



City of Helsinki

Achievements and challenges of sustainable development in Helsinki



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INTRODUCTION

Helsinki in a nutshell

Helsinki, the capital city of Finland, is located on the southern Baltic Sea coast of Finland at latitude 60 degrees north. The local climate is influenced by both maritime and continental climatic patterns. During winter months of January to March the city is usually snow-covered and the sea frozen, but summertime from June to August is rather warm and sunny.

The landscape of the southern coastal region is a mosaic of mixed coniferous and deciduous forest, steep granite hills, small lakes and farmland developed on former sea bottom plains. Many landforms in the region are a product of the Ice Age, which ended about 12 000 years ago.

The cities of Helsinki, Espoo, Vantaa and Kauniainen form the Helsinki Metropolitan Area, which is the home of about one million people or one-fifth of Finland's population. The area has about 600,000 jobs and produces about one-third of Finland's GDP.

Geography and environment		Helsinki	Metropolitan Area	Helsinki Region
Total area	km ²	690	2 370	5 520
Sea	km ²	500	1 600	1 680
Land	km ²	190	770	3 840
Shoreline (mainland)	km	110		
Population				
Inhabitants		560 905	988 347	1 274 746
Inhabitants per km ² land		2 970	1 280	410
Nature				
Green areas m ² per inhabitant		134		
Islands		315		
Number of vascular plants		1 064		
Number of nesting bird species		165		
Mean temperature		6.6 °C		

Source: Facts about Helsinki 2006 (City of Helsinki Urban Facts and Helsinki Metropolitan Area Council)



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Aerial view of central Helsinki and South Harbour

Despite rapid urban growth there is still much urban nature and large recreation and green areas in the region. With regard to population, employment and production this is one of the fastest-growing metropolitan areas in Europe.

Helsinki Metropolitan Area Council (YTV) is a regional administration, established in 1974. Its tasks include regional transport system planning and public transport coordination, waste management, regional land-use planning and air quality monitoring for its four member municipalities. It also maintains regional databases and conducts studies on economic, social and environmental issues of regional significance.

The challenge of sustainability

The principle of sustainable development (SD) was recognised as a guiding principle in municipal administration in Helsinki and the metropolitan area following the 1992 Rio Conference (UNCED).

Helsinki participated during 1992-93 in a national campaign to strengthen local sustainability, and signed in 1995 the Aalborg Charter – the Charter of European Cities and Towns towards Sustainability. Thus Helsinki also joined the European Sustainable Cities Campaign and became committed to producing a comprehensive sustainability action plan, a so called Local Agenda 21 programme. The cities of Espoo and Vantaa also signed the Aalborg Charter in 1995. Until 2006 more than 1600 European cities, towns and municipalities have signed the Aalborg charter.

In addition to the city administration, the challenge of sustainable development also concerns all the city's residents, neighbourhood organisations, NGO's and educational institutions as well as businesses, state and regional administration etc. We cannot achieve sustainability targets with administrative guidance and planning alone. Co-operation and commitment is needed from all concerned actors and interest groups.

Efforts towards sustainability since the 1950s

Efforts to enhance ecological sustainability were initiated in Helsinki already long before the sustainability concept emerged into public awareness. Back in the 1950s Helsinki began to build a district heating network and plan the combined production of heat and electricity. Nowadays 95% of buildings in Helsinki are connected to the district heating system, which ensures a high energy efficiency and improved urban air quality.

Helsinki's cityscape and infrastructure have since long ago been planned according to the principles of sustainable development. During the fast urban growth and structural change of the 1960s and 1970s, the city made efforts to prevent uncontrolled building and development of one-sided and simple sleeping-suburbs. Multifaceted and dynamic area centres were developed along with efficient public transport services. Efforts were also made to preserve a sufficiently large and functional network of green areas and ecological corridors.

In the 1980s the city prepared action plans for different aspects of environmental protection, and in 1990 the first comprehensive Environmental Protection Programme was prepared. Important cornerstones of Helsinki's second Environmental Protection Programme (1994-1998) were the objectives approved by the United Nations Rio Conference (UNCED) in 1992.

