LAHTI REGION

Environmental Review

LAHTI Hollola 2020

LAHTI winner 2021

EUROPEAN GREEN CAPITAL

An initiative of the European Commission

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FOREWORD

This is a joint environmental review of Lahti and Hollola for 2020. This review monitors a number of indicators that depict the condition of the environment and possibilities for sustainable life. In 2020, the COVID-19 pandemic accentuated the importance of a functional living environment with close access to green areas for the local residents. The recreational areas of the region became crowded at times.

As a leading climate city, Lahti is aiming for carbon neutrality by 2025. This report also shows a distinct reduction in emissions towards the target level, as a result of years of systematic work to combat climate change. Since 2019, Hollola has also determinedly worked to achieve its targets on carbon neutrality and energy efficiency. The internal climate policy prepares the ground for the future public climate policy of Hollola, which will combine the goals, the measures to be implemented by the municipality, the partnerships and the participatory measures.

Significant strategic development was promoted, as the region continued its negotiations with the government to sign the MAL agreement on land use, housing and transport. The negotiations were completed in spring 2021. The main goal of the MAL agreement is to make everyday life easier – land use, housing and transport concern every resident and company in the region. The MAL agreement is also an important building block for a carbon-neutral future.

In the spirit of the European Green Capital year, the state of the environment will be monitored even more closely in the context of well-being and overall sustainable development. At the same time, environmental efforts will be made even more transparent, as the monitoring of the indicators and climate change combating measures of Lahti will be possible for everyone online on the new Lahti Environmental Watch service. Both Lahti and Hollola are expecting a lot from 2021, as Lahti's year as the European Green Capital highlights the environmental work in the region and puts it in the international spotlight. The events of the Hollola Environmental Year are part of the celebrations.

Pekka Timonen
Mayor of Lahti

Päivi Rahkonen
Mayor of Hollola

GUIDED BY ENVIRONMENTAL POLICY

The strategy summarised as **'Lahti – a bold environmental city'** is implemented through key projects as well as programmes and plans. In 2020, the environmental goals included in the strategy were promoted by means such as a key project on sustainable mobility. Early in the year, the City Board adopted Lahti's carbon sink and compensation plan, which promotes the City's carbon neutrality goal for 2025. The Green City Lahti action plan was prepared to concretise the contents of the City strategy.

The municipality of Hollola is implementing the goal set by the Municipality Council to reduce greenhouse gas emissions by 80% by 2030. The reduction concerns the entire Hollola area, and the municipality is inviting all local operators to participate in climate work.

In November, Lahti City Board approved the accession of the city to the 2020 EU Green City Accord. It is an initiative to make cities greener, cleaner and healthier by 2030, through means focusing on air quality, noise, water, biodiversity of nature and the circular economy.

The environmental efforts of Lahti were also recognised internationally, as Lahti made the CDP's list of the world's leading climate cities for the second time. In addition, Mayor Pekka Timonen was recognised by the French Institut de l'Économie Positive for his work for the environment. The monitoring and transparency of environmental work were further improved in October 2020, when Lahti launched the new Lahti Environmental Watch service for real-time monitoring of the measures being implemented. The service can be found at www.lahdenymparistovahti.fi.

The 'Many Natures of Hollola' theme highlights the diversity of nature and the importance of recreational areas, which have been emphasised in these challenging times. The recreational values of local nature and waters are being fostered and improved, similar to previous years. We take care of the environment as it takes care of us.

1 CLIMATE CHANGE, ENERGY AND EMISSIONS

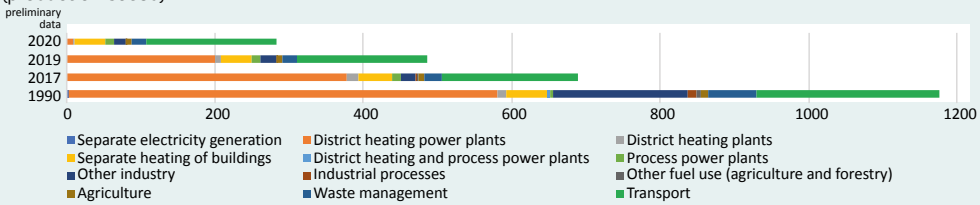
Lahti and Hollola one step closer to carbon neutrality

Lahti is aiming to be carbon neutral by 2025 and Hollola by 2030, similar to the other municipalities in the HINKU network. The latest emission calculations of the Finnish Environment Institute (SYKE) for 2018 show a slight increase from 2017 (Lahti 733,4 kilotons CO2e, Hollola 171,2 kilotons CO2e), as emissions from electricity production increased throughout the country. However, over a longer time span, emissions have decreased significantly in Lahti and Hollola alike. Lahti's own emission calculations for 2019 already show a considerable drop, and according to the preliminary data for 2020, Lahti has reduced its emissions by more than 70% compared to the reference year 1990.

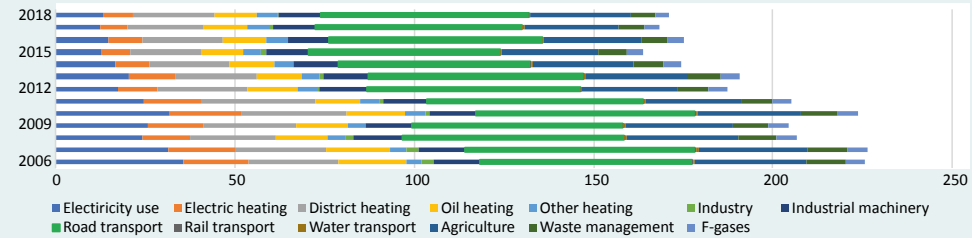
In the years to come, climate work in Lahti will increasingly focus on controlling traffic emissions, improving the energy efficiency of buildings, promoting sustainable separate heating and circulation economy solutions, and safeguarding carbon sinks. The cross-administrative climate working group of Hollola coordinates the climate work in the municipality, encouraging the personnel and residents to participate in the work. Environmental contact persons have been appointed to support the working group as broadly and concretely as possible.

Please note: The emissions figures for Lahti and Hollola are not directly comparable, because they are based on different calculation models.
References: Hollola, SYKE, ALas calculation model; Lahti, Kasvener 2019 and preliminary data for 2020, which is based on Lahti Energy's fuel data.

