



Annual Report 2022

Executive Board of HSY 31 March 2023

Helsinki Region Environmental Services Authority

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Contents

1	Annual Report	3
1.1	Major events in operations and finances	3
1.1.1	Review by the Executive Director	3
1.1.2	Governance of the joint municipal authority and changes in it	6
1.1.3	Operating environment	7
1.1.4	Operations during the accounting period	9
1.1.5	Personnel	19
1.1.6	Environmental responsibility	20
1.1.7	Other non-financial matters	22
1.1.8	Estimate of probable future development	23
1.1.9	Estimate of the most significant risks and uncertainties	25
1.2	Report on internal control and risk management organization	30
1.3	Financial result for the accounting period and financing of activities	34
1.3.1	Financial result for the accounting period	34
1.3.2	Financial result by division	35
1.3.3	Financing of activities	36
1.3.4	Total income and expenses	38
1.3.5	Financial position and changes in it	39
1.4	The Group's operations and finances	41
1.4.1	Companies included in the consolidated financial statements	41
1.4.2	Major events concerning the Group	41
1.4.3	Operational and internal control of the Group	42
1.4.4	Consolidated financial statements and associated key figures	44
1.5	Use of the financial result for the accounting period	47
2	Realization of the budget	48
2.1	Joint municipal authority's realization comparisons	48
2.1.1	Goals	48
2.1.2	Strategic projects	52
2.1.3	Realization of the income statement part	53
2.1.4	Realization of investments	57
2.1.5	Realization of the cash flow part	59
2.1.6	Summary of the realization of appropriations and revenue estimates	60
2.2	Water services realization comparisons and separate calculations	61
2.2.1	Realization of the income statement	61
2.2.2	Realization of investments	63
2.2.3	Cash flow statement	64
2.2.4	Balance sheet	65

2.2.5	Additional information regarding the financial statements for stormwater sewerage required by the Water Services Act	66
2.2.6	Differentiation of accounting for mull sales operations as required by the Finnish Competition and Consumer Authority	67
2.3	Waste management realization comparisons and separate calculations	69
2.3.1	Realization of the income statement	69
2.3.2	Realization of investments	70
2.3.3	Cash flow statement	71
2.3.4	Balance sheet.....	72
2.4	Regional and environmental information realization comparisons.....	73
2.4.1	Realization of the income statement	73
2.4.2	Realization of investments	73
2.5	Support services realization comparisons.....	74
2.5.1	Realization of the income statement	74
2.5.2	Realization of investments	75
2.6	Customer service realization comparisons.....	76
2.6.1	Realization of the income statement	76
2.6.2	Realization of investments	77
2.7	Management, control and development units realization comparisons	78
2.7.1	Realization of the income statement	78
2.7.2	Realization of investments	79
3	Financial statements calculations	80
3.1	Joint municipal authority's financial statements calculations	80
3.1.1	Income statement	80
3.1.2	Cash flow statement	81
3.1.3	Balance sheet.....	82
3.2	Consolidated financial statements calculations.....	85
3.2.1	Consolidated income statement.....	85
3.2.2	Consolidated cash flow statement	86
3.2.3	Consolidated balance sheet.....	87
4	Notes	89
4.1	Notes concerning the joint municipal authority and Group	89
4.1.1	Notes concerning the preparation of the financial statements	89
4.1.2	Notes concerning the income statement	90
4.1.3	Notes concerning the balance sheet.....	94
4.1.4	Notes concerning commitments and contingent liabilities	100
4.1.5	Notes concerning personnel and the auditor's fee	105
4.2	Key figure formulas.....	106
5	Signatures and notes.....	108

1 Annual Report

1.1 Major events in operations and finances

1.1.1 Review by the Executive Director

In 2022, the operating environment was characterized by Russia's war of aggression against Ukraine, which started in February 2022, and the general weakening of the security environment, the energy crisis and the risk of limited availability of critical raw materials that followed the attack. The increasing energy prices accelerated inflation in the Euro zone, and the prices of foodstuffs, energy and building materials increased. Central banks increased their key interest rates several times during the year in order to curb the situation. The culmination of the energy crisis has increased the risk of recession both in Finland and in the Euro zone. The restrictions ordered due to the COVID-19 pandemic that started in 2020 were progressively lifted in Finland in the spring 2022, and attention was mainly focused on the European energy and security environment. In Finland, fears of scarcity of electricity during the cold winter months intensified towards the winter.

HSY's operations and service level remained good throughout the year. The sales of clean water amounted to 75.3 million m³, which was 0.4 percent less than in 2021. Waste containers of properties were emptied approximately 8.9 times, which was 2.9 percent more than in 2021. At the same time, however, the amount of waste collected from properties has decreased as a result of increased sorting.

All in all, the impacts of the pandemic on HSY's operations were quite limited. The increased energy and material prices, on the other hand, had an impact on the operational costs. There were, however, no availability issues in products and materials important for our production. The increased interest costs did not have a significant impact on HSY's financing expenses yet in 2022 due to the interest rate hedging of loans taken out earlier and the fact that the interest rate revision dates were later in time. As a result of the decline in the general security environment, HSY has increased its actions related to preparedness in terms of physical safety and cyber safety. We have prepared a contingency plan for electricity shortage or power cuts, and in addition, we have discussed HSY's role in case of electricity shortage with the authorities.

In 2022, HSY's strategy "HSY 2030 – together into a sustainable tomorrow" was updated, and the updated strategy was approved by the General Meeting in November 2022. HSY's vision is to make the Helsinki Metropolitan Area the most sustainable urban region together. The four focal points of the strategy are environmental responsibility, changing work, sustainable finances and resident experience. The focal points are further divided into ten strategic objectives with strategic indicators. The strategy was launched in the autumn for the entire organization in a series of webinars and seminars. In connection with the strategy update, also HSY's ten-year investment strategies and plans for water and waste management were prepared and approved. The investment programme for water services in 2023–2032 amounts to EUR 1,752 million. The programme is divided into city-driven investments and water services-driven investments. The investment programme for waste

management in 2023–2032 amounts to EUR 130 million, divided into regional service-driven investments and treatment service-driven investments.

The investments are an essential part of the implementation of HSY's strategy. In 2022, investments amounted to EUR 211 million, which was approximately 9% less than in 2021. The 17-year project of the Blominmäki wastewater treatment plant was finalized, and the plant started its operations at the end of the year. Wastewater turned from the Suomenoja treatment plant to Blominmäki in November 2022.

Customer satisfaction stayed at a high level. HSY's operations are reflected in the daily life of the residents in the form of our investments, advice services and communications. Due to the energy crisis, citizens have been strongly directed towards saving electricity. This is expected to also have an impact on the amounts of hot water used in the next few months. The increased prices of food and living due to inflation are also likely to have an impact on customer behavior. Residents are informed in advance of any interruptions in distribution due to maintenance actions. Unexpected water supply breaks cannot, however, always be avoided. The most challenging deviation was the breaking of a large main line in Kallio, Helsinki, in November 2022.

HSY Water services have been rewarded for their work. In the *International Water Association's Water Congress* held in Copenhagen in October 2022, HSY's team of four members won the *Operations Challenge*, a competition in three important sectors of daily water service operations. We received another reward when Helsinki Tourism Foundation a foundation promoting local tourism in the Helsinki metropolitan area, gave its *Helsinki Travel Awards* in November. HSY received an honorary reward for procuring clean tap water for the residents and visitors in Helsinki. The Blominmäki wastewater treatment plant received the 2022 RIL Award, presented at the end of November at an event of RIL (registered organization), an organization representing built environment professionals. The award was based on the role of the Blominmäki wastewater treatment plant in a basic function of the society as well as energy smart solutions. Blominmäki is 100% self-sustained in terms of heat production and 70% self-sufficient in terms of electricity.

Waste management continued its work to increase the recycling rate of municipal waste by means of communications, advice and campaigns. Our "Mullankumous" campaign, for example, attracted a lot of media attention. Our goal was to motivate and advice customers on sorting and everyday circular economy and to create the preconditions for easy sorting. The amount of mixed household waste has decreased over the years. In 2022, the recycling rate of households was 47%. We introduced the first fully electric refuse truck in November 2022 in the inner city.

In 2022, preparations were also made for the extension of the separate collection of biowaste, which will become gradually mandatory for properties of 1–4 apartments in the Helsinki Metropolitan Area and Kirkkonummi in 2023–2024. The requirement to sort biowaste previously only applied to properties of at least five apartments. Customers were informed of the expected changes at the end of 2022. Composting at one's own initiative is an alternative for the separate collection of biowaste, and in the future, a composting notification must be filed.

In addition to water and waste management services, HSY also produces expert information and organizes training and seminars related to regional and climate information. The specification of the regional information repository was started in summer 2022. This concerns the coordination of municipal register data in the Helsinki Metropolitan Area, which can be used to support experts and

decision-makers in duties related to the planning of land use or customer service, for example. In 2022, materials utilizing artificial intelligence for the first time in the identification of land cover in aerial photos were completed. HSY's Climateinfo participates in energy saving projects by, amongst others, producing information for housing companies on how to improve energy efficiency. A new project, *Property managers as drivers of the energy transition project*, was started in October 2022. An air planning research seminar was held in November 2022. 2022 was the first year when the air quality monitoring network produced a full calendar year worth of information for the prevention of street dust.

HSY's result for the accounting period was good and its operations remained stable. The financial result for the accounting period after appropriations showed a surplus of EUR 12.1 million. The water and service fees were not, however, enough to cover all of the investments, and HSY took out additional loans during the accounting period. Long-term loans increased by EUR 165 million. The equity ratio was 27.0% at the end of the accounting period.

Increased uncertainty in the operating environment and the increased energy and material costs require good preparedness and taking care of our own efficiency also in 2023.

Tommi Fred

Executive Director

1.1.2 Governance of the joint municipal authority and changes in it

The HSY General Meeting exercises the highest decision-making power of the joint municipal authority. The Executive Board of HSY is the accountable administrative body and the Executive Director and Directors of Divisions and Business Units are the accountable officials.

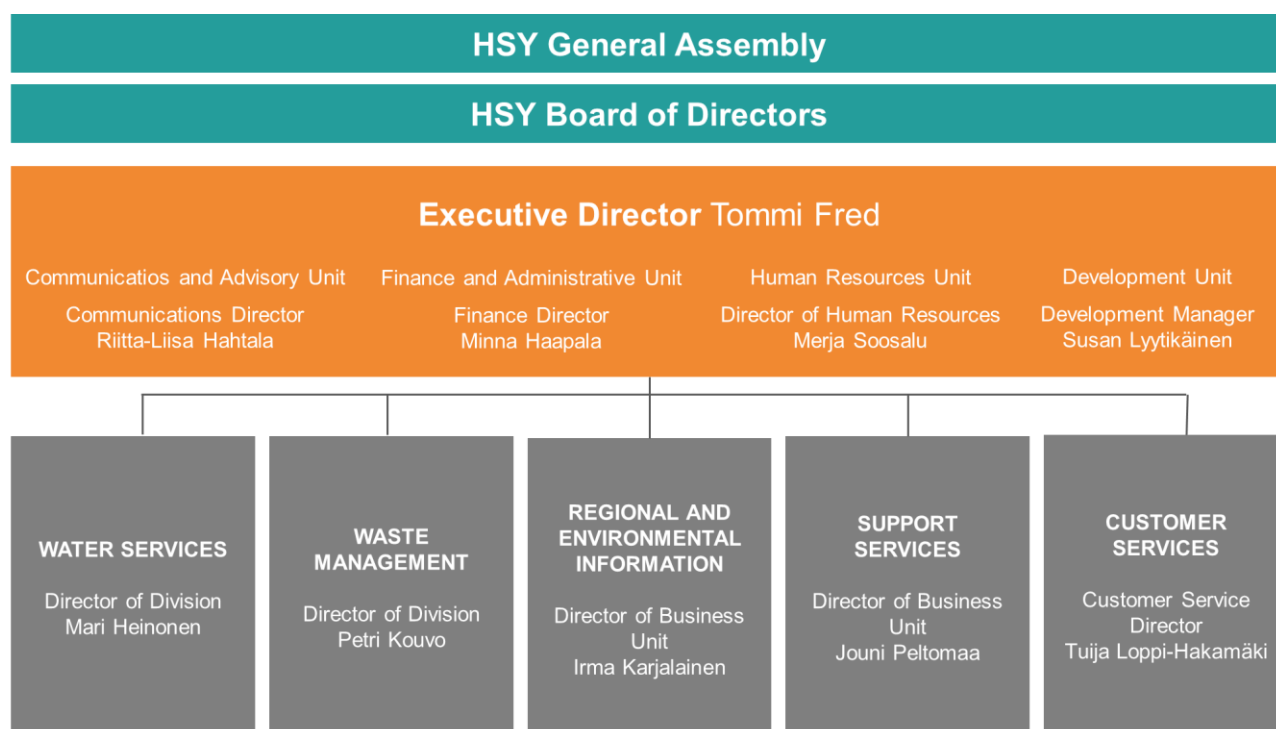
The Executive Board of HSY

Ordinary members	Personal deputy members
Hertell Sirpa (Greens/Helsinki), vice chair	Lahti Timo (Greens/Espoo)
Jokela Laura (Finns Party/Helsinki)	Paunio Mikko (Finns Party/Helsinki)
Kokko Kristiina (National Coalition Party/Helsinki)	Hurskainen Mikko (National Coalition Party/Helsinki)
Korkman Anna (Swedish People's Party/Helsinki)	Seitsamo Alex (Swedish People's Party/Helsinki)
Kuusisto Kari (National Coalition Party/Espoo)	Nores Mia (National Coalition Party/Espoo)
Lehmuskallio Paula (National Coalition Party/Vantaa)	Ahola Eero (National Coalition Party/Espoo)
Lindroos Kristiina (Social Democratic Party/Espoo)	Aitola Minna (Social Democratic Party/Kauniainen)
Miettinen Taisto (Finns Party/Kauniainen)	Pirinen Eija (Finns Party/Espoo) until 30 May 2022 Santala Katri (Finns Party/Espoo) from 30 May 2022 onwards
Nygård-Peltola Mia (National Coalition Party/Helsinki), chair	Koskinen Markus (National Coalition Party/Helsinki)
Pasterstein Dennis (National Coalition Party/Helsinki)	Toveri Maarit (National Coalition Party/Helsinki)
Seppänen Tia (Greens/Vantaa)	Auvinen Antti (Greens/Vantaa)
Stranius Leo (Greens/Vantaa)	Vuorinen Kirsi (Greens/Helsinki)
Suihkonen Tuomas (Left Alliance/Vantaa)	Romppainen Leena (Left Alliance/Vantaa)
Vuorela Antti (Social Democratic Party/Helsinki)	Temmes Anneli (Social Democratic Party/Helsinki)
Expert members	
Anni Sinnemäki, Helsinki	
Isotalo Olli, Espoo	
Westlin Henry, Vantaa	
Masar Christoffer, Kauniainen	

Audit Board

Ordinary members	Personal deputy members
Järvinen Hannu, (Finns Party/Espoo), chair	Bremer Maria (Finns Party/Kauniainen)
Kasurinen Riina (National Coalition Party/Helsinki)	Pälvi Mikael (National Coalition Party/Helsinki)
Rautavaara Maija (Greens/Vantaa), vice chair	Tarnanen Niilo (Greens/Vantaa)
Ollikainen Oskari (Social Democratic Party/Vantaa)	Paananen Eija (Social Democratic Party/Helsinki)
Petriotis Christos (National Coalition Party/Espoo)	Silander Marju (National Coalition Party/Espoo)

HSY's organization 31 December 2022



1.1.3 Operating environment

The Finnish economy grew briskly at the beginning of the year. Russian's attack to Ukraine slowed down the growth. According to the Bank of Finland's forecast, the Finnish economy will grow by 1.9% in 2022. The Finnish economy started, however, to decline in the third quarter of 2022. There is an obvious risk of the economy slipping into recession in 2023.

In its Economic Survey of Winter 2022, the Ministry of Finance estimated that the Finnish GDP would contract by 0.2 percent in 2023 as the rapidly rising prices reduce the real disposable income of households. GDP growth is then expected to recover to 1.2% in 2024 as inflation slows and income growth accelerates. In spite of a slight decline of employment in 2023, the employment situation is expected to remain good.

Employment costs are impacted by the wage increases for municipalities, which are dependent on the general wage increases for 2023 and 2024. Wages in the municipal sector will also be increased by the pay programme for the period 2023–2027, which will see wages increase by a total of approximately 5%. Pay agreements have a significant impact on the development of costs for the joint municipal authority, as personnel expenses constitute a largest cost item for it.

Inflation has increased significantly in 2022. According to Statistics Finland, the average increase in consumer prices was 7.1 percent. The price increase was clearly lower in 2021 with the average inflation being 2.2 percent. In 2022, the increased prices of energy products and foodstuffs were the primary drivers of inflation.

The long period of low interest rates is now over. The interest rates increased rapidly in 2022, and Euribor rates are expected to continue increasing to some degree from the current level in 2023. The market expects that the interest rate level will increase to approximately 3.5–4 percent. European Central Bank (ECB) is expected to continue progressive key interest rate increases in order to curb inflation and to reach its target inflation level of 2 percent. The market expects that the interest rate level will begin to decrease in 2024. At HSY, the increased interest rate levels are reflected in financial expenses through loan financing.

Due to the war, the availability of energy has been poorer than previously, resulting in a substantial increase in the price of electricity and fuels. Fuel prices have been increasing almost continuously since summer 2020, immediately after the worst COVID-19 period. According to Statistics Finland's review published in 2022, the price increase of liquid fuels stopped in the third quarter of 2022. The price of petrol at the petrol station was 27% higher than the year before, however. The price of diesel was 43% and that of domestic fuel oil was 68% higher. The price of crude oil turned down towards the end of the year due to concerns about recession. At HSY, the development of liquid fuels is reflected in the costs of waste collection in particular.

The Ministry of Finance's Economic Survey expects that private investments will increase slower than usual as the economic uncertainty continues. Private investments increased by almost 3 percent in 2022 since the residential construction projects started towards the end of 2021 still supported investments. The global economic outlook for 2023 is clearly weaker than this year, which is also reflected in investments.

According to the Construction Outlook 2022 publication of the Confederation of Finnish Construction Industries RT, construction activity is expected to increase by 2 percent in 2022, supported by the old projects and the fact that residential building is still good. In 2023, construction activity is expected to decrease by 2 percent as the construction of new residential buildings and infrastructure will diminish. Confederation of Finnish Construction Industries RT estimates that in residential

construction started in 2022, the number of apartments will only be 41,000 apartments and that this number will drop to 36,000 in 2023. The high inflation and the increasing interest rates are a source of uncertainty in projects.

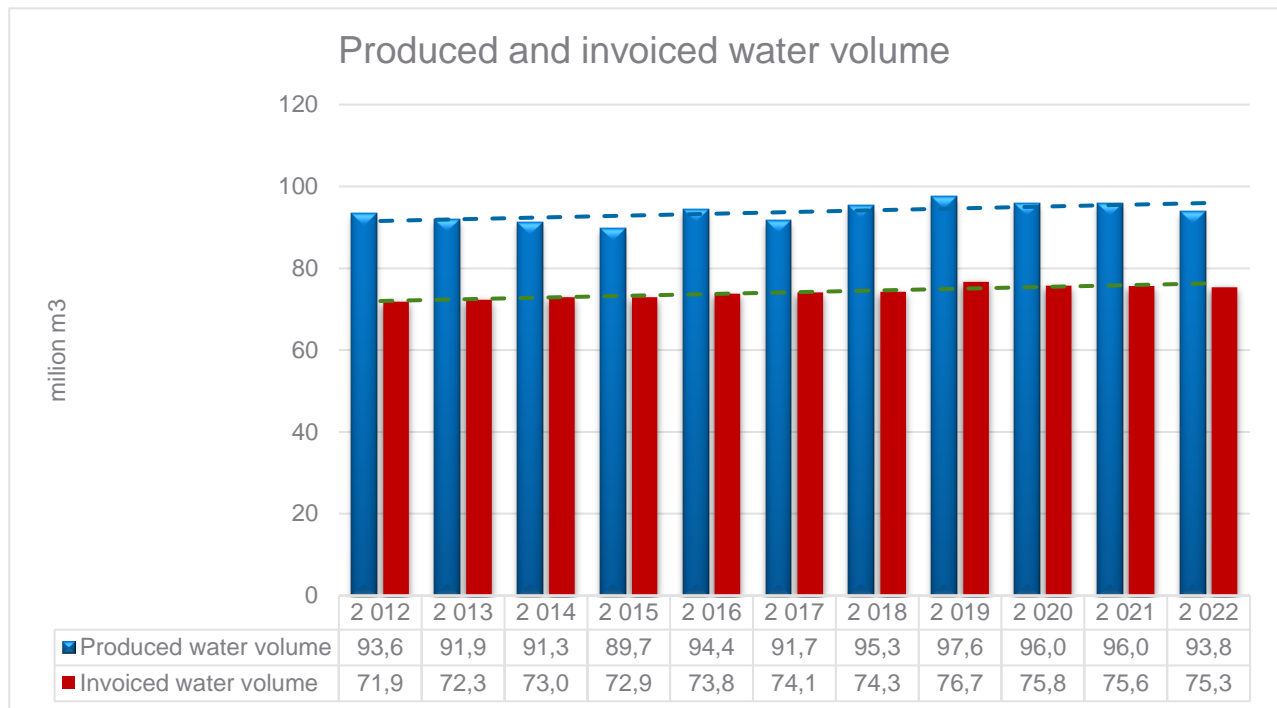
Waste legislation changed as a result of amendments that entered into force in 2021. Due to these amendments, the waste management regulations for the Helsinki Metropolitan Area and Kirkkonummi were revised, and the new regulations entered into force during the accounting period. The biggest change in the new waste management regulations is related to the extension of mandatory separate collection of biowaste to all the properties in the region with the exception of holiday homes. Separate collection of biowaste becomes mandatory in phases in the region in 2023–2024.

1.1.4 Operations during the accounting period

In 2022, HSY provided water and waste management services to more than a million residents and companies in the Helsinki Metropolitan Area. Domestic water was also produced and wastewater treated for water service providers outside the operating area, and waste management services were managed contractually on behalf of the municipality of Kirkkonummi. Regional and environmental information was produced for the Helsinki Metropolitan Area and partly the more extensive 14-municipality Helsinki region or 18-municipality Uusimaa region.

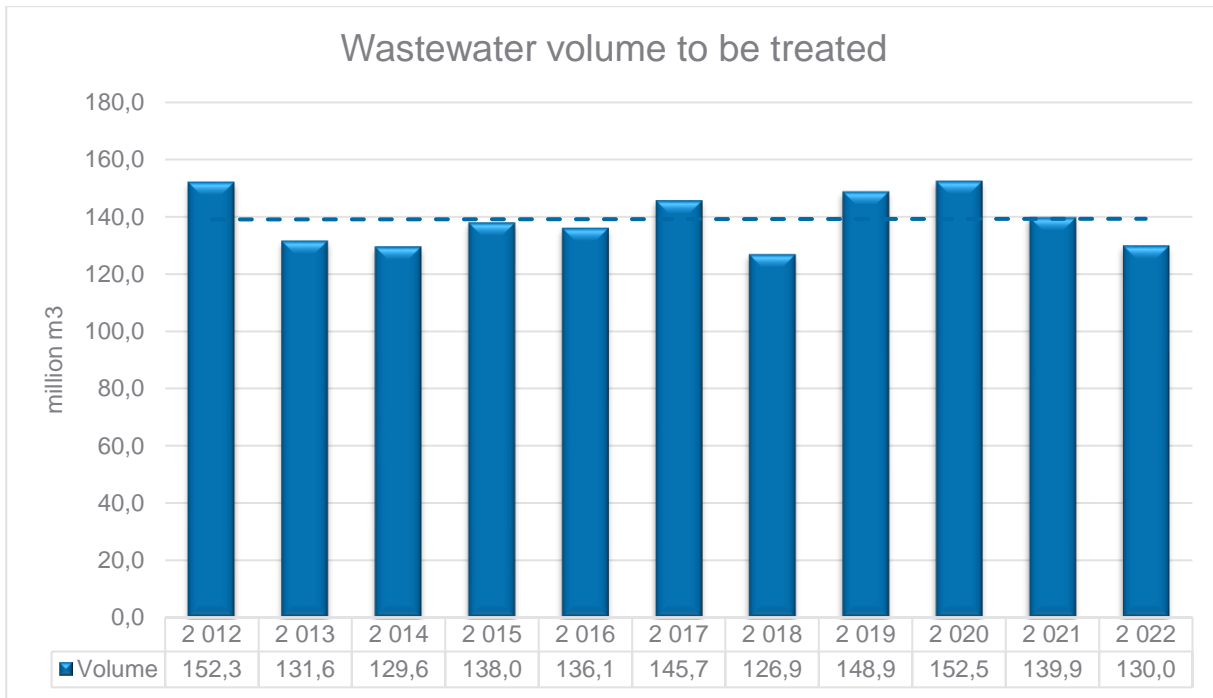
HSY renewed its waste management regulations to correspond with the amendments introduced in legislation in 2021. Executive Board of HSY approved them in its meeting of 23 September 2022. The updated regulations improve the opportunities to sort household waste. The most significant change is the extension of the separate collection of biowaste to include properties of 1–4 apartments. Communications and advice services executed multi-channel campaigns to increase the sorting activity of residents. Special attention was paid to biowaste, promoting its sorting in the “Mullankumous” campaign, amongst others. We met residents in different kinds of events and visited schools. In addition to recycling, our communications focused on reducing the amount of waste generated.

WATER SERVICES



The amount of domestic water pumped into the network was 93.8 million m³, 2% lower than the previous year. The water produced was of a high quality. It met the quality requirements and goals of the Decree on domestic water as well as HSY's own quality goals. Water was produced at two surface water intake plants and one groundwater intake plant.

The invoiced water volume, 75.3 million m³, was lower than the previous year. Two consecutive years of the pandemic and the energy saving actions during the accounting period are reflected as a lower volume. The increase in the number of residents in the Helsinki Metropolitan Area, on the other hand, was higher than expected (advance data 1.5%). Because of estimated billing, the share of invoicing of pumping should not be reviewed at the annual level. Furthermore, the new invoicing system that has been in use for two years, is now generating comparable data.



The total volume of wastewater treated in 2022 amounted to 130.0 million m³, down 7% from the previous year. HSY's wastewater treatment plants achieved the level of activity in accordance with the conditions of the environmental permit, and HSY's own ton-based target for phosphorus, which is stricter than the requirement of the environmental permit, was achieved as well. With regard to nitrogen, the biological process in Viikinmäki suffered an exceptional process disturbance in the spring, leading to the need to bypass mechanically and chemically processed wastewater after primary sedimentation. The ton-based target for nitrogen was not met. The results of both the Viikinmäki and the Suomenoja wastewater treatment plant in terms of OCP index were good in 2022. The load on the sea from wastewater treatment in 2022 was 29.52 tons for phosphorus (goal 30 tons) and 1,252 tons for nitrogen (goal 1,000 tons).

The water network was expanded, the condition of the network was maintained and investments were made in plants

Water networks (km)	Networks, total	New network built in 2022	Old network renovated in 2022
Water pipes	3,255	26	13
Wastewater and combined sewers	3,003	26	10
Stormwater sewers	2,452	24	5
Total	8,710	76	28

In 2022, 268 sudden pipe breakages of water pipes were repaired and 67 sewer blockages were opened. The consumption outage time was approximately 6.60 minutes per resident. There were 390 blockages in wastewater pumping stations, which is approximately 20% more than in the previous year. With regard to network management, the development of spatial data systems and the ERP system continued. The method of reporting of indicators and performance was developed in 2022, which is reflected in the differences of some indicators compared to 2021.

City-driven investments (baskets 1, 2, 3 and 10.6) amounted to approximately EUR 76.5 million in 2022. In Espoo, city-driven investment projects during the accounting year included the Finnoo area, Kyläsepäntie, Niittykumpu, Frigårdintie and Kyläkartanonrinne, Matroonankatu, Finnsinmäki and the Kalajärvi area. In Helsinki, such projects included e.g. Jätkäsaari, Kuninkaantammi, Rosina Heikelin puisto, Fallkullan kiila and the new regional networks constructed in connection with the rail projects. Furthermore, the major rail projects of Crown Bridges and Kalasatama–Pasila continued in Helsinki, with a substantial number of water service pipe transfers linked to these. In Vantaa, some of the projects included the pipe transfers due to the improvement of Ring Road 3, the Kivistö centre and church blocks, Korutie and water services for Kiila. The planning of water services for the Vantaa tram continued. A lot of joint site renovations were also made in conjunction with street projects. Some of the biggest ones were the Työnjohtajankatu blocks, Crown Bridges, the Kalasatama tram, Kasi Street work (Caloniuksenkatu, Runeberginkatu, Helsinginkatu), Itäväylä, Peuramäenkuja, Suomenlinna, Asematie and Vehkapolku, Joukontie as well as Orapihlajanpolku. Water services-driven network projects amounted to EUR 58.5 million in 2022. The share of network projects was EUR 38.0 million, and the rest was implemented by plant projects and regional networks. With regard to water services-based network projects in 2022, the sewer renovation of the Blominmäki eastern catchment area, part B1 (Lystimäki–Gräsantulli), Otakaari–Rakentajan aukio–Alvarin aukio and Pohjois-Tapiola–Etelä Laajalahti projects were completed and taken into use. The Kivistö–Koillis-Espoo water services project continued with a contract in the Petikko area. In Helsinki, the Marttila area renovation project continued, piloting the promotion of the renovation of plot pipelines. This project continues to attract attention, both by the residents in the area and other water supply plants. The construction of a new 600-mm water pipe from Ala-Tikkurila to the Hiekkaharju water tower was started, and the network in Haukilahti is being reinforced with a new 400-mm water pipe. Furthermore, part 2 of the Kaivoksela–Myyrmäki water tower project started with the construction of a 600-mm water pipe, and the planning of part 3 continued throughout the year. The planning and coordination of the turning of sewers related to the completion of Blominmäki continued, and the turning project was started in Pisa and Latokaski.

