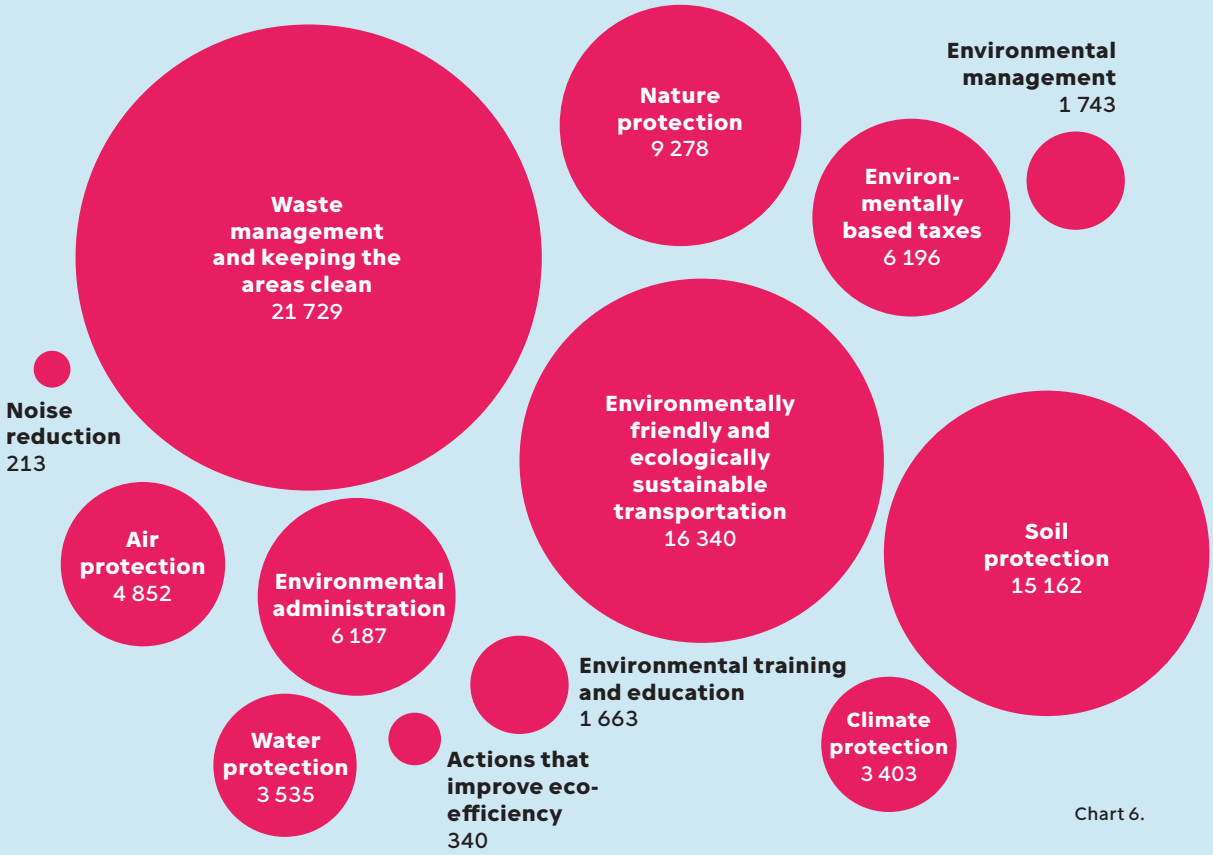



Chart 6.