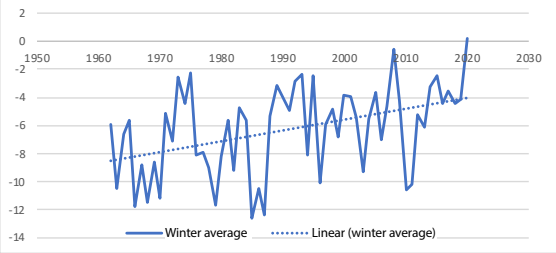
Lahti's greenhouse gas emissions Co2 e, 1000t
(production-based)



Hollola's greenhouse gas emissions Co2 e, 1000t
(consumption-based)



Average winter air temperatures in Lahti, 1962–2020



Carbon dioxide emissions from energy production decreased significantly

In 2020, fossil carbon dioxide emissions from Lahti Energy's production activities were at a record low, as coal was no longer used as fuel for heat generation and natural gas was used to a very small extent. The Kymijärvi III biothermal power plant produced district heating throughout the heating season 2019–2020, but the plant was officially started up for commercial use in April 2020. Small-scale production of energy, electricity in particular, also continued to grow. Lahti Energy and Oomi Energy supported the growth of low-scale production with their sales and marketing efforts. Oomi Energy, established in 2020, is an affiliate of Lahti Energy.

Lahti Energy considerably increased the proportion of wind power in procured electricity via its cooperative energy producers. The amount of wind power electricity increased by 18 per cent compared to 2019. Lahti Energy continued to invest in the profitable production of renewable energy. It committed itself to one wind power plant project that will be completed within the next two years. Via its cooperative energy producers, Lahti Energy is currently involved in three wind power plant projects.

Similar to previous years, ash generated in energy production was used for purposes such as excavation work, stabilisation and fertilisation. Further use was also found for the ash generated by the new Kymijärvi III plant.

Essential importance of residents' environmental choices

Supply of and demand for electric cars continued to increase in 2020. In particular, the demand for plug-in hybrid electric vehicles (PHEVs) increased strongly, which is why Lahti Energy and Oomi Energy implemented their first extensive charging solutions for their customers. In particular, the possibilities for public charging improved in Lahti.

The Kaukolämpö 2.0 district heating service, launched in 2018, is already in use in

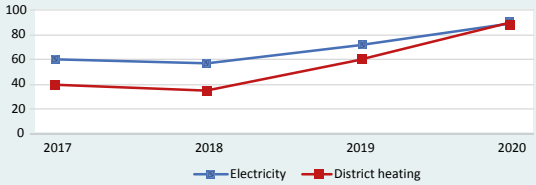
nearly 2,000 dwellings in housing complexes. The ambient conditions are kept at a standard level by the smart heating control of the Reiot service. Reiot is a service developed by Lahti Energy for the monitoring and optimising of consumption and ambient conditions in buildings.

The Sustainable Options for Oil Heating project, implemented by Lahti and the surrounding municipalities, focused on households that use oil heating. The project provided them with advice on sustainable heating options and information on financial assistance available for energy renovations.

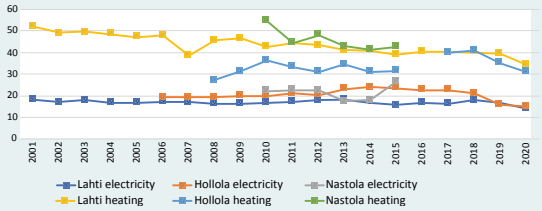
Energy Efficiency Agreements for municipalities

Lahti and Hollola participate in the Energy Efficiency Agreement for Municipalities (KETS) project, aiming to achieve 7.5 per cent energy savings between 2017 and 2025. Both municipalities have succeeded in reducing electricity and heat consumption in municipal premises. Hollola achieved the KETS energy-saving target in December 2020 as a result of the energy saving measures implemented in 2018–2020. Lahti Energy also participates in the agreement by implementing various measures of its own.

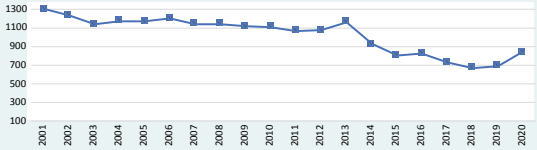
Proportion of renewable fuels of the electricity produced by Lahti Energy and district heat production for the energy network, %



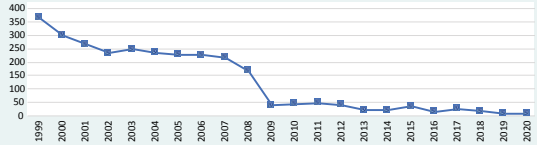
Electricity and heat consumption in municipal premises (kWh per cubic metre)



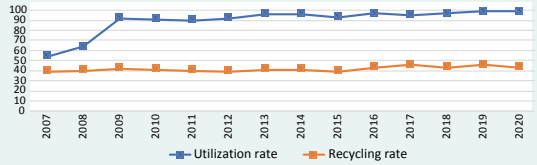
Amount of mixed waste produced by Lahti municipal departments (tonnes)



Amount of municipal waste to be disposed by landfilling, kg/resident, the area of Salpakierto Oy (formerly PHJ)



Reuse rate (%) of waste (incl. use for energy) received by Salpakierto Oy (formerly PHJ) and reuse rate (%) as material



Circular economy

Recycling of waste and circular economy as an industry will grow significantly in the future. Therefore, the Päijät-Häme region is making plans for a location focusing on circular economy. The Lahti region recycling park being planned will carry out the reception and processing of waste material, recycling, and the manufacture of recycled raw materials and products. The materials to be processed will include surplus soil from land use and construction, soil that has been contaminated to different degrees, construction and demolition waste, and ash. During 2020, the EIA report phase was under way, as well as the preparation and proposal phases of the regional planning carried out by the Regional Council of Päijät-Häme.

In autumn 2020, Lahti established a development centre for carbon-neutral construction. The centre links together the City of Lahti, its development units, companies and research activities. It provides a product development and research platform for the planning and testing of innovations relating to carbon-neutral construction, sustainable development and the circular economy.

In the latter part of the year, an environmental coordinator joined the City's environmental development team. In particular, the coordinator focuses on the promotion of circular economy-related matters and the preparation of a circular economy road map together with the City's units, group companies and stakeholders. The objective of the road map is to specify the goals and measures for the establishment of a circular economy in Lahti. The urban environment development programme prepared in 2019 focuses on a circular economy related to land use and construction. The implementation of the measures included in the development programme progressed and the post of a circular economy specialist was established for the coordination of the use of soil masses and demolition waste materials.