SUSTAINABLE DEVELOPMENT STRATEGIES AND PROGRAMMES

Sustainability strategy and action plan 2002 – 2010

Helsinki's participatory Local Agenda 21 (LA21) process started with a City Council decision in March 1997. The council decided, that Helsinki will formulate a comprehensive sustainability strategy and action plan in accordance with the principles of the Aalborg Charter and in close cooperation with citizens and interest groups. Five main targets for the planning process were defined in the council decision. In September 1997 the council adopted an overall sustainability strategy.

The LA21 process culminated in June 2002, when the City Council unanimously adopted Helsinki's Sustainability Action Plan, making Helsinki the first capital city in Europe to have completed a full-scale SD action planning process. The plan contains strategic goals and guidelines for ecological, economic, social and cultural sustainability in Helsinki for the period 2002 – 2010, along with 70 concrete measures approved by the City Council.

The overall targets of the SD action plan are:

- 1) Reducing greenhouse gas emissions
- 2) Protecting and fostering biodiversity in Helsinki
- 3) Strengthening the city's competitiveness and commercial and industrial structure in order to safeguard stable economic development
- 4) Including life-cycle thinking in the city's physical planning, purchasing practices and construction
- 5) Increasing interaction and citizens' participation and strengthening partnership
- 6) Preventing exclusion and social segregation
- 7) Fostering cultural diversity and the built-up environment

The preparation of the action plan was a long-term participatory process, which involved every department of the city administration as well as citizens, neighbourhood associations, NGOs, professional associations, educational institutions, enterprises and commercial institutions, governmental organisations, religious institutions etc. Over 4 000 citizens participated actively in the planning process. Important stages of the work included open LA21 conferences, seminars and workshops, task groups and two official commenting rounds.

During the process, about 160 small-scale SD projects were carried out by residents and NGOs with economic support from the municipality.

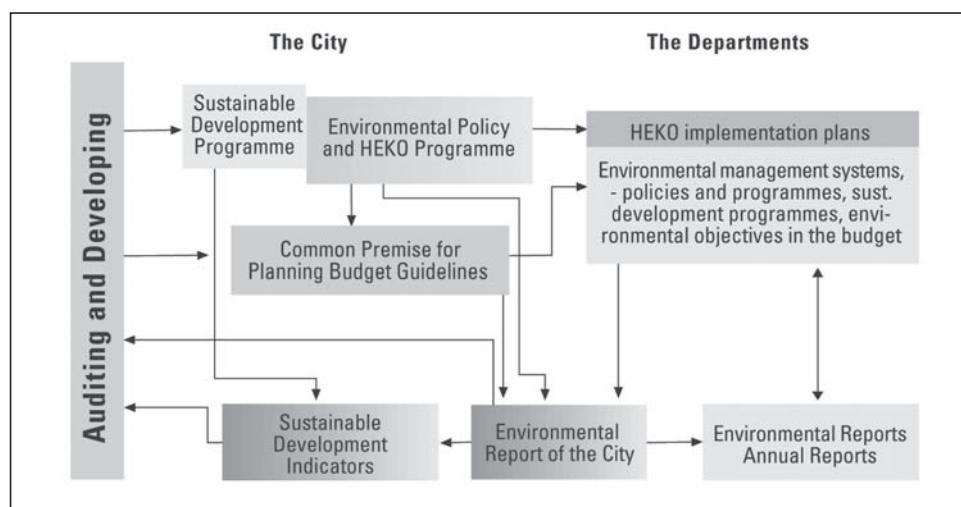
The city monitors action plan implementation and progress towards sustainability with the help of a set of core indicators for sustainability, periodic review reports and annual environmental reports.

Programme for ecological sustainability 2005 – 2008

Helsinki's LA21 process continued after SD action plan approval with the drafting of a new environmental protection programme, e.g. Programme for Ecological Sustainability for the period 2005 – 2008 (HEKO).

This programme is a shorter term specification and concretisation of ecological sustainability objectives included in the SD action plan. It indicates the city's focal points of environmental protection during years 2005 – 2008. It draws also on the follow-up of the implementation of previous environmental programmes and the 2003 assessment of the state of the environment in Helsinki.