| | City organisation | | Helen's environmental accounting and computational share of HSY's and pipe collection companies´ figures included | |
|---|---|---|---|---|
| | 2 015 | 2 016 | 2 015 | 2 016 |
| Air protection | 4 677 | 4 852 | 12 432 | 12 605 |
| Climate protection | 1 965 | 3 403 | 4 513 | 7 471 |
| Water protection | 3 234 | 3 535 | 18 558 | 18 841 |
| Waste management and keeping the areas clean | 21 069 | 21 729 | 66 850 | 65 131 |
| Soil protection | 947 | 15 162 | 1 133 | 15 236 |
| Noise reduction | 185 | 213 | 185 | 213 |
| Nature protection | 8 039 | 9 278 | 8 039 | 9 278 |
| Environmentally based taxes | 6 194 | 6 196 | 37 005 | 52 004 |
| Environmental administration | 6 144 | 6 187 | 6 144 | 6 187 |
| Environmental management | 2 029 | 1 743 | 3 326 | 2 958 |
| Environmental training and education | 2 525 | 1 663 | 4 406 | 2 881 |
| Environmentally friendly and ecologi-cally sustainable transportation | 13 879 | 16 340 | 13 879 | 16 340 |
| Actions that improve eco-efficiency | 190 | 340 | 867 | 890 |
| **Environmental costs** | **71 137** | **98 835** | **177 338** | **218 225** |

# Environmental investments

## City organisation in 2016, thousand euros

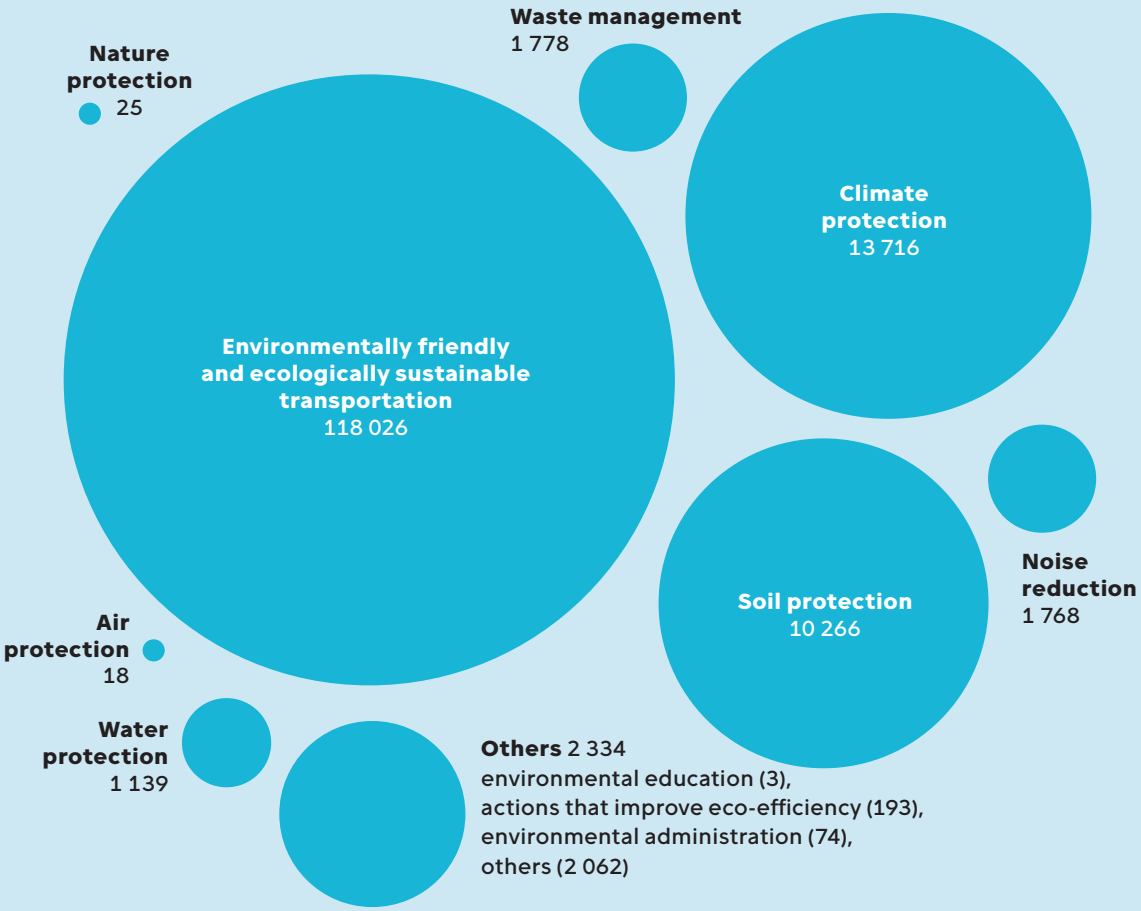



Chart 7.