The reuse rate of the municipal waste received by Salpakierto Oy (formerly Päijät-Hämeen Jätehuolto) from its area was 99 per cent, including the recycling of material and

use of waste for energy. The LATE sorting plant in Kujala separated plastics and metals from energy and mixed waste to be used for recycled raw materials. Nearly one million kilograms of plastic were recovered. The waste recycling rate in the region rose above 40 per cent for the first time. SRF-, wood- and logging residue-based recycled fuels were delivered to Lahti Energy's Kymijärvi II power plant and Stora Enso's co-combustion plant. Mixed waste rejects were sent to waste incineration plants in Kotka and Riihimäki to be used for energy. Biogas and compost were produced from biowaste at LABIO Oy's biogas and composting plant.

Kujala produced 806 MWh of renewable energy for its own use with solar power plants and landfill gas recovered from the closed-down landfill. Lahti Energy delivered some of the landfill gas to the Hartwall factory to be used for thermal energy. Salpakierto Oy is committed to using renewable energy, and all of the purchased electricity comes from renewable energy sources.

Salpakierto provided diverse multichannel guidance in waste disposal and recycling for schools, day care centres and adult population in the area. Because of the COVID-19 pandemic, the number of guidance events dropped to half the number from the previous year. During the autumn, Salpakierto started providing guidance through remote connections. In spring 2020, an online course in composting was arranged in cooperation with the Lahti 4H Association.

During 2020, the Ali-Juhakkala, Kariniemi, Nastola and Hämeenkoski wastewater treatment plants treated approximately 13.1 million cubic metres of wastewater. The treatment results met all the requirements of the environmental permit conditions.

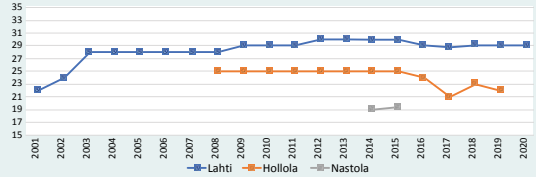
The biogas generated from sludge treatment in the wastewater treatment plants is used as heating energy. In 2020, biogas production amounted to 14,230 MWh, of which slightly over half was sold as heat into Lahti Energy's district heating network and the rest was used for heating the treatment plants. The recycling rate of biogas was approximately 96 per cent. A total of 14,400 tonnes of dried sludge was delivered to Labio Oy to be composted.

Future challenges and plans:

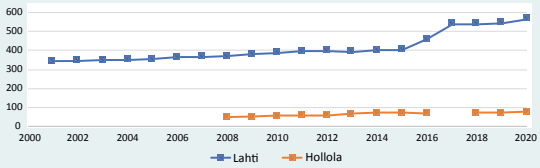
- *Protecting the carbon sinks in the region through land use planning, sustainable forest management and afforestation*
- *Inspecting the need for emission cuts and taking the compensation plan to a more detailed level*
- *Establishing the operations of the centre for carbon neutral construction*
- *Developing consumption-based emission calculation in addition to the current production-based calculation*
- *Preparing the circular economy road map for Lahti and engaging the organisation on a broad front to implement the circular economy measures, monitoring the measures and indicators and linking them to the Environmental Watch service*
- *Establishing centralised coordination of soil masses and the waste materials resulting from demolition*

2 HEALTH, SAFETY AND QUALITY OF LIFE IN RESIDENTIAL ENVIRON

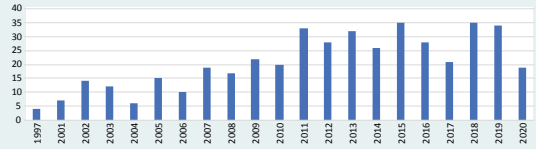
Proportion of parks and green areas within the city planning areas, %



Total length of combined pedestrian and cycling routes, kilometres



Days of poor air quality



The City of Lahti's strategy specifies the promotion of sustainable community structure and transport as its goal. The Lahti Direction project extended the continuous master planning model developed by the City of Lahti to integrate the City's master plan and the various programmes into a system to build a sustainable future city together with residents and other stakeholders. The Lahti Master Plan and the Sustainable Urban Mobility plan constitute the core of the work, but various themes of the Environmental Programme and service network development are also included. The work aims for easier everyday life and a high level of well-being for residents. In 2020, the Lahti Direction proposal was completed, comprising the Lahti Master Plan 2030 (Y-203) and the Sustainable Urban Mobility Plan. The City Council approved the proposal in January 2021. The goals for 2030 rely strongly on sustainable growth, the fostering of the natural environment and the importance of close access to green areas.

A very important development for the entire region was the completion of the Lahti Southern Ring Road (rerouting of Main Road 12) in the latter part of 2020. It increases the safety and attractiveness of the living environment, promotes environmental values, and improves possibilities for the development of land use. The centres of Lahti and Hollola will

be more pleasant to live in as through traffic will be transferred to the ring road, reducing noise, emissions and traffic congestion. The ring road will reduce traffic pressure on the current Hämeenlinnantie–Mannerheiminkatu thoroughfare and decrease the accident risk for pedestrians and cyclists. The reorganisation of traffic will continue, as the LIISU 2030 plan for traffic arrangements in the city centre was approved by the City Council towards the end of the year.

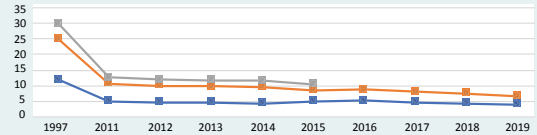
With respect to air quality, 2020 was the best year of the decade, with only 19 days of poor air quality. Air quality is classified as poor or very poor on the basis of a high content of inhaled particles. The latest data from 2019 show that greenhouse gas emissions and air pollution from traffic have decreased slightly.

Sustainable urban mobility

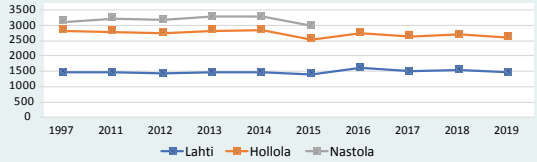
The Luonnollisesti liikkeessä ('Naturally on the Move') key project and the promotion of sustainable urban mobility progressed greatly in Lahti during 2020. Lahti made important decisions to promote low-emission public transport. The objective is that all buses will run on renewable diesel, biogas or electricity by 2030. Buses running on biodiesel began operating in July 2020. The first electric buses were tested, and they will begin operating in summer 2021 on the Liipola–Mukkula route.
A competitive tendering process for city bikes was launched, and city bikes are expected to be introduced in autumn 2021. Sustainable transport was marketed actively. Lahti participated in the national Cycling Week and the European Mobility Week by arranging a programme and events in cooperation with local operators.