The programme includes Helsinki's environmental policy, approved by the City Council in 2005 (see below), which emphasises more efficient environmental management in municipal organisations. Environmental management tools at the whole city level include the Sustainability Action Plan, common premises for planning and budgetary guidelines approved by the City Board, environmental targets set in the budget, and annual environmental reporting.



Environmental management in the City of Helsinki

HELSINKI'S ENVIRONMENTAL POLICY IN 2005 - 2008

Helsinki's goal is to act in an ecologically sustainable way to ensure a healthy, pleasant and diverse living environment.

Helsinki is aware of its global responsibility and is striving to reduce its share of the load on the environment.

The city is working to prevent adverse environmental impacts and repair already occurred damages.

The city's departments, units and subsidiary organisations are working to make environmental management more effective. Department-specific plans to implement the Sustainability Action Plan and the Ecological Sustainability Programme shall be submitted to the city's political committees for approval. These plans include a commitment to continuously improve the state of the environment.

The city is committed in it's decision-making and activities to:

- prevent climate change particularly by reducing energy consumption as well as greenhouse gas emissions from energy production, waste management and transport
- use it's environmental resources in such a way that living and diverse urban nature will be preserved along with its special features
- promote forms of transport with low emissions and low noise and an eco-efficient and socially sustainable urban structure
- build in a way that saves energy and materials, eco-efficiently and healthily
- improve environmental expertise in procurements and pay more attention to environmental impacts in procurement of goods and services
- improve city employees' and residents' environmental knowledge and possibilities to influence decision-making concerning the environment



© City of Helsinki Picture Bank / Mika Lappalainen

ACHIEVEMENTS AND CHALLENGES

The efforts of systematic environmental protection of the City of Helsinki have been recognised internationally.

- In 1990 the City of Helsinki was presented an award by the International Council for Local Environmental Initiatives (ICLEI) for developing district heating and working systematically to improve air quality in Helsinki.
- Helsinki received a certificate of distinction in the European Sustainable City Award 2003 competition. Special recognition was given to the successful development of public transport and district heating, preparation of the Sustainability Action Plan as a participatory process and citizen-oriented sustainability work aimed at preventing marginalisation.

Combined production of heat and electricity saves the environment

One of Helsinki's most significant strengths with regard to sustainable development is the district heating system and co-generation of electricity, heating and cooling. These have been developed systematically since the 1950s. Helsinki Energy has become a leading actor in combined energy production technology.

The introduction of district heating has considerably improved air quality in Helsinki, since separate smoke stacks of individual buildings and housing blocks have disappeared, and pollution control at all municipal energy plants has been considerably improved since the 1970's.

By 1990 district heating was provided to 88% of the building stock in the city, and in 2005 it served about 95%. Energy efficiency is now over 90% of fuel energy.

The main fuel used today in energy production in Helsinki is natural gas. A major future challenge is to increase the share of renewable energy sources in Helsinki's own energy production.



© Helsinki Energy

A new issue in the improvement of Helsinki's energy efficiency is the development of district cooling during the warm months of the year. This reduces energy wasting and electricity consumption in cooling of buildings during the warm season.

Helsinki's first heat pump plant was completed in 2006. The plant transfers heat from processed wastewater and district cooling return water to district heating and also produces district cooling. The new heat pump plant significantly reduces Helsinki's carbon dioxide emissions.

Efficient public transport and low-emission buses

Public transport has been a priority issue in the transport system in Helsinki and the metropolitan area since the early 1990's. In 1991 the City Council adopted a transport policy, which emphasised development of public transport and particularly rail transport, e.g. local trains, metro and city trams.

The public transport system of Helsinki has been given the highest score in many consecutive assessments of transport systems in European cities. The share of commuter journeys to the inner city using public transport has during years 2004-2006 been 62%.

A major future sustainability challenge is improvement of public transport services in the whole Helsinki region. Important large-scale projects in the planning stage are f.ex. the extension of the metro-line westwards to the city of Espoo and construction of a railway connection to Helsinki-Vantaa airport.