Actual investments in water intake and treatment in 2022 amounted to EUR 8.6 million. Projects completed included the renovation of the activated carbon filtration plant in the Pitkähoski water treatment plant, the Toinen savu booster station and the renovation of the dams of the Yläsuolijärvi and Alasuolijärvi lakes. The capacity increase and modernisation of the Pitkähoski water treatment plant continued, the renovation of the ozone plant is almost completed and the renovation project of the Pitkähoski 1 will begin in early 2023.

Other plant projects included the already completed new wastewater pumping station in Petikko, Puistola and Långmossaberg as well as approximately 15 new regional measurement points for the tap water network. Ongoing projects included the new Ylästöntie wastewater pumping station, the demolition of the old Tikkurila water tower, the renovation of the roof and pipes of Ilmala 2 and the procurement of the new emergency operation unit in Viikinmäki.

The construction of the Blominmäki wastewater treatment plant was completed with the finalisation phase in 2022. The turning of wastewater started in November, approximately two months behind the schedule outlined in 2021. The last turning of wastewater was completed on 24–25 January 2023. Since then, all the wastewater from the western sewerage area has been treated at Blominmäki. The treatment results have met the requirements of the environmental permit since 9 February 2023. The cost forecast for the project has increased, mainly owing to the increase in the costs of the construction of the treatment plant and the increase in the operating and overhead costs at the site as well as the increased cost of the technological project management contract. The sewer tunnels were completed later than planned, but the readiness for the turning of sewers was achieved before the treatment plant was ready to accept wastewater for treatment. The initiation of the biological treatment process was sped up by bringing excitation sludge from the Suomenoja and Viikinmäki treatment plants, partly by utilising the inlet tunnel from Suomenoja.

The resident campaigns for water services customers focused on sewer etiquette: No grease or rubbish in the sewer. In addition, there were campaigns to curb the increased nitrogen load in wastewater and to reduce the amount of harmful substances ending up in sewers. The “Lääkkeetön Itämeri” campaign gave information about the correct processing of medicine waste, and stormwater awareness was improved by means of the “Mahanpuruja muovista” campaigns.

WASTE MANAGEMENT

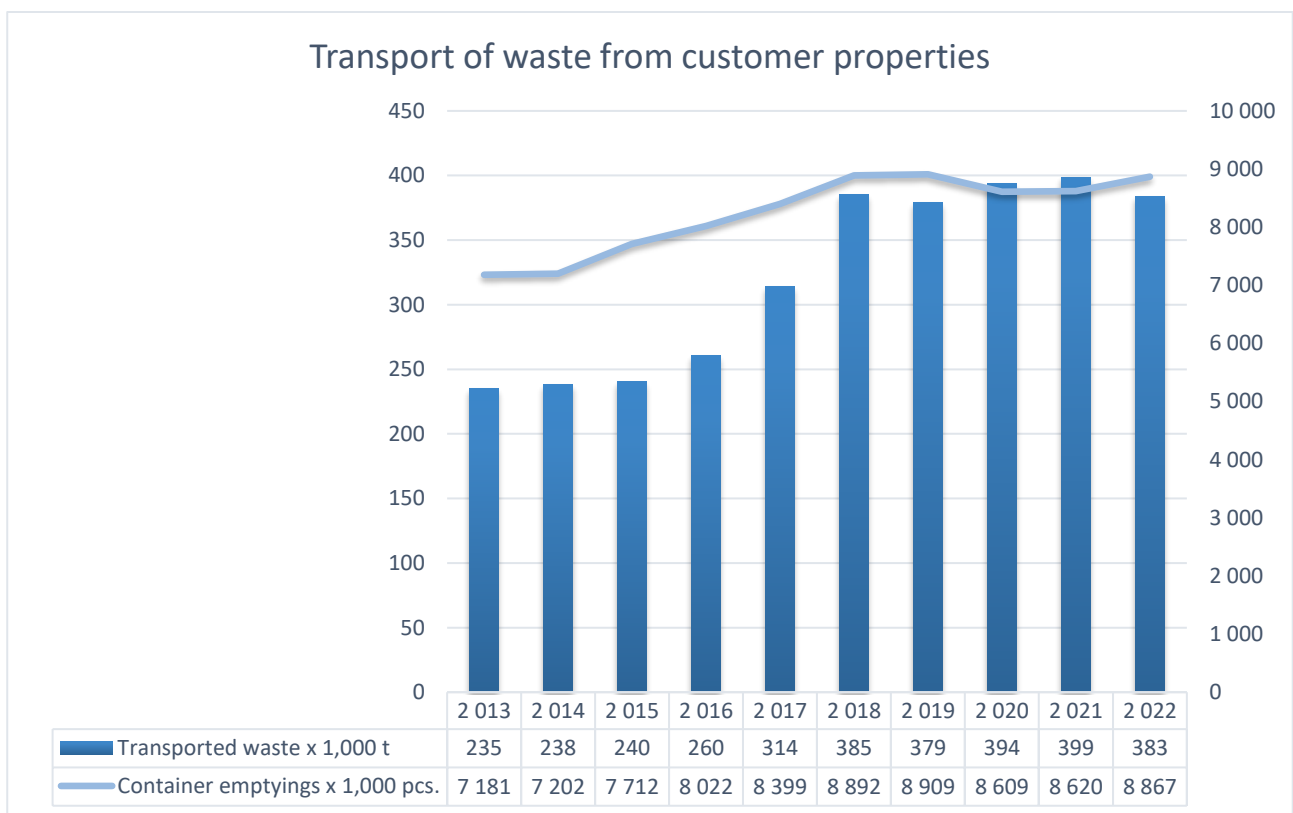
During 2022, a total of approximately 8.9 million waste container emptyings were carried out in property waste management. The total number of emptyings was approximately 140,000 (+1.4%) higher than budgeted. The total number of emptyings increased by 247,000 from 2021 (+2.9%). The numbers of emptying of all useful fractions increased slightly since 2021, and the growth was distributed evenly between all the types of waste. The number of emptyings of mixed waste containers remained at the same level as in 2021. In the budget, the number of emptyings of mixed waste containers was expected to drop by 1% in 2022.

In 2022, the amount of waste collected from properties was 383,382 tons, which is 15,300 tons less than in 2021. Compared to the budget, the total amount of waste was approximately 12,000 tons lower. Compared to 2021, the amount of mixed waste decreased by approximately 10,300 tons (-5.7%), the amount of biowaste decreased by approximately 1,800 tons (-4.1%), the amount of plastic packaging waste increased by approximately 500 tons (+6.8%), the amount of carton packaging waste decreased by approximately 500 tons (-3.0%), the amount of glass packaging waste decreased by approximately 70 tons (-1.6%) and the amount of small metal items was at the same level as in 2021. The amount of sludge decreased by approximately 3,000 tons (-2.2%).

The reduction in the amounts of waste is likely to mainly result from the opening of the society and the lifting of the COVID-19 restrictions. As a result, people are using more services again, travelling, eating out etc. It should be noted that the amounts of waste increased during the COVID-19 pandemic, which was a sharp deviation from the trend observed prior to the pandemic. Estimating the amounts of waste and the numbers of emptyings for 2023 and 2024 will be challenging as there are numerous uncertainties affecting the predictability, such as the degree of participation in the separate collection of biowaste in smaller properties.

There were 17 transport contract tenders in 2022, and the contracts will begin in 2023 and 2024.

A fully electric refuse truck started operating in the Helsinki inner city at the end of 2022.



In 2022, Ämmässuo eco-industrial centre received approximately 223,000 tons of waste, which is 20% down from 2021. The total amount of waste was approximately 18% smaller than estimated in the budget. It was known that the amount of waste would decrease in 2022, but the decrease was even bigger than estimated. In 2022, the amounts of waste spread out throughout the year as a steady flow, which is an obvious change compared to previous years. The amount of reusable construction waste decreased in particular, by 38% from 2021.

The amount of biowaste received totaled 48,458 tons in 2022. The amount decreased by approximately 5% on the previous year. The new operator treating commercial biowaste in the Helsinki Metropolitan Area and the decreased volume of biowaste from households (approximately 1,090 tons) contributed to this. The amount of biogas generated from biowaste (4.147 million cubic

metres) was approximately 6.5% lower than in 2021, and electricity production decreased by 12.6% to 8,777 MWh.

The amount of final-disposal waste was approximately 13% smaller than in 2021. This trend will continue in the coming years as well. The amount of reusable construction waste decreased was 19,943 tons, which is 38% less than in 2021. The amount of construction waste has reduced significantly in the past few years, and the amount of waste in 2022 was approximately 73% smaller than in 2017. We assume that the decrease is due to the increased service capacity of commercial operations and the reduction in construction due to the global economy. Materialaitori agreements ended at the end of 2022, and the number of new agreements is small.

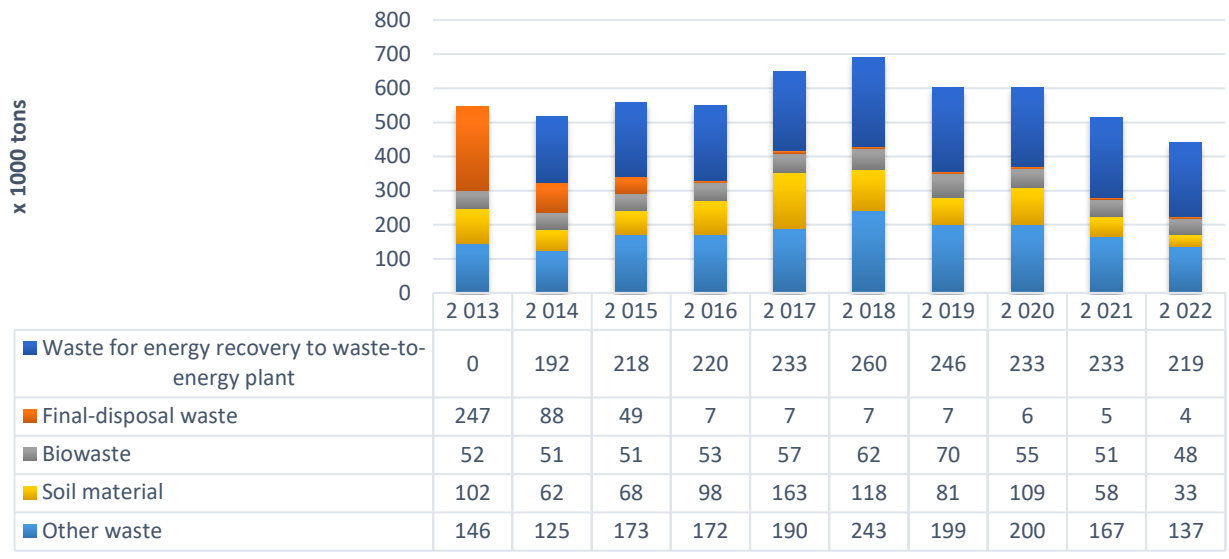
A total of 62,113 tons of bottom ash was received from the waste-to-energy plant, which is approximately 17% lower than in the previous year due to the smaller amounts of waste being processed in the waste-to-energy plant. The amount of reusable soil received was 32,888 tons, 43% less than in the previous year. There has been lots of annual variation in the amount of soil received, but the fall has been significant for the past couple of years, and this trend is expected to continue. Reusable soil is still needed for the finalisation of the old landfill. In terms of contaminated soil, only soil contaminated by acute oil spills was received in 2022, and the amount was 459 tons. The contaminated soil processing operations were discontinued, and in the future, the Ämmässuo eco-industrial centre will only provide services related to the processing of soil contaminated by acute oil spills.

The amount of electricity produced with landfill gas was the same as in the previous year, 28.4 GWh. Landfill gas was used to produce 16.2 GWh of electricity for sale. Gas utilisation rate was 95.7%. The proceeds from the sales of electricity were almost five times the budgeted amount due to the exceptionally high price of electricity. The amount of wastewater pumped to the wastewater treatment plant was 510,000 m³, which is approximately 28% less than in the previous year.

In the Ekomo model, our aim is to grow new production that promotes circular economy, services and processing of waste materials emerging around HSY's operations driven by diverse partnerships and corporate co-operation. In 2022, four Ekomo cooperation agreements were renewed and one ended.

Ekomo operators received approximately 60,000 tons of diverse waste fractions for reuse as materials and energy at Ämmässuo in 2022, which was approximately 50% less than in 2021. The biggest operator in the area, NCC Industry, left at the end of 2021, which reduced the waste streams for Ekomo operators almost by half.

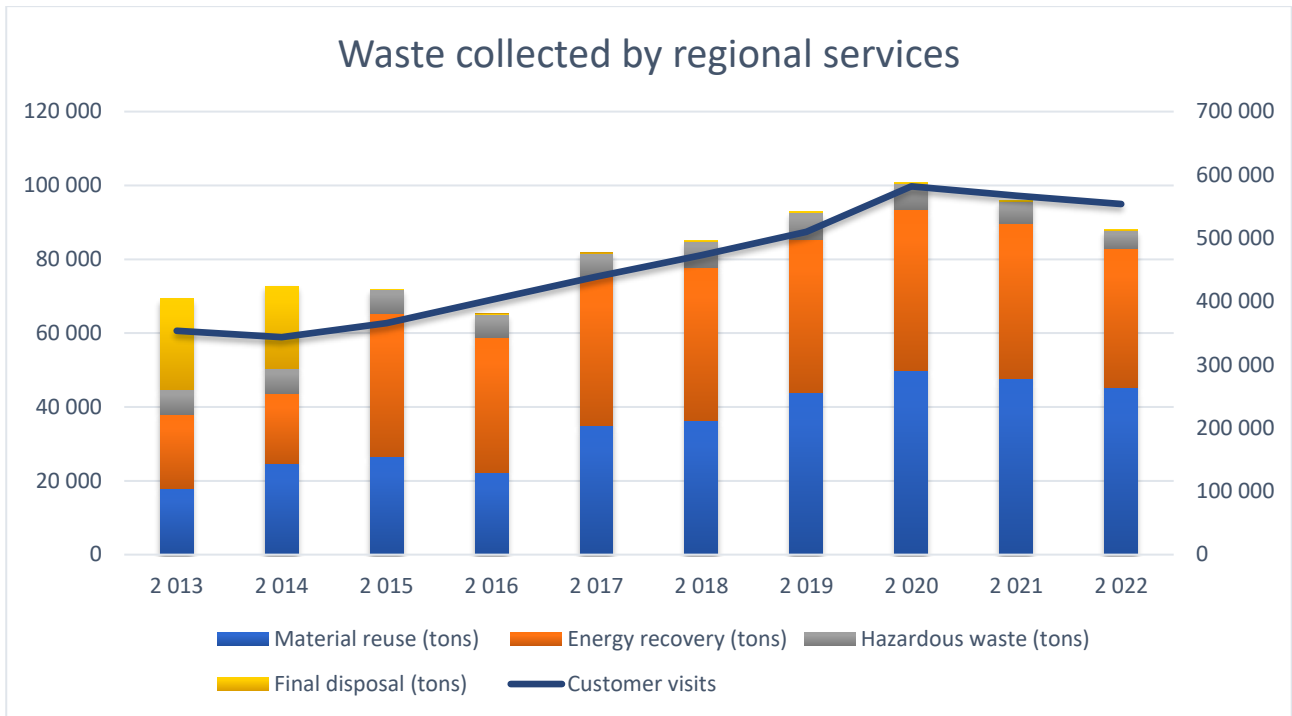
Waste treatment and energy recovery



The Sortti Stations of the Regional Services unit in Kivikko, Konala, Jorvas, Ruskeasanta and Ämmässuo and the Sortti Mini Station in Koivukylä were visited by 554,047 customers in 2022. Customer volumes decreased by 2.3% from the previous year. At Sortti Stations, 88,010 tons of waste were received, and of this, 71,425 tons were recycle or utilised as energy elsewhere than in the waste-to-energy plant.

A new Sortti Mini Station was opened in Koivukylä in November 2021. It operates on the same property with Helsinki Metropolitan Area Reuse Centre Ltd. It aims at making recycling easier for customers: they can bring usable goods to the reuse centre and, at the same time, bring waste intended for the reuse of materials and energy to the Sortti Station. The numbers of visitors at the Sortti Mini Station have been small, but they are increasing as awareness of the operations increases.

End-of-life textiles were collected at the Sortti Station and in shopping centres. The collection at the Sortti Station ended at the end of the year, and collection will continue at collection point in shopping centres. In terms of further processing, the quality of end-of-life textiles was poorer at the Sortti Stations than at the other collection points. Producer responsibility for end-of-life textiles is being introduced, and this will have an impact on the organisation of collection. Collection by HSY will not be extended because of this.



The developing unit executed an extensive restoration of the hazardous waste storage premises in the Kivikko waste services centre, ensuring a safe waste receiving service. The execution of the modernisation of the Kivikko Sortti Station started at the end of 2022. In addition, the yards of the Konala Sortti Station were improved.

Investments made on the management of environmental impacts of the Ämmässuo eco-industrial centre included 1.3 ha of landfill surface structures, a runoff water equalisation basin of 9,000 m³ and automation construction work. Furthermore, repairs and renovations were done in biowaste processing, and construction work related to the treatment fields and infrastructure in the area was done. The construction of the hazardous waste ash unit for the waste-to-energy plant was started during the budget period. This work is expected to be completed in full in 2023–2024 when the current ash container will be full.

Other investment mainly comprised the collection equipment and IT procurements for the transport of waste as well as waste treatment equipment procurements.

Possibilities to utilise the ash and slag from the waste-to-energy plant were investigated, and the planning and construction instructions for the technical suitability of slag were prepared for review by the Finnish Transport Infrastructure Agency. Slag was mainly utilised in our own waste management construction projects. In addition, slag was used in concrete supporting wall elements, amongst others.

Ämmässuo is prepared for the utilisation of wind energy, and a detailed plan allowing the use of wind power has been drawn up for the area. The detailed plan is not legally valid yet.

In waste management customer campaigns, main focus was on increasing the sorting of waste, implemented by means of the extensive and impactful Thank you for sorting campaign package. In

2022, this package included, e.g., the sorting advice summer tour, “Me lajittelijat” campaigns, new advertising on the sides of the refuse trucks and the “Tehtävä tulevaisuudesta” escape room.

REGIONAL AND ENVIRONMENTAL INFORMATION

HSY monitors air quality in the Helsinki Metropolitan Area in real time with 11 monitoring stations. Seven stations are at permanent monitoring points and four stations are mobile. Furthermore, air quality in Uusimaa is monitored with both a permanent station and a mobile station. HSY’s air quality measurement network also includes dozens of measuring device and collection points around the Helsinki Metropolitan Area. HSY’s sensor network using sensors for intensified monitoring of air quality in main roads and routes operates alongside the air quality measurement stations. In 2022, construction site dust was measured in Espoo and in Vantaa. In Helsinki, a three-year measurement period was started in the street where the use of spiked tyres was prohibited.

In air quality reporting, HSY introduced the new guideline values published by the World Health Organization WHO in 2021. The quality assurance of the new air quality measurement recommended by WHO, particle number concentration, also started in 2022. HSY participated in the operations of the national air protection 2030 programme execution network and gave comments on the ambient air quality directive revision. Furthermore, HSY participated in numerous research projects and networks, such as RI-URBANS, an international urban air quality research network. Main themes in terms of air protection included the impact of the burning of wood, friction tyres and street dust on the air quality in the Helsinki Metropolitan Area.

The Helsinki Metropolitan Area’s joint register and location information was maintained in a regional basic register (SePe). Preparations were made for the renovation and tendering of the regional basic register. HSY collected the follow-up data for 2021 on the Helsinki region MAL agreement on land use, housing and transport 2020–2023 in co-operation with the Helsinki-Uusimaa Regional Council, HSL, municipalities and other stakeholders. The procurement of land cover materials was implemented in co-operation with the municipalities. The regional land cover materials were produced with the help of artificial intelligence for the first time, which allowed an even more accurate identification of surfaces impermeable and permeable to water in particular.

HSY published up-to-date data on the region’s greenhouse gas emissions and indicators of climate change and circular economy. The monitoring of HSY’s own environmental indicators was supported by the calculation of HSY’s material balance and nutrient balance. The CIRCuiT project promoting circular economy solutions in construction continued. The CIRCuiT project is developing circular economy criteria for construction, studying how to extend the lifecycle of buildings and how to calculate the reuse of materials. In the Circular Green Blocks project, business solutions promoting circular and sharing economy at the block level continued. In the SMART-MR extension project focused on the impacts of sustainable traffic and the COVID-19 pandemic around train stations. Climateinfo’s Resident communication for the energy efficiency in housing companies (TAVIS) prepared a guide for energy efficient living and other tools for communications to the residents. Its Property managers as drivers of the energy transition project (Energiaveturi) extension project was started in the autumn.

1.1.5 Personnel

Unit	Wages	Social security expenses	Total	Personnel 31 December 2022	Personnel 31 December 2021	Change 2022–2021
Management, control and development of the joint municipal authority	3,944,120	955,181	4,899,301	78	79	-1
Water services	21,701,834	4,892,232	26,594,066	426	423	3
Waste management	6,841,620	1,680,503	8,522,124	135	149	-14
Regional and environmental information	2,193,193	554,512	2,747,706	48	40	8
Support Services	3,129,028	688,773	3,817,800	66	69	-3
Customer Service	1,623,533	352,081	1,975,614	37	39	-2
TOTAL	39,433,327	9,123,283	48,556,610	790	799	-9

The number of HSY personnel on 31 December was down 9 from the previous year. Measured in person-years, the average number of personnel during the year was 802.3 person-years, which is 45.7 person-years lower than the 848 person-years pursuant to the personnel plan.

Remote work largely continued due to the COVID-19 pandemic at HSY at the beginning of the year in positions where working remotely was possible. The transition from remote work to working at the office took place flexibly over the spring and the summer. Since the autumn, work has been multi-sited, meaning that meetings were held both on site and remotely and that there were lots of hybrid meetings. In terms of working at the office, the detailed guidelines prepared earlier were kept in force, and since the spring, normal operations resumed in these positions as well while keeping a close eye on the COVID-19 situation. Thanks to our COVID-19 measures and quick response to matters requiring attention and changes, as well as the personnel's commitment to following the instructions, HSY's operations have remained stable with no operational disturbances.

Russia's war of aggression against Ukraine at the beginning of the year also had an impact on HSY staff. HSY ensured that the security protocols in terms of both physical security and cyber safety were in order, and personnel briefings were organised on the subject. The employees also have access to the mental health services included in our occupational health services if the war is causing distress and worry.

The well-being at work of each HSY employee was promoted in line with the strategy card objective. In order to confirm the strategy card Zero tolerance to bullying, a more detailed personnel survey on bullying was implemented to provide further information in addition to the personnel survey implemented in autumn 2021. As a result, there were discussions with supervisors regarding the situation in the working community, and agreements to improve the situation in the working communities were made. The working community mediation process was implemented in over 10 working communities. In the autumn, the pulse survey was implemented according to the normal schedule, and a survey on the zero tolerance on bullying and inappropriate behaviour was repeated in December. The goals related to the zero tolerance on bullying and inappropriate behaviour also included supervisor training on the theme. Furthermore, the coaching of dialogue ambassadors and the introduction of the operating model were initiated to strengthen constructive interaction at HSY.

In addition to the personal and workgroup-specific well-being at work plan, each employee also participated in the preparation of HSY's shared culture handbook.

The strategy card goals that are common to all also focused on the promotion of occupational safety. Supervisor training was arranged, and each work unit updated their risk assessment in 2022.

More detailed information about the personnel, occupational safety, working capacity and well-being at work management and competence development is presented in the separate HSY personnel report 2022.

1.1.6 Environmental responsibility

HSY's strategic goals include comprehensive environmental responsibility and resource efficiency. The objectives include to reduce nutrient releases and impurities of wastewater treatment, improve the recycling rate of household and municipal waste, reduce greenhouse gas emissions and maintain HSY's own production of renewable energy. HSY has set goals stricter than the environmental permit regulations in several areas, and they are monitored and operations developed accordingly in line with the principle of continuous development. Continuous improvement of wastewater treatment processes and long-term investments help us to keep environmental emissions low, maintain high reliability and ensure adequate capacity also in the future. HSY has made investments and carried out development work to control wastewater overflows in combined sewer network areas. Waste management is developed by providing households with better opportunities for sorting and by looking for uses of higher processing degree for recycled materials. The revised sorting regulations for household waste and active communication and advisory work help to reduce the amount of biowaste, glass, metal, paper, fibre and plastic packaging as well as other recyclable materials in mixed waste from households and to increase the recycling rate of household waste. A further goal is to reduce the total amount of waste. In order to reduce the amount of greenhouse gas emissions, HSY optimises processes, utilises landfill gas and biogas, improves energy efficiency, has transferred to the use of renewable traffic fuels and is actively researching other relevant opportunities to reduce the emissions, such as the reduction of nitrous oxide emissions from wastewater treatment. The environmental programme is part of the action and economical plan.

Environmental responsibility is implemented comprehensively in HSY's own and outsourced operations. HSY works actively with its stakeholders to extend environmental responsibility to cover larger areas of society. HSY participates in the Baltic Sea challenge, and HSY has committed itself to the Helsinki Region Climate Partners, Sustainable development action commitments regarding environmental and social responsibility and the sustainable Green Deals on emission-free construction sites and wastewater treatment.

Energy consumption and production ⁽¹⁾

In 2021, HSY consumed 194 GWh of energy, of which electricity accounted for 60%, heating for 38% and other consumption of fuel for 2%. At HSY, the wastewater treatment plants and water treatment plants have the highest needs for electricity. The wastewater pumping stations and waste treatment centre also consume lots of electricity. The preliminary estimate for the total energy consumption in 2022 is approximately 193 GWh.

In 2021, a total of 161 GWh of renewable energy was produced, including 26.2 GWh of sold biogas. Energy production decreased by 4%, owing to a decrease in landfill gas, but the production of biogas at Viikinmäki also decreased from the previous year. According to the preliminary estimate, renewable energy accounts for approximately 156 GWh of energy production in 2022.

In addition to in-house production of renewable electricity and heat, HSY plays a significant role in producing district heat for the Helsinki Metropolitan Area. In 2021, the Espoo Suomenoja and Helsinki Katri Vala heat pump stations recovered a total of 638 GWh of waste heat from treated wastewater. The energy content of mixed waste delivered to the waste-to-energy plant in Vantaa was 933 GWh.

HSY aims to decrease its energy consumption in accordance with the objectives of the new agreement period of municipalities' energy efficiency agreement by 7.5% by 2025 from the 2015 level. The combined effect of the energy saving measures implemented by spring 2022 is approximately 13,300 MWh. This means that we have achieved 90 percent of the goal.

Energy prices increased as a result of the energy crisis in 2022, and towards the end of the year, the risks related to the availability of energy increased as well. The containment of the harmful impacts of the crisis therefore played an important role in HSY's energy efficiency actions in 2022. In addition to preparing for disturbances in the distribution of energy, HSY implemented numerous actions related to controlling electricity consumption and production in order to control the costs of energy consumption and to support the balance of the electricity system.

The greenhouse gas emissions caused by HSY's own operations amounted to 98,000 tons of carbon dioxide equivalent in 2021, and emissions caused by external services were approximately 8,000 tons. Process emissions from wastewater treatment (48%), fugitive landfill emissions (22%) and composting (25%) accounted for the majority of emissions. In 2021, greenhouse gas emissions caused by HSY's operations decreased by 10 per cent year-on-year. The most significant reduction was seen in, e.g., the emissions caused by the use of vehicles and mobile machines (-62%) and fugitive landfill emissions (-38%). According to the preliminary estimate, HSY's own green gas emissions in 2022 amount to approximately 90,000–94,000 tCO_{2e}.

¹ The presented figures are from 2021; figures for 2022 will partly be available only after the preparation of the financial statements. The text includes estimates of the figures for 2022.