Walking and cycling were promoted through special winter maintenance methods applied to 20 kilometres of main pedestrian and cycle routes. In addition, winter maintenance of routes with traditional methods was also improved in connection with the competitive tendering processes. In September, the City carried out an online survey on residents' cycling habits. The survey was very popular among devoted cyclists. The answers indicate that the residents of Lahti love cycling but the

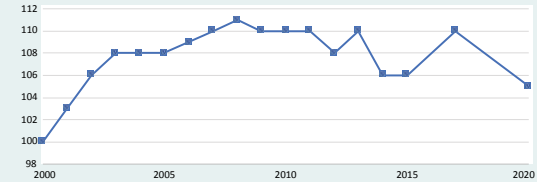
NOx emissions from traffic, kg/resident



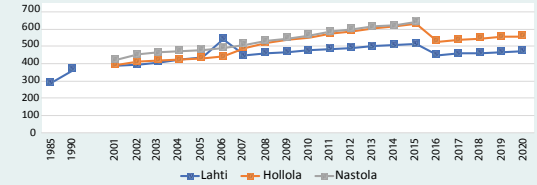
CO_2 emissions from traffic, kg/resident



Relative change index for vehicle traffic



Car dependency: number of passenger cars / 1,000 residents



Future challenges and plans:

- *Review of noise- and air quality-related targets and measures in accordance with the Green City Accord*
- *Implementation of the measures included in the noise control plan*
- *Achievement of the transport mode goal: in 2030, over 50 per cent of journeys will be made sustainably*
- *Launching of city bikes in 2021*
- *Assessment of the climate impacts of traffic-related measures*

City still has a long way to go to become a great city for cyclists.

In 2020, the CitiCAP project, funded by the EU's Urban Innovation Action programme, focused on building a modern cycling route from the Travel Centre to the Laune district. Once completed, the new pedestrian and cycling route will run all the way to the Renkomäki district. The modern features include lighting that enables seeing road markings and traffic signs when it is dark. The markings are reflected on the surface of the road, so that they will not be hidden by snow, for instance. The cycling route will be kept trafficable all year round by means such as enhanced winter maintenance.

In addition, the project designed and implemented a system for personal emissions trading for residents. The first testing of the system was carried out in Lahti, and it attracted a lot of international attention. Emissions trading took place using a mobile application that automatically identifies the mode of transportation of its user. Residents of Lahti also participated in the project by answering surveys and interviews, giving feedback, and using and testing the CitiCAP application in the different stages of its development. The project is carried out by the City of Lahti, LUT University, LAB University of Applied Sciences, Lahti Region Development LADEC and five companies. The distinguished research work carried out by LUT University on the CitiCAP project received the University Achievement of the Year 2020 award from the City of Lahti.

Various calculators are used to collect data on the mobility of Lahti residents for city planning and to make everyday life easier for residents. The numbers of cars, pedestrians and cyclists show the trends of transport and the effects of the measures taken.

In Lahti, the relative change index for vehicle traffic includes ten locations at which traffic volumes are monitored. In 2020, the index had fallen from the previous monitoring year, 2017. Nevertheless, car dependency continued to increase in Lahti and Hollola alike.

3 BIODIVERSITY AND CULTURAL HERITAGE

The Nature Conservation Programme for the City of Lahti's land was completed in 2020 and will be approved in 2021. With the aim of promoting nature conservation in Lahti, the City prepared the protection of three new areas (Kilpanen, Hirvilammi and Lapakisto extension) and received a decision on funding from the METSO forest biodiversity programme. The City's Forestry Services continued their environmental work similar to previous years: the forests owned by the City are managed in accordance with the principle of continuous growth, and Forestry Services actively combat invasive alien species, particularly in nature conservation areas. Lahti Energy also contributed to the prevention of invasive alien species during summer 2020 by surveying and cutting at Lahti Energy's production plants, pumping stations and electrical substations.

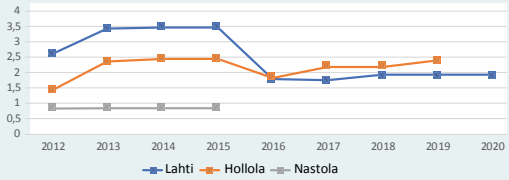
Lahti and Hollola cooperated on a project funded by the Helmi programme, launching a project to restore Kintterönsuo bog. The work continues during 2021. The Horizon 2020-funded Go Green Routes project will improve the accessibility of recreational areas and promote nature-driven entrepreneurship. During the project, as part of the Kintterö health forest initiative, the City of Lahti will build an accessible lakeside nature trail around Likolampi, which is easy to reach from the Päijät-Häme Central Hospital. The

health benefits of forests are particularly associated with preventive health care and the restoring and rehabilitating effects of the forest. Research data proves that spending time in nature promotes health and well-being.

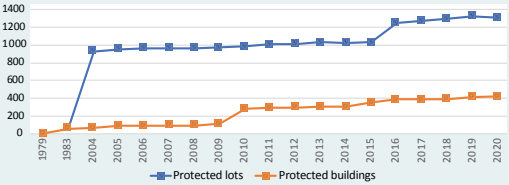
In a joint project with the Finnish Environment Institute and the University of Helsinki, Lahti is piloting ecological compensation. This means compensating for the ecological values lost through the City's land use by improving nature values outside the site in question. The Kytölä II site was found suitable for the purpose: residential houses have been planned on land that is partially covered by forest. The compensation area will be determined in 2021 and the enhancement of ecological values through restoration measures will begin. Work on this theme also continues on the No Net Loss City project funded by SITRA. The project is developing an urban land use model to ensure the retention of the diversity of nature and ecological values.

In 2020, the COVID-19 pandemic was also challenging for local nature conservation areas, as the number of visitors increased greatly. The person counter on the Lapakisto nature trail showed that the number of monthly visitors in spring 2020 was approximately 2,000 higher compared with the previous year. With the funding granted, it is possible to develop new walking routes and maintain the existing trail network in areas such as Linnaistensuo and Kintterö.