In procuring bus services the city pays attention to noise and emissions. In 2002 the European Court of Justice issued a ruling that is significant for the procurement of environmentally friendly products. The Court of Justice said that Helsinki had the right to award a contract to an operator whose buses produced lower emissions, even if it did not submit the cheapest bid. Helsinki's decision was considered to comply with public procurement regulations because it followed the environmental policy approved by the city.

Helsinki bus transport began using sulphur-free city-diesel fuel in 1994. The first natural gas-driven buses went into service 4 years later. Natural gas buses now account for about 15% of Helsinki's internal bus traffic.

High-quality drinking water

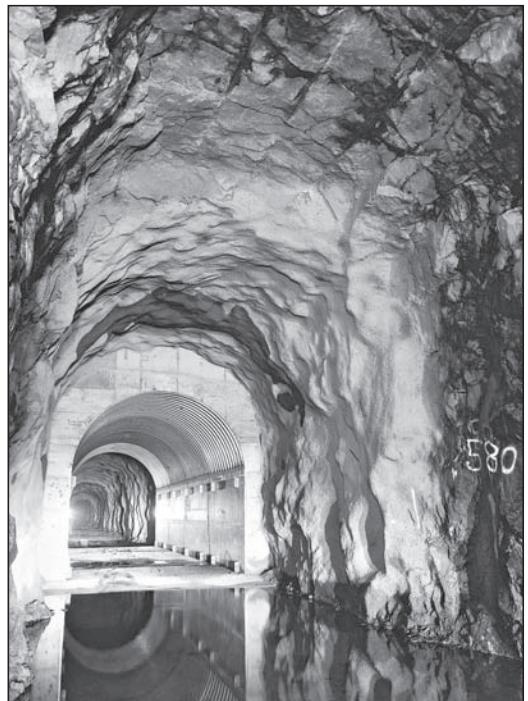
Clean raw water for the City of Helsinki and nearby municipalities is provided by a 120 km long rock tunnel from Lake Päijänne. The supply tunnel, which is the longest continuous rock tunnel in Europe, became operational in 1982. Drinking water quality in Helsinki has improved considerably since the 1980s due to good raw water quality and efficient treatment processes, e.g. ozonisation and active-coal filtration.

Improved wastewater treatment

Helsinki has systematically invested in wastewater treatment. All wastewater from Helsinki and nearby municipalities is purified in a modern central treatment plant, built underground in the granite bedrock in Viikinmäki. The plant became operational in 1994.

Viikinmäki treatment plant is one of the most significant environmental projects in Finland. It will ensure wastewater treatment for nearly a million inhabitants as well as industry in Helsinki region far into the future. The plant removes 95% of solid and oxygen-consuming materials and phosphorus from wastewater. Removal of nitrogen is about 89%. The treatment process produces most of the electricity and heat needed by the plant.

During the last ten years Helsinki has reduced considerably its emissions to the Baltic sea. The phosphorus load has been reduced to one-third and the organic and nitrogen load to less than half.



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The state of coastal waters is improving

Eutrophication in Helsinki's coastal waters has been reduced and the state of coastal waters has improved. This has been influenced by more efficient wastewater treatment, the closing of small treatment plants with the opening of the central treatment plant in Viikinmäki and the pumping of treated wastewater to the open sea since 1987.

Because of past loads, bays are still eutrophic because nutrients in sediments are being released owing to oxygen depletion. In order to improve the alarming state of the Gulf of Finland and the entire Baltic Sea, Helsinki is participating actively in international co-operation projects such as wastewater treatment in St. Petersburg.



The water quality of the sea areas of Helsinki and Espoo in 1974-1976 and 1998-2000

In the middle of downtown Helsinki is a green oasis, Töölö Bay. Its recreational use is limited by the pollution of the bay since the 18th century. In 2005 an historic clean-up project began. This involves pumping sea water through a tunnel from a nearby cleaner sea area. The goal of the project is to restore the bay to a natural state and make it a pleasant place for recreation.

The entire Baltic Sea as a challenge

Helsinki strives to treat its own wastewater carefully and is actively participating in international cooperation for Baltic Sea protection. For years Helsinki has participated in wastewater treatment projects in Tallinn and St. Petersburg, for example. The improvement of the waters off the coast of Tallinn is a good indication of this. The biggest concern remains the state of the Gulf of Finland, however. Although a lot has been done, eutrophication has still not been brought under control. Even though the nutrient load in the Gulf of Finland was reduced by nearly 40% in the 1990s, the Gulf of Finland is still one of the most polluted parts of the Baltic Sea.