Baltic Sea Challenge

HSY has been taking part in the Baltic Sea Challenge since 2012. The action programme for the 2019–2023 period was updated in 2021 for 2022–2023. The action programme comprises measures with impacts on the load on water systems in wastewater treatment and the sewer network. The project entities included:

- 1) investment management,
- 2) management of stormwater and overflow water,
- 3) reducing diffuse load,
- 4) research,
- 5) increasing awareness and
- 6) international collaboration.
- 7) removing obstacles to the migration of migratory fish

HSY's new strategy 2030 is implemented by means of ten strategic programmes. Of these, the contents of Clean Baltic Sea are very similar to the Baltic Sea Challenge, and in addition, it brings the commitments into a separate point within the programme. Baltic Sea Challenge has thereby become more visible and gained more weight within HSY. The programme measures of the Baltic Sea Challenge have mainly realized as planned. The actual monitoring report will be prepared at the end of 2023.

1.1.7 Other non-financial matters

Responsibility reporting pursuant to the GRI standard covers not only environmental responsibility but also the aspects of financial and social responsibility.

In accordance with our operating policy, we are committed to the principles of continuous improvement by producing safe, reliable and high-quality services cost-efficiently to our customers and observe our impact on the environment as well as on people and the society.

HSY has prepared guidelines specifying the ethically acceptable way of acting in work duties, the working community and in relation to customers. A clear model describing the roles and responsibilities of different parties has been prepared for managing misconduct situations. An electronic notification channel for the reporting of misconduct was introduced at the end of the year in accordance with the Whistleblower Protection Act.

HSY's ethical principles bind everyone at HSY:

- We comply with laws and decrees and the principles of good corporate governance
- We respect and promote human rights and acknowledge every person's right to a fair treatment and equal interaction
- We respect and protect the environment and operate economically

Changing work is a new goal included in the strategy. Work on this subject using engaging methods took place in the spring of 2022, and since the autumn, the contents and actions of this goal have been planned in more detail for the different years of the strategy period. The goal of Changing work

includes actions related to being an employer that attracts and retains employees as well as actions related to competent and developing personnel. The objective is to enhance a good employee experience and to strengthen and ensure the competence of our employees in strategic capabilities in addition to their professional competence.

1.1.8 Estimate of probable future development

The Ministry of Agriculture and Forestry started its national three-year programme on the modernisation of water treatment in 2020. In 2022, the planning of execution was in preparation, and HSY was an active participant, giving comments on the programme and participating in workgroups. The aim of the project is to ensure that the quality of Finnish water services will remain high also in the future. Furthermore, the vision group appointed by the management group to review the water services modernisation studied methods on how to improve the financial monitoring of the Water Services Act and gave its propositions. When implemented, the project will be the largest and most extensive change concerning water services since the enactment of the Water Management Act in the early 2000s.

The draft urban wastewater directive was published in autumn 2022, and it is open for comments in spring 2023. The directive is expected to be finalised in 2024. If implemented, the directive will result in significant cost pressure to HSY through the need to invest on the removal of harmful substances as well as in operational costs, amongst others.

The year 2022 was characterized by the changes in our physical security profile resulting from Russia's war of aggression against Ukraine. Focus on projects related to preparedness continues in 2023 under the Secured drinking water heading of the Strategy 2030. The focal points of the development of HSY Water services in the near future will include investments in IT and physical security. In addition, other focal areas of development guided by the new Strategy 2030 include, e.g., the development of asset management, projects related to achieving financial balance, circular economy projects (including RAVITA and projects aimed at the utilisation of recycled materials in investments) as well as supporting the development projects related to customer relationship management. Factors affecting the economy in 2023 are the continued challenging market situation resulting from the operating environment, which creates cost pressures due to poor predictability in terms of materials, supplies and investments. The cost of energy is another significant factor in the finances of water services. We did, however, successfully implement measures curbing cost increases in 2022. In addition to the increased cost of energy, the possibility of scarcity of energy is another factor to consider in winter 2022–2023. We are preparing for this in collaboration with the energy companies and Fingrid. HSY's water service plant operations have joined in Fingrid's voluntary flexibility potential. We are thereby doing our part in securing the security of supply in the society.

The biggest water service investment of all times, the Blominmäki wastewater treatment plant, will be completed in winter 2023 and handed over to HSY. No major investments are planned for the next few years after the completion of Blominmäki. The most important individual investment in water treatment will concern the development of the Pitkääkoski water treatment plant. In line with the new

Strategy 2030 adopted in 2022 and the investment programme based on it, the coming years will focus on the management of the renovation needs of the existing water service networks. The investments are not enough to stop the increase in the renovation needs, however. Major infrastructure projects of the member cities (such as the alliance projects Crown Bridges and Kalasatama) will increase the costs of pipe relocation and network renovations, and new rail projects are being planned in the owner municipalities (Vantaa tram and the One Hour Train).

The water services investment level has been modelled in connection with the Strategy 2030 work, seeking to find an annual investment level through the goals of the Stable finances theme that will enable us to start reducing the amount of debt towards the end of the strategy period. In addition to adjusting the investments, this requires an annual increase in rates. The management of investment and the planning criteria still need to be developed as a part of the Stable finances programme. A new investment management system, iPro, will be introduced in 2023. In addition to the better management of investments, we aim at better and more efficient management of our investment portfolio.

The recent changes in waste legislation influence HSY's operations in many ways. The waste management regulations for the Helsinki Metropolitan Area and Kirkkonummi were also revised as a result of the amendments that entered into force in 2021, and the new regulations entered into force in 2022. The biggest change in the regulations is related to the extension of mandatory separate collection of biowaste to all the properties in the region with the exception of holiday homes. Separate collection of biowaste becomes mandatory in phases in the region in 2023–2024.

The responsibility of municipalities to arrange waste management for social welfare and healthcare as well as the rescue services was restricted in the reform of these functions. According to the provision of the Waste Act, section 32 a, the municipality shall organise waste management for the municipal waste from the administration and service operations of the wellbeing services county and the joint authority for health and wellbeing until the end of 2025 unless the producer of waste arranges this itself. The above-mentioned restriction will reduce HSY's responsibility for arranging this after 2025 or sooner.

As a result of the cooperation obligation set out to municipalities and packaging waste producer companies in the Waste Act, municipalities will be in charge of the separate collection of packaging waste and transporting it from residential properties to treatment or further transport arranged by the producer. HSY has joined the national cooperation agreement on the subject, according to which the producer company will pay the municipalities a compensation for the cooperation related to the separate collection and transport from 2023 onwards.

The new Climate Act has entered into force, including the goal of achieving carbon neutrality by 2035. The Climate Act was also supplemented with an obligation regarding the municipalities. In the future, municipalities are required to draw up a climate plan, either alone or in cooperation with other municipalities in the region. The climate plan shall detail, amongst others, the municipality's greenhouse gas emission reduction target and actions implemented to reduce the emissions. The municipality may also specify targets and actions related to adaptation and carbon sinks. The Ministry of Agriculture and Forestry is preparing a national climate change adaptation plan 2030.

The Ministry of the Environment has been preparing a modernisation of land use and building legislation for a long time. Following the consultation, the preparation was divided so that the building act will be prepared. The title “Land Use and Building Act” will be replaced by an act on the use of areas, and the provisions concerning building will be repealed. The Ministry of the Environment is preparing the implementation of the national waste plan 2027 and the strategic programme on circular economy. The amendments to legislation under preparation should be taken into account in HSY’s climate and circular economy work as well as in information co-operation.

The Parliament started processing the act on the information system for built environment (the RYTJ Act) in 2022. The Act will enable the introduction and use of an information system for built environment. The legislation on the digitalisation of built environment should enter into force on 1 January 2024. The Act has not been approved yet. Compatibility with the new RYTJ Act has been taken into account in the preparation of the renovation of the regional basic register.

The World Health Organization WHO has issued health-based guidelines for the concentrations of other air pollutants in autumn 2021. The revision of the ambient air quality directives is currently in progress. The European Commission gave its legislative proposal on the revision of ambient air quality directives in autumn 2022, and the proposal is currently being discussed. The proposed limit value may change substantially during the process. HSY is preparing an air quality monitoring quality for the Helsinki Metropolitan Area and Uusimaa for 2024–2028 under the observation of the Commission’s proposal and WHO’s new guideline values. Apart from the special requirement concerning urban background measurement, the monitoring programme 2024–2028 is likely to also meet the requirements of the present directive proposal.

The proposed stricter limit values for air quality will be challenging for Finland especially with regard to street dust and the burning of wood. The 24-hour limit value for PM10 may be exceeded in the Helsinki Metropolitan Area and elsewhere in Finland as well. More extensive measurements may highlight the challenges related to street dust and the burning of wood in more detail, creating a need for air protection plans in the future. In addition, the schedule and cycle for the preparation and updating of the air protection plan proposed by the European Commission were strict. This requires lots of resources from the authorities and cooperation with expert stakeholders in order to prepare adequate plans, considering that the possibility of initiating action exists.

1.1.9 Estimate of the most significant risks and uncertainties

Operational risks

In HSY’s work, operational risks are the quantitatively largest risk category. A significant regional disruption in water supply is one of the main operational risks. A disruption in water distribution may be the result of a main water pipe breakage, a disruption of a booster station or a high-pressure pumping station or water services being paralysed by an attack. Risk management measures include the construction of system stations and parallel distribution connections increasing operational reliability in line with the investment programme reaching until 2025. The development of

management of the technical lifecycle of the water networks, adequate preparedness in terms of networks and predictive management of disruptions are also important risk management measures. Preparedness training was implemented in 2022.

Hybrid and information influence as well as spreading of disinformation have been identified as a risk. The risk may become realized in the form of a denial of service attack, blocking the failure report number, malicious hacking or the stealing of social media accounts, for example. Management measures include creating a procedure for the case of information influencing, personnel training regarding information influencing as well as close cooperation with the authorities and stakeholders.

The risk survey brought up risks associated with HSY's information systems and system providers, such as information systems dependent on a single software vendor and/or very thin key resources of the information system supplier or key resources of HSY's own organisation. Risk management measures include contractually ensuring the portability of information between different information systems and using technology that is available from different system vendors. Risk management measures also include the audit and follow-up of information system vendors and contacts with them. The control of information system agreements has been enhanced and terms on continuity management and response times, among other things, have been included in the agreements as necessary.

The risk assessment identified cyber-risks, including intrusion into HSY's information network and systems or denial of service attack on HSY's web services. Unavailability of information systems and operations due to information security attacks must also be observed in the assessment of threats. Cyber-risks are managed by continuously updating HSY's information security policy and operating in line with the instructions of IT management. Cyber-risks are taken into account in the software service agreements. The physical security of critical ICT infrastructure will be improved.

Risk of damage

The biggest risks of damage identified in HSY's risk map include a significant personal injury or property damage to a third party caused by a breakdown of a water mains or sewer, severe fire at a water services or waste management production plant and HSY's occupational safety risks.

Keeping the risks resulting from the breakdown of a water mains or sewer at an acceptable level requires continuous management actions. The investment need report lists sections of networks that might cause damage to persons or property. Property involving a risk is included in preventative maintenance. Further risk management measures include the continuous improvement of the coverage and accuracy of network information. Developing preparedness and the failure process is also important, including the training on preparedness for disturbances and development of the network organization.

The water and waste management production plants have developed management measures to prevent fires. The measures have concerned revising fire alarm systems and power supply and

developing extinguishing systems and the automation systems of terminal device rooms, among others. Up-to-date rescue plans, keeping them updated and fire drills are important.

HSY's operations have significant occupational safety and health risks, especially in the waste management and water services divisions. With regard to personal injuries, e.g. excavation work and operational work at production plants feature risks. The risk management measures include the implementation of annual occupational safety action plans, occupational safety walks by the management, improving working methods and practices by e.g. reviewing occupational accidents, near miss situations and safety observations together with the personnel. The management groups of the divisions regularly monitor events that are material from the point of view of occupational health and safety and annually review the occupational health and safety statistics.

Insurance policies are part of risk management. Risks need to be eliminated, prevented and reduced by taking responsibility and ultimately being insured. In HSY's insurance policies, the biggest are third party insurance and property insurance.

Strategic risks

The global situation includes new and increased risks. The divisions and business units have identified risks related to the changing operating environment, most of which are related to the weakening of global security.

The new risks and the increased risk level of certain existing risks are also related to the availability/price increases of materials and services as well as energy due to the war in Ukraine. The cyber-risk level has also increased.

The threat of organised crime to the organisation has been identified as a risk. The potential disclosure of internal, confidential or secret information is another risk. As management measures, sufficient means of managing personnel risks are investigated with regard to new recruitments, for example. The procurement process has been reviewed from the point of view of possible misconduct. Sufficient risk management measures regarding the companies supplying services, raw materials and products to HSY were surveyed in 2022. The assessment on the need to introduce personal security clearance continued in 2022.

Environmental permits, building permits and zoning involve schedule and cost risks with impacts on HSY's operations. A land use plan enabling the operation is required in order to receive an environmental permit, and alterations of plans usually take a lot of time. Risk management measures include a clear division of responsibilities for building permits, environmental permits and zoning management at HSY and optimum forecasting. The status of permits related to construction will be updated and the permits will be linked to HSY's operating system.

Financial risks

The possibility of financial misconduct has been identified as a risk. Financial misconduct includes embezzlement, fraud and theft. Risk management measures include introducing additional system controls and further specifying the existing ones. Access rights must also be reviewed at regular intervals. Attention is paid continuously to the prevention of dangerous combinations of work in all financial administration systems.

Financially significant construction contracts, ICT system agreements, waste transport agreements and agreements on the purchase of chemicals and raw materials involve contractual risks. As measures to manage the risks, the co-operation between divisions, business units and procurement organisation has been increased, legal review of agreements has been increased and enhanced, especially regarding the most significant contracts, and risks associated with diverse agreements and external vendors have been identified proactively.

Moreover, possible design and construction errors in investment projects emerged as financial risks in the risk survey. Inappropriate planning solutions and methods of implementation in terms of investments may lead to poor and inefficient allocation of investment assets. Risk management measures include long-term investment plans and seeing to adequate in-house resourcing in both planning and contract supervision. In investment projects using new technology, the aim is to ensure the functioning of the technology through sufficient testing and piloting.

The increased interest costs did not have a significant impact on HSY's financing expenses yet in 2022 due to the interest rate hedging of loans taken out earlier and the fact that the interest rate revision dates were later in time.

The long period of low interest rates is now over. The interest rates increased rapidly in 2022, and Euribor rates are expected to continue increasing to some degree from the current level in 2023. The market expects that the interest rate level will increase to approximately 3.5–4 percent. European Central Bank (ECB) is expected to continue progressive key interest rate increases in order to curb inflation and to reach its target inflation level of 2 percent. The market expects that the interest rate level will begin to decrease in 2024. At HSY, the increased interest rate levels are reflected in financial expenses through loan financing.

The interest rate risks of loans increase with the general interest rate level. HSY has both loans with a fixed interest rate and floating rate loans. The floating rate loans are partially hedged by means of interest rate derivative contracts, and the entire loan portfolio is reviewed when making new hedging. Speculative interest rate derivatives are not used.

Assessment of the impacts on operations of the war in Ukraine and the related risks

Due to the tighter global security environment, HSY established a preparedness group led by the Executive Director already the week following the beginning of the war in Ukraine. Attention is paid to the undisturbed operation of water services in particular, since they are critical in terms of the security of supply, but safeguarding other operations is important as well. Cooperation with

emergency supply pools and the authorities has been intensified. The level of preparedness has been elevated for the entire HSY.

Preparedness for threats related to physical security and cyber safety has been improved. Security and access control has been increased, and access permits have been reviewed and restricted at operational locations in particular. Visits to such locations have also been prohibited.

The level of preparedness in terms of cyber security has been increased both in IT management and in operational departments. Employees have been reminded of safe practices regarding information security, and advice has been provided. Cooperation with the most important system suppliers has been increased, and the operation of internal cyber safety groups has been intensified.

Employees have been instructed to report any abnormal events also when they are on standby duty. The personnel is supported by means of management communications, and employees are instructed to contact the occupational health care services if any need for this arises.

Personnel reservations for HSY's own use during crisis (VAP reservations) and the reservations of our own vehicles and machines (ATV reservations) have been updated. The introduction of personal security clearances is being studied.

National security authorities have advised us to prepare for increased hybrid influencing as well. Hybrid influencing and similar harassment is monitored and reported by HSY's communications also during standby periods.

Enhanced action has been taken to ensure the availability of critical materials and services. Procedures have been reviewed, and practices have been confirmed with the most important partners and suppliers of services and goods.

Ensuring the availability of critical process chemicals is extremely important. Suppliers of critical process chemicals used by water service plants have been identified, and the same applies to the availability of critical spare parts, materials and services. Confirming the adequacy and operation of auxiliary power is in progress. This includes ensuring the provision of fuel for the reserve power machines and vehicles.

Special attention is paid for the management of many agreements in the rapidly changing situation, especially due to price and availability pressures. Supplier safety stock has been included in the contracts for critical products for a long time already. The situation with safety stock and supply chains has been checked and updated.

In 2022, many costs were higher than budgeted. The cost of chemicals, energy and transport in particular has increased rapidly.

The uncertainty in the electricity market has made it difficult to predict the future cost of energy. HSY has established a work group to manage the challenges related to the availability and cost of energy and to develop energy saving actions and energy preparedness in HSY's own operations.

1.2 Report on internal control and risk management organization

Internal control refers to internal procedures with which the management aims to ensure the lawfulness and success of operations. Risk management refers to a systematic and proactive way of identifying, analysing and managing the threats and opportunities associated with operations.

The purpose of HSY's internal control and risk management principles and guidelines is to meet the requirements of the Local Government Act and strengthen good corporate governance in the HSY Group.

In accordance with the Local Government Act, the joint municipal authority's annual report must describe the organisation and key conclusions of internal control and risk management.

Each division and business unit of HSY and the Group entities Pääkaupunkiseudun Vesi Oy and Uudenmaan Voima Oy submitted a report on the organisation of internal control and risk management as part of HSY Group's financial statements process in accordance with the Local Government Act reporting requirements. The reports were prepared as documented self-evaluations of the divisions, business units and Group entities using an evaluation frame pursuant to with the COSO ERM framework.

Organization of internal control and risk management

Internal control can be divided into five areas: control environment, risk management, control functions, information and communication, as well as monitoring.

Control environment

The tasks of the joint municipal authority and the key principles of the organisation of governance and finances are specified in the charter of the joint municipal authority. The organisational structure, decision-making authority and responsibilities are specified in the administrative rule. The processes of planning and monitoring operations and finances have been specified, and the setting of goals is based on HSY's strategy.

The HSY guidelines on the organisation of internal control and risk management describe the control environment and the internal control and risk management procedures by area. The control environment is well-established.

In the self-evaluations of HSY's divisions and business units, the questions relating to the control environment concerned the alignment of operations with HSY's strategy, values and operating principles, setting of Action and economical plan goals in accordance with the strategy, up-to-datedness of operating processes, job descriptions of the personnel and specification of areas of responsibility, as well as the realization of ethical principles and use of the results of the personnel

survey. Furthermore, Group entities were asked about the observation of the Group's interest in their operations, the monitoring of goals set for the entities as well as good governance.

According to the self-evaluation answers, the control environment meets the requirements in most respects. It is, however, difficult to achieve all the goals related to stable finances due to the high level of investments resulting from investments on mandatory repairs and the exceptionally high inflation in 2022. There are shortcomings in the descriptions of operating processes; however, these have been identified in the self-evaluations. Corrective measures have been started, and they will continue in 2023. Corrections of any deficiencies in employees' job descriptions and responsibility area specifications will continue during the ongoing assessment of job complexity levels process. Issues related to substitutes are examined at all levels of the organisation. A further analysis of the root causes is one of the ways available for improving the allocation of actions based on the results of the personnel survey.

Risk management

The purpose of risk management is to safeguard the operations of the joint municipal authority and the services it provides to its customers. The principles of risk management are described in HSY's operating guideline on the organisation of internal control and risk management.

Risk management is included in the normal management of the operations of the joint municipal authority, divisions and business units in accordance with the annual plan. HSY uses the electronic Riski software for comprehensive risk management. The probabilities and impacts of risks are assessed division- and business unit-specifically, and division- and business unit-specific risk maps are prepared as the result of the assessment work. The risks are compiled from the division and business unit-specific risk maps into an HSY-level risk map.

Changes in the risk map and risk exposure are monitored as part of the monitoring of operations and finances in conjunction with interim reports using the Riski software tool. The risks specified in the HSY risk map and implementation of management actions were also reported on to HSY's Inspection Committee in 2022.

In the self-evaluation of risk management, the questions concerned the identification of risks and assessment of their significance, planning of risk management measures and appointment of persons in charge, specification of risk management tasks and areas of responsibility and flow of information about risks from the divisions and business units to HSY's risk management manager.

According to the responses to the self-evaluation, all of HSY's division and business units have identified the key risks and assessed them by determining the probability and impact of the risks. The persons in charge of managing the identified risks have been appointed. In 2022, comprehensive risk management workshops were organised for HSY's management as well as the management groups of waste management and water services. There is room for improvement in the real-time updating of HSY level risks and training all organisational levels on risk management.

At HSY's subsidiaries Uudenmaan Voima Oy and Pääkaupunkiseudun Vesi Oy, the companies' Executive Directors are responsible for risk management, reporting on the risks to the Boards of Directors of the companies.

Control functions

The control functions comprise guidelines and operating methods aimed at ensuring that the organisation operates in accordance with the guidelines issued by the management. Control functions include decision-making procedures, diverse operational audits, approval procedures, verifications, reconciliations, precautionary measures and separation of work duties.

The joint municipal authority uses a certified operating system covering all of HSY, comprising a quality management system, environmental management system and an occupational health and safety management system. In the water services division, the most important chemical and microbiological methods of the water treatment department laboratory have been accredited.

In the self-evaluation of control functions, the questions concerned the employees' responsibilities and authorities, dangerous work combinations from the point of view of financial misconduct, documentation of agreements, appointment of persons in charge of information systems, procurement authorities and rights to approve expenses and supervision of compliance with operating guidelines as part of supervisory work.

The implementation of control functions is mainly in order, but the deficient operation of some systems is causing challenges. Any dangerous work combinations included in the processes have been evaluated and any necessary separations of duties have mainly been carried out.

Monitoring whether the operations are in line with the procurement guidelines is difficult in the current ERP system, and the system does not generate the necessary reports. This system will be replaced by new systems.

The agreement management process should be made more efficient, and the responsibility limits of the divisions and support services relating to agreement management should be specified in more detail. The most important agreements have been documented and their supervision is adequate. The agreement register is reviewed regularly with the aim of keeping it up to date. Monitoring of service and goods suppliers during the agreement period would require further system development.

Persons in charge/owners have been designated for information systems, with responsibility for their use and use monitoring, but the management of information system access rights needs to be sharpened. Risks related to access have been identified, and the related management measures are in progress.

Information and communication

HSY has functional management group practices and internal and external communications. The management takes part in implementing operational guidelines supporting internal control and risk management. The shared Intranet site of internal monitoring and risk management facilitate the understanding of overall internal monitoring and risk management. HSY's operating system has brought information about the operational processes and their links with each other into a more comprehensible form.

Self-evaluation questions concerning information and communication concerned the flow of information to the management and other appropriate parties, regular meeting practices, induction of new personnel and systematic communication on the internet, intranet and other communications.

Information and communication are primarily at a good level. According to the assessment carried out by the water services division, however, internal communication is divided into too many channels, which people find challenging.

We wrote 171 online bulletins and 95 media bulletins on topical subjects. We published 391 articles in Intranet-Hessu and organised seven information briefings for the entire staff. The HSY.fi site had approximately 3.8 million page views. We had 38,134 followers on our 14 social media accounts, which is 10% up from 2021.

Follow-up

Follow-up refers to the measures by which the management verifies and ensures that the internal control and risk management system works. Internal audit supports the management of HSY in the follow-up of internal control by conducting separate audits in risk areas essential to the operations of HSY.

Regarding follow-up, the self-evaluation asked about the setting of regular follow-up and reporting obligations, processing of follow-up reports and rectifying observed deviations without delay, follow-up of the sufficiency and effectiveness of the control measures and adaption of control measures to changing circumstances. Occupational safety and health was concerned by a question about the regular reporting of near miss situations and significant hazards and deviations to the management and parties responsible for occupational safety and health. There were also questions about rectifying deviations in internal and external audits of the operating system and the implementation of recommendations by the auditor and internal audit.

Based on the responses, follow-up works well. The water services division has proposed a more transparent utilisation of internal monitoring in the development of operation. The number of safety observations and near misses recorded for water services was small compared to the scope and risks of operations and the actual safety deviations. This is a point for further development.

Estimate of the organization of internal audit

Internal audit operates under the supervision of the Executive Director, and the activities comply with the operating guidelines on internal audit. The audit work is based on the annually prepared audit plan approved by the Executive Board. Internal audit exchanges information relating to ensuring the appropriateness of internal control and risk management with the party responsible for the audit of the joint municipal authority.

HSY's internal auditor is responsible for the planning, implementation and reporting of the audit work within the joint municipal authority. The audits are reported on to HSY's management, Executive Board and Inspection Committee and separately to the person in charge of the subject of the audit after its completion.

The audits of the 2022 accounting period were implemented according to the annual plan.

1.3 Financial result for the accounting period and financing of activities

1.3.1 Financial result for the accounting period

Operating revenue total EUR 404.2 million Operating expenses total 212.6 million



HSY's operating revenue for the 2022 accounting period amounted to EUR 404.2 million, of which EUR 291.6 million was water services and EUR 102.5 million waste management sales proceeds. The municipal contributions charged to the member municipalities to cover the expenses of the Regional and environmental information business unit and climate info activities amounted to EUR 4.3 million. Other revenue generated amounted to EUR 5.8 million.

Production for own use includes capitalised personnel expenses of EUR 2.3 million relating to the implementation of water services investment projects.

Operating expenses amounted to EUR 212.6 million, of which personnel expenses accounted for EUR 48.6 million, procured services for EUR 99.5 million, material purchase for EUR 39.2 million and other operating expenses for EUR 25.3 million.

The operating margin was EUR 194.0 million. Financial income and expenses totaled EUR 65.2 million, of which financial income was EUR 2.4 million and financial expenses EUR 67.6 million.

The annual contribution margin was EUR 128.8 million.

Depreciation and amortization of fixed assets amounted to EUR 116.4 million.

The financial result for the accounting period showed a surplus of EUR 12.3 million.

In 2004, 2005 and 2007, part of the surplus financial result of waste management has been recognised as a voluntary provision for investments in waste treatment, regional collection and in promoting the utilisation of landfill gas. The provision was cancelled in full during the 2014 accounting period. In the 2021 accounting period, the depreciation difference relating to the provision was reduced by EUR 0.5 million.

The income tax paid for the result of water services was EUR 0.7 million.

The financial result for the accounting period after appropriations showed a surplus of EUR 12.1 million.

1.3.2 Financial result by division

x EUR 1,000	HSY TOTAL	Water services	Waste management	Regional and environmental information	Support services	Other
OPERATING REVENUE (+)	404,184	295,906	104,525	5,544	9,181	13,131
Sales proceeds	394,429	292,823	102,810	958	9,180	12,735
Water sales revenue	95,487	95,588	0	0	0	0
Wastewater revenue	113,299	114,448	0	0	0	0
Basic rates	44,979	44,987	0	0	0	0
Water services connection fees	19,159	19,159	0	0	0	0
Waste transport fees	85,470	0	85,571	0	0	0
Waste treatment fees	8,547	0	8,783	0	0	0
Other sales revenue	27,487	18,640	8,456	958	9,180	12,735
Municipal contributions	4,342	0	0	4,235	0	107
Fees and charges	314	0	314	0	0	0
Subsidies and grants	1,584	1,030	118	351	0	86
Other operating revenue	3,514	2,054	1,282	0	2	203
Rental revenue	1,989	918	1,097	0	0	0
Other operating revenue	1,525	1,136	185	0	1	203
PRODUCTION FOR OWN USE	2,338	2,338	0	0	0	0
OPERATING EXPENSES (-)	-212,558	-130,384	-80,188	-5,130	-8,846	-12,114
Personnel expenses	-48,557	-26,594	-8,522	-2,748	-3,818	-6,875
Salaries and fees	-39,433	-21,702	-6,842	-2,193	-3,129	-5,568
Social security expenses	-9,123	-4,892	-1,681	-555	-689	-1,307
Procured services	-99,524	-45,332	-67,226	-1,997	-4,477	-4,509
Procured waste transport services	-34,142	-10	-34,132	0	0	0

Procured other services	-65,382	-45,322	-33,094	-1,997	-4,477	-4,509
Materials, supplies and goods	-39,193	-35,799	-3,104	-136	-135	-79
Purchases during the accounting period	-39,180	-35,785	-3,104	-136	-135	-79
Change in inventories	-13	-13	0	0	0	0
Change in mandatory provisions	-11,268	-11,886	618	0	0	0
Other operating expenses	-14,017	-10,774	-1,953	-250	-415	-652
Rents	-9,015	-6,695	-1,135	-231	-389	-591
Waste tax	-67	0	-67	0	0	0
Other operating expenses	-4,936	-4,078	-751	-19	-26	-60
OPERATING MARGIN	193,963	167,860	24,337	414	336	1,017
FINANCIAL INCOME AND EXPENSES	-65,176	-66,887	1,776	0	-2	-63
ANNUAL CONTRIBUTION MARGIN	128,788	100,973	26,113	414	334	954
DEPRECIATION AND AMORTISATION	-116,445	-98,127	-16,854	-218	-334	-913
EXTRAORDINARY ITEMS	0	0	0	0	0	0
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	12,343	2,846	9,259	196	0	42
Change in depreciation difference	487	0	487	0	0	0
Change in voluntary provisions	0	0	0	0	0	0
Income tax	-725	-725	0	0	0	0
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	12,104	2,121	9,745	196	0	41

Internal sales and purchases between divisions, business units and other units are included in the figures above. HSY total is reported exclusive of internal items.