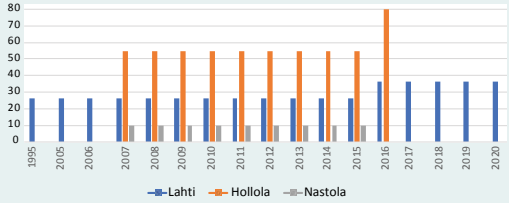
Areas protected under the Nature Conservation Act, percentage of the municipal land area (%)



Lots protected by City planning regulations and protected buildings, Lahti



Traditional landscapes (hectares)



Future challenges and plans:

- *Restoring meadows and dry sunny slopes to improve the quality of the habitat of endangered plant and insect species.*
- *Surveying valuable nature sites in connection with the Lahti Direction project, particularly in Nastola*
- *Testing ecological compensation methods as part of research projects*
- *Terminating soil-taking in Renkomäki and establishing a recreation area there*

4 QUALITY AND AVAILABILITY OF GROUNDWATER

Lahti and Hollola are built on the important groundwater basins of Salpausselkä, and the protection of these resources is always taken into account in land use, planning and construction projects. The protection of groundwater can be promoted by many different means. The Rainman project develops and implements methods of securing the high quality of surface water and groundwater, preparing for climate change. In 2020, the project installed pipes for the measurement of ground frost thickness and a new groundwater observation pipe for more detailed specification of the groundwater model. With respect to combating climate change, the protection of groundwaters includes banning geothermal heating systems in groundwater areas. In street maintenance, salt has been permanently replaced with formates in groundwater recharge areas. In addition, the rerouting of Main Road 12 further south, completed in 2020, reduces the risk of groundwater contamination.

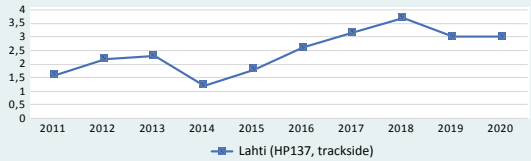
The joint monitoring of groundwater continued in the Lahti and Renkomäki groundwater areas and the Salpakangas industrial area in Hollola. The Lahti and Hollola groundwater working group met twice. The pumping of contaminated groundwater continued in the Asemantausta district at the Paasivaara water intake plant owned by the City.

In 2020, the volume of water pumped for consumption in Lahti and Hollola totalled 9.0 million cubic metres. Water supply is based solely on groundwater, and all water samples taken met the quality requirements and recommendations set for household water.

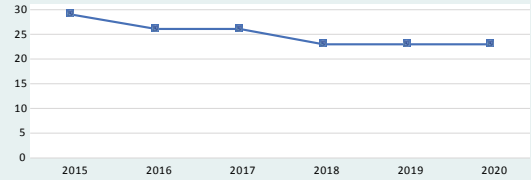
Future challenges and plans:

- *Updating the groundwater protection plan*
- *Updating the groundwater model and its more extensive use in land use planning*
- *Continuing the joint monitoring programme*
- *Monitoring the effects of potassium formate*

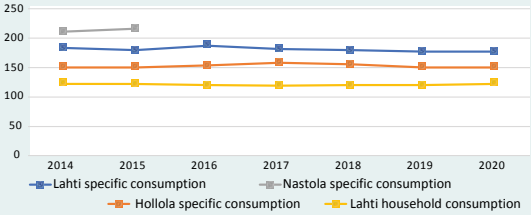
Concentration of atrazine (a herbicide) in groundwater. Limit value in household water, 0,1 µg/l



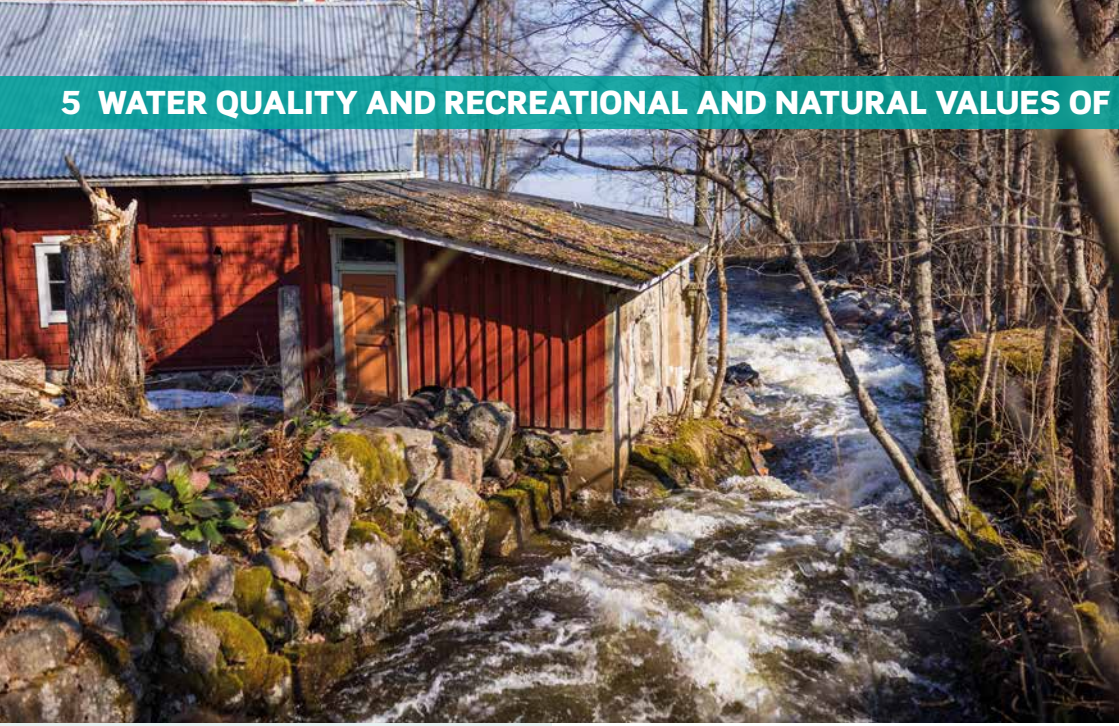
Groundwater areas classified as being in a poor state (%)



Water consumption litres/resident/day



5 WATER QUALITY AND RECREATIONAL AND NATURAL VALUES OF



The maintenance of Vesijärvi and smaller lakes continued in 2020 as part of the Vesijärvi programme prepared together with the Vesijärvi Foundation. Lahti Environmental Services were responsible, among other things, for the management of fish stocks in Vesijärvi and Kymijärvi, water sampling in lakes and ditches, and the maintenance of eight automatic water quality monitoring stations. In addition, the continuous water quality measurement station in the Lankiluoto basin was replaced and two new water-level monitoring stations were installed. Management fishing catch totalled approximately 105 tonnes, of which 20 tonnes were used for cooking food.