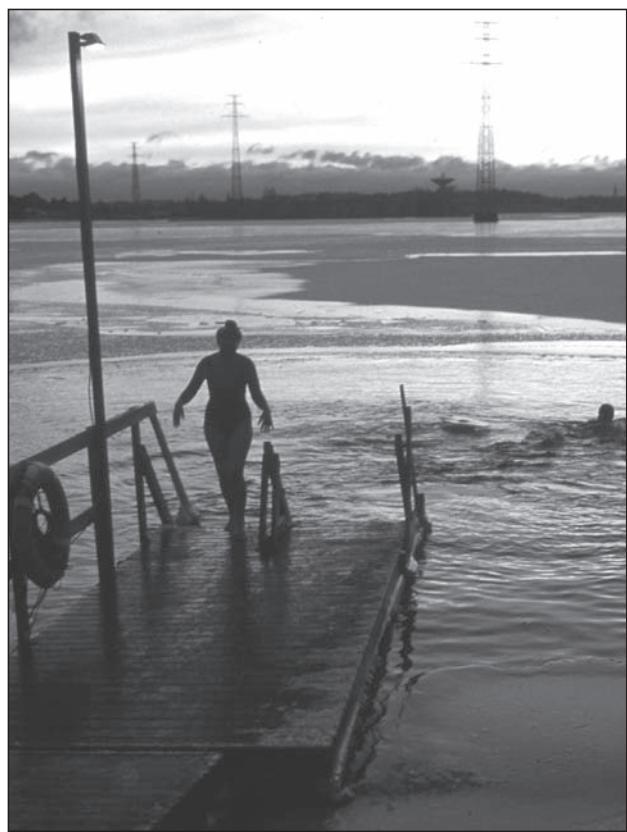
Green Helsinki

Helsinki is a coastal city with an archipelago and sea area covering over 500 km². This diverse coastal zone includes over 300 islands. The City of Helsinki owns over half of these.

Over 70% of Helsinki's more than 200 kilometres of shoreline is presently open to the public for recreational use. The shoreline includes seaside parks, beaches, marinas, fishing spots, natural shores, smooth granite rocks and wetlands. In summer the inhabitants of Helsinki can go walking, camping, boating, swimming, fishing, bird



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© City of Helsinki Picture Bank / Paul Williams

Winter swimming in icy sea water



© City of Helsinki Picture Bank / Kati Ista

watching and canoeing at the seashore. In winter they can go walking, skiing, skating or fishing on the ice and even take a dip in an ice pool.

The City of Helsinki owns nearly 30 public beaches. Water quality at beaches in Helsinki is good. With modern wastewater purification, the average microbiological quality has been maintained at good levels at all beaches in the city since 1995.

Although Helsinki is the most densely populated part of Finland, it has many green areas. Some 6 700 hectares of parks, forests, nature reserves and recreational areas covering over one-third of the city's land territory give residents about 134 square metres of green area per capita.

Most of Helsinki's green areas do not look like the parks built in other European cities but are more like forests. Our most important green zone, the Central Park, begins downtown and stretches over 10 kilometres to the north in a continuous green and recreation area. The oldest forests are in the northern part of Helsinki, where they have not been touched for over half a century.

Helsinki has nearly 40 protected nature areas covering a total of over 460 hectares. Most of them are quite small, less than one hectare. The aim of the reserves is to safeguard biodiversity and the natural heritage. They are also important for research and education, and for visitors.

Our most significant nature reserve, the Viikki-Vanhankaupunginlahti wetland, is located in the geographical centre of Helsinki and covers over 250 hectares. This is an important nesting area for water birds and is part of the Natura network of the European Union. It is also listed in the international Ramsar Convention on Wetlands. The nature reserve is mainly reeds and open water. It also includes coastal woods as well as built paths and birdwatching towers. Helsinki has three Natura areas in all.