| | City organisation | | Helen's environmental accounting and computational share of HSY's and pipe collection companies´ figures included | |
|---|---|---|---|---|
| | **2 015** | **2 016** | **2 015** | **2 016** |
| Air protection | 11 | 18 | 11 898 | 4 690 |
| Climate protection | 15 223 | 13 716 | 15 223 | 25 139 |
| Water protection | 549 | 1 139 | 23 400 | 42 480 |
| Waste management | 304 | 1 778 | 11 078 | 9 298 |
| Soil protection | 10 266 | 10 266 | 11 857 | 11 041 |
| Noise reduction | 646 | 1 768 | 646 | 1 768 |
| Nature protection | 2 745 | 25 | 2 745 | 25 |
| Environmentally friendly and ecologically sustainable transportation | 81 506 | 118 026 | 81 506 | 118 026 |
| Other | 286 | 2 334 | 18 126 | 11 120 |
| **Environmental investments** | 111 536 | 148 179 | 148 179 | 223 587 |

# Environmental indicators

Chart 8.

**Indicators for environmental management and partnerships**

| Objective | 2016 |
|---|---|
| The share of administrative branches (out of all administrative branches) that carry out environmental management at least in accordance with the criteria for streamlined environmental systems will be 100 % by 2020 (environmental policy) | 45 % |
| Number of administrative branches (of administrative branches that use bonus schemes) where environmental management is part of the bonus scheme will be 100 % by 2020 (environmental policy) | 29 % |
| The combined number of audited EcoCompass companies, Climate Partners companies and organisations that have accepted the Baltic Sea Challenge will increase (environmental policy) | 404 pieces |

**Indicators for climate change mitigation**

| Objective | 2016 |
|---|---|
| Greenhouse gas emissions in the Helsinki region to fall by 30% from the 1990 level by 2020 (Strategy Programme 2013–2016) | -25 % |
| Per capita greenhouse gas emissions in the Helsinki region to fall by 39% from the 1990 level by 2030 (Helsinki Metropolitan Area Climate Strategy) | -42 % |
| Greenhouse gas emissions from energy production to fall by 20% from the 1990 level by 2020 (Strategy Programme 2013–2016) | -3 % |
| Energy consumption per capita in the Helsinki area to fall by 20% from the 2005 level by 2020 (Environmental Policy) | -12 % |
| Renewable energy to account for at least 20% of total energy production by 2020 (Environmental Policy, Strategy Programme 2013–2016) | 10 % (Helen Oy)<br>18 % (he city) |
| Energy savings in the City's own operations (public buildings, vehicles, street lights) of 129 Gwh (9%) (KETS 2005–2016) | 127 GWh (98 % from the objective) *With the early actions (before 2008):*<br>191 GWh (148 % from the objective) |

**Indicators for air protection**

| Objective | 2016 |
|---|---|
| Annual average nitrogen dioxide concentration on the Mannerheimintie monitoring station will not exceed 40 mikrog/m3 in 2015 (EU directive) | 32 µg/m$^3$ |
| Annual average nitrogen dioxide concentration on the Mäkelänkatu monitoring station will not exceed 40 mikrog/m3 in 2015 (EU directive) | 37 µg/m$^3$ |
| Number of days when the limit value level of particulate matter exceeds on the Mannerheimintie monitoring station will be max 35 days per year in 2010 (EU directive | 7 pieces/a |
| Number of days when the limit value level of particulate matter exceeds on the Mäkelänkatu monitoring station will be max 35 days per year in 2010 (EU directive) | 16 pieces/a |

**Indicators for traffic**

| Objective | 2016 |
|---|---|
| The share of walking, cycling and public transport will be increased by % point per year from the starting point of 75 % (strategy programme 2013-2016) | 77 % |
| Motorization will reduce as a part of promoting sustainable mobility (strategy programme 2013-2016) | 330 passenger cars in traffic use /1000 |
| The number of public transportation trips will increase (strategy programme 2013-2016) | 379 trips/resident/a |
| Carbon dioxide emissions of road traffic in Helsinki will reduce 20 % by 2030 (the climate strategy of the metropolitan area) | -18 % |
| Share of cycling as a transport mode will be 15 % by 2020 (the Brussels Convention 2009) | 118,9 g $CO_2$/km |
| Pyöräilyn kulkutapaosuus on 15 % vuoteen 2020 mennessä (Brysselin julistus 2009) | 10 % |