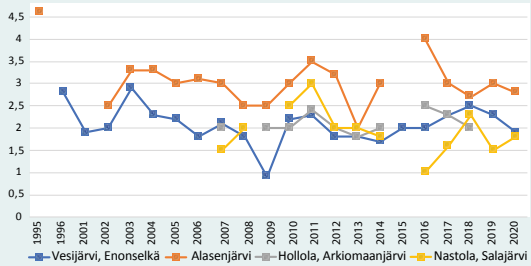
The preparations of the Ruuhijärvi and Salajärvi water level project continued. The project to stop the regulation of Iso-Kukkanen and the preparations for the restoration of the Kumiankoski rapids continued, and a permit application was sent to the Regional State Administrative Agency. The restoration project includes taking apart the dam at the old Kumiankoski power plant and improving the habitats of migratory fish. The work will be completed in May 2021. Small-scale improvements of running water bodies were carried out in cooperation with the Porvoonjoki water caretaker project, as well as test fishing at Immilänkoski and Korvenoja. Hypolimnetic withdrawal work in Kymijärvi was continued on the

Kapula project, and the hypolimnion filtering field was expanded in 2020.

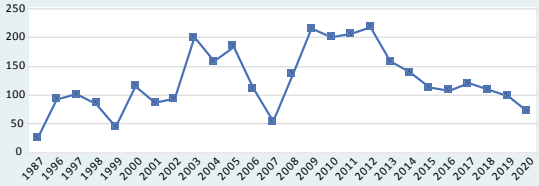
Predatory fish stocking was carried out in Vesijärvi via the Predatory Fish Fund. The species were trout, eel and pike-perch. The reintroduction of trout was carried out in the four streams flowing into Vesijärvi and in Seestaanjoki. The City introduced 10,000 eels to Vesijärvi in 2020, continuing the long-term work to protect the extremely endangered species. Migrating eels are caught in an eel chest in Vääksynjoki, and the Natural Resources Institute tags the eels before letting them go. Last year, for the first time, eels were also tagged with ultrasound transmitters, and several signals have already been received from the Denmark Strait, transmitted by Vesijärvi eels migrating towards the Sargasso Sea.

Stormwater management is coordinated by the City's stormwater working group. In accordance with the City strategy, the transfer of stormwater from the city centre to the Länsi-Hennala district began, to be treated in the stormwater treatment system built by

Lake water transparency measured in August (m)



Vesijärvi management fishing catch (tonnes/year)



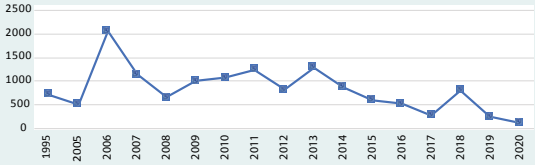
the Hule Smart & Clean project. This will reduce the city's stormwater load on Vesijärvi. The quality of stormwater was monitored in the Vesijärvi and Kymijärvi areas and the Länsi-Hennala district. Automatic monitoring stations were used for the monitoring of stormwater quality and quantity. An extensive stormwater investigation was carried out in the Paskurinoja area, and preparations were made for stormwater renovation in the Kintterö nature conservation area in cooperation with Hollola municipality.

In summer 2020, Lahti became the first city in Finland to introduce granule collectors for artificial turf fields. They prevent rubber granules from being flushed into waterways by stormwater. The granules can be recovered and recycled or reused. The first collectors were installed at the Lahden Kisapuisto artificial turf field. In the summer, the Mahanpuruja muovista ('Stomach ache from plastic') campaign decorated rainwater gully covers with fish motifs to remind residents of the damage caused by litter thrown into rainwater gullies: it often ends up in the water system – in Vesijärvi in Lahti, or in the Gulf of Finland carried by the Porvoonjoki .

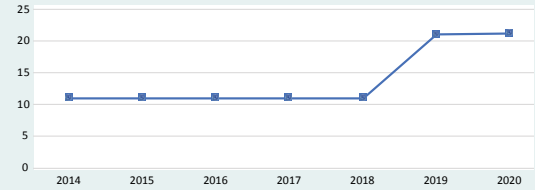
Future challenges and plans:

- *Building a fish reception station in Niemi Harbour to promote the use of the Vesijärvi management fishing catch*
- *Developing the Kymijärvi hypolimnetic withdrawal plant*
- *Maintaining and developing automatic monitoring of water quality*
- *A pilot project for well-specific stormwater treatment methods and development of stormwater instructions for builders*
- *In 2021, Lahti will host the stormwater seminar of the Urban Stormwaters division of Water Association Finland, the annual national seminar of the Finnish Water Restoration Network and the international Lahti Lakes conference for lake researchers.*

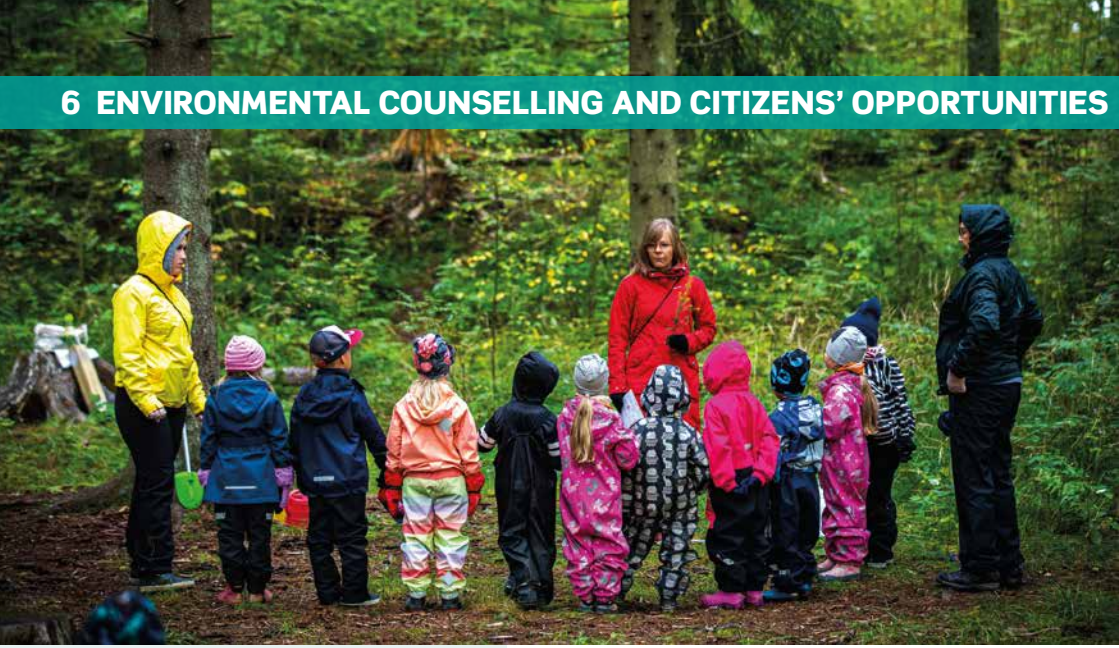
Kymijärvi power plant's heating load into Vesijärvi (TJ)