The island fortress of Suomenlinna is a popular recreation area and historical site as well as a residential area. It was placed on UNESCO's World Heritage List in 1991 as a unique example of European military architecture from the 18th and 19th centuries.

Over the years Suomenlinna has become one of the most biodiverse areas in Finland with regard to flora. It has over 400 species of plants including more than 100 cultivated plants. It is also an excellent place to watch the mass migration of water birds and waders northward at the end of May.



© Margit Jensen

Archipelago in Helsinki



© Kari Silfverberg

Winter landscape in Nuksio

Nuksio National Park and hiking area

Helsinki owns 6,700 hectares of recreational areas outside its borders. The largest of these is in Nuksio forest area which is situated less than 30 km from the city centre.

Nuksio National Park is an almost untouched nature reserve of 39 square km. The area is from time to time extended as part of the Natura Programme. Nuksio National Park lies on a forest-covered lake upland. Its biodiversity is based on the combination of a southern location in Finland and a varied topographic profile. Granite cliffs and hills rounded by the ice ages alternate with ravines and valleys, which conceal verdant groves. There are 43 small lakes and ponds in the area. The national park is home to 70 endangered or specially monitored species of animals, plants and fungi.

Finland and Estonia are the only countries in the European Union where flying squirrels are found. Flying squirrels face the problem of shrinking forest habitats. They were classified as an endangered species in Finland in 2000 and they are one of the most strictly protected species in Finnish and EU legislation. Nuksio has one of the densest flying squirrel populations in Finland.

Over half of household waste is reused or recycled

The Helsinki Metropolitan Area Council (YTV) is responsible for arranging waste management and collecting hazardous waste from households. It also collects recyclable waste such as metal, glass and wood at local collection points and recycling centres and with the help of collection vehicles.

The Ämmässuo waste treatment centre in Espoo receives unsorted waste and separately collected biowaste from over a million inhabitants and 50,000 firms in

the Helsinki metropolitan area. YTV also provides advise to citizens, firms and other organisations on preventing, sorting and recycling waste.

The Recycling Centre of Helsinki metropolitan area, also has numerous service points that receive recyclable items and materials.

The average inhabitant in the Helsinki metropolitan area produces 300 kilos of waste a year. About 55% of waste is recycled or reused with the help of sorting. Compost made from biowaste is used in landscaping. Biogases are also collected at waste treatment plants.

In 2005 the total amount of waste produced in the Helsinki metropolitan area was about 1.3 million tons. This included about 600,000 tons of solid municipal waste. Of this about 300,000 tons of burnable waste ended up at the Ämmässuo waste treatment centre. In 2006 YTV decided to change the waste handling strategy in the metropolitan area. It resolved that source-separated mixed waste should in future be used to produce energy. A new incineration plant is being planned.

In recent years Finland has begun applying the principle of producer responsibility in waste management. This obliges the producer or importer to organise waste management for products. The principle already applies to electrical and electronic appliances, tyres, paper, motor vehicles and to some extent packages and packaging waste.

Systematic efforts to reduce street dust

Air quality in Helsinki is generally fairly good by international standards. Street dust in the spring is a key problem in this respect, however. Helsinki has systematically developed means to reduce street dust since the early 1990s. Thanks to long-term work, street dust levels have fallen by about one-third compared with the late 1980s.

A plan to reduce street dust that was approved in 2003 contains preventive measures and an operating model in episode situations. At present a comprehensive action plan to improve urban air quality is under preparation.

Environmental education to support sustainable development

The Nature Centre of the Helsinki Environmental Centre operates on the island of Harakka. The Nature Centre offers a lot of different programme: exhibitions,



© Margit Jensen

Nature School, Fairy Tale adventures for children and nature observation tours and seasonal events in the beautiful nature and various historical buildings.

The City of Helsinki Education Department plays a major role in promoting sustainable development, as teaching and education are the prime means of impacting the knowledge, abilities and attitudes of future generations.

Environmental education and activities to advance sustainable development are carried out in all comprehensive schools, upper secondary schools for teenagers and for adults, and in vocational institutions. These efforts seek to raise environmentally aware citizens who are prepared to assume responsibility for their environment.

The City of Helsinki Education Department requires each school and college to draw up an environmental programme for itself.