**Indicators for noise reduction**

| Objective | 2016 |
|---|---|
| Noise barriers to protect current land use will be constructed as presented in the operating plan | 0 m ● |
| Anti-noise coating will be used as presented in the noise operating plan | 13 260 m² ● |

**Indicators for water protection**

| Objective | 2016 |
|---|---|
| Nitrogen emissions to the sea from the Viikinmäki waste water treatment plan will reduce (t/a) (environmental policy) | 409 t/a ● |
| Phosphorous emissions to the sea from the Viikinmäki waste water treatment plant will be reduced (t/a) (environmental policy) | 21 t/a ● |
| Number of combined sewer network overflows will reduce 20 % from the current level by 2020 (environmental policy) | 70 % ● |
| Number of trained oil spill response personnel will reach a level, where the city will have a sufficient number of trained people for beach clean-up operations | 840 persons * ● |

*The city's focus point in oil prevention is at the sea and most of the oil prevention patrols trained thus far were trained for marine operations. The objective is to train 340 officers and petty officers for cleaning the shores, who will lead the companies of coastal cleaning organisation. The cleaning staff will be trained by the officers and petty officers of each company after an oil spill has occurred, immediately after the companies have been established. All in all, the objective is to train 1,000 persons for oil prevention at sea and on the coast. The training has already started for 840 people.

**Indicators for nature protection**

| Objective | 2016 |
|---|---|
| Share of nature reserves of total area (City of Helsinki Nature Conservation Programme 2008–2017)) | 2,2 % ● |
| The surface area of water-permeable areas in Helsinki (the urban run-off water strategy for the City of Helsinki 2008) | 60 % (2015) ● |

**Indicators for procurements and waste**

| Objective | 2016 |
|---|---|
| Share of environmental criteria in the centralized acquisitions of the City of Helsinki will be 50 % by 2015 and 100 % by 2020 (environmental policy) | 75 % ● |
| Amount of communal waste produced in the Helsinki metropolitan area per capita will reduce 10% by 2020 (environmental policy) | 315 kg/resident/a ● |

**Indicators for environmental awareness**

| Objective | 2016 |
|---|---|
| The number of eco-supporters in the city organisation will increase, so that every work community will have a dedicated eco-supporter (environmental policy) | 1 285 eco-supporters ● |
| The share of citizens who have taken part in the environmental education events and climate and energy guidance provided by the city will increase, so that the environmental awareness of city personnel and citizens will be improved (environmental policy) | 30 % ● |

● The objective is reached or is about to be reached
● The realisation of the objective is proceeding
● It is challenging to reach the objective

# Contents for diagrams and charts



**The Environmental Report can be found at**
*www.hel.fi/www/Helsinki/en/housing/environmental/policy/reporting*

The city's environmental policy and strategy programme set goals for the various sectors of environmental protection. The environmental policy can be found in its entirety at www.hel.fi/ymparistopolitiikka, but the central objectives are also presented in this report.

All of the 27 city departments and four public utility companies have produced information for the report compiled and edited by the Environment Centre. The City of Helsinki Group also includes 11 foundations and 83 subsidiary organisations, 57 of which submitted information for the Environmental Report.

Environmental reporting is steered by a working group set up by the Mayor with the members including Päivi Kippo-Edlund as chairperson, Katarina Kurenlahti as vice-chairperson, Johanna af Hällström as secretary and Marianne Annanolli, Eeva Heckwolf, Pälvi Holopainen, Heidi Huvila, Maria Kuula, Seppo Manner, Sirpa Hinzell, Perttu Pohjonen, Aino Rantanen, Annukka Eriksson, Maija Sarpo, Anna Ruskovaara, Rauno Tolonen and Toni Åkerfelt as members.

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