Percentage of lakes in good or excellent condition (% of total lake surface area)



6 ENVIRONMENTAL COUNSELLING AND CITIZENS' OPPORTUNITIES



Regional cooperation in environmental education is mainly carried out via Salpausselkä Geopark. In 2020, the project introduced a day care centre programme, and the Kanerva day care centre became the first Salpausselkä Geopark day care centre in Lahti.

The environmental education work of early childhood educators in Lahti was promoted in 2020 by offering a specialist vocational qualification programme in environmental education. Soon there will be 22 new environmental education professionals working in early childhood education in Lahti. This will significantly promote sustainable lifestyle education in the city. In addition, to increase environmental awareness among early childhood educators, various materials, training courses, events and campaigns were provided.

Environmental themes are also addressed as part of Lahden JunnuYliopisto, a scientific education initiative of basic education and the local higher education institutions. JunnuYliopisto was piloted in 2020 with children in early education at three day care centres. The children studied water and the essential importance of clean water for all living creatures on our planet. The objective is that, starting in August 2021, all children in early education in Lahti will have the opportunity to take part in water studies.

Environmental counselling was provided for residents by e-mail and telephone. Brochures and nature maps could be picked up at the Palvelutori Service Centre. Because of the exceptional circumstances, no public or group events were arranged in 2020. Residents could borrow equipment such as infrared cameras and

cargo bikes from the Environmental Counselling Unit, and this service was very popular.

24. The Lahti region Environmental Week was celebrated in the autumn in Hartola, Heinola, Hollola, Lahti and Sysmä. The key theme was the promotion of sustainable fashion and textiles. The poster for the week was designed by Senja Helmchen from Kannas Upper Secondary School. The winner of Lahti Environmental Award was the dressmaker's shop Eko-ompelimo Ekku, and the honorary award went to the Clean Päijät-Häme community.

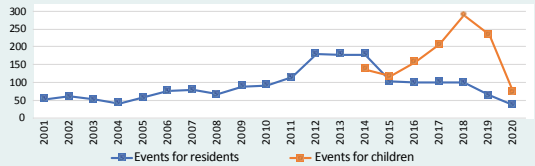
The participatory budgeting campaign, arranged for the first time, received over 700 ideas from city residents. Residents voted on the idea to be realised, and a cherry park was the winner by over a thousand votes. Other regional projects included developing the Porvoonjoki nature trail, planting flowers and introducing street art in the city centre, establishing a guarded bicycle parking area in the market square, establishing a food aid distribution point in Nastola, developing the Kesanto venue in Sopenkorpi, and introducing a Wibit track in the open-air pool at the Sports Centre.

Participation is one of the basic ideas of Lahti's year as the Green Capital. The residents' expectations and attitudes associated with the theme year were surveyed via a questionnaire. According to the results, residents expected bold environmental action and continuous pioneering in environmental matters.

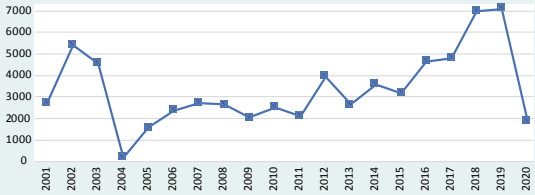
Residents of the region interested in environmental matters were also sought to act as resident ambassadors. The 27 ambassadors chosen, representing different age groups, are all proud of their home region and want to promote awareness of environmental matters. The ambassadors participate in various events during the year and share information through their own networks.

Green Capital Year project funding was granted in 2020 to projects run by companies, associations and higher education institutions. The objective of the funding is to support diverse environmental innovations, events and activities, circular economy business, participation opportunities for children and young people as well as local and participatory art projects.

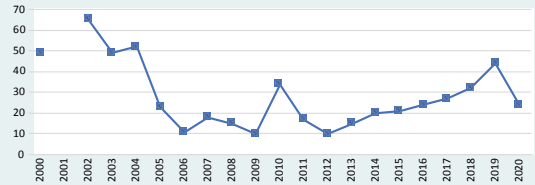
Events arranged for residents and children by the Environmental Counselling unit



Number of children reached by environmental counselling



Number of events for residents related to land use



Future challenges and plans:

- *Utilising the Green Capital year in communication and citizens' opportunities to participate*
- *Communicating 1.5 lifestyles to city residents*
- *Continuing the piloting of JunnuYliopisto*
- *Expanding environmental education from children to young people in the region*

7 MUNICIPALITIES AND MUNICIPAL ENTERPRISES PROMOTE ENVIRONMENTAL RESPONSIBILITY

Teemme ilmasto-työtä

In 2020, **Lahti Procurement Services** analysed the carbon footprint of all purchases made by the City for the first time. Environmental aspects and the circular economy are taken into account in procurement in the different city units in accordance with the City's Procurement Programme.

Lahden Talot Ltd reduced its carbon dioxide emissions by 2,194 tonnes (30.2 per cent) from 2019 to 2020. The change in district heat production by Lahti Energy, continued renewal of the property stock, more efficient application of the company's energy management systems, use of new technical solutions for temperature regulation, activation campaigns directed at residents, and the differences in temperature in the reference years contributed to the considerable reduction. The LIFE-Canemure project implemented planned energy renovations and retrofits at ten sites in 2020. The effects of the measures on carbon dioxide emissions and energy consumption of the properties will be continuously monitored. The positive development of the mixed waste comparison figure continued. The figure at year-end 2019, 17.5 litres/person/week, fell to 16.7 litres/person/week during 2020. When the measurement began in 2014, the comparison figure was 30 litres/person/week. This means that it has decreased by approximately 44 per cent.