The City of Helsinki runs two “nature schools”, one in the gardening and environmental education centre Gardenia in the Viikki district of Helsinki and the other on the island of Harakka off the coast of Helsinki. The objective is to give every school pupil in Helsinki an opportunity to take part in nature school activities during comprehensive school. Helsinki also has a zoo school, a nature centre for young people and an environmental school. The Fallkulla petting zoo also provides environmental education.

A successfull environmental education project is the Green Flag programme, which is aimed at day-care centres, schools and youth centres. The Green Flag is part of the international Eco-Schools programme.

The City of Helsinki participated in the ECOMass project to develop the first environmental programme for the World Championship in Athletics, which was held in Helsinki in August 2005.



© Ekoarkki project / Imagebank

The EKOARKI project (Ecologically Safe Everyday) was implemented in the Helsinki metropolitan area in 2006 with partial funding from the EU Urban II Community Initiative Programme. Its purpose was to produce and disseminate information about ecologically sustainable living patterns, support environmental education work and offer possibilities for practical environmental activities. The project provided a recycling vehicle, environmental advice, joint-use services and support for environmental education to inhabitants and businesses in participating neighbourhoods. Excursions, courses and training were also arranged.

Strengthening social cohesion and preventing segregation

Helsinki's strategy to prevent social exclusion and segregation has a focus on employment as a basic tool against social exclusion. Special attention is paid to preventing social exclusion among children and young people and to creating networks within the city administration regarding the fight against social exclusion and segregation.

In housing construction in Helsinki, the aim is to avoid creating an unbalanced

population structure and a build-up of social problems. To achieve a mix in the population structure of new housing developments, sites are allocated to different types of development. In large-scale development areas, the proportion of rental flats built with state-subsidized loan may not exceed 40% of the area's total housing stock. Different types of tenure and forms of financing are mixed together in the same block.

Significant new residential areas with both owner-occupied and rented housing will be developed along good public transport routes and particularly railtransport.

In areas with high unemployment, having a job has been seen as an advantage. In certain cases, applicants for flats in areas labelled as problematic have been accepted faster if this has been likely to have a favourable effect on the area's population structure.

The integration of certain population groups is promoted by means of construction ground allotment. The production of owner-occupied housing has been stimulated in areas labelled as problematic.

The City of Helsinki is the biggest land owner in the city area. The municipality also leases land for housing purposes for owner-occupied housing with indexed housing unit resale prices.

Housing space per inhabitant is currently 34 square metres in Helsinki.

In resource allocation, neighbourhoods which are clearly threatened by social exclusion are favoured. For example the Education Department has applied the principle of positive discrimination to favour schools in deprived neighbourhoods. A calculation model with eight variables was applied. The budget of all municipal schools was cut by 0.7 per cent, and the funds thus saved were distributed among 20 per cent of the schools in deprived areas.

The Young People's Voice Project is designed to promote participation. The goal is to give children and young people good experiences in participating in decision-making so that the effects will also be visible in their living environment.

Schools play a key role in the project since they reach all children and young people. The goal is for all the schools and vocational schools in the city to be included in the project.

The city has also co-operated with the media. Among other things articles written by young people have been published and discussion programmes on themes that are important for young people have been broadcast.

Each year the project arranges Open Forums in different parts of the city where young people can talk with decision-makers and politicians.

Enhancement of citizen participation and partnership

- Helsinki's Local Agenda 21 process and the preparation of the Sustainability Action Plan 1998 - 2002
- The Helsinki Metropolitan Area Council (YTV) conducted a participatory planning process in 1997 as part of the preparation of the regional long-term (-2020) land use and transport system scenarios and strategies.
- The preparation of a new master plan for land-use and transportation included numerous open thematic and neighbourhood-level workshops and seminars as well as two large-scale public commenting rounds. The participatory processes of the Sustainability Action Plan and Helsinki Master Plan 2002 had coordinated time schedules.
- A thorough participatory process was also conducted during the preparation of Helsinki's Green Area Programme for 1998-2008. The preparation of Helsinki's third Environmental Protection Programme for 1999-2003 has also included participatory processes.
- The Youth Department of the city developed in the 1990s various procedures to activate young citizens to participate in municipal planning and decision-making. This included the so called Voices of the Young project.
- New possibilities to enhance public consultation, discussion and participation have been opened through communication through the Internet. The City Office Information Department as well the City Planning Department, the Environment Centre, the Public Works Department, the City Library, the Youth Department and many other municipal organisations have recently established networks for public communication and discussion on the Internet.
- A thorough study on citizen participation and dialogue between citizens and the municipal administration was completed in 2006.