1.3.3 Financing of activities

EUR		31 December 2022		31 December 2021
Cash flow from operations and investment				
Net cash flow				
Annual contribution margin	128,787,678.07		146,899,182.42	
Extraordinary items	0.00		0.00	
Adjustments to net cash flow	<u>10,542,360.46</u>	139,330,038.53	<u>-2,257,488.40</u>	144,641,694.02
Investments				
Investment expenses	-212,162,172.76		-232,997,825.15	
Contributions to investment expenses	657,763.59		618,219.05	
Capital gains from fixed assets	<u>0.00</u>	-211,504,409.17	<u>0.00</u>	-232,379,606.10
Cash flow from operations and investment		<u>-72,174,370.64</u>		<u>-87,737,912.08</u>
Cash flow from financing				
Change in loans				
Increase in long-term loans	165,000,000.00		156,000,000.00	
Repayments of long-term loans	-77,928,069.75		-54,329,192.13	
Change in short-term loans	<u>-10,000,000.01</u>	77,071,930.24	<u>0.00</u>	101,670,807.87

Change in operating capital	-6,237,337.19	-6,237,337.19	0.00
Other changes in liquidity			
Change in current assets	-300,737.20		-123,444.45
Change in receivables	-3,375,958.17		9,575,821.72
Change in interest-free liabilities	3,323,164.98		-14,231,321.70
Adjustments to liquidity	<u>0.00</u>	-353,530.39	<u>0.00</u>
Cash flow from financing		<u>70,481,062.66</u>	<u>96,891,863.44</u>
Change in liquid assets		-1,693,307.98	9,153,951.36
Change in liquid assets			
Liquid assets, 31 December		10,558,556.00	12,251,863.98
Liquid assets, 1 January		<u>12,251,863.98</u>	<u>3,097,912.62</u>
		-1,693,307.98	9,153,951.36
Key figures of the cash flow statement			
Accumulation of cash flows from operations and investment, EUR		-456,500,746.69	-398,251,570.57
Net cash flow of investments, %		60.9%	63.2%
Loan coverage ratio		1.36	1.77
Computational loan coverage ratio		0.64	0.72
Cash adequacy, days		6.8	8.3
Number of residents		1,223,302	1,205,835

HSY's annual contribution margin was EUR 128.8 million, which is not sufficient to cover the joint municipal authority's loan repayments and investments. Investments totaled EUR 211.5 million in 2022, of which 61% was financed through net cash flow.

EUR 165 million of new long-term loan was taken out during the accounting period. Repayments of old loans amounted to EUR 78 million. HSY's loans amounted to EUR 1,905 million on 31 December, of which the member municipalities' establishment loans accounted for EUR 1,132 million, loans from financial institutions for EUR 693 million and local government bonds for EUR 80 million.

The equity ratio changed slightly from 27.7% at the beginning of the accounting period to 27.0% at the end of the accounting period.

1.3.4 Total income and expenses

INCOME	x EUR 1,000	EXPENSES	x EUR 1,000
Operations		Operations	
Operating revenue	404,184	Operating expenses	212,558
Interest income	0	- production for own use	-2,338
Other financial income	2,432	Interest expenses	64,606
Extraordinary income	0	Other financial expenses	3,002
Adjustments to net cash flow	10,542	Extraordinary expenses	0
		Adjustments to net cash flow	0
Investments		Investments	
Contributions to investments	658	Investment expenses	212,162
Capital gains from fixed assets	0		
Financing activities		Financing activities	
Increase in long-term loans	165,000	Repayments of long-term loans	77,928
Increase in short-term loans	0	Repayments of short-term loans	10,000
Increase in operating capital	0	Decrease in operating capital	6,237
Total income	582,816	Total expenses	584,155
Reconciliation			
Total income - total expenses	-1,339		
Other changes in liquidity - change in liquid assets	-1,339		

1.3.5 Financial position and changes in it

ASSETS	FS 2022	FS 2021	LIABILITIES	FS 2022	FS 2021
NON-CURRENT ASSETS	2,826,304	2,731,244	CAPITAL AND RESERVES	779,673	773,806
Intangible assets	12,955	8,866	Initial capital	505,000	505,000
<i>Intangible rights</i>	5,172	4,896	Other capital and reserves	2,570	2,570
<i>Other capitalised long-term expenses</i>	7,783	3,971	Surplus/deficit from previous accounting periods	259,998	229,018
Tangible assets	2,630,806	2,539,835	Surplus/deficit for the accounting period	12,104	37,217
<i>Land and water area</i>	19,231	19,231	DEPRECIATION DIFFERENCE AND PROVISIONS	1,681	2,168
<i>Buildings</i>	275,808	203,238	Depreciation difference	1,681	2,168
<i>Fixed structures and installations</i>	2,294,852	1,787,410	MANDATORY PROVISIONS	47,802	36,534
<i>Machinery and equipment</i>	8,657	8,585	Other mandatory provisions	47,802	36,534
<i>Advance payments and construction in progress</i>	32,258	521,370	LIABILITIES	2,066,927	1,986,532
Investments	182,542	182,542	Long-term liabilities	1,836,221	1,749,638
<i>Subscribed capital</i>	182,542	182,542	<i>Loans from financial institutions and insurance companies</i>	630,756	530,171
<i>Other receivables</i>	0	0	<i>Loans from member municipalities</i>	1,118,002	1,132,002
CURRENT ASSETS	69,780	67,796	<i>Connection fees and other liabilities</i>	87,462	87,465
Current assets	2,606	2,306	Current liabilities	230,707	236,894
<i>Materials and supplies</i>	2,606	2,306	<i>Debentures</i>	80,000	90,000
Receivables	56,615	53,239	<i>Loans from financial institutions and insurance companies</i>	61,915	61,428
Short-term receivables	56,615	53,239	<i>Loans from member municipalities</i>	14,000	14,000
<i>Sales receivables</i>	19,748	16,170	<i>Accounts payable</i>	42,525	44,067
<i>Loan receivables</i>	444	422	<i>Other liabilities</i>	6,972	8,835
<i>Other receivables</i>	26	19	<i>Accrued expenses and deferred income</i>	25,295	18,565
<i>Prepayments and accrued income</i>	36,397	36,628			
Cash in hand and at banks	10,559	12,252			
TOTAL ASSETS	2,896,083	2,799,040	TOTAL LIABILITIES	2,896,083	2,799,040

Key figures of the balance sheet	FS 2022	FS 2021
Equity ratio, %	27.0%	27.7%
Relative indebtedness, %	511.4%	497.3%
Liabilities, % of operating revenue	529.7%	516.6%
Accumulated surplus/deficit, EUR thousand	272,103	266,236
Accumulated surplus/deficit, EUR thousand/resident	0.22	0.22
Loans 31 December, EUR thousand	1,904,673	1,827,601
Loans, EUR 1,000/resident	1.56	1.52
Loans and liabilities, 31 December, EUR thousand	1,978,630	1,904,878
Loans and liabilities, EUR thousand/resident	1.62	1.58
Loan receivables, EUR thousand	0	0
Population of the Helsinki Metropolitan Area, 31 December	1,223,302	1,205,835

HSY has significant off-balance sheet liabilities. On the closing date of 31 December 2022, rent and lease liabilities totaled EUR 74.0 million. The most significant of the lease and rent liabilities are land area rent liabilities to the member cities, premises on Ilmalantori 1 and the biogas power and heat production plant lease at the Ämmässuo Waste Treatment Centre.

1.4 The Group's operations and finances

1.4.1 Companies included in the consolidated financial statements

The consolidated financial statements consolidate HSY's subsidiaries Pääkaupunkiseudun Vesi Oy (81.16% of share capital), Uudenmaan Voima Oy (80%) and HSY Holding Oy (100%) and the affiliated companies Pääkaupunkiseudun Kierrätyskeskus Oy (25.7%), Keski-Uudenmaan Vesiensuojelun liikelaitoskuntayhtymä (32.87%) and Oy Asemapäällikönhovi (14.39%).

1.4.2 Major events concerning the Group

Uudenmaan Voima Oy is a company owned by HSY and Rosk'n Roll Oy Ab, the line of business of which is to sell the incineration capacity and waste treatment service of Vantaa Energia Oy's waste-to-energy plant. The incineration capacity sold by the company in 2022 was 89,550 tons. The waste volume received by Uudenmaan Voima totaled 66,577 tons in 2022. Of this, 629 tons was forwarded to interim storage in Ämmässuo during maintenance turnarounds.

Pääkaupunkiseudun vesi Oy's primary task, supplying raw water to the members, was at the normal level. The year 2022 was normal in terms of hydrological conditions, and water quality in Päijänne was good, especially in the southern part essential to the water supply of the Helsinki Metropolitan Area, in spite of abundant humus runoff in the catchment area, among other factors. The water run through the Päijänne Tunnel during the year totaled 111.1 million m³, of which 105.7 million m³ was water supply plants' crude water supplied to customers and 5.4 million m³ additional water pumped to water systems. Energy production at the Kalliomäki power plant was at a normal level. The company's duties are primarily managed by HSY. No material changes are expected in operations during 2023.

HSY Holding Oy is a holding company that owns a 20-hectare land area at the Ämmässuo Waste Treatment Centre. The company has no actual operations.

The member municipalities/entities of Keski-Uudenmaan vesiensuojelun liikelaitoskuntayhtymä (KUVES) are Järvenpää, Kerava, Tuusula and HSY/Vantaa. Of the sewerage areas of the member community Helsinki Region Environmental Services joint municipal authority (HSY), the Korso-Rekola, Ring Road and Ylästö-Pakkala areas of the City of Vantaa have been connected to the KUVES transfer sewer. Wastewater is led through the spacious rock tunnel starting in Kerava, 20–50 metres below ground, to the Pihlajanmäki main pumping station and from there to Viikinmäki wastewater treatment plant. It is a binding objective in the sewage operations that there are no overflows of wastewater into the water system. This objective was achieved. The most significant own sewage operation investments of KUVES include the restoration of the sewer tunnel between Koivuhaka and Harjusuo. This project will continue in 2023. KUVES contributed to the Viikinmäki renovations with approximately EUR 437,000.

Helsinki Metropolitan Area Reuse Centre is a non-profit company with the purpose of reducing the use of natural resources, increasing environmental awareness and increasing the opportunities for participation and work. The Reuse Centre has 12 recycling shops in the Helsinki Metropolitan Area and a national online shop. The company continued to implement its operational strategy. Its objectives include, amongst others, to increase the environmental benefit of the operations, to increase the added value created for customers and to strengthen its financial position. In Helsinki, we opened two new locations, one in Redi Shopping Centre and one in Pasila. Despite the uncertain operating environment, the use of the company's services reached an all-time high. Thanks to the increased demand and improved operational processes, the profit for the accounting period was excellent. No material changes have taken place in the company's financial position after the end of the accounting period. The war in Europe causes major uncertainty in the operating environment. This causes threats and opportunities for the company's operations which are difficult to predict.

1.4.3 Operational and internal control of the Group

Group control in the joint municipal authority group is corporate governance, tasked with ensuring that the overall benefit of the joint municipal authority group is taken into consideration in the operations of the subsidiaries of the joint municipal authority and developing the HSY Group to make it overall economic, functional and manageable. The HSY Group guidelines approved by the HSY General Meeting on 30 June 2017 contain the authority and operating principles used to manage, guide and supervise the Group in order to achieve the objectives set by the HSY General Meeting. The Executive Board of HSY shall and the Boards of Directors of its subsidiaries approved the Group guidelines and committed to their regulations.

HSY's ownership policy determines the kind of property acquired and owned by the joint municipal authority, the position of entities in the Group, the tasks and projects in which HSY participates, as well as when the joint municipal authority can make use of the option to surrender ownership. The ownership policy answers the question of how HSY can influence its subsidiaries and affiliates as the owner. HSY's ownership policy is specified in the document "*HSY:n omistajapolitiikka – HSY-konsernin strateginen tarkastelu*" approved by the HSY General Meeting on 29 May 2015.

In accordance with the strategy approved by the HSY General Meeting, the Executive Board decides on the implementation of HSY's ownership policy. It is the duty of the Executive Board and Executive Director to supervise compliance with HSY's strategy, ownership policy and group guidelines.

Internal control is an essential part of the principle of good corporate governance. Control ensures that goals are reached, operations comply with laws, guidelines and decisions, assets are effectively used, property is secured and the information given to the management is correct, appropriate and timely. The HSY General Meeting approved the grounds of internal control and risk management for HSY Group on 23 May 2014. The Executive Board of HSY approved the guidelines on the organisation of internal control and risk management on 19 December 2014.

Besides the Board of Directors, the Executive Director has overall responsibility for the organisation of the entity's internal control and its effectiveness. It is the duty of the management to carry out internal control to prevent and detect misconduct and address any misconduct observed. Misconduct includes acts that are dishonest, unethical or in breach of HSY Group guidelines or the law.

In accordance with HSY's internal control and risk management principles, each division and business unit of the joint municipal authority issue a report on the organisation of internal control and risk management, shortcomings observed in control and measures to correct them annually as part of the HSY Group's financial statements process. The reports must be based on a documented self-evaluation. Rapidly developing and realized risks and their impacts are reported on at the HSY Group in accordance with the guidelines in force at a given time.

The internal audit function is a visible part of the company's corporate governance system, and the entity's Board of Directors and Executive Director can use it when carrying out their control duty. Internal audit inspects and assesses the systems of internal control and risk management, compliance of the functions with laws and decisions and their appropriateness, the efficient and economic use of resources and the reliability of the information used in management and decision-making.

HSY's internal audit unit is also authorised to audit the operations of the subsidiaries. The subsidiaries can use HSY's internal audit in organising their own internal audits, if the Executive Director of HSY so decides on a case-by-case basis.

An assessment of the organization of internal audit is presented in Chapter 1.2 on internal control and risk management.

1.4.4 Consolidated financial statements and associated key figures

Consolidated income statement

x EUR 1,000	1 January–31 December 2022		1 January–31 December 2021	
Operating revenue		414,723		411,514
Operating expenses		-215,259		-193,194
Share of the profit/loss of affiliates		318		205
Operating margin		199,782		218,526
Financial income and expenses				
Interest income	1		0	
Other financial income	117		433	
Interest expenses	-64,643		-66,424	
Other financial expenses	-3,013	-67,538	-210	-67,848
Annual contribution margin		132,244		150,678
Depreciation, amortisation and impairment				
Depreciation and amortization according to plan	-120,139		-120,822	
Elimination differences of ownership	15		0	
Impairment	0	-120,125	0	-110,693
Extraordinary items		0		0
Financial result for the accounting period		12,120		39,985
Appropriations		0		0
Taxes for the accounting period		-1,360		-3,966
Deferred taxes				
Minority interests		-235		-342
Surplus/deficit for the accounting period		10,525		35,678
Key figures of the income statement				
		1 January–31 December 2022		1 January–31 December 2021
Operating revenue, % of operating expenses		192.7%		213.0%
Annual contribution margin, % of depreciation and amortization		110.1%		136.1%
Annual contribution margin, EUR 1,000/resident		108.10		124.96
Number of residents		1,223,302		1,205,835

Consolidated cash flow statement

x EUR 1,000	1 January–31 December 2022		1 January–31 December 2021	
Cash flow from operations				
Annual contribution margin	132,244.29		150,677.82	
Extraordinary items	0.00		0.00	
Taxes for the accounting period	-1,360.10		-3,965.91	
Adjustments to net cash flow	<u>10,949.16</u>	141,833.35	<u>754.63</u>	147,466.54
Cash flow from investment				
Investment expenses	-213,185.73		-233,453.62	
Contributions to investment expenses	657.76		618.22	
Capital gains from fixed assets	0.00		0.00	
Adjustments to investments	<u>0.00</u>	-212,527.97	<u>0.00</u>	-232,835.40
Cash flow from operations and investment		-70,694.62		-85,368.85
Cash flow from financing				
Change in loans				
Increase in long-term loans	165,295.83		156,000.00	
Repayments of long-term loans	-79,711.14		-56,111.65	
Change in short-term loans	<u>-10,000.00</u>	75,584.69	0.00	99,888.35
Change in operating capital		-6,824.45		-512.73
Other changes in liquidity				
Change in current assets	-300.74		-123.44	
Change in receivables	-2,713.27		9,500.69	
Change in interest-free liabilities	<u>2,990.05</u>	-23.95	<u>-14,130.82</u>	-4,753.57
Cash flow from financing		68,736.29		94,622.04
Change in liquid assets		-1,958.33		9,253.19
Change in liquid assets				
Liquid assets, 31 December		14,281.60		16,239.93
Liquid assets, 1 January		<u>16,239.93</u>		<u>6,986.74</u>
		-1,958.33		9,253.19
Key figures of the cash flow statement				
Accrued cash flows from operations and investment, EUR thousand *)		-445,821.65		-386,080.87
Net cash flow of investments, %		62.2%		64.7%
Loan coverage ratio		1.36		1.78
Computational loan coverage ratio		0.63		0.71
Cash adequacy, days		9.05		10.78

Consolidated balance sheet

x EUR 1,000

ASSETS	31 December 2022	31 December 2021	LIABILITIES	31 December 2022	31 December 2021
NON-CURRENT ASSETS			CAPITAL AND RESERVES		
Intangible assets			Initial capital	505,000	505,000
Intangible rights	5,172	4,896	Revaluation reserve	0	0
Other capitalized long-term expenses	7,797	4,179	Other internal funds	2,570	2,570
Advance payments	0	0	Surplus/deficit from previous accounting periods	127,895	98,461
	<u>12,968</u>	<u>9,075</u>	Surplus/deficit for the accounting period	10,525	35,678
				<u>645,990</u>	<u>641,710</u>
Tangible assets			MINORITY INTERESTS	8,761	9,106
Land and water area	19,436	19,436	MANDATORY PROVISIONS		
Buildings	319,532	249,660	Other mandatory provisions	47,802	36,534
Fixed structures and installations	2,302,666	1,795,556			
Machinery and equipment	9,671	9,668	LIABILITIES		
Other tangible assets	0	0	Long-term interest-bearing liabilities	1,750,370	1,665,302
Advance payments and construction in progress	32,955	521,429	Long-term interest-free liabilities	87,462	87,465
	<u>2,684,261</u>	<u>2,595,749</u>	Short-term interest-bearing liabilities	157,729	167,211
Investments			Short-term interest-free liabilities	75,301	72,308
Holdings in associated companies	1,562	1,243		<u>2,070,862</u>	<u>1,992,286</u>
Other subscribed capital	1	1			
Bond receivables	0	0			
Other loan receivables	0	0			
Other receivables	0	0			
	<u>1,563</u>	<u>1,244</u>			
CURRENT ASSETS					
Current assets	2,606	2,306			
Receivables					
Short-term receivables	57,736	55,022			
Shares and holdings	0	0			
Cash in hand and at banks	14,282	16,240			
TOTAL ASSETS	<u>2,773,415</u>	<u>2,679,636</u>	TOTAL LIABILITIES	<u>2,773,415</u>	<u>2,679,636</u>

Key figures of the balance sheet	31 December 2022	31 December 2021
Equity ratio, %	23.6%	24.3%
Relative indebtedness, %	499.3%	484.1%
Accumulated surplus/deficit, EUR thousand	138,419.31	134,139
Accumulated surplus/deficit, EUR thousand/resident	0.11	0.11
Loans 31 December, EUR thousand	1,908,098.72	1,832,512
Loans, EUR thousand/resident	1.56	1.52
Loans and liabilities, 31 December, EUR thousand	1,985,375.64	1,909,789.37
Loans and liabilities, EUR thousand/resident	1.62	1.58
Loan receivables, EUR thousand	0.00	0.00
Population of the Helsinki Metropolitan Area, 31 December	1,223,302	1,205,835

1.5 Use of the financial result for the accounting period

The Executive Board proposes to the HSY General Meeting that the financial result for the accounting period be dealt with as follows:

- depreciation difference in waste management be reduced by EUR 486,930.00
- corporation tax of EUR 725,215.23 be recognised in water services
- surplus of EUR 12,104,482.00 be recognised on the surplus/deficit from previous accounting periods account on the balance sheet.

2 Realization of the budget

2.1 Joint municipal authority's realization comparisons

2.1.1 Goals

Strategic objective	Indicator	Target level 2022	Actual 31 December 2022
1. Forerunner in environmental responsibility and resource efficiency	Greenhouse gas emissions in HSY's own operations and external services	CO2 emissions 130,000 t CO2eq	● Realized (100,000 t CO2eq)*
	<ul style="list-style-type: none"> Elaborative indicator 1.1; HSY's new contracting and transport service agreements require the use of renewable fuel 	100% of HSY's new contracting and transport service agreements require the use of renewable fuel.	● Realized (100%)
	<ul style="list-style-type: none"> Elaborative indicator 1.2; CH4 diffuse emissions from the Ämmässuo landfills 	CH4 diffuse emissions from the Ämmässuo landfills 50% lower than in 2017	● Realized (79% lower)
	<ul style="list-style-type: none"> Elaborative indicator 1.3; Research and method development regarding nitrous oxide emissions 	Inspection of the impact of process variables on the emissions. The research on nitrous oxide emissions will continue.	● Realized
	Ratio of renewable in-house energy production of HSY to consumption	Ratio of renewable in-house energy production to consumption 80%	● Realized (80–85%) *
	Reducing the total consumption energy compared to 2015 as calculated energy savings based on energy saving measures, as well as total energy consumption	Calculated energy savings 13,200 MWh, total energy consumption 190,000 MWh.	● Not realized/Partially realized; Calculated energy savings 13,500 MWh, total energy consumption 193,000 MWh. *
	<ul style="list-style-type: none"> Elaborative indicator 1.4; share of renewable fuel of fuel used in HSY's own fleet 	Share of renewable fuel of fuel used in HSY's own fleet 95%	● Realized (<97%)
	<ul style="list-style-type: none"> Elaborative indicator 1.5; Energy self-sufficiency in water services 	Energy self-sufficiency of water services 79%	● Not realized (71–73%)* In addition to energy saving measures, energy consumption is also affected by e.g. renovations of the plants and the weather. The total annual biogas production of the treatment plants has decreased, which has a significant impact on self-sufficiency.
	Recycling and material reuse rate of waste, materials and nutrients		
	Elaborative indicator 1.6; Household waste recycling rate	Household waste recycling rate 54%	● Not realized (47%)*
	Elaborative indicator 1.7; Higher-level technology or technologies have been found for the recycling of wastewater phosphorus and nitrogen, and sustainable utilisation channels have been found for the end products	The project proceeds in accordance with the project schedule of the financed RAHI project.	● Realized (100%)
	Nutrient and contaminant load: Occurrence and removal rate of nutrients and hazardous substances	Phosphorus load on the sea at the maximum 30 t/a and nitrogen load at the maximum 1,100 t/a	● Not realized/Partially realized (P 29.52 tn/a and N 1,252 tn/a)* Due to a process disturbance in the spring and a significant treatment plant bypass in Viikinmäki (melting of snow)
Elaborative indicator 1.8; Load from hazardous substances and microparticles	Estimation of the load using a calculation method that has been developed.	● Realized	
2. Highly reliable	Number of severe incidents, preparation for them and success in management	The number of severe incidents has decreased by 10% from the average for 2019, 2020 and 2021. The change is calculated on a 3-year moving average.	● Not realized (Fleminginkatu pipe breakage)
	Share of water users in HSY's operating area whose water supply is secured with mutually independent systems	50%	● Not realized (45%) The next step up will be realized when the Suurpelto booster station is ready. The project is delayed because Espoo has not been able to procure the plot intended for the Suurpelto booster station
	Risk assessment risk score in accordance with HSY's risk management process	Risk score reduced by 3% from the 2021 level (143)	● Realized (137) -4.2%

*) No actual data available on the indicator at the time of preparing the financial statements. Final actuals will be completed in spring 2023

Strategic objective	Indicator	Target level 2022	Actual 31 December 2022	
3. Smooth services	Customer satisfaction	Fluency of the customer process 4.3, i.e., the overall experience of the smoothness of service (customer satisfaction surveys and property manager survey continuous quality surveys, special customer survey). Annual customer satisfaction by customer group and function We started measuring the customer satisfaction of property managers in 2022 and will conduct a survey of the smoothness of the joining process.	<ul style="list-style-type: none"> Not realized (4.08) Sortti, 4.2 Customer service 4.0 Property managers 3.9 Key customers 4.0 Water services 4.2 	
	Response time in customer contacts	The response time is maximum 3 days (provided that the new customer service system is in use).	<ul style="list-style-type: none"> Realized 	
	Response time of complaints	Maximum response time of complaint resolution 12 business days.	<ul style="list-style-type: none"> Not realized, the total time cannot be measured in Salesforce (waste management; 22.4 business days, average resolution time) 	
	Quality and utilisation rate of digital services and customer communications across all channels (quality = available 24/7 and accessible in accordance with the Web Accessibility Directive)	40% of the planned measures implemented, share of digital water meter reports is 85%	<ul style="list-style-type: none"> Not realized, actual share of digital water meter reports 57.88% 	
		70% of waste service orders made digitally	<ul style="list-style-type: none"> Not realized (13%) The customers do not use the service; instead, they make changes to the agreement through the feedback channels and call customer service 	
		Creation of a service survey to measure continuous feedback (incl. feedback on accessibility) in connection with the new electronic services.	<ul style="list-style-type: none"> Realized The service survey is also available as electronic forms, including the accessibility feedback form. 	
	Service response times and timeliness	The response time for connection services is 6 weeks with regard to the connection point statement and the connection point statement.	<ul style="list-style-type: none"> Realized (5.5 weeks) 	
		Waste container emptying complaint rate 0.12 per mille	<ul style="list-style-type: none"> Realized (0.04) 	
	4. Stable business	Equity ratio	Water services 25% Waste management 36%	<ul style="list-style-type: none"> Not realized (23.8%) Realized (46.9%)
		Productivity Water Services operating expenses/population of member cities	EUR 78/resident	<ul style="list-style-type: none"> Not realized (EUR 82.8/customer) Energy price increase the most significant factor
Waste management operating expenses/waste volume treated (3-year average)		EUR 176/h	<ul style="list-style-type: none"> Not realized, EUR 207/h 	
Share of administration and support function operating expenses of HSY		14.5%	<ul style="list-style-type: none"> Realized (13.5%) 	
Operating expenses/population of the member municipalities:		reduction of 1.5% from the 2021 level (productivity programme)	<ul style="list-style-type: none"> Realized, EUR 148.56/resident (target EUR 151.01/resident) Inflation assumption: 7% 	
Amount of renovation debt Combination of qualitative and quantitative review (leak rate, impact, condition)		Debt does not increase	<ul style="list-style-type: none"> Not realized. Inadequate renovation investment level. The investment programme had to be adjusted and projects postponed. The calculation of renovation debt will be developed further. 	
Ratio of invoiced water volume to water volume pumped into the network		81%	<ul style="list-style-type: none"> Not realized (80.3%) 	
Efficiency of procurement: unit price of the procurement basket, or weighted index		Index decreases by 1.5% in real terms from	<ul style="list-style-type: none"> Not realized, increased by 119%, comprehensive price increases, electricity a major factor in the basket 	
Life cycle sustainability of procurements: operation and maintenance expenses and energy efficiency throughout the life cycle	Use of lifecycle calculation model and reporting established	<ul style="list-style-type: none"> Not realized. Used in some of the procurements, but the use has not been established 		

Facilitator goal	Programme & themes	Budget 2022 Key measures 2022	Actual 31 December 2022
5. Developer of good working life	<ul style="list-style-type: none"> Work and interaction culture 	The development of work culture in the organisation continues as so-called basic work under the observation of the More together vision in all we do. The culture handbook is updated continuously, engaging all employees in the work. Participation in the product development work specialist vocational qualification programme continues. This is one of the concrete measures to improve cooperation and work culture.	Realized. Personnel have participated in the building of the new strategy. In the Changing work programme, attention has been paid to the continued development of work culture. The related dialogue ambassador trainings have been completed (2/3), and the operations will begin on 01/2023. Group 4 of the vocational degree on product development work started in 11/2022. Strategy card 2022 Zero tolerance to workplace bullying has made strong progress during the year. It also supports the development of work culture.
	<ul style="list-style-type: none"> The competence development THEME 	Introduce digital skills badges and systematically develop the digital skills of all employees. Develop employee engagement in sustainability and resource efficiency themes.	Realized. HSY's digital skills badges were introduced, and a total of 1,049 digital skills badges were completed by the end of 2022. The digital competence of personnel was developed by, e.g., continuing the use of the Eduhouse training service's digital skills courses. Skills in the sustainability and resource efficiency themes was developed by, for example, providing information in the HSY resource efficiency group and other networks in this subject.
	<ul style="list-style-type: none"> Improving the employer image THEME 	<ul style="list-style-type: none"> Continue implementing the actions selected based on the employer image analysis Review and update the spearhead of the employer image, if necessary Needs of the new target segment 	Realized. External communications related to the employer image continued in 2022, and internal communications were enhanced in cooperation with communications and advice services. Employer image is an important part of the building of the new strategy, and it is at the core of Employer that attracts and retains employees, a focal area of Changing work.
6. Actively taking advantage of new technologies	Digital HSY overall survey PROGRAMME	Implementing the digital roadmap according to the programme	Not realized/Partially realized (70%). The digitalisation programme was developed, adding concreteness to the programme. The digitalisation programme was presented to HSY's management group. The practical execution of digitalisation is linked to the system projects in 2022.
	<ul style="list-style-type: none"> Business intelligence THEME 	A programme on business intelligence will be implemented	Realized. A pilot on business intelligence was finished at the beginning of the summer. The results of the pilot were presented to HSY's management group in June 2022. Following the pilot, the management group decided to establish a business intelligence project. A project manager was recruited internally, and they started in this position on 1 January 2023.
	<ul style="list-style-type: none"> Survey of the opportunities of open data THEME 	We will continue opening data and developing the process. Promotion of the utilisation of HSY's open data. Determining where HSY's open data has been utilised	Realized. Opening of data continued in line with HSY's open data processes and procedures. Examples of the utilisation of HSY's open data were added on the open data site.