Päijät-Häme Catering Services has been offering a vegetarian lunch option for a couple of years. Customers' interest in the environmental impact of food increased during the past period of operation. In accordance with the company's strategic policy, vegetarian food was made the primary main course option at school and staff cafeterias in 2020. Organic products were used during the year whenever possible. The Catering Services Corporate Sustainability Plan for 2020–2023 was approved in April 2020. The responsibility objectives cover three themes: economic, social and environmental responsibility. The environmental responsibility objectives include, among other things, the reduction of food waste, the increased proportion of vegetarian food, the use of Finnish and local ingredients and the increased use of organic products whenever possible.

School cafeterias and day care centres were provided with updated sorting instructions. The update was made in cooperation with Päijät-Hämeen Jätehuolto waste disposal company. Sorting instructions were also prepared for the kitchens and implemented as of the beginning of the autumn term 2020. In addition, the Finnish Hukka food waste management software was implemented in all schools in Lahti at the beginning of the autumn term. The objective of the software is to reduce food waste at schools and reduce the carbon footprint of school lunches through real-time communication, measurement and guidance. The food waste data recorded in the system can be displayed as a wildlife animation on school information boards, for instance. The software encourages children and young people to engage in climate-friendly behaviour and shows the results of their actions in a comprehensible manner. Once again, schools, day care centres and personnel restaurants participated actively in the national Food Waste Week, and 53 per cent of the schools reduced their food waste from meals compared with the previous year.

Environmental collaboration between municipalities, higher education institutions and business life

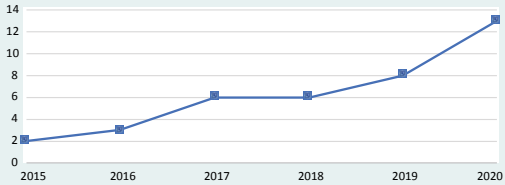
Local higher education institutions and companies play an important role in promoting environmental matters in the region. The City, LUT University and the University of Helsinki's Lahti campus collaborated actively on local products, and some of the local solutions developed in Lahti are scalable for international use. The distinguished research work car-

ried out by LUT University on the CitiCAP project received the University Achievement of the Year 2020 award from the City of Lahti. The project is carried out by the City of Lahti, LUT University, LAB University of Applied Sciences, Lahti Region Development LADEC and five companies.

The achievement of Lahti's carbon neutrality target requires efficient measures not only from the City but also other operators in the region. Therefore, the City is offering local companies the opportunity for Climate Partnership. In the partnership model, the company or other operator commits to its chosen targets and measures to reduce its greenhouse gas emissions. Lahti Region Development Ladec participates in the collaboration by communicating the activities to companies. LAB University of Applied Sciences is launching a course in autumn 2021, during which first-year students assist companies interested in Climate Partnership to perform emissions surveys and find suitable measures, and an increasing number of companies will be invited to participate.

Salpausselkä Geopark is a geologically important site in the Päijät-Häme region. In autumn 2020, an application was submitted to obtain the UNESCO Global Geopark title for the area. The Salpausselkä Geopark area is located in the municipalities of Asikkala, Heinola, Hollola, Lahti, Padasjoki and Sysmä. The Geopark promotes sustainable nature travel and related business with a focus on geology. The Geopark gathers and produces information on interesting sites in the region and highlights local products and services. Fostering the nature and cultural heritage in the area, the strengthening of local identity and the promotion of sustainable development are also important objectives. The Geopark unites operators in the region, but the activities also include national and international networking.

Number of climate partners of the City of Lahti



Salpausselkä Geopark
FINLAND

Future challenges and plans:

- *Capitalising on the visibility brought about by the Green Capital year throughout the region*
- *Expanding the Climate Partnership network throughout the county*
- *Monitoring of procurement-related emissions in the City organisation*

8 ENVIRONMENTAL BALANCE SHEET

The financial statements of the City of Lahti for 2020 include a compilation of environmental indicators for the City and the City Corporate Group's area. Data for this environmental balance sheet has been collected from all the City's service sectors and functional balance sheet units. The City of Lahti's Environmental Programme 2030 also includes indicators in euro that are monitored using the environmental balance sheet. The City Corporate Group calculation includes, among others, Lahti Aqua Ltd, Lahti Energy Group, Päijät-Häme Waste Management Ltd, Lahden Talot Ltd and Päijät-Häme Catering Services. Environmental expenses for the entire City Group amounted to EUR 45.0 million and environmental income to EUR 40.8 million. Environmental investments amounted to approximately EUR 9.8 million.

ENVIRONMENTAL BALANCE SHEET 2020 SUMMARY, 1000 EUR	The City of Lahti and balance sheet units			Lahti Group as a whole		
Environmental classification	**Income**	**Expenses**	**Invest-ments**	**Income**	**Expenses**	**Invest-ments**
1. Air and climate protection	1 356,9	377,9	2 219,4	1 356,9	2 794,4	2 993,2
2. Water protection and wastewater treatment	105,5	525,7	63,9	15 080,5	10 248,4	5 958,4
3. Waste management and litter prevention	905,0	1 493,8	38,4	21 240,2	24 345,6	529,4
4. Soil and groundwater protection	47,7	871,7		47,7	886,4	136,0
5. Noise and vibration abatement		7,0	135,6		21,4	56,0
6. Nature and landscape conservation	21,3	144,9		21,3	144,9	
7. Administrative functions related to environmental protection	356,9	1 359,3		356,9	1 359,3	
8. Promotion of environmental protection	1 686,1	3 001,5	30,0	2 660,1	3 350,9	135,5
9. Environmental taxes and levies		1 168,2			1 844,2	
TOTAL	**4 479,3**	**8 950,0**	**2 487,3**	**40 763,5**	**44 995,6**	**9 752,1**
Interest paid					220,0	
Environmental provisions		700,0			-473,0	
Change in environmental provisions (increase -, decrease +)		-431,0			-473,0	
Contingent environmental debt (estimated cost)						

Please note: the classification does not match the sections in this review.

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GREEN CAPITAL
An initiative of the European Commission

MORE INFORMATION

Lahti Group Administration
Askonkatu 2, FI-15100 Lahti

Environmental Director Elina Ojala, elina.ojala@lahti.fi.
Edited by Sustainable Development Co-ordinator Aino Kulonen,
aino.kulonen@lahti.fi, 044 4826178

www.lahti.fi

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