International co-operation

- The City of Helsinki has been involved in international co-operation for sustainability since 1990, when the city joined ICLEI, the International Council for Local Environmental Initiatives. Helsinki was one of the organisation's founding members.
- In 1995 Helsinki became a member of Eurocities and has since then participated in the activities of the Environment Forum of Eurocities.
- The Union of Baltic Cities (UBC) has been another forum for co-operation on environmental issues. Co-operation within the Baltic Sea region has also included small-scale twinning projects with the cities of Tallinn, Riga and St. Petersburg since the early 1990s. These projects have focused on environmental strategies and management, air quality monitoring, solid waste management, wastewater treatment, sustainability indicators, transport planning and increasing environmental awareness.
- A group of larger Nordic cities (Copenhagen, Gothenburg, Helsinki, Malmö, Oslo, Reykjavik and Stockholm) has a long tradition of co-operation and annual meetings of environmental and health committees and departments. Since 2002 the Nordic group has been involved in developing joint environmental indicators.
- A new page in Helsinki's international co-operation was turned in 2004, when Helsinki became a twinning partner with municipalities in the state of Perak in Malaysia in the context of an environmental and urban management project financed by the Asia Urbs programme of the European Union. City twinning activities in Asia have also included co-operation with the city of Sendai in Japan.

Increasing eco-efficiency a key challenge

High-standard technology, efficiency and regional co-operation are cornerstones of environmental protection work in Helsinki, such as water protection and waste management. Considerable investments are also made in nature conservation and managing green areas.

Reducing greenhouse gas emissions is still a major challenge for Helsinki. This challenge is being taken into consideration in many development plans and programmes under preparation in Helsinki and the metropolitan area. It affects both energy production and consumption, industrial activities, traffic system, city plan-

ning and construction, waste management, social services and education etc. A comprehensive regional climate strategy is presently being formulated.

Increasing the use of renewable energy sources is another significant challenge. The share of renewable energy sources in energy production in Helsinki is still very low. Helsinki Energy is increasing its involvement in wind power production elsewhere in Finland. Hydropower is generated in small scale and heat from waste water utilised using heat pump technology. The possibilities of utilizing wind power, solar energy, thermal energy from the ground and sea-water, bio-fuels and recycled fuel materials are still waiting to be fully developed.

Other special challenges for Helsinki:

1. reducing traffic volumes as well as traffic noise and emissions
2. saving the Baltic Sea is the biggest challenge in water protection
3. reducing street dust resulting from the sanding of streets in the winter
4. reducing the volume of waste
5. need to maintain a well planned and functional urban structure
6. significant growth in the need to clean up contaminated land
7. reducing the use of non-renewable natural resources

From a global viewpoint, particularly with regard to the use of natural resources, Helsinki faces a multitude of challenges. If everyone in the world would consume as much as the average person in Helsinki, we would need more than two planets' worth of ecologically productive land or natural resources. Helsinki's goal is to reduce our ecological footprint over the long term and bring it within the limits of global sustainability.

Helsinki will continue to work systematically to enhance environmental protection and sustainable development, without forgetting our responsibility to take care of global environmental problems as well.



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Links

Helsinki Urban Facts: <http://www.hel2.fi/tietokeskus>

Helsinki Metropolitan Area Council (YTV): <http://www.ytv.fi>

Helsinki Energy: <http://www.helsinginenergia.fi>

Helsinki Water: <http://www.helsinginvesi.fi>

City of Helsinki Environment Centre: <http://www.hel.fi/ymk>

City Planning Department: <http://www.hel.fi/ksv>

Public Works Department: <http://www.hel.fi/hkr>

Social Services Department: <http://www.hel.fi/sosv>