Facilitator goal	Programme & themes	Budget 2022 Key measures 2022	Actual 31 December 2022
<p>7. Influencing through information</p> <p>Influencing through information programme</p> <p>The programme promotes the realization of HSY's strategic objectives through stakeholders. The themes of the programme are: Residents, Region's municipalities and Development of the sector</p>	<p>Residents: Influencing customer and consumer behaviour through communication and advice.</p>	<p>Continuing the communications and advice on the themes selected for the Influencing through information programme:</p> <ul style="list-style-type: none"> • Increase the recycling rate of waste • Communications and advice projects in water services, e.g. regarding harmful substances, curbing the increased nitrogen load in wastewater, management of stormwater and renovation of plot pipelines. 	<p>Realized. Measures to increase the recycling rate included multi-channel communications on the new waste management regulations, implementing the "Nähdään seuraavassa elämässä" (See you in the next life) campaign for young adults, participating in numerous events, producing content for the Thank you for sorting Instagram account and arranging refuse truck visits to daycare centres.</p> <p>Realized. Communications and advice projects in wastewater treatment plant included a campaign on sewer etiquette, participating in the Baltic Sea Day and the Lääkkeitön Itämeri campaign, producing brochures on harmful substances and nitrogen load, arranging virtual visits as well as on-site visits (in the autumn) to the Viikinmäki wastewater treatment plant, and the theme was included in lessons at schools and eco support training.</p>
	<p>Region's municipalities: Producing data for use by the municipalities and engage in active collaboration. Taking part in the preparation of regional programmes (climate, circular economy).</p>	<p>The implementation and initiation of measures in the Sustainable urban life programme continues. Engage in active collaboration to promote air pollution control. Organise an annual climate seminar for the Helsinki region. In addition, organise an air protection research seminar and a spatial data seminar.</p>	<p>Realized. Projects implementing the Sustainable urban life programme were initiated and financing was applied for and received for new projects. Helsinki region climate seminar, air protection research seminar and spatial data seminar were organised. In order to improve air protection, air quality monitoring plans were prepared for the Helsinki Metropolitan Area and municipalities in Uusimaa. We participated in the work of the national air protection programme execution network and theme groups.</p>
	<p>Development of the sector: Creating an operating model for influencing the development of the sector and follow-up of the development. Themes include follow-up of international and national development in the sector, collaboration with research institutions and universities, participation in international and national development programmes and in-house RDI work.</p>	<p>Assess the channels and forums and focus actions based on the new strategy</p>	<p>Partially realized. The preparation of HSY's RDI programme was started. In terms of air protection work, we participated in the development of international air quality measurement networks. We participated actively in the expert groups of the Network of European Metropolitan Regions and Areas (METREX) regarding climate and circular economy.</p>

Facilitator goal	Programme & themes	Budget 2022 Key measures 2022	Actual 31 December 2022
8. Building upon collaboration	<p>Towards a sustainable urban region with smart and clean solutions - PROGRAMME</p> <p>HSY works as an active RDI partner and development platform in building smart and clean solutions with the residents, cities, businesses and research institutions.</p> <p>The programme promotes project preparation collaboration in the chosen focal areas, namely the circular economy and stormwater management as well as clean and smart solutions. Innovative public procurement, innovation partnerships and the possibilities of business intelligence and influence through information are utilised.</p>	<p>Maintain and develop the activities of HSY's project preparation network and open innovation network.</p> <p>Promote pilots, trials and partnerships as a part of HSY's RDI operating model, in projects, on HSY platforms and as a part of the Helsinki Metropolitan Area innovation ecosystems.</p>	<p>Partially realized. HSY has been in charge of the operations of the project network. The operation of the open innovation network has not been actively sustained.</p>
	<p>Network analysis, strategy and goals THEME</p>	<p>Promote stakeholder and network cooperation on the basis of the strategic network analysis and an action plan.</p>	<p>Not realized. A draft action plan was prepared for stakeholder and network cooperation, including a proposal for the preparation of a strategic network analysis. HSY's management group decided in February 2022 to postpone this work and that the subject of stakeholder and network cooperation would be revisited when the new strategy was completed, i.e., in 2023 or later.</p>

2.1.2 Strategic projects

Strategic project	Project description	Actual 31 December 2022
Ensuring and enhancing regional water production and supply	Projects carried out to ensure and enhance regional water production and supply	The Pitkääkoski renovation project has progressed according to the project schedule. The activated carbon plant was commissioned in February 2022, and the commissioning of the ozone plant was in progress at the end of the year. The design of the plant-scale pilot for the membrane filtration project is on schedule. Last year, regional water distribution in Vantaa was reinforced by means of two new booster stations.
Blominmäki wastewater treatment plant	A new rock wastewater treatment plant to meet the increase in the load and tightening permit regulations replacing the Suomenoja wastewater treatment plant	The construction phase is about to end. Half of the wastewater from HSY's western sewerage area was treated in Blominmäki. The treatment results were good, apart from nitrogen removal, which will improve once methanol dosage is taken into use.

2.1.3 Realization of the income statement part

x EUR 1,000	FS 2022	Budget 2022 After changes	Difference financial statements -budget after changes	Actual % financial statements/b udget	FS 2021	Budget changes	Original budget
OPERATING REVENUE (+)	404,184	399,658	4,526	101.1%	399,471	0	399,658
Sales proceeds	394,429	390,373	4,056	101.0%	390,479	0	390,373
Water sales revenue	95,487	96,700	-1,213	98.7%	94,124	0	96,700
Wastewater revenue	113,299	115,050	-1,751	98.5%	111,511	0	115,050
Basic rates	44,979	41,450	3,529	108.5%	40,306	0	41,450
Water services connection fees	19,159	20,000	-841	95.8%	26,473	0	20,000
Waste transport fees	85,470	83,268	2,202	102.6%	82,250	0	83,268
Waste treatment fees	8,547	9,708	-1,161	88.0%	9,442	0	9,708
Other sales revenue	27,487	24,197	3,290	113.6%	26,373	0	24,197
Municipal contributions	4,342	4,342	0	100.0%	4,286	0	4,342
Fees and charges	314	352	-38	89.3%	333	0	352
Subsidies and grants	1,584	1,491	93	106.3%	1,441	0	1,491
Other operating revenue	3,514	3,100	414	113.3%	2,932	0	3,100
Rental revenue	1,989	2,165	-176	91.8%	1,920	0	2,165
Other operating revenue	1,525	935	590	163.1%	1,012	0	935
						0	0
PRODUCTION FOR OWN USE	2,338	2,200	138	106.3%	2,287	0	2,200
						0	0
OPERATING EXPENSES (-)	-212,558	-222,951	10,394	95.3%	-189,554	-15,167	-207,784
Personnel expenses	-48,557	-50,684	2,128	95.8%	-48,862	0	-50,684
Salaries and fees	-39,433	-41,663	2,229	94.6%	-39,729	0	-41,663
Social security expenses	-9,123	-9,022	-102	101.1%	-9,133	0	-9,022
Procured services	-99,524	-108,156	8,632	92.0%	-96,408	0	-108,156
Procured waste transport services	-34,142	-34,627	485	98.6%	-32,279	0	-34,627
Procured other services	-65,382	-73,529	8,147	88.9%	-64,129	0	-73,529
Materials, supplies and goods	-39,193	-39,646	453	98.9%	-29,953	-8,167	-31,479
Purchases during the accounting period	-39,180	-39,646	467	98.8%	-29,828	-8,167	-31,479
Change in inventories	-13	0	-13	-	-125	0	0
Change in mandatory provisions	-11,268	-10,660	-608	105.7%	-960	-7,000	-3,660
Other operating expenses	-14,017	-13,805	-212	101.5%	-13,371	0	-13,805
Rents	-9,015	-9,603	588	93.9%	-8,821	0	-9,603
Waste tax	-67	-31	-36	215.0%	-22	0	-31
Other operating expenses	-4,936	-4,172	-764	118.3%	-4,529	0	-4,172
						0	0
OPERATING MARGIN	193,963	178,907	15,057	108.4%	212,204	-15,167	194,074
						0	0
FINANCIAL INCOME AND EXPENSES	-65,176	-65,306	130	99.8%	-65,305	0	-65,306
Interest income	0	100	-100	0.0%	0	0	100
Other financial income	2,432	2,500	-68	97.3%	2,590	0	2,500
Interest expenses	-64,606	-65,426	820	98.7%	-65,160	0	-65,426
<i>Interest on establishment loans to member municipalities</i>	<i>-60,555</i>	<i>-60,551</i>	<i>-4</i>	<i>100.0%</i>	<i>-61,294</i>	<i>0</i>	<i>-60,551</i>
<i>Other interest expenses</i>	<i>-4,051</i>	<i>-4,875</i>	<i>824</i>	<i>83.1%</i>	<i>-3,866</i>	<i>0</i>	<i>-4,875</i>
Compensation for the share capital	-2,525	-2,400	-125	105.2%	0	0	-2,400
Other financial expenses	-477	-80	-397	596.5%	-211	0	-80
						0	0
ANNUAL CONTRIBUTION MARGIN	128,788	113,601	15,187	113.4%	146,899	-15,167	128,768
						0	0
DEPRECIATION AND AMORTISATION	-116,445	-126,747	10,302	91.9%	-107,056	0	-126,747
						0	0
EXTRAORDINARY ITEMS	0	0	0	-	0	0	0
						0	0

FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	12,343	-13,146	25,489	-93.9%	39,843	-15,167	2,021
						0	0
Change in depreciation difference	487	487	0	100.0%	592	0	487
Change in voluntary provisions	0	0	0	-	0	0	0
Income tax	-725	-512	-213	141.6%	-3,218	0	-512
						0	0
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	12,104	-13,171	25,276	-91.9%	37,217	-15,167	1,996

Operating revenue amounted to EUR 404.2 million, EUR 4.5 million more than budgeted

The operating revenue for water services amounted to EUR 295.9 million in total, EUR 0.3 million more than budgeted. Metered charges were EUR 3.4 lower than the budget due to decreased volumes. This was compensated by the EUR 3.5 million surplus in basic rates. The busy years of construction have created significant amounts of new floor area, which has increased the invoicing volume of basic rate more than expected. Construction has now taken a clear turn after several years of growth. It seems that 2021 was a record year in terms of connection fees, and the connection fees for 2022 were in line with the budget, but still 30% lower than in the previous year. Invoicing for work in the network, of which connection work forms the majority, also fell EUR 0.4 million below last year and the budget. The compensation for the stormwater sewerage of public areas is at the agreed level, and EUR 7.1 million was invoiced for it in accordance with the budget.

Waste management operating revenue totaled EUR 104.5 million in 2022, which is EUR 3.8 million more than budgeted.

Income from property waste transport service was EUR 85.8 million, which is approximately EUR 2.3 million more than budgeted. This is due to the introduction of the new invoicing system at the end of 2021, which changed the invoicing cycle of transport service income. As a result, some sales proceeds for 2021 were recorded for 2022, which we were not able to anticipate when preparing the budget. Proceeds were previously entered on an accrual basis for the month in which the container was emptied.

Income from regional services was EUR 9.2 million, or approximately EUR 0.2 lower than budgeted. The biggest decrease was seen in the waste processing income of the Sortti Stations, which was EUR 0.6 million less than budgeted. The decrease was due to the reduced number of visitors and the reduced amounts of household waste in the autumn. Sales proceeds of raw materials and energy, on the other hand, were EUR 0.4 million higher than budgeted due to the higher than expected prices of metals and wood chips.

Income from processing services was EUR 1.7 million higher than budgeted. Waste treatment fees were EUR 0.5 million lower than budgeted. The high sales price of electricity increased energy sales income EUR 2.3 million higher than budgeted. The conditions for the heat premium and feed-in tariff were not met in the utilisation of biogas, and these energy subsidies were therefore not obtained. The high sales price of electricity compensated for this, however.

In regional and environmental information, grant funding received was EUR 0.1 million lower than budgeted. This was due to, among others, project delays caused by the COVID-19 pandemic.

The income statement for regional and environmental information shows, by way of derogation from the budget, member municipality contributions related to Climateinfo's operations. This is because Climateinfo was transferred from the communications and advice of control and development to regional and environmental information in spring 2022.

Operating expenses amounted to EUR 212.6 million, EUR 10.4 million less than budgeted

Operating expenses of water services amounted to EUR 130.4 million, which was EUR 4.6 million below the budget. Personnel expenses were EUR 1.3 million below budget, mainly as a result of delayed recruitments. The demolition of the Tikkurila water tower was not completed in full, and it will continue in 2023. The provision for this was cancelled by EUR 2.5 million in the financial statements. The restoration of contaminated soil in Finnoo was completed, and the entire provision was cancelled in 2022. The actual cost was approximately EUR 1.2 million lower than the provision and the budget for the year. The joint municipal authority's internal invoicing for water services was EUR 0.9 million less than budgeted. The energy cost budget was updated due to the global situation (HSY General Meeting, November 2022). Furthermore, the cost provision for the future demolition of the Suomenoja wastewater treatment plant was revised. The actual cost of fuels and electricity, EUR 15.8 million, was in line with the estimate made in the autumn, but the original budget sum doubled. Raw water costs invoiced by PSV were also exceeded by EUR 0.4 million due to the increased prices of electricity. In terms of other costs, the property tax for the Blominmäki property was EUR 0.6 million higher than budgeted. Financial expenses increased by almost one million euros due to the higher interest expenses, and depreciation and amortisation was approximately EUR 11 million lower than the budget amount, mainly due to the delayed start-up of Blominmäki.

Waste management operating expenses totaled EUR 80.2 million in 2022, which is EUR 6.1 million less than budgeted. Between the different units, the biggest savings were made in procured services, the biggest waste management cost item.

In waste transport services, operating expenses amounted to EUR 44.3 million in 2022. Savings compared to the budget were approximately EUR 1.6 million. The biggest savings were made in the gate fees paid to Vantaan Energia, amounting to EUR 1.2 million. Additional savings were made in the waste collection equipment washing services, approximately EUR 0.2 million. Savings in waste transport service procurements were approximately EUR 0.2 million compared to the budget. While fuel costs increased, savings were made in the form of reduced bonus expenses.

Operating expenses in regional services amounted to EUR 12.0 million. Savings compared to the budget were approximately EUR 0.3 million. EUR 0.7 million was saved in procured services, but materials and supplies and personnel expenses were approximately EUR 0.4 million higher than budgeted in total.

Operating expenses in processing services amounted to EUR 13.2 million. This is EUR 2.5 million less than the budget. In terms of procured services, savings in, e.g., maintenance, repair, transport and machine services amounted to EUR 2.2 million. Savings in the Materials, supplies and goods group were approximately EUR 0.3 million in total.

The operating expenses of waste management construction were above the budget values, mainly due to the share of development in the action plan and budget.

The personnel expenses for regional and environmental information were EUR 0.2 million higher than budgeted, which was due to the transfer of Climateinfo employees under the regional and environmental information services. The savings in procured services were EUR 0.3 million lower than budgeted. This was due to, among others, changes and project delays caused by the COVID-19 pandemic.

Financial income and expenses, EUR 65.2 million, were at the budgeted level

Financial income and expenses totaled EUR 65.2 million, of which financial income was EUR 2.4 million and financial expenses EUR 67.6 million. Financial income includes EUR 2.3 million in dividend income from HSY's subsidiary Uudenmaan Voima Oy. The majority of the financial expenses, EUR 60.6 million, was interest paid to the member municipalities on establishment loans. In addition, EUR 2.5 million was paid to the member municipalities as interest for the capital in 2022.

Depreciation and amortization amounted to EUR 116.4 million, EUR 10.3 million lower than the budget

Depreciation and amortization of fixed assets amounted to EUR 116.4 million.

Financial result for the accounting period

Financial result before appropriations showed a surplus of EUR 12.3 million, which is EUR 25.5 million more than budgeted. After the decrease in depreciation difference (EUR 0.5 million) and income tax paid by water services on its result (EUR 0.7 million), the financial result for the accounting period showed a surplus of EUR 12.1 million, resulting from operating revenue being significantly higher than budgeted and operating expenses remaining lower than budgeted.

2.1.4 Realization of investments

x EUR 1,000	FS 2022	Budget 2022 After changes	Difference financial statements– budget after changes	FS/budget after changes, %	FS 2021	Budget 2022 changes	Original budget 2022
Water services	188,707	204,000	-15,293	92.5%	211,083	6,000	198,000
Waste management	21,576	22,350	-774	96.5%	19,635	0	22,350
Regional and environmental information	137	220	-83	62.5%	138	0	220
Support Services	767	2,964	-2,197	25.9%	470	0	2,964
Customer Service	11	0	11	-	272	0	0
Management, control and development	307	445	-138	68.9%	782	0	445
INVESTMENTS TOTAL	211,504	229,979	-18,475	92.0%	232,379	6,000	223,979

Waste management investments were EUR 15.3 million lower than the budget

In 2022, the investment costs of HSY Water services were clearly lower than budgeted. The actual investments towards the end of the year were not as high as expected when applying for an increase in the appropriation in the General Meeting on 18 November 2022, §8. The final total investment cost amounted to EUR 188.7 million.

The most important factors contributing to the lower than budgeted cost include the lower actual costs of city-driven projects and rail projects in particular as well as the delays in the BIVAV project

and the Aleksis Kivi projects in terms of water services-driven projects. Some minor water services-driven projects were also delayed.

City-driven investments (baskets 1, 2, 3 and 10.6) amounted to approximately EUR 76.5 million in 2022, which is approximately EUR 7.2 million less than budgeted.

Network renovations amounted to EUR 33.9 million, which is approximately EUR 21.1 million less than budgeted, mainly due to scheduling changes.

Water intake and treatment investments were approximately EUR 0.7 million below the budget, mainly owing to changes in project schedules.

Waste management investments were EUR 0.8 lower than the budget

Waste management investments totaled approximately EUR 21.5 million, which is EUR 0.8 million lower than the action plan and the budget.

Regional service-driven investments were approximately EUR 0.5 million lower than the investment provision in the action plan and the budget. The new Sortti Mini Station was not implemented during the accounting period because we did not obtain a location for it near the Nihtisilta location of Helsinki Metropolitan Area Reuse Centre Ltd.

Treatment service-driven investments were approximately EUR 1.1 million higher than the investment provision in the action plan and the budget. The investments in the treatment of biowaste and utilisation of anaerobic digestion gas were approximately in line with the budget. Development of infrastructure and investments required by it were approximately EUR 0.5 million lower than the investment provision because the projects could not be started due to the significant delay in the issuing of the building permit. Further savings were made in, for example, the more cost-efficient execution of energy efficiency investments than planned and due to the decision to cancel the construction of the textile processing and storage hall. The construction of the hazardous waste unit intended for the final disposal of ash from the waste-to-energy plant, on the other hand, proceeded faster than expected in 2022, and the related investment provision was exceeded by approximately EUR 1.6 million.

Other investments were approximately EUR 1.4 million lower than the investment provision in the action plan and the budget. Other investment comprised the collection equipment and IT procurements for the transport of waste as well as waste treatment equipment procurements. Waste treatment equipment procurements were slightly lower than estimated due to the high price of steel in the spring and summer. These procurements were postponed to coming years. The investment reserved for the development of the Seutula region was not realized since this was not possible due to the incomplete zoning process in Tuusula. The provision for investments on land was not used.

2.1.5 Realization of the cash flow part

x EUR 1,000	FS 2022	Original budget 2022	Budget 2022 After changes	Difference financial statements– budget after changes	FS 2021
Operations and investments					
Cash flow from operations					
Annual contribution margin	128,788	128,768	113,601	15,187	146,899
Extraordinary items	0	0	0	0	0
Adjustments to net cash flow	10,542	3,148	10,148	394	-2,257
Cash flow from investment				0	0
Investment expenses	-212,162	-224,729	-230,729	18,567	-232,998
Contributions to investments	658	750	750	-92	618
Capital gains from fixed assets		0	0	0	0
Cash flow from operations and investment	-72,174	-92,063	-106,230	34,056	-87,738
Financing					
Change in loans					
Increase in long-term loans	165,000	167,900	167,900	-2,900	160,000
Repayments of long-term loans	-77,928	-75,786	-75,786	-2,142	-53,499
Change in short-term loans	-10,000	0	0	-10,000	-4,830
Change in operating capital	-6,237	0	0	-6,237	0
Other changes in liquidity	-354	0	14,116	-14,470	-4,779
Cash flow from financing	70,481	92,114	106,230	-35,749	96,892
				0	
Impact on liquidity	-1,693	51	0	-1,693	9,154
Change in liquid assets					
Liquid assets, 31 December	10,559	3	3		12,252
Liquid assets, 1 January	12,252	-48	-48		3,098

In 2022, the annual contribution margin was EUR 128.8 million, which was not sufficient to cover the joint municipal authority's loan repayments and investments. EUR 165 million of new long-term loan was taken out during the accounting period. Repayments of old loans amounted to EUR 78 million. Short-term liquidity loans (local government bond programme) were taken out as necessary. At the end of the accounting period, short-term liquidity loans totaled EUR 80 million.

2.1.6 Summary of the realization of appropriations and revenue estimates

The HSY General Meeting approved HSY's action and economical plan for 2022–2024 and binding appropriations for the budget year 2022 on 19 November 2021. On 18 November 2022, the HSY General Meeting approved the change to the binding investment appropriations. The table presents the figures as amended by the HSY General Meeting. The binding appropriations for 2022 were not exceeded.

	FS 2022	Budget 2022 After changes	Difference financial statements– budget after changes	FS/budget %	Original budget	Budget changes
x EUR 1,000						
Water services						
Operating expenses	130,384	135,000	-4,616	96.6%	119,833	15,167
Investment expenses (net)	188,707	204,000	-15,293	92.5%	198,000	6,000
Waste management						
Operating expenses	80,188	86,332	-6,144	92.9%	86,332	0
Investment expenses (net)	21,576	22,350	-774	96.5%	22,350	0

*) Binding investment expenses are investments less external financing that reduces the cost used as the basis for depreciation.

2.2 Water services realization comparisons and separate calculations

2.2.1 Realization of the income statement

x EUR 1,000	FS 2022	Budget 2022 After changes	Difference financial statements -budget after changes	Actual % financial statements /budget	FS 2021	Budget changes	Original budget
OPERATING REVENUE (+)	295,906	295,589	317	100.1%	294,885	0	295,589
Sales proceeds	292,823	293,644	-821	99.7%	293,093	0	293,644
Water sales revenue	95,588	96,727	-1,139	98.8%	94,236	0	96,727
Wastewater revenue	114,448	116,685	-2,237	98.1%	112,696	0	116,685
Basic rates	44,987	41,450	3,537	108.5%	40,313	0	41,450
Water services connection fees	19,159	20,000	-841	95.8%	26,473	0	20,000
Waste transport fees	0	0	0	-	0	0	0
Waste treatment fees	0	0	0	-	0	0	0
Other sales revenue	18,640	18,782	-142	99.2%	19,375	0	18,782
Municipal contributions	0	0	0	-	0	0	0
Fees and charges	0	0	0	-	-1	0	0
Subsidies and grants	1,030	50	980	2,059.2%	243	0	50
Other operating revenue	2,054	1,895	159	108.4%	1,551	0	1,895
Rental revenue	918	1,130	-212	81.2%	928	0	1,130
Other operating revenue	1,136	765	371	148.5%	622	0	765
						0	0
PRODUCTION FOR OWN USE	2,338	2,200	138	106.3%	2,287	0	2,200
						0	0
OPERATING EXPENSES (-)	-130,384	-135,000	4,616	96.6%	-107,286	-15,167	-119,833
Personnel expenses	-26,594	-27,848	1,254	95.5%	-26,791	0	-27,848
Salaries and fees	-21,702	-23,022	1,320	94.3%	-21,929	0	-23,022
Social security expenses	-4,892	-4,826	-66	101.4%	-4,862	0	-4,826
Procured services	-45,332	-49,595	4,263	91.4%	-42,074	0	-49,595
Procured waste transport services	-10	-51	41	19.5%	-64	0	-51
Procured other services	-45,322	-49,544	4,222	91.5%	-42,010	0	-49,544
Materials, supplies and goods	-35,799	-36,109	310	99.1%	-26,816	-8,167	-27,941
Purchases during the accounting period	-35,785	-36,109	324	99.1%	-26,705	-8,167	-27,941
Change in inventories	-13	0	-13	-	-112	0	0
Change in mandatory provisions	-11,886	-11,000	-886	108.1%	-1,340	-7,000	-4,000
Other operating expenses	-10,774	-10,449	-325	103.1%	-10,264	0	-10,449
Rents	-6,695	-7,102	407	94.3%	-6,470	0	-7,102
Waste tax	0	0	0	-	0	0	0
Other operating expenses	-4,078	-3,346	-732	121.9%	-3,795	0	-3,346
						0	0
OPERATING MARGIN	167,860	162,789	5,071	103.1%	189,886	-15,167	177,956
						0	0
FINANCIAL INCOME AND EXPENSES	-66,887	-65,756	-1,131	101.7%	-66,789	0	-65,756
Interest income	0	100	-100	0.0%	0	0	100
Other financial income	3	0	3	-	6	0	0
Interest expenses	-64,133	-63,456	-677	101.1%	-64,285	0	-63,456
Interest on establishment loans to member municipalities	-60,555	-60,551	-4	100.0%	-61,294	0	-60,551
Other interest expenses	-3,578	-2,905	-673	123.2%	-2,992	0	-2,905
Compensation for the share capital	-2,400	-2,400	0	100.0%	-2,400	0	-2,400
Other financial expenses	-357	0	-357	-	-110	0	0
						0	0

ANNUAL CONTRIBUTION MARGIN	100,973	97,033	3,940	104.1%	123,097	-15,167	112,200
						0	0
DEPRECIATION AND AMORTISATION	-98,127	-109,281	11,154	89.8%	-87,551	0	-109,281
						0	0
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	2,846	-12,248	15,094	-23.2%	35,546	-15,167	2,919
						0	0
Change in depreciation difference	0	0	0	-	0	0	0
Change in voluntary provisions	0	0	0	-	0	0	0
Income tax	-725	-512	-213	141.6%	-3,218	0	-512
						0	0
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	2,121	-12,760	14,881	-16.6%	32,329	-15,167	2,407

2.2.2 Realization of investments

x EUR 1,000	FS 2022	Budget 2022 After changes	Difference financial statements – budget after changes	FS/budget after changes, %	FS 2021	Budget 2022 changes	Original budget 2022
CITY-DRIVEN INVESTMENTS	66,024	60,510	5,514	109.1%	51,183	2,160	58,350
Expansion and land use planning of the operating area	66,024	60,510	5,514	109.1%	51,183	2,160	58,350
1 Expansion pursuant to land use planning (area networks)	37,963	32,350	5,613	117.4%	39,483	-150	32,500
2 Expansion into sparsely populated areas	1,401	2,800	-1,399	50.0%	523	-1,700	4,500
3 Pipe transfers	26,660	25,360	1,300	105.1%	11,177	4,010	21,350
							0
WATER SERVICES-DRIVEN INVESTMENTS	123,340	144,240	-20,900	85.5%	160,518	3,840	140,400
Water intake and treatment	8,633	7,924	709	108.9%	15,284	-1,786	9,710
4 New investments in water intake	0	0	0	-	0	0	0
5 Renovation investments in water intake	537	204	333	263.4%	219	-1,306	1,510
6 New investments in water treatment	0	0	0	-	32	0	0
<i>Vanhakaupunki water treatment plant</i>	0	0	0	-	32	0	0
<i>Pitkääkoski water treatment plant</i>	0	0	0	-	0	0	0
<i>Other new investments</i>	0	0	0	-	0	0	0
7 Renovation investments in water treatment	8,096	7,720	376	104.9%	15,033	-480	8,200
							0
Water distribution and sewerage	59,093	83,644	-24,551	70.6%	54,224	-17,266	100,910
8 New investments in water distribution	11,463	15,640	-4,177	73.3%	8,414	2,140	13,500
9 New investments in sewerage	9,952	8,865	1,087	112.3%	10,041	-10,760	19,625
10 Renovation investments in networks	33,850	54,978	-21,128	61.6%	31,439	-6,452	61,430
11 Renovation investments in water distribution equipment	2,226	2,287	-61	97.3%	2,581	-1,373	3,660
12 Renovation investments in sewerage equipment	1,602	1,874	-272	85.5%	1,750	-821	2,695
							0
Wastewater treatment	49,516	44,692	4,824	110.8%	87,513	20,962	23,730
13 New investments in wastewater treatment	45,863	39,600	6,263	115.8%	85,166	21,100	18,500
<i>Viikimäki wastewater treatment plant</i>	0	0	0	-	1	0	0
<i>Blominmäki wastewater treatment plant</i>	45,863	39,600	6,263	115.8%	85,165	21,100	18,500
14 Renovation investments in wastewater treatment	3,653	5,092	-1,439	71.7%	2,347	-138	5,230
15 New investments in outlet tunnels	0	0	0	-	0	0	0
16 Renovation investments in outlet tunnels	0	0	0	-	0	0	0
							0
Other investments (movables, properties etc.)	6,098	7,980	-1,882	76.4%	3,497	1,930	6,050
							0
Contributions to investments	-658	-750	92	87.7%	-618	0	-750
							0
WATER SERVICES INVESTMENTS TOTAL	188,707	204,000	-15,293	92.5%	211,083	6,000	198,000

2.2.3 Cash flow statement

x EUR 1,000	FS 2022		FS 2021	
Cash flow from operations and investment				
Net cash flow				
Annual contribution margin	100,973		123,097	
Extraordinary items	0		0	
Adjustments to net cash flow	<u>11,161</u>	112,134	<u>-1,877</u>	121,220
Investments				
Capital expenditure	-189,365		-211,701	
Contributions to investment expenses	637		618	
Capital gains from fixed assets	0	-188,728	<u>0</u>	-211,083
Cash flow from operations and investment		<u>-76,594</u>		<u>-89,863</u>
Cash flow from financing				
Change in loans				
Increase in long-term loans	142,000		156,000	
Repayments of long-term loans	-57,999		-46,651	
Change in short-term loans	<u>-10,000</u>	74,001	<u></u>	109,349
Change in operating capital		-6,237		0
Other changes in liquidity				
Change in current assets	-301		-137	
Change in receivables	-3,570		-1,618	
Change in interest-free long- and short-term liabilities	<u>19,842</u>	15,971	<u>-5,914</u>	-7,669
Cash flow from financing		<u>83,734</u>		<u>101,680</u>
Change in liquid assets		7,141		11,817
Change in liquid assets				
Liquid assets, 31 December		-11,631		-18,771
Liquid assets, 1 January		<u>-18,771</u>		<u>-30,589</u>
		7,141		11,817
Key figures of the cash flow statement				
Accumulation of cash flows from operations and investment, EUR 1,000		-491,092		-439,154
Net cash flow of investments, %		53.5%		58.3%
Loan coverage ratio		1.4		1.8
Cash adequacy, days		-9.6		-16.0

2.2.4 Balance sheet

x 1,000

ASSETS	FS 2022	FS 2021	LIABILITIES	FS 2022	FS 2021
NON-CURRENT ASSETS	2,599,420	2,508,819	CAPITAL AND RESERVES	628,225	632,341
Intangible assets	7,406	3,316	Initial capital	480,000	480,000
<i>Intangible rights</i>	317	99	Other capital and reserves	0	0
<i>Other capitalised long-term expenses</i>	7,089	3,217	Surplus/deficit from previous accounting periods	146,104	120,012
<i>Advance payments</i>	0	0	Surplus/deficit for the accounting period	2,121	32,329
Tangible assets	2,410,631	2,324,120	DEPRECIATION DIFFERENCE AND PROVISIONS	0	0
<i>Land and water area</i>	3,750	3,750	Depreciation difference	0	0
<i>Buildings</i>	218,187	143,658	Investment provisions	0	0
<i>Fixed structures and installations</i>	2,162,736	1,659,443	MANDATORY PROVISIONS	21,477	9,591
<i>Machinery and equipment</i>	3,592	3,789	Mandatory provisions	21,477	9,591
<i>Other tangible assets</i>	0	0	LIABILITIES	1,984,986	1,891,144
<i>Advance payments and construction in progress</i>	22,365	513,479	Long-term liabilities	1,781,020	1,698,706
Investments	181,383	181,383	Current liabilities	203,966	192,438
<i>Subscribed capital</i>	181,383	181,383			
<i>Other receivables</i>	0	0			
<i>Other loan receivables</i>	0	0			
<i>Other receivables</i>	0	0			
CURRENT ASSETS	35,268	24,257			
<i>Current assets</i>	2,620	2,319			
Receivables	44,280	40,709			
<i>Long-term receivables</i>	0	0			
<i>Short-term receivables</i>	44,280	40,709			
<i>Shares and holdings</i>	0	0			
<i>Cash in hand and at banks</i>	-11,631	-18,771*			
TOTAL ASSETS	2,634,688	2,533,076	TOTAL LIABILITIES	2,634,688	2,533,076
Key figures of the balance sheet	FS 2022	FS 2021			
Equity ratio, %	23.8%	25.0%			
Relative indebtedness, %	670.8%	641.3%			
Accumulated surplus/deficit, EUR thousand	148,225.15	152,341.07			
Accumulated surplus/deficit, EUR thousand/resident	0.1	0.1			
Loans 31 December, EUR thousand	1,842,744	1,754,530			
Loans, EUR thousand/resident	1.5	1.5			
Loan receivables	0	0			
Population of the Helsinki Metropolitan Area	1,223,302	1,205,835			

2.2.5 Additional information regarding the financial statements for stormwater sewerage required by the Water Services Act

The Water Services Act and Land Use and Building Act were amended in autumn 2014, when the sewerage of stormwater was separated from water services. In accordance with the Act (VHL 20.1 §), water services shall, as of 1 January 2015, separate the income statement, balance sheet and cash flow statement with regard to stormwater sewerage. The separation can be made in accounting.

Income statement

HSY charges basic fees and connection fees for stormwater sewerage to its customers. An agreement on compensating HSY for the stormwater sewerage of public areas has been made with the member municipalities. In 2022, the compensation totaled EUR 7.1 million. Currently, no separate metered charge has been collected. Calculated operating expenses are caused by the renovation and maintenance of the stormwater network and coordination of investments. In addition, a share of administrative overhead expenses is allocated to stormwater. The share of member municipality loans and other external loans concerning the stormwater network is allocated to financial expenses. Depreciation is determined according to the annual investments in the stormwater network and balance sheet value of fixed assets. The payment structure of HSY Water services will be reviewed, and one of the aims is to improve the cost correlation of fees. With regard to stormwater, fixing the negative margin of stormwater fees is the long-term goal.

Income statement

x EUR 1,000	FS 2022	FS 2021
OPERATING REVENUE	19,488	20,301
OPERATING EXPENSES	-5,776	-6,402
OPERATING MARGIN	13,712	13,898
Financial expenses	-9,621	-9,373
ANNUAL CONTRIBUTION MARGIN	4,091	4,525
Depreciation and amortisation	-15,806	-14,371
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	-11,715	-9,894

Balance sheet

The balance sheet assets are comprised of the stormwater sewer network and calculated stormwater share of the combined sewer network. Approximately 40% of the flow mass of the combined sewer network is stormwater.

x EUR 1,000	FS 2022	FS 2021	x EUR 1,000	FS 2022	FS 2021
NON-CURRENT ASSETS	378,952	355,522	CAPITAL AND RESERVES	-55,051	-44,818
Rainwater sewer network	372,237	348,412	Initial capital	69,040	67,369

Combined sewer network	6,715	7,110	Surplus/deficit for accounting periods	-124,089	-112,187
CURRENT ASSETS	0	0	LIABILITIES	434,001	400,340
ASSETS	378,952	355,522	LIABILITIES	378,952	355,522

Cash flow statement

x EUR 1,000	FS 2022	FS 2021
Cash flow from operations and investment		
Net cash flow (annual contribution margin)	4,091	4,525
Investments	-39,236	-57,287
Cash flow from operations and investment	-35,145	-52,762
Cash flow from financing		
Increase in long-term loans	35,145	52,762
Cash flow from financing	35,145	52,762
Change in liquid assets	0	0

2.2.6 Differentiation of accounting for mull sales operations as required by the Finnish Competition and Consumer Authority

Section 30 d of the Competition Act requires that competitive actions by public bodies must be differentiated in accounting. HSY's mull sales operations are a part of the recycling of sludge collected during wastewater treatment, and they are a loss-generating business. The differentiation of accounting has been performed since the revenue from the operations is over EUR 40,000 (minor operations) and the structure of operations is not a direct consequence of the legislation.

Income statement

x EUR 1,000	FS 2022
OPERATING REVENUE	1,413
OPERATING EXPENSES	-4,893
OPERATING MARGIN	-3,480
Financial expenses	-55
ANNUAL CONTRIBUTION MARGIN	-3,535
Depreciation and amortisation	-103
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	-3,638

Balance sheet

The balance sheet assets are comprised of the Sipoo Metsäpirtti land area, investments in the composting field and the machinery and equipment used in sludge processing.

x EUR 1,000	FS 2022	x EUR 1,000	FS 2022
NON-CURRENT ASSETS	2,150	CAPITAL AND RESERVES	-3,246
Land area	1,260	Initial capital	392
Machinery, equipment etc.	890	Surplus/deficit for the accounting period	-3,638
CURRENT ASSETS	0	LIABILITIES	5,396
ASSETS	2,150	LIABILITIES	2,150

Cash flow statement

x EUR 1,000	FS 2022
Cash flow from operations and investment	
Net cash flow (annual contribution margin)	-3,535
Investments	-560
Cash flow from operations and investment	-4,095
Cash flow from financing	
Increase in long-term loans	4,095
Cash flow from financing	4,095

2.3 Waste management realization comparisons and separate calculations

2.3.1 Realization of the income statement

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements– budget	Actual % financial statements/budget	FS 2021
OPERATING REVENUE (+)	104,525	100,718	3,807	103.8%	100,832
Sales proceeds	102,810	98,356	4,454	104.5%	98,530
Water sales revenue	0	0	0	-	0
Wastewater revenue	0	0	0	-	0
Basic rates	0	0	0	-	0
Water services connection fees	0	0	0	-	0
Waste transport fees	85,571	83,268	2,303	102.8%	82,341
Waste treatment fees	8,783	10,055	-1,272	87.4%	9,587
Other sales revenue	8,456	5,033	3,423	168.0%	6,601
Municipal contributions	0	0	0	-	0
Fees and charges	314	352	-38	89.3%	334
Subsidies and grants	118	925	-807	12.8%	747
Other operating revenue	1,282	1,085	197	118.2%	1,220
Rental revenue	1,097	1,050	47	104.4%	1,008
Other operating revenue	185	35	150	529.5%	212
PRODUCTION FOR OWN USE	0	0	0	-	0
OPERATING EXPENSES (-)	-80,188	-86,332	6,144	92.9%	-80,107
Personnel expenses	-8,522	-8,830	308	96.5%	-8,217
Salaries and fees	-6,842	-7,178	336	95.3%	-6,576
Social security expenses	-1,681	-1,652	-28	101.7%	-1,640
Procured services	-67,226	-72,833	5,607	92.3%	-67,564
Procured waste transport services	-34,132	-34,576	444	98.7%	-32,215
Procured other services	-33,094	-38,257	5,163	86.5%	-35,349
Materials, supplies and goods	-3,104	-3,052	-53	101.7%	-2,862
Purchases during the accounting period	-3,104	-3,052	-53	101.7%	-2,862
Change in inventories	0	0	0	-	0
Change in mandatory provisions	618	340	278	181.8%	380
Other operating expenses	-1,953	-1,958	4	99.8%	-1,846
Rents	-1,135	-1,224	89	92.7%	-1,157
Waste tax	-67	-31	-36	215.0%	-22
Other operating expenses	-751	-702	-49	107.0%	-667
OPERATING MARGIN	24,337	14,386	9,951	169.2%	20,724
FINANCIAL INCOME AND EXPENSES	1,776	530	1,246	335.0%	1,538
Interest income	0	0	0	-	0
Other financial income	2,335	2,500	-165	93.4%	2,503
Interest expenses	-434	-1,970	1,536	22.0%	-839
<i>Interest on establishment loans to member municipalities</i>	0	0	0	-	0
<i>Other interest expenses</i>	-434	-1,970	1,536	22.0%	-839
Compensation for the share capital	-125	0	-125	-	-125
Other financial expenses	-1	0	-1	-	-1
ANNUAL CONTRIBUTION MARGIN	26,113	14,916	11,197	175.1%	22,262
DEPRECIATION AND AMORTISATION	-16,854	-15,597	-1,257	108.1%	-17,988

FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	9,259	-681	9,940	-1,358.8%	4,275
Change in depreciation difference	487	487	0	100.0%	592
Change in voluntary provisions	0	0	0	-	0
Income tax	0	0	0	-	0
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	9,745	-194	9,940	-5,014.1%	4,867

2.3.2 Realization of investments

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements– budget	FS/budget %	FS 2021
REGIONAL SERVICE-DRIVEN INVESTMENTS	3,611	4,480	-869	80.6%	3,741
1 Construction of Sortti Stations (new)	59	750	-691	7.8%	991
2 Regional services repair and supplementation work	2,928	2,800	128	104.6%	2,140
3 Regional services equipment purchases and regional collection network	625	930	-305	67.2%	610
TREATMENT SERVICE-DRIVEN INVESTMENTS	14,245	13,120	1,125	108.6%	9,953
Environmental impact management	4,477	4,250	227	105.3%	3,389
4 Collection and utilisation of landfill gas	361	600	-239		393
5 Water collection and conduction	2,932	2,550	382	115.0%	587
6 Finalising structures	1,184	1,100	84	107.6%	2,408
Development of regions and functions and investments required by them	9,769	8,870	899	110.1%	6,564
7 Treatment of biowaste	3,144	2,950	194	106.6%	2,794
8 Ämmässuo expansion area	3,127	1,700	1,427	184.0%	86
9 Development of infrastructure and investments required by it	3,293	3,800	-507	86.6%	3,602
10 Machinery, equipment and buildings of treatment services	155	170	-15	91.4%	83
11 Investments in energy and material efficiency	49	250	-201	19.7%	0
OTHER INVESTMENTS	3,719	4,750	-1,031	78.3%	5,940
Transport service-driven investments	1,707	1,800	-93	94.8%	2,085
12 Waste transport equipment purchases	1,707	1,800	-93		2,085
Other investments supporting operations	2,012	2,950	-938	68.2%	3,855
13 Land acquisition	0	200	-200	0.0%	0
14 Other investments	2,012	2,750	-738	73.2%	3,855
Contributions to investment expenses	0	0	0	-	0
WASTE MANAGEMENT INVESTMENTS TOTAL	21,576	22,350	-774	96.5%	19,635

2.3.3 Cash flow statement

x EUR 1,000	FS 2022		FS 2021	
Cash flow from operations and investment				
Net cash flow				
Annual contribution margin	26,113		22,262	
Extraordinary items	0		0	
Adjustments to net cash flow	<u>-618</u>	25,495	<u>-380</u>	21,882
Investments				
Capital expenditure	-21,576		-19,635	
Contributions to investment expenses	0		0	
Capital gains from fixed assets	0	-21,576	<u>0</u>	-19,635
Cash flow from operations and investment		<u>3,919</u>		<u>2,247</u>
Cash flow from financing				
Change in loans				
Increase in long-term loans	23,000		0	
Repayments of long-term loans	-19,929		-2,848	
Change in short-term loans	<u>0</u>	3,071	<u>0</u>	-2,848
Change in operating capital		0		0
Other changes in liquidity				
Change in current assets				
Change in receivables	286		10,232	
Change in interest-free long- and short-term liabilities	<u>-14,342</u>	-14,057	<u>271</u>	10,502
Cash flow from financing		<u>-10,985</u>		<u>7,655</u>
Change in liquid assets		-7,067		9,902
Change in liquid assets				
Liquid assets, 31 December		-44,275		-37,208
Liquid assets, 1 January		<u>-37,208</u>		<u>-47,110</u>
		-7,067		9,902
Key figures of the cash flow statement				
Accumulation of cash flows from operations and investment, EUR 1,000		30,549		39,115
Net cash flow of investments, %		121.0%		113.4%
Loan coverage ratio		1.3		6.3
Cash adequacy, days		-132.3		-131.3

2.3.4 Balance sheet

x EUR 1,000

ASSETS	FS 2022	FS 2021	LIABILITIES	FS 2022	FS 2021
NON-CURRENT ASSETS	222,284	217,562	CAPITAL AND RESERVES	87,326	77,580
Intangible assets	2,097	2,152	Initial capital	25,000	25,000
<i>Intangible rights</i>	<i>2,097</i>	<i>2,152</i>	Other capital and reserves	2,570	2,570
<i>Other capitalised long-term expenses</i>	<i>0</i>	<i>0</i>	Surplus/deficit from previous accounting periods	50,010	45,143
<i>Advance payments</i>	<i>0</i>	<i>0</i>	Surplus/deficit for the accounting period	9,745	4,867
Tangible assets	219,691	214,914	DEPRECIATION DIFFERENCE AND PROVISIONS	1,681	2,168
<i>Land and water area</i>	<i>15,481</i>	<i>15,481</i>	Depreciation difference	1,681	2,168
<i>Buildings</i>	<i>56,994</i>	<i>58,917</i>	Investment provisions	0	0
<i>Fixed structures and installations</i>	<i>131,591</i>	<i>127,512</i>	MANDATORY PROVISIONS	26,325	26,943
<i>Machinery and equipment</i>	<i>4,721</i>	<i>4,377</i>	Mandatory provisions	26,325	26,943
<i>Other tangible assets</i>	<i>0</i>	<i>0</i>	LIABILITIES	74,376	85,647
<i>Advance payments and construction in progress</i>	<i>10,904</i>	<i>8,627</i>	Long-term liabilities	55,200	50,929
Investments	495	495	Current liabilities	19,176	34,718
<i>Subscribed capital</i>	<i>495</i>	<i>495</i>			
<i>Other receivables</i>	<i>0</i>	<i>0</i>			
CURRENT ASSETS	-32,577	-25,224			
<i>Current assets</i>	<i>0</i>	<i>0</i>			
Receivables	11,699	11,984			
<i>Long-term receivables</i>	<i>0</i>	<i>0</i>			
<i>Short-term receivables</i>	<i>11,699</i>	<i>11,984</i>			
<i>Shares and holdings</i>	<i>0</i>	<i>0</i>			
<i>Cash in hand and at banks</i>	<i>-44,275</i>	<i>-37,208*</i>			
TOTAL ASSETS	189,707	192,338	TOTAL LIABILITIES	189,707	192,338
Key figures of the balance sheet	FS 2022	FS 2021			
Equity ratio, %	46.9%	41.5%			
Relative indebtedness, %	71.2%	84.9%			
Accumulated surplus/deficit, EUR thousand	59,755.26	50,009.85			
Accumulated surplus/deficit, EUR thousand/resident	0.0	0.0			
Loans 31 December, EUR thousand	61,929	73,071			
Loans, EUR thousand/resident	0.1	0.1			
Loan receivables	0	0			
Population of the Helsinki Metropolitan Area	1,223,302	1,205,835			

2.4 Regional and environmental information realization comparisons

2.4.1 Realization of the income statement

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements– budget	Actual % financial statements/budget	FS 2021
OPERATING REVENUE (+)	5,544	5,307	237	104.5%	5,061
Sales proceeds	958	950	8	100.8%	906
Municipal contributions	4,235	3,914	321	108.2%	3,863
Fees and charges	0	0	0	-	0
Subsidies and grants	351	443	-92	79.3%	291
Other operating revenue	0	0	0	-	0
PRODUCTION FOR OWN USE	0	0	0	-	0
OPERATING EXPENSES (-)	-5,130	-5,295	165	96.9%	-4,804
Personnel expenses	-2,748	-2,589	-159	106.1%	-2,580
Salaries and fees	-2,193	-2,103	-90	104.3%	-2,062
Social security expenses	-555	-486	-69	114.2%	-518
Procured services	-1,997	-2,337	340	85.4%	-1,887
Materials, supplies and goods	-136	-115	-21	118.0%	-103
Change in mandatory provisions	0	0	0	-	0
Other operating expenses	-250	-254	4	98.3%	-233
Rents	-231	-240	9	96.1%	-219
Other operating expenses	-19	-14	-5	136.7%	-14
OPERATING MARGIN	414	12	402	3,585.7%	257
FINANCIAL INCOME AND EXPENSES	0	0	0	-	0
ANNUAL CONTRIBUTION MARGIN	414	12	402	3,585.4%	257
DEPRECIATION AND AMORTISATION	-218	-228	11	95.2%	-202
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	196	-217	413	-90.5%	55
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	196	-217	413	-90.5%	55

2.4.2 Realization of investments

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements– budget	FS/budget %	FS 2021
Regional and environmental information investments	137	220	-83	62.5%	138

2.5 Support services realization comparisons

2.5.1 Realization of the income statement

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements– budget	Actual % financial statements/budget	FS 2021
OPERATING REVENUE (+)	9,181	9,919	-737	92.6%	8,295
Sales proceeds	9,180	9,919	-739	92.5%	8,290
Other sales revenue	9,180	9,919	-739	92.5%	8,290
Municipal contributions	0	0	0	-	0
Fees and charges	0	0	0	-	0
Subsidies and grants	0	0	0	-	0
Other operating revenue	2	0	2	-	5
Rental revenue	0	0	0	-	2
Other operating revenue	1	0	1	-	2
PRODUCTION FOR OWN USE	0	0	0	-	0
OPERATING EXPENSES (-)	-8,846	-9,312	466	95.0%	-7,955
Personnel expenses	-3,818	-4,238	420	90.1%	-3,837
Salaries and fees	-3,129	-3,504	375	89.3%	-3,153
Social security expenses	-689	-734	46	93.8%	-684
Procured services	-4,477	-4,263	-214	105.0%	-3,557
Procured waste transport services	0	0	0	-	0
Procured other services	-4,477	-4,263	-214	105.0%	-3,557
Materials, supplies and goods	-135	-288	153	47.0%	-128
Purchases during the accounting period	-135	-288	153	47.0%	-115
Change in inventories	0	0	0	-	-13
Change in mandatory provisions	0	0	0	-	0
Other operating expenses	-415	-523	107	79.5%	-433
Rents	-389	-451	62	86.3%	-423
Waste tax	0	0	0	-	0
Other operating expenses	-26	-72	46	36.7%	-10
OPERATING MARGIN	336	607	-271	55.3%	339
FINANCIAL INCOME AND EXPENSES	-2	0	-2	-	-1
Interest income	0	0	0	-	0
Other financial income	0	0	0	-	0
Interest expenses	0	0	0	-	0
<i>Interest on establishment loans to member municipalities</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>-</i>	<i>0</i>
<i>Other interest expenses</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>-</i>	<i>0</i>
Other financial expenses	-2	0	-2	-	-1
ANNUAL CONTRIBUTION MARGIN	334	607	-273	55.0%	338
DEPRECIATION AND AMORTISATION	-334	-607	273	55.0%	-340
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	0	0	0	402,199.1%	-2
Change in depreciation difference	0	0	0	-	0
Change in voluntary provisions	0	0	0	-	0
Income tax	0	0	0	-	0
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	0	0	0	0.0%	-2

2.5.2 Realization of investments

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements- budget	FS/budget %	FS 2021
Support services investments	767	2,964	-2,197	25.9%	470

2.6 Customer service realization comparisons

2.6.1 Realization of the income statement

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements -budget	Actual % financial statements/budge t	FS 2021
OPERATING REVENUE (+)	2,871	3,075	-203	93.4%	2,915
Sales proceeds	2,871	3,075	-203	93.4%	2,915
Other sales revenue	2,871	3,075	-203	93.4%	2,915
Municipal contributions	0	0	0	-	0
Fees and charges	0	0	0	-	0
Subsidies and grants	0	0	0	-	0
Other operating revenue	0	0	0	-	0
Rental revenue	0	0	0	-	0
Other operating revenue	0	0	0	-	0
PRODUCTION FOR OWN USE	0	0	0	-	0
OPERATING EXPENSES (-)	-2,700	-2,882	182	93.7%	-2,766
Personnel expenses	-1,976	-1,958	-17	100.9%	-2,045
Salaries and fees	-1,624	-1,619	-5	100.3%	-1,684
Social security expenses	-352	-339	-13	103.8%	-361
Procured services	-531	-744	213	71.3%	-536
Procured waste transport services	0	0	0	-	0
Procured other services	-531	-744	213	71.3%	-536
Materials, supplies and goods	-20	-17	-3	116.5%	-11
Purchases during the accounting period	-20	-17	-3	116.5%	-11
Change in inventories	0	0	0	-	0
Change in mandatory provisions	0	0	0	-	0
Other operating expenses	-174	-163	-11	107.0%	-173
Rents	-173	-161	-12	107.4%	-171
Waste tax	0	0	0	-	0
Other operating expenses	-2	-2	0	75.6%	-2
OPERATING MARGIN	171	193	-22	88.8%	149
FINANCIAL INCOME AND EXPENSES	0	0	0	-	0
Interest income	0	0	0	-	0
Other financial income	0	0	0	-	0
Interest expenses	0	0	0	-	0
<i>Interest on establishment loans to member municipalities</i>	0	0	0	-	0
<i>Other interest expenses</i>	0	0	0	-	0
Other financial expenses	0	0	0	-	0
ANNUAL CONTRIBUTION MARGIN	171	193	-22	88.6%	149
DEPRECIATION AND AMORTISATION	-171	-193	22	88.6%	-149
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	0	0	0	-428,610.1%	0
Change in depreciation difference	0	0	0	-	0
Change in voluntary provisions	0	0	0	-	0
Income tax	0	0	0	-	0
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	0	0	0	324.5%	0

2.6.2 Realization of investments

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements- budget	FS/budget %	FS 2021
Customer service investments	11	0	11	-	272

2.7 Management, control and development units realization comparisons

2.7.1 Realization of the income statement

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements– budget	Actual % financial statements/budget	FS 2021
OPERATING REVENUE (+)	10,260	11,349	-1,089	90.4%	9,987
Sales proceeds	9,864	10,712	-848	92.1%	9,228
Water sales revenue	0	0	0	-	0
Wastewater revenue	0	0	0	-	0
Basic rates	0	0	0	-	0
Water services connection fees	0	0	0	-	0
Waste transport fees	0	0	0	-	0
Waste treatment fees	0	0	0	-	0
Other sales revenue	9,864	10,712	-848	92.1%	9,228
Municipal contributions	107	428	-321	25.0%	423
Fees and charges	0	0	0	-	0
Subsidies and grants	86	74	12	116.8%	160
Other operating revenue	203	135	68	150.2%	176
Rental revenue	0	0	0	-	1
Other operating revenue	203	135	68	150.2%	176
PRODUCTION FOR OWN USE	0	0	0	-	0
OPERATING EXPENSES (-)	-9,414	-10,428	1,014	90.3%	-9,139
Personnel expenses	-4,899	-5,221	322	93.8%	-5,392
Salaries and fees	-3,944	-4,238	293	93.1%	-4,324
Social security expenses	-955	-984	29	97.1%	-1,068
Procured services	-3,978	-4,639	661	85.7%	-3,218
Procured waste transport services	0	0	0	-	0
Procured other services	-3,978	-4,639	661	85.7%	-3,218
Materials, supplies and goods	-59	-92	33	63.8%	-87
Purchases during the accounting period	-59	-92	33	63.8%	-87
Change in inventories	0	0	0	-	0
Change in mandatory provisions	0	0	0	-	0
Other operating expenses	-477	-475	-3	100.5%	-442
Rents	-418	-439	21	95.3%	-401
Waste tax	0	0	0	-	0
Other operating expenses	-59	-36	-23	165.5%	-42
OPERATING MARGIN	846	921	-75	91.9%	848
FINANCIAL INCOME AND EXPENSES	-63	-80	17	78.1%	-53
Interest income	0	0	0	-	0
Other financial income	94	0	94	-	81
Interest expenses	-40	0	-40	-	-35
<i>Interest on establishment loans to member municipalities</i>	0	0	0	-	0
<i>Other interest expenses</i>	-40	0	-40	-	-35
Other financial expenses	-117	-80	-37	146.8%	-99
ANNUAL CONTRIBUTION MARGIN	784	841	-58	93.2%	795
DEPRECIATION AND AMORTISATION	-742	-841	99	88.2%	-826
FINANCIAL RESULT FOR THE ACCOUNTING PERIOD	42	0	42	-51,585.6%	-31
Change in depreciation difference	0	0	0	-	0
Change in voluntary provisions	0	0	0	-	0

Income tax	0	0	0	-	0
SURPLUS/DEFICIT FOR THE ACCOUNTING PERIOD	41	0	42	-51,465.4%	-31

2.7.2 Realization of investments

x EUR 1,000	FS 2022	BUDGET 2022	Difference financial statements– budget	FS/budget %	FS 2021
Management, control and development investments	307	445	-138	68.9%	782

3 Financial statements calculations

3.1 Joint municipal authority's financial statements calculations

3.1.1 Income statement

Euroa	1.1. - 31.12.2022		1.1. - 31.12.2021	
Toimintatuotot				
Myyntituotot	394 429 224,70		390 478 978,36	
Kuntaosuudet	4 342 004,88		4 286 306,73	
Maksutuotot	314 222,41		332 743,55	
Tuet ja avustukset	1 584 490,30		1 440 857,46	
Muut toimintatuotot	3 513 717,07	404 183 659,36	2 932 007,77	399 470 893,87
Valmistus omaan käyttöön		2 337 745,77		2 287 162,12
Toimintakulut				
Palkat ja palkkiot	-39 433 327,31		-39 728 693,93	
Henkilösivukulut				
Eläkekulut	-8 305 762,63		-7 306 207,35	
Muut henkilösivukulut	-817 520,30		-1 826 698,45	
Palvelujen ostot	-99 523 695,61		-96 408 443,77	
Aineet, tarvikkeet ja tavarat	-39 193 079,95		-29 952 640,88	
Muut toimintakulut	-25 284 553,75	-212 557 939,55	-14 331 285,61	-189 553 969,99
TOIMINTAKATE		193 963 465,58		212 204 086,00
Rahoitustuotot ja -kulut				
Korkotuotot	0,00		0,00	
Muut rahoitustuotot	2 432 477,38		2 590 366,88	
Korkokulut	-64 606 094,88		-65 159 597,30	
Muut rahoituskulut	-3 002 170,01	-65 175 787,51	-2 735 673,16	-65 304 903,58
VUOSIKATE		128 787 678,07		146 899 182,42
Poistot ja arvonalentumiset				
Suunnitelman mukaiset poistot		-116 444 910,84		-107 056 146,12
Satunnaiset erät		0,00		0,00
TILIKAUDEN TULOS		<u>12 342 767,23</u>		<u>39 843 036,30</u>
Poistoeron lisäys (-) tai vähennys (+)		486 930,00		591 930,00
Varausten lisäys (-) tai vähennys (+)		0,00		0,00
Tuloverot		-725 215,23		-3 217 545,75
TILIKAUDEN YLI-/ALIJÄÄMÄ		<u>12 104 482,00</u>		<u>37 217 420,55</u>
Tuloslaskelman tunnusluvut				
Toimintatuotot, %:a toimintakuluista		192,3 %		213,3 %
Vuosikate, %:a poistoista		110,6 %		137,2 %
Vuosikate, euroa/asukas		105,28		121,82
Asukasmäärä		1 223 302		1 205 835

3.1.2 Cash flow statement

EUR	31 December 2022		31 December 2021	
Cash flow from operations and investment				
Net cash flow				
Annual contribution margin	128,787,678.07		146,899,182.42	
Extraordinary items	0.00		0.00	
Adjustments to net cash flow	<u>10,542,360.46</u>	139,330,038.53	<u>-2,257,488.40</u>	144,641,694.02
Investments				
Investment expenses	-212162172.76		-232,997,825.15	
Contributions to investment expenses	657,763.59		618,219.05	
Capital gains from fixed assets	<u>0.00</u>	-211,504,409.17	<u>0.00</u>	-232,379,606.10
Cash flow from operations and investment		<u>-72,174,370.64</u>		<u>-87,737,912.08</u>
Cash flow from financing				
Change in loans				
Increase in long-term loans	165,000,000.00		156,000,000.00	
Repayments of long-term loans	-77,928,069.75		-54,329,192.13	
Change in short-term loans	<u>-10,000,000.01</u>	77,071,930.24	<u>0.00</u>	101,670,807.87
Change in operating capital	-6,237,337.19	-6,237,337.19		0.00
Other changes in liquidity				
Change in current assets	-300,737.20		-123,444.45	
Change in receivables	-3,375,958.17		9,575,821.72	
Change in interest-free liabilities	3,323,164.98		-14,231,321.70	
Adjustments to liquidity	<u>0.00</u>	-353,530.39	<u>0.00</u>	-4,778,944.43
Cash flow from financing		<u>70,481,062.66</u>		<u>96,891,863.44</u>
Change in liquid assets		<u>-1,693,307.98</u>		<u>9,153,951.36</u>
Change in liquid assets				
Liquid assets, 31 December		10,558,556.00		12,251,863.98
Liquid assets, 1 January		<u>12,251,863.98</u>		<u>3,097,912.62</u>
		<u>-1,693,307.98</u>		<u>9,153,951.36</u>
Key figures of the cash flow statement				
Accumulation of cash flows from operations and investment, EUR		-456,500,746.69		-398,251,570.57
Net cash flow of investments, %		60.9%		63.2%
Loan coverage ratio		1.36		1.77
Computational loan coverage ratio		0.64		0.72
Cash adequacy, days		6.8		8.3
Number of residents		1,223,302		1,205,835

3.1.3 Balance sheet

ASSETS

EUR	31 December 2022		31 December 2021	
Non-current assets				
Intangible assets				
Intangible rights	5,171,830.52		4,895,827.09	
Other capitalised long-term expenses	7,782,834.96		3,970,621.53	
Advance payments	<u>0.00</u>	12,954,665.48	<u>0.00</u>	8,866,448.62
Tangible assets				
Land and water area	19,231,458.66		19,231,458.66	
Buildings	275,807,540.61		203,238,157.61	
Fixed structures and installations	2,294,852,426.19		1,787,409,855.70	
Transport vehicles	2,529,217.74		2,832,579.04	
Other machinery and equipment	6,128,074.32		5,752,855.29	
Advance payments and construction in progress	<u>32,257,763.31</u>	2,630,806,480.83	<u>521,370,292.91</u>	2,539,835,199.21
Investments				
Subscribed capital		182,542,486.04		182,542,486.04
Other receivables		<u>0.00</u>		<u>0.00</u>
Non-current assets total		<u>2,826,303,632.35</u>		<u>2,731,244,133.87</u>
Current assets				
Current assets				
Materials and supplies		2,606,319.66		2,305,582.46
Short-term receivables				
Sales receivables	19,748,343.88		16,169,583.33	
Loan receivables	443,875.88		421,961.81	
Other receivables	25,844.87		19,353.30	
Prepayments and accrued income	<u>36,396,607.40</u>	56,614,672.03	<u>36,627,815.42</u>	53,238,713.86
Shares and holdings		0.00		0.00
Cash in hand and at banks		10,558,556.00		12,251,863.98
Current assets total		<u>69,779,547.69</u>		<u>67,796,160.30</u>
TOTAL ASSETS		<u>2,896,083,180.04</u>		<u>2,799,040,294.17</u>

LIABILITIES

EUR	31 December 2022		31 December 2021	
Capital and reserves				
Initial capital	505,000,000.00		505,000,000.00	
Other capital and reserves	2,570,498.00		2,570,498.00	
Surplus/deficit from previous accounting periods	259,998,230.85		229,018,147.49	
Surplus/deficit for the accounting period	<u>12,104,482.00</u>	<u>779,673,210.85</u>	<u>37,217,420.55</u>	<u>773,806,066.04</u>
Depreciation difference and voluntary provisions				
Depreciation difference	1,680,985.12		2,167,915.12	
Voluntary provisions	<u>0.00</u>	<u>1,680,985.12</u>	<u>0.00</u>	<u>2,167,915.12</u>
Mandatory provisions				
Other mandatory provisions		<u>47,801,634.11</u>		<u>36,534,058.42</u>
Liabilities				
Long-term				
Loans from financial institutions and insurance companies	630,756,268.80		530,170,792.22	
Loans from member municipalities	1,118,002,148.98		1,132,002,148.98	
Connection fees and other liabilities	<u>87,462,107.21</u>	<u>1,836,220,524.99</u>	<u>87,465,147.21</u>	<u>1,749,638,088.41</u>
Short-term				
Debentures	80,000,000.00		90,000,000.01	
Loans from financial institutions and insurance companies	61,914,523.42		61,428,069.73	
Loans from member municipalities	14,000,000.00		14,000,000.00	
Accounts payable	42,524,686.74		44,066,807.64	
Other liabilities	6,972,431.13		8,834,643.16	
Accrued interest	1,163,545.71		940,757.48	
Other accrued expenses and deferred income	<u>24,131,637.97</u>	<u>230,706,824.97</u>	<u>17,623,888.16</u>	<u>236,894,166.18</u>
Total liabilities		<u>2,066,927,349.96</u>		<u>1,986,532,254.59</u>
TOTAL LIABILITIES		<u>2,896,083,180.04</u>		<u>2,799,040,294.17</u>

Key figures of the balance sheet

Equity ratio, %	27.0%	27.7%
Relative indebtedness, %	511.4%	497.3%
Liabilities, % of operating revenue	529.7%	516.6%
Accumulated surplus/deficit, EUR	272,102,712.85	266,235,568.04
Accumulated surplus/deficit, EUR/resident	222.43	220.79
Loans 31 December, EUR	1,904,672,941.20	1,827,601,010.94
Loans, EUR/resident	1,556.99	1,515.63
Loans and liabilities, 31 December	1,978,630,477.33	1,904,877,922.96
Loans and liabilities, EUR/resident	1,617.45	1,579.72
Loan receivables, EUR	0.00	0.00
Population of the Helsinki Metropolitan Area, 31 December	1,223,302	1,205,835

3.2 Consolidated financial statements calculations

3.2.1 Consolidated income statement

EUR	1 January–31 December 2022		1 January–31 December 2021	
Operating revenue	414,722,870.04		411,513,881.43	
Operating expenses	-215,259,350.65		-193,193,565.00	
Share of the profit/loss of affiliates	318,415.00		205,423.82	
Operating margin	199,781,934.38		218,525,740.24	
Financial income and expenses				
Interest income	815.72			24.73
Other financial income	117,145.83			100,883.69
Interest expenses	-64,642,677.69			-65,198,534.42
Other financial expenses	-3,012,925.94	-67,537,642.08	-2,750,294.31	-67,847,920.32
Annual contribution margin	132,244,292.31		150,677,819.93	
Depreciation, amortisation and impairment				
Depreciation and amortisation according to plan	-120,139,302.30			-120,822,310.29
Elimination differences of ownership	14,682.46			0.00
Impairment	0.00	-120,124,619.84	0.00	-110,692,702.31
Extraordinary items	0.00		0.00	
Financial result for the accounting period	12,119,672.46		39,985,117.61	
Appropriations	0.00		0.00	
Taxes for the accounting period	-1,360,101.81		-3,965,908.96	
Deferred taxes				
Minority interests	-234,872.23		-341,514.88	
Surplus/deficit for the accounting period	10,524,698.42		35,677,693.77	
Key figures of the income statement	1 January–31 December 2022		1 January–31 December 2021	
Operating revenue, % of operating expenses	192.7%		213.0%	
Annual contribution margin, % of depreciation and amortisation	110.1%		136.1%	
Annual contribution margin, EUR/resident	108.10		124.96	
Number of residents	1,223,302		1,205,835	

3.2.2 Consolidated cash flow statement

EUR	1 January–31 December 2022		1 January–31 December 2021	
Cash flow from operations				
Annual contribution margin	132,244,292.31		150,677,819.93	
Extraordinary items	0.00		0.00	
Taxes for the accounting period	-1,360,101.81		-3,965,908.96	
Adjustments to net cash flow	<u>10,949,160.69</u>	141,833,351.19	<u>754,633.53</u>	147,466,544.50
Cash flow from investment				
Investment expenses	-213,185,734.68		-233,453,616.23	
Contributions to investment expenses	657,763.59		618,219.05	
Capital gains from fixed assets	0.00		0.00	
Adjustments to investments	<u>0.00</u>	-212,527,971.09	<u>0.00</u>	-232,835,397.18
Cash flow from operations and investment		-70,694,619.90		-85,368,852.68
Cash flow from financing				
Change in loans				
Increase in long-term loans	165,295,830.00		156,000,000.00	
Repayments of long-term loans	-79,711,143.80		-56,111,650.00	
Change in short-term loans	<u>-10,000,000.01</u>	75,584,686.19	<u>0.00</u>	99,888,348.20
Change in operating capital		-6,824,445.79		-512,731.21
Other changes in liquidity				
Change in current assets	-300,737.20		-123,444.45	
Change in receivables	-2,713,266.40		9,500,686.80	
Change in interest-free liabilities	<u>2,990,050.68</u>	-23,952.92	<u>-14,130,815.39</u>	-4,753,573.05
Cash flow from financing		68,736,287.49		94,622,043.94
Change in liquid assets		-1,958,332.42		9,253,191.26
Change in liquid assets				
Liquid assets, 31 December		14,281,601.58		16,239,933.99
Liquid assets, 1 January		<u>16,239,933.99</u>		<u>6,986,742.73</u>
		-1,958,332.42		9,253,191.26
Key figures of the cash flow statement				
Accrued cash flows from operations and investment, EUR *)		-445,821,650.24		-386,080,873.32
Net cash flow of investments, %		62.2%		64.7%
Loan coverage ratio		1.36		1.78
Computational loan coverage ratio		0.63		0.71
Cash adequacy, days		9.0		10.8

3.2.3 Consolidated balance sheet

ASSETS	31 December 2022		31 December 2021	
NON-CURRENT ASSETS				
Intangible assets				
Intangible rights	5,171,830.52		4,895,827.09	
Other capitalised long-term expenses	7,796,502.70		4,178,951.92	
Advance payments	<u>0.00</u>	12,968,333.22	<u>0.00</u>	9,074,779.01
Tangible assets				
Land and water area	19,436,106.00		19,436,085.27	
Buildings	319,532,141.69		249,660,347.35	
Fixed structures and installations	2,302,666,499.64		1,795,556,273.74	
Machinery and equipment	9,670,520.71		9,667,505.26	
Other tangible assets	0.00		0.00	
Advance payments and construction in progress	<u>32,955,255.48</u>	2,684,260,523.52	<u>521,428,991.38</u>	2,595,749,203.01
Investments				
Holdings in associated companies	1,561,803.52		1,243,388.51	
Other subscribed capital	720.00		720.00	
Bond receivables	0.00		0.00	
Other loan receivables	0.00		0.00	
Other receivables	<u>0.00</u>	1,562,523.52	<u>0.00</u>	1,244,108.51
CURRENT ASSETS				
Current assets				
Materials and supplies		2,606,319.66		2,305,582.46
Receivables				
Short-term receivables				
Sales receivables	21,006,071.15		18,734,154.32	
Loan receivables	443,875.88		421,961.81	
Deferred tax assets	0.00		0.00	
Other receivables	144,442.76		90,821.79	
Prepayments and accrued income	<u>36,141,299.98</u>	57,735,689.77	<u>35,775,485.58</u>	55,022,423.50
Shares and holdings				
Investments in money market instruments		0.00		0.00
Cash in hand and at banks		14,281,601.58		16,239,933.99
TOTAL ASSETS		<u>2,773,414,991.26</u>		<u>2,679,636,030.48</u>

LIABILITIES	31 December 2022		31 December 2021	
CAPITAL AND RESERVES				
Initial capital	505,000,000.00		505,000,000.00	
Revaluation reserve	0.00		0.00	
Other internal funds	2,570,498.01		2,570,498.01	
Surplus/deficit from previous accounting periods	127,894,607.31		98,461,417.42	
Surplus/deficit for the accounting period	<u>10,524,698.42</u>	645,989,803.74	<u>35,677,693.77</u>	641,709,609.21
MINORITY INTERESTS		8,761,240.03		9,106,367.80
MANDATORY PROVISIONS				
Other mandatory provisions		47,801,634.11		36,534,058.42
LIABILITIES				
Long-term				
Debentures	0.00		0.00	
Loans from financial institutions and insurance companies	632,367,836.96		533,299,381.29	
Loans from public corporations	1,118,002,148.98		1,132,002,148.98	
Loans from other lenders	0.00		0.00	
Deferred income	0.00		0.00	
Accounts payable	0.00		0.00	
Connection fees and other liabilities	87,462,107.21		87,465,147.21	
Accrued expenses and deferred income	0.00		0.00	
Deferred tax liabilities	<u>0.00</u>	1,837,832,093.15	<u>0.00</u>	1,767,766,677.58
Short-term				
Debentures	80,000,000.00		90,000,000.01	
Loans from financial institutions and insurance companies	63,728,737.19		63,210,925.20	
Loans from public corporations	14,000,000.00		14,000,000.00	
Loans from other lenders	0.00		0.00	
Deferred income	7,992.49		19,071.98	
Accounts payable	43,216,426.21		44,538,927.51	
Connection fees and other liabilities	6,989,848.90		8,995,454.80	
Accrued expenses and deferred income	25,087,215.46		18,754,938.08	
Deferred tax liabilities	<u>0.00</u>	233,030,220.24	<u>0.00</u>	224,519,317.48
TOTAL LIABILITIES		<u>2,773,414,991.26</u>		<u>2,679,636,030.48</u>
Key figures of the balance sheet				
		31 December 2022		31 December 2021
Equity ratio, %		23.6%		24.3%
Relative indebtedness, %		499.3%		484.1%
Accumulated surplus/deficit, EUR		138,419,305.73		134,139,111.20
Accumulated surplus/deficit, EUR/resident		113.15		111.24
Loans 31 December, EUR		1,908,098,723.13		1,832,512,455.49
Loans, EUR/resident		1,559.79		1,519.70
Loans and liabilities, 31 December		1,985,375,635.14		1,909,789,367.50
Loans and liabilities, EUR/resident		1,622.96		1,583.79
Loan receivables, EUR		0.00		0.00
Population of the Helsinki Metropolitan Area, 31 December		1,223,302		1,205,835

4 Notes

4.1 Notes concerning the joint municipal authority and Group

4.1.1 Notes concerning the preparation of the financial statements

Measurement of fixed assets

Tangible and intangible fixed assets are measured on the balance sheet at cost less planned depreciation and amortisation and contributions received for capital expenditure. The value of the assets does not include fixed expenses.

The depreciation and amortisation plan approved by the HSY General Meeting on 28 May 2010 has been used in measuring depreciated assets; the relevant calculation principles are presented in the notes to the income statement in chapter 4.1.2.

Non-current investments are measured at cost.

Measurement of current assets

Current assets are measured on the balance sheet in accordance with the moving average price principle at the lower of cost or replacement value or probable selling price.

Measurement of financial assets

In measuring financial assets, receivables are measured at the lower of nominal value or probable value on the balance sheet. Shares and holdings are measured at the lower of cost or probable sales price.

Note on liabilities

The loan base for waste management has been detailed further in 2022 between short-term and long-term loans. EUR 15,000,000.00, which was included in short-term waste management loans, matured in 2022. This has been taken into account in the preparation of the financial statements for 2022, and the adjusted figures for 2021 are presented. EUR 239,127,623.92 was previously presented as the total of the joint municipal authority's long-term loans in the financial statements for

2021, and the adjusted sum in the financial statements for 2022 is EUR 224,127,623.92 (EUR - 15,000,000.00).

Accounting for derivative contracts

Derivatives include interest rate swaps and currency swaps. All derivative contracts have been made for hedging purposes. The interest rate swaps convert the variable interest rate on the loan to a fixed one. The currency swaps convert loans denominated in foreign currencies into euro-denominated ones. The cash flows from the interest rate swaps are recognised as interest expenses/income. The market values of interest rate swaps for hedging purposes are presented in off-balance sheet items.

Notes concerning the preparation of the consolidated financial statements

The consolidated financial statements consolidate HSY's subsidiaries Pääkaupunkiseudun Vesi Oy, Uudenmaan Voima Oy and HSY Holding Oy, as the joint municipal authority, and Keski-Uudenmaan Vesien suojelun liikelaitos kuntayhtymä, as well as the associated companies Pääkaupunkiseudun Kierrätyskeskus Oy and Oy Asemapäällikön hovi.

The internal revenue and expenses and receivables and liabilities of the Group entities have been eliminated, with the exception of minor business transactions. The elimination of intra-joint municipal authority and its subsidiaries' holdings is made using the applied acquisition cost method in accordance with the general guideline 2021 of the Accounting Board's municipal section on preparing the consolidated financial statements of a municipality and joint municipal authority. Minority interests have been separated from the Group's surplus and deficit in the consolidated financial statements and from the Group's capital and reserves on the consolidated balance sheet. Associated companies and business-based joint municipal authority have been consolidated using the equity method.

On the consolidated balance sheet, voluntary provisions and depreciation difference are divided to unrestricted capital and reserves. The division has been taken into account in the elimination of holdings, separation of minority interests and consolidation of associated companies.

In preparing the consolidated financial statements, unaudited financial statements were used for all subsidiaries and associated companies and KUVES because due to schedule-related reasons, audited data was not available.

4.1.2 Notes concerning the income statement

Operating revenue broken down by area of responsibility

EUR (€)	HSY 2022	HSY 2021	Group 2022	Group 2021
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Water services	294,648,403.38	293,580,347.05	296,668,129.71	294,797,210.79
Waste management	104,161,419.61	100,575,439.12	110,343,158.19	109,114,400.81
Regional and environmental information	4,930,603.22	4,474,174.73	4,930,603.22	4,474,174.73
Other	443,233.15	840,932.97	443,233.15	840,932.97
Operating revenue total	404,183,659.36	399,470,893.87	412,385,124.27	409,226,719.30

Of the Group companies, Pääkaupunkiseudun Vesi Oy and Keski-Uudenmaan vesiensuojelun liikelaitoskuntayhtymä are included in water services. HSY Holding Oy and Uudenmaan Voima Oy are included in waste management.

Result of the market-based operations of waste management

HSY differentiates between the financial result of statutory and market-based waste management services in accounting pursuant to section 44 of the Waste Act. The differentiation of accounting is realized by way of internal accounting. In 2022, waste management did not engage in market-based activities.

Basis for planned depreciation

A pre-defined depreciation plan has been used for specifying depreciation on depreciated assets. Depreciation and amortisation according to plan is calculated using the straight-line method from the cost of tangible and intangible assets according to the estimated economic useful life. Minor purchases of fixed assets with a cost of under EUR 10,000 and economic useful life of under 3 years are recognised as annual expenses.

Depreciation plan approved by the HSY General Meeting on 28 May 2010:

	Assets transferred from cities	Assets transferred from YTV	HSY's assets as of 1 January 2020
Intangible assets			
Development expenses	3 years	5 years	5 years
Intangible rights	20 years	-	20 years
Other capitalised long-term expenses			
IT software	3 years	3 years	3 years
Extensive IT systems	3 years	5 years	5 years
Other capitalised long-term expenses	3 years	5 years	5 years
Tangible assets			
Land and water area	no depreciation	no depreciation	no depreciation
Buildings and structures			
Administration and facility buildings	20 years	30 years	30 years
Plant and production buildings	20 years	20 years	30 years
Outbuildings	10 years	15 years	15 years
Residential buildings	20 years	-	30 years
Air quality monitoring stations	10 years	10 years	10 years
Temporary buildings	3 years	5 years	5 years
Other buildings and structures	-	15 years	15 years
Fixed structures and installations			
Bridges, piers and swimming pools	20 years	5 years, 20 years	30 years
Other land and water structures	20 years	5 years, 10 years	30 years
Landfills	40 years	40 years (depending on use)	40 years
Technical tunnels and caverns	30 years	-	50 years
Reservoir and regulating structures	30 years	-	50 years
Water supply network	30 years	-	40 years
Sewer network	30 years	10 years	40 years
Rainwater sewer network	30 years	-	40 years
Pipe networks and equipment	10 years	-	10 years
Water supply system structures and equipment	15 years	-	20 years
Electric cables, transformer stations, outdoor lighting equipment	10 years	5 years, 15 years	15 years
Electricity, water etc. Plant machinery and equipment	10 years	7 years	10 years
Fixed lifting and transfer equipment	10 years	10 years	15 years
Telephone exchanges and equipment	7 years	7 years	7 years
Machinery and equipment of other buildings	10 years	10 years	10 years
Other fixed machinery, equipment and structures	10 years	-	10 years
Machinery and equipment			
Other transport vehicles	5 years	5 years	5 years
Other mobile work machines	7 years	7 years	7 years
Tractors and forklift trucks	7 years	-	7 years
Other heavy machinery	10 years	10 years	10 years
Other light machinery	7 years	5 years	5 years
Water meters	5 years	-	10 years
Air quality monitoring instruments	7 years	7 years	7 years
Laboratory equipment	3 years	-	5 years
IT hardware	3 years	3 years	3 years
Waste collection and transport fleet	3 years	3 years	3 years
Other machinery and equipment	3 years	-	3 years
Other tangible assets			
Natural resources	depending on use	depending on use	-
Valuables and works of art	no depreciation	no depreciation	no depreciation
Advance payments and construction in progress	no depreciation	no depreciation	no depreciation
Non-current investments			
Subscribed capital	no depreciation	no depreciation	no depreciation

Changes in mandatory provisions

EUR (€)	HSY 2022	HSY 2021	Group 2022	Group 2021
After-care provision of the Ämmässuo Waste Treatment Centre				
Provision 1 January	24,245,482.58	24,490,482.62	24,245,482.58	24,490,482.62
Increase in provision	205,000.00	205,999.92	205,000.00	205,999.92
Decrease in provision	-688,000.00	-450,999.96	-688,000.00	-450,999.96
Provision 31 December	23,762,482.58	24,245,482.58	23,762,482.58	24,245,482.58
After-care provision of the closed Seutula landfill				
Provision 1 January	2,697,341.51	2,832,519.52	2,697,341.51	2,832,519.52
Increase in provision	0.00	0.00	0.00	0.00
Decrease in provision	-135,000.00	-135,178.01	-135,000.00	-135,178.01
Provision 31 December	2,562,341.51	2,697,341.51	2,562,341.51	2,697,341.51
Total landfill after-care provision 31 December	26,324,824.09	26,942,824.09	26,324,824.09	26,942,824.09
Provision for the demolition of the Tikkurila water tower				
Provision 1 January	6,662,023.75	3,348,821.53	6,662,023.75	3,348,821.53
Increase in provision	0.00	3,500,000.00	0.00	3,500,000.00
Decrease in provision	-2,470,369.91	-186,797.78	-2,470,369.91	-186,797.78
Provision 31 December	4,191,653.84	6,662,023.75	4,191,653.84	6,662,023.75
Provision for the closing down of the Suomenoja soil landfill				
Provision 1 January	600,000.00	600,000.00	600,000.00	600,000.00
Increase in provision	0.00	0.00	0.00	0.00
Decrease in provision	0.00	0.00	0.00	0.00
Provision 31 December	600,000.00	600,000.00	600,000.00	600,000.00
Provision for the restoration of contaminated area in Finnoo				
Provision 1 January	2,329,210.58	4,302,177.40	2,329,210.58	4,302,177.40
Increase in provision	0.00	0.00	0.00	0.00
Decrease in provision	-2,329,210.58	-1,972,966.82	-2,329,210.58	-1,972,966.82
Provision 31 December	0.00	2,329,210.58	0.00	2,329,210.58
Provision for the demolition of the Suomenoja wastewater treatment plant				
Provision 1 January	0.00	0.00	0.00	0.00
Increase in provision	16,687,000.00	0.00	16,687,000.00	0.00
Decrease in provision	-1,843.82	0.00	-1,843.82	0.00
Provision 31 December	16,685,156.18	0.00	16,685,156.18	0.00
Water services environmental liability provision total 31 December	21,476,810.02	9,591,234.33	21,476,810.02	9,591,234.33

Items included in extraordinary income and expenses

HSY or the entities in its consolidated financial statements did not have extraordinary items during the accounting period 1 January–31 December 2022.

Breakdown of dividend income

Other financial income includes the following income based on participations in other Group entities.

EUR (€)	2022	2021
Dividend income from Group entities	2,312,891.40	2,487,268.79
Dividend income from other entities	0.00	0.00
Total	2,312,891.40	2,487,268.79

4.1.3 Notes concerning the balance sheet

Intangible and tangible assets

euroa (€)	Poistamaton hankintameno 1.1.2022	Lisäykset tilikaudella	Rahoitus- osuudet tilikaudella	Vähennykset tilikaudella	Siirrot erien välillä	Poistot tilikaudella	Poistamaton hankintameno 31.12.2022
Aineettomat hyödykkeet	8 866 448,62	5 998 581,36	0,00	0,00	402 230,82	-2 312 595,32	12 954 665,48
Aineettomat oikeudet	4 895 827,09	1 772 194,76	0,00	0,00	402 230,82	-1 898 422,15	5 171 830,52
Muut pitkävaikuttiset menot	3 970 621,53	4 226 386,60	0,00	0,00	0,00	-414 173,17	7 782 834,96
Ennakkomaksut	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Aineelliset hyödykkeet	2 539 835 199,21	206 163 591,55	-657 763,59	0,00	-402 230,82	-114 132 315,52	2 630 806 480,83
Maa- ja vesialueet	19 231 458,66	0,00	0,00	0,00	0,00	0,00	19 231 458,66
Rakennukset	203 238 157,61	16 441 195,52	-26 956,53	0,00	70 543 804,17	-14 388 660,16	275 807 540,61
Kiinteät rakenteet ja laitteet	1 787 409 855,70	160 320 297,04	-128 861,56	0,00	443 856 737,27	-96 605 602,26	2 294 852 426,19
Koneet ja kalusto	8 585 434,33	3 591 194,42	-381 283,59	0,00	0,00	-3 138 053,10	8 657 292,06
Keskeneräiset hankinnat	521 370 292,91	25 810 904,57	-120 661,91	0,00	-514 802 772,26	0,00	32 257 763,31
Yhteensä	2 548 701 647,83	212 162 172,91	-657 763,59	0,00	0,00	-116 444 910,84	2 643 761 146,31

Non-current investments

EUR (€)	Cost 1 January 2022	Increase	Decrease	Transfers between items	Cost 31 December 2022	Changes in value	Book value 31 December 2022
Subscribed capital							
Shares, Group companies	163,314,998.95	0.00	0.00	0.00	163,314,998.95	0.00	163,314,998.95
Shares, associated companies	676,062.10	0.00	0.00	0.00	676,062.10	0.00	676,062.10
Joint municipal authority participations	18,550,705.00	0.00	0.00	0.00	18,550,705.00	0.00	18,550,705.00
Other subscribed capital	720.00	0.00	0.00	0.00	720.00	0.00	720.00
Total	182,541,766.05	0.00	0.00	0.00	182,542,486.05	0.00	182,542,486.05
Bond and other loan receivables and other receivables							
Bond receivables	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Receivables, Group companies	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Receivables, joint municipal authorities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Receivables, other entities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Subsidiaries, joint municipal authority participations and associated entities

EUR (€)	Domicile	Business ID	HSY's holding	Group's holding	Group's share		Of the result/ loss for the accounting period (EUR)
					Of equity (%)	Of liabilities (%)	
Subsidiaries							
HSY Holding Oy (former Oy Skogberg Ab)	Helsinki	0574067-3	100.00%	100.00%	60,474.86	0.00	-324.14
Pääkaupunkiseudun Vesi Oy	Helsinki	0113062-4	81.16%	81.16%	34,515,310.95	2,626,914.66	-1,176,204.13
Uudenmaan Voima Oy	Helsinki	2657337-6	80.00%	80.00%	2,996,243.58	245,344.53	2,031,637.06
Joint municipal authorities							
Keski-Uudenmaan vesiensuojelun liikelaitoskuntayhtymä (KUVES)	Tuusula	0202691-7	32.87%	32.87%	8,043,540.91	1,455,611.36	31,831.57
Associated companies							
Oy Asemapäällikönhoivi	Helsinki	0117395-8	14.39%	14.39%	538,960.35	48,630.34	7,350.28
Pääkaupunkiseudun Kierrätyskeskus Oy	Helsinki	0809814-5	25.70%	25.70%	1,017,711.97	811,836.43	311,064.72

Receivables from subsidiaries and associated entities

EUR (€)	Long-term		Short-term	
	2022	2022	2021	2021
Receivables from subsidiaries				
Sales receivables	0.00	31,684.67	0.00	55,276.72
Loan receivables	0.00	0.00	0.00	0.00
Other receivables	0.00	0.00	0.00	0.00
Prepayments and accrued income	0.00	232,095.59	0.00	609,059.41
Total	0.00	263,780.26	0.00	664,336.13
Receivables from joint municipal authorities (in which HSY is a member)				
Sales receivables	0.00	185,855.24	0.00	0.00
Loan receivables	0.00	0.00	0.00	0.00
Other receivables	0.00	0.00	0.00	0.00
Prepayments and accrued income	0.00	606,272.90	0.00	740,899.16
Total	0.00	792,128.14	0.00	740,899.16
Receivables from affiliates and other associated entities				
Sales receivables	0.00	789.69	0.00	5,999.02
Loan receivables	0.00	0.00	0.00	0.00
Other receivables	0.00	0.00	0.00	0.00
Prepayments and accrued income	0.00	0.00	0.00	0.00
Total	0.00	789.69	0.00	5,999.02
Total receivables	0.00	1,056,698.09	0.00	1,411,234.31

Essential items included in prepayments and accrued income

EUR (€)	HSY 2022	HSY 2021	Group 2022	Group 2021
Short-term prepayments and accrued income				
Accrued interest	321,599.80	85,247.19	321,650.03	85,247.19
Other receivables	36,075,007.60	36,542,568.23	35,819,650.08	35,690,419.81
<i>Accrual of invoicing</i>	35,257,456.98	36,134,578.62	35,045,620.50	35,338,641.82
<i>Accrued subsidies and grants</i>	588,106.12	193,039.49	588,106.12	193,039.49
<i>Accrual of investments</i>	212,980.26	220,182.18	169,459.21	163,970.56
<i>Other accruals</i>	16,464.24	-5,232.06	16,464.24	-5,232.06
Total	36,396,607.40	36,627,815.42	36,141,300.11	35,775,667.00

Change in operating capital

EUR (€)	HSY 2022	HSY 2021	Group 2022	Group 2021
Initial capital 1 January	505,000,000.00	505,000,000.00	505,000,000.00	505,000,000.00
Increase	0.00	0.00	0.00	0.00
Decrease	0.00	0.00	0.00	0.00
Initial capital 31 December	505,000,000.00	505,000,000.00	505,000,000.00	505,000,000.00
Other capital and reserves 1 January	2,570,498.00	2,570,498.00	2,570,498.00	2,570,498.00
Increase	0.00	0.00	0.00	0.00
Decrease	0.00	0.00	0.00	0.00
Initial capital 31 December	2,570,498.00	2,570,498.00	2,570,498.00	2,570,498.00
Surplus/deficit from previous accounting periods 1 January	266,235,568.06	229,018,147.51	134,139,111.19	98,399,878.61
Adjustment for the previous accounting period	-6,237,337.19		-6,244,503.88	61,538.81
Surplus/deficit from previous accounting periods 31 December	259,998,230.87	229,018,147.51	127,894,607.31	98,461,417.42
Surplus/deficit for the accounting period	12,104,482.00	37,217,420.55	10,524,698.42	35,677,693.77
Capital and reserves total 31 December	779,673,210.87	773,806,066.06	645,989,803.73	641,709,609.19

On HSY's balance sheet, the water services initial capital of EUR 480,000,000.00 is divided between the member municipalities as follows: Helsinki 58.0%, Espoo 22.3%, Vantaa 19.4% and Kauniainen 0.3%. Other share capital, EUR 25,000,000.00, is distributed among the member municipalities according to the official population so that the share of one municipality is not more than 50% and at least 1%. The member municipality's share of the assets of the joint municipal authority and the liabilities and obligations are determined in proportion to the initial capital.

Municipality	Water services initial capital		Other initial capital		Total initial capital	
	Share, %	EUR	Share, %	EUR	Share, %	EUR
FI Helsinki	58.00%	278,400,000.00	50.00%	12,500,000.00	57.60%	290,900,000.00

Espoo	22.30%	107,040,000.00	27.28%	6,820,780.94	22.55%	113,860,780.94
Vantaa	19.40%	93,120,000.00	21.72%	5,429,219.06	19.51%	98,549,219.06
Kauniainen	0.30%	1,440,000.00	1.00%	250,000.00	0.33%	1,690,000.00
Total	100.00%	480,000,000.00	100.00%	25,000,000.00	100.00%	505,000,000.00

Long-term liabilities

	2022		2021	
EUR (€)	Long-term liabilities total	1 January 2028 or after maturing	Long-term liabilities total	1 January 2027 or after maturing
Loans from member municipalities (establishment loans)				
Loans from the City of Helsinki	646,144,278.86	572,299,218.38	654,264,278.86	590,760,483.50
Loans from the City of Espoo	246,479,028.85	218,309,997.01	249,601,028.85	225,352,254.97
Loans from the City of Vantaa	221,203,241.27	195,922,870.87	223,919,241.27	202,242,963.47
Loans from the City of Kauniainen	4,175,600.00	3,698,388.56	4,217,600.00	3,817,691.42
Loans from member municipalities total	1,118,002,148.98	990,230,474.82	1,132,002,148.98	1,022,173,393.36
Loans from external financial institutions and insurance companies				
Loans from MuniFin	274,500,000.00	137,500,000.00	211,428,585.00	115,000,000.00
Loans from other Finnish financial institutions and insurance companies	86,166,666.62	55,499,999.90	94,614,583.30	63,166,666.58
Overdraft limit, Nordea Bank Abp	-	-	-	-
Loans from foreign financial institutions and insurance companies	270,089,602.18	215,937,515.22	239,127,624.02	185,475,536.96
Loans from external financial institutions and insurance companies total	630,756,268.80	408,937,515.12	530,170,792.22	363,642,203.54
Connection fees	87,462,107.21	87,465,147.21	87,465,147.21	87,465,147.21
Total	1,836,220,524.99	1,486,633,137.15	1,749,638,088.41	1,473,280,744.11

Debentures

EUR (€)	Agreement type	Agreement reference	Due date	Capital	Interest	2022	2021
Short-term debentures							
Municipality Finance Plc	Local government bond	231450	4 January 2022	10,000,000	-0.45% p.a.		10,000,000
Municipality Finance Plc	Local government bond	241990	13 January 2022	10,000,000	-0.40% p.a.		10,000,000
Municipality Finance Plc	Local government bond	235986	8 February 2022	10,000,000	-0.46% p.a.		10,000,000
Municipality Finance Plc	Local government bond	238132	25 February 2022	10,000,000	-0.46% p.a.		10,000,000
Danske	Local government bond	20210929	28 January 2022	25,000,000	-0.42% p.a.		25,000,000
Danske	Local government bond	20211027	21 January 2022	10,000,000	-0.44% p.a.		10,000,000
Danske	Local government bond	20211118	18 January 2022	5,000,000	-0.43% p.a.		5,000,000
Nordea Municipality Finance Plc	Local government bond	20211025	25 January 2022	10,000,000	-0.46% p.a.		10,000,000
Municipality Finance Plc	Local government bond	284547	13 January 2023	13,000,000	1.90% p.a.	13,000,000.00	
Municipality Finance Plc	Local government bond	285216	3 February 2023	8,000,000	2.00% p.a.	8,000,000.00	
Municipality Finance Plc	Local government bond	285538	9 February 2023	10,000,000	2.15% p.a.	10,000,000.00	
Municipality Finance Plc	Local government bond	286369	28 February 2023	9,000,000	2.15% p.a.	9,000,000.00	
Municipality Finance Plc	Local government bond	285537	6 March 2023	10,000,000	2.25% p.a.	10,000,000.00	
Municipality Finance Plc	Local government bond	287017	14 March 2023	10,000,000	2.23% p.a.	10,000,000.00	
Municipality Finance Plc	Local government bond	287013	24 March 2023	10,000,000	2.33% p.a.	10,000,000.00	
Municipality Finance Plc	Local government bond	287132	31 March 2023	10,000,000	2.33% p.a.	10,000,000.00	
Short-term debentures total						80,000,000	90,000,000

Mandatory provisions

EUR (€)	HSY 2022	HSY 2021	Group 2022	Group 2021
Other mandatory provisions				
Landfill after-care provision	26,324,824.09	26,942,824.09	26,324,824.09	26,942,824.09
Water services environmental liability provision	21,476,810.02	9,591,234.33	21,476,810.02	9,591,234.33
Other mandatory provisions	47,801,634.11	36,534,058.42	47,801,634.11	36,534,058.42

Liabilities from subsidiaries and associated entities

EUR (€)	Long-term 2022	Short-term 2022	Long-term 2021	Short-term 2021
Liabilities to subsidiaries				
Deferred income	0.00	0.00	0.00	0.00
Accounts payable	0.00	152,188.23	0.00	152,523.51
Other liabilities	0.00	0.00	0.00	0.00
Accrued expenses and deferred income	0.00	243,167.25	0.00	0.00
Total	0.00	395,355.48	0.00	152,523.51
Liabilities from joint municipal authorities (in which HSY is a member)				
Deferred income	0.00	0.00	0.00	0.00
Accounts payable	0.00	195,973.36	0.00	92,967.84
Other liabilities	0.00	552.93	0.00	552.93
Accrued expenses and deferred income	0.00	205,551.06	0.00	191,175.46
Total	0.00	402,077.35	0.00	284,696.23
Liabilities from affiliates and other associated entities				
Deferred income	0.00	0.00	0.00	0.00
Accounts payable	0.00	0.00	0.00	0.00
Other liabilities	0.00	0.00	0.00	0.00
Accrued expenses and deferred income	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00
Liabilities total	0.00	797,432.83	0.00	437,219.74

Overdraft facility

EUR (€)	2022	2021
Overdraft facility 31 December	10,000,000.00	10,000,000.00
- unused amount	10,000,000.00	10,000,000.00

Breakdown of other liabilities

EUR (€)	HSY 2022	HSY 2021	Group 2022	Group 2021
Other liabilities				
Connection fees	87,462,107.21	87,465,147.21	87,462,107.21	87,465,147.21
Other liabilities	6,972,431.13	8,834,643.16	6,989,848.90	8,995,454.80
Other liabilities total	94,434,538.34	96,299,790.37	94,451,956.11	96,460,602.01

Essential items included in accrued expenses and deferred income

EUR (€)	HSY 2022	HSY 2021	Group 2022	Group 2021
Short-term accrued expenses and deferred income				
Accruals of salaries and social security expenses	8,917,158.43	10,110,179.00	8,917,589.49	10,111,160.25
Interest accruals	1,163,545.71	940,757.48	1,184,288.16	958,577.96
Other accrued expenses	15,214,479.54	7,513,709.16	14,985,337.81	7,685,199.87
<i>Accrual of purchase invoices</i>	6,510,929.41	4,477,895.71	6,200,197.53	4,415,171.04
<i>Cost accrual of bale storage</i>	563,297.68	1,003,777.14	594,168.50	1,090,912.78
<i>Income tax</i>	513,032.09	1,375,937.31	513,032.09	1,523,017.05
<i>Accrual of travel invoices</i>	6,060.07	12,225.58	6,060.07	12,225.58
<i>Other accruals</i>	7,621,160.29	643,873.42	7,671,879.62	643,873.42
Total	25,295,183.68	18,564,645.64	25,087,215.46	18,754,938.08

4.1.4 Notes concerning commitments and contingent liabilities

Collateral for the after-care of landfill pursuant to the Environmental Protection Act

In accordance with section 59 a of the Environmental Protection Act, an operator of waste treatment operations must lodge a security to ensure appropriate waste management, monitoring and closing down of operations or measures required after it.

In accordance with section 60 of the Environmental Protection Act, the security must be sufficient to cover the above-mentioned measures. The security for a landfill must also cover the costs of post-closing down follow-up and monitoring, treatment of infiltration and gases and other after care for a minimum of 30 years unless the operator proves otherwise as sufficient. The security for a landfill and other long-term operations must additionally be accumulated so that the amount of the security continuously corresponds the expenses caused by the discontinuation of operations and after care from time to time.

Section 61 of the Environmental Protection Act lays down provisions on the lodging and validity of the security. A guarantee, insurance or pledged deposit can be approved as security. The issuer of the security must be a credit, insurance or other professional financial institution domiciled in a state belonging to the European Economic Area.

The amount of securities in the environmental permits of HSY waste management totals EUR 14.1 million, for which HSY has Nordea Bank Finland Plc's absolute bank guarantees for the Southern Finland Centre for Economic Development, Transport and the Environment.

EUR (€)	2022	2021
Securities pledged on own behalf		
Absolute bank guarantees	14,141,449.15	14,141,449.15

Total amount of rent liabilities

Rent liabilities, EUR	HSY 2022	HSY 2021	Group 2022	Group 2021
Rent and lease liabilities total	73,957,536.13	77,276,912.02	73,957,536.13	77,276,912.02
- Share payable during the next accounting period	8,745,160.69	8,378,058.60	8,745,160.69	8,378,058.60
- PPP projects (public-private partnerships)	0.00	0.00	0.00	0.00
- contractual redemption obligations	0.00	0.00	0.00	0.00

The leasing agreements do not involve material liabilities pursuant to a termination or redemption clause

Liability for the accumulated deficit of Keski-Uudenmaan vesiensuojelun liikelaitoskuntayhtymä

In accordance with statement 113/10.11.2015 of the municipal section of the Accounting Board, a member municipality shall recognise the share of the accumulated deficit of a joint municipal authority in its accounting as a mandatory provision if the deficit of the joint municipal authority will not probably be covered in the near future.

In accordance with the action and economic plan 2023–2025 approved by the General Meeting on 15 November 2022, the remaining deficit will be covered with the surplus results of the plan period. By 31 December 2022, accumulated uncovered deficit totaled EUR 457,890.42, of which HSY's share pursuant to its holding of 32.87% is EUR 150,508.58.

The holding pursuant to HSY's balance sheet is estimated to correspond with the value of KUVES.

Other contingent liabilities

In accordance with the decision of the HSY General Meeting of 13 May 2011, the Executive Board of HSY granted an absolute guarantee totalling EUR 1.9 million to Pääkaupunkiseudun Vesi Oy as collateral for long-term investment loans and associated hedges in 2011. No countersecurity was demanded for the security, but an annual guarantee fee is charged for it. Moreover, Pääkaupunkiseudun Vesi Oy has been required to give a commitment based on which the company will not transfer or pledge assets without the consent of the guarantor (HSY). The principal of the loan associated with the guarantee was EUR 0.633 million on 31 December 2022.

Other off-balance sheet arrangements

Liabilities for the after care of landfills

EUR (€)	HSY 2022	Group 2022
Liabilities deficit for the after care of closed landfills	0.00	0.00
Total amount of the liability 2023–2036	2,562,341.51	2,562,341.51
Provision 31 December	2,562,341.51	2,562,341.51
Liabilities deficit for the after care of the Ämmässuo landfill	3,317,517.42	3,317,517.42
Finalisation and after care expenses 2023–2080	27,080,000.00	27,080,000.00
Provision 31 December	23,762,482.58	23,762,482.58

Derivative contracts

Purpose of the arrangement	HSY 2022	HSY 2021	Group 2022	Group 2021
Interest rate swap 1029580ST/R050				
The interest rate swap was cancelled by way of an offset transaction: agreement 20671916SA				
The agreement matured on 31 October 2022				
Nominal value of the agreement	-	15,000,000	-	15,000,000
Fair value (according to the bank's notification)	-	-1,513,499	-	-1,513,499
Interest rate swap 1198312ST/R055				
The interest rate swap was done to hedge the interest rate risk of an individual loan.				
The interest rate swap converted a floating rate into a fixed rate in the range of 0–6%. The loan and				
interest rate swap principal and terms correspond with one another				
The agreement matures on 9 January 2023				
Nominal value corresponding to the loan principal	500,000	1,500,000	500,000	1,500,000
Fair value (according to the bank's notification)	-127,736	-163,434	-127,736	-163,434
Interest rate swap 35177409ST				
The interest rate swap was done to hedge the interest rate risk of an individual loan.				
The interest rate swap converted a floating rate into a fixed rate.				
The loan and				
interest rate swap principal and terms correspond with one another				
The agreement matured on 2 January 2022				
Nominal value corresponding to the loan principal	-	20,000,000	-	20,000,000
Fair value (according to the bank's notification)	-	-2,684	-	-2,684
Interest rate swap 281053/40493218ST				
The interest rate swap was done to hedge the interest rate risk of an individual loan.				
The interest rate swap converted a floating rate into a fixed rate.				
The loan and				
interest rate swap principal and terms correspond with one another				
The agreement matures on 3 March 2036				
Nominal value corresponding to the loan principal	15,820,895	17,014,925	15,820,895	17,014,925
Fair value (according to the bank's notification)	1,905,734	-1,048,630	1,905,734	-1,048,630

Interest rate swap 20671916SA

The interest rate swap cancelled agreement 1029580ST/R050

The agreement matured on 31 October 2022

Nominal value of the agreement	-	15,000,000	-	15,000,000
Fair value (according to the bank's notification)	-	954,631	-	954,631

Interest rate swap 1488390/2033453

The interest rate swap was done to hedge the interest rate risk of an individual loan. The interest rate swap converted a floating rate into a fixed rate. The loan and

interest rate swap principal and terms correspond with one another

The agreement matures on 15 June 2023

Nominal value corresponding to the loan principal	25,000,000	25,000,000	25,000,000	25,000,000
Fair value (according to the bank's notification)	235,395	-412,947	235,395	-412,947

Interest rate swap 2031033/3539706

The interest rate swap was done to hedge the interest rate risk of an individual loan. The interest rate swap converted a floating rate into a fixed rate. The loan and

interest rate swap principal and terms correspond with one another

The agreement matures on 18 June 2029

Nominal value corresponding to the loan principal	26,538,456	27,692,304	26,538,456	27,692,304
Fair value (according to the bank's notification)	3,040,073	-1,339,980	3,040,073	-1,339,980

Interest rate swap 2031031/3539700

The interest rate swap was done to hedge the interest rate risk of an individual loan. The interest rate swap converted a floating rate into a fixed rate. The loan and

interest rate swap principal and terms correspond with one another

The agreement matures on 25 July 2029

Nominal value corresponding to the loan principal	27,818,180	28,909,090	27,818,180	28,909,090
Fair value (according to the bank's notification)	3,241,745	-1,495,557	3,241,745	-1,495,557

Interest rate swap 1595524/2202015

The interest rate swap was done to hedge the interest rate risk of an individual loan. The interest rate swap converted a floating rate into a fixed rate. The loan and

interest rate swap principal and terms correspond with one another

The agreement matures on 3 March 2036

Nominal value corresponding to the loan principal	15,820,896	17,014,925	15,820,896	17,014,925
Fair value (according to the bank's notification)	1,815,436	-1,162,127	1,815,436	-1,162,127

Interest rate and currency swap 1012761/1275143

The interest rate and currency swap was done to hedge the interest rate risk of an individual

loan. The swap converted a floating rate into a fixed rate and a SEK-denominated loan into a EUR loan. The loan and interest rate swap

principal and terms correspond with one another. The agreement matures on 6 July 2026

Nominal value corresponding to the loan principal			506,667	633,333
Fair value (according to the bank's notification)			-89,438	-67,811

Total	111,498,427	167,131,244	112,005,094	167,764,577
	10,110,647	-6,184,227	10,021,209	-6,252,038

The interest rate swaps do not include cancellation clauses

The interest rate paid in the contracts is fixed. In contract 1198312ST/R055, the interest rate can be 6% at the maximum.

The interest rate received in the contracts is variable and pegged to the Euribor rate, corresponding with the interest rate tying paid on the hedged loan.

The market values of the contracts do not result in cash flow unless the contract is terminated prematurely.

Liabilities for any contamination of the soil of leased areas

In accordance with the decision on the principles of leasing land areas made by the Executive Board of HSY on 19 November 2010, HSY is liable for any contamination of the soil of a leased area that has taken place while the area has been in the possession of HSY or its predecessor organisation.

At the end of the lease, HSY is liable to restore the soil of the leased area so that its contamination will not even subsequently cause additional costs to the construction of the area and to remove any construction or other waste and old structures, such as cables, pipes, columns, paving, foundations or other similar in the leased areas or their soil and to clean the leased area.

With regard to contaminated land and structures to be removed, the key known areas are the Suomenoja wastewater treatment plant area, Finnoo contaminated area and Tikkurila water tower. In accordance with the leasing principles, the distribution of costs arising from the decontamination of soil and demolition of structures will be separately agreed upon between HSY and the city in question.

The Tikkurila water tower is being closed down, but only some of the demolition-related costs have realized and the provision has been reversed accordingly. Furthermore, a more detailed cost estimate was received of the demolition of the Tikkurila water tower, based on which the above provision was increased by EUR 3.5 million for 2022. The water tower is expected to be demolished in 2023. The restoration work of the contaminated soil in Finnoo was completed and the provision was cancelled in full in the financial statements for 2022. In accordance with the cost estimate, a provision of EUR 16.7 million was made for the Suomenoja wastewater treatment plant area, and the implementation is expected to take place in 2023–2025.

Claim for adjustment

Sections 18a and 18b of the Act on the Taxation of Business Income were amended in 2021 with regard to years 2020 and onwards so that the limitation of the right of deduction of interests paid is not applicable to public infrastructure companies referred to in section 18b of the Act. A claim for adjustment regarding the limitation of the interest deductions was filed with the Tax Administration in December 2021, and the claim was supplemented in 2022. In November 2022, the Tax Administration approved the claims for adjustment filed by the joint municipal authority concerning the non-deductible interest expenses in tax years 2015–2016 and 2018–2019. The taxes for previous

years resulting from the claims for adjustments are included in the financial statements of 2022, and they are recorded in operating capital and the resulting tax is recorded in the profit and loss account. The claims for adjustment regarding tax years 2020–2021 will be filed with the Tax Administration in 2023, claiming that the interest expenses not deducted previously will be deducted in the taxation for these years. Furthermore, some of the interest expenses will be deducted in the income taxation of 2022, and HSY will claim that these be deducted in tax year 2022.

4.1.5 Notes concerning personnel and the auditor's fee

Number of personnel 31 December 2022 and FTE in 2022

Number of personnel	Personnel	FTE	Personnel	FTE
	31 December 2022	2022	31 December 2021	2021
Water services	426	430.8	423	430.7
Waste management	135	148.3	149	145.5
Regional and environmental information	48	41.5	40	38.0
Support Services	66	67.6	69	68.6
Customer Service	37	39.1	39	40.7
Control and development units	77	74.0	78	78.4
Management of the joint municipal authority	1	1.0	1	1.0
HSY total	790	802.3	799	802.8

Elected officials charges collected and remitted from elected officials' fees

EUR (€)	2022	2021
Espoon Vihreät Ry	0.00	0.00
Espoo Vihreiden tuki	0.00	0.00
Espoon Vasemmisto	0.00	0.00
Helsingin Vihreät	1,586.50	3,928.33
Kokoomus Espoo	0.00	0.00
Kokoomus Helsinki	4,644.90	6,220.34
Kokoomus Uusimaa	3,088.15	3,951.35
Perussuomalaiset Helsinki	1,617.00	1,830.01
Perussuomalaiset Uusimaa	1,281.25	361.63
SDP Helsinki	2,799.00	3,655.53
SDP Uusimaa	2,500.01	3,198.09
SDP Vantaa	0.00	0.00
SFP i Helsingfors	1,617.00	0.00
Svenska Folkpartiet i Nyland	0.00	1,571.31
Vantaan Vihreät	0.00	0.00
Vasemmistoliitto Espoo and Kauniainen	0.00	0.00
Vasemmistoliitto Helsinki	0.00	585.02
Vasemmistoliitto Uudenmaan piiri	2,097.51	2,363.78
Vihreät Uusimaa RY	5,383.77	3,839.26
Total	26,615.09	31,504.65

Auditor's fees

EUR (€)	2022	2021
KPMG Julkistarkastus Oy		
Audit fees	18,707.00	16,763.00
Auditor's statements	22,033.23	5,285.00
Other fees	0.00	2,480.00
Total	40,740.23	24,528.00

Transactions between the joint municipal authority and its interested parties

A management agreement pursuant to the Local Government Act has been concluded with the Executive Director of the joint municipal authority, agreeing on a severance compensation equal to 12 months' salary. The agreement was approved by the Executive Board of HSY on 24 September 2021.

No unordinary business transactions were made with the Group's related/interested parties.

4.2 Key figure formulas

Calculation formulas for income statement key figures

Operating revenue, % of operating expenses

= 100 * operating revenue / (operating expenses - production for own use)

Annual contribution margin, % of depreciation and amortisation

= 100 * annual contribution margin / depreciation and amortisation

Annual contribution margin, EUR/resident

= Annual contribution margin / number of residents 31 December

Key figures of the cash flow statement

Accrued cash flows from operations and investment

= Cumulative cash flow from operations and investment for the last five years

Net cash flow of investments, %

= 100 * annual contribution margin / cost of investments

Loan coverage ratio

= (annual contribution margin + interest expenses) / (interest expenses + repayments of loans)

Computational loan coverage ratio

= (annual contribution margin + interest expenses) / (interest expenses + calculated repayments of loans)

Cash adequacy (days)

= 365 days * liquid assets 31 December / payments from liquid assets during the accounting period

Key figures of the balance sheet

Equity ratio, %

= 100 * (capital and reserves + depreciation difference and voluntary provisions) / (liabilities - deferred income)

Relative indebtedness, %

= 100 * (liabilities - deferred income) / operating revenue

Liabilities, % of operating revenue

= 100 * (liabilities - deferred income + rent liabilities) / operating revenue

Accumulated surplus/deficit, EUR

= Surplus/deficit from previous accounting periods + surplus/deficit for the accounting period

Accumulated surplus/deficit, EUR/resident

= (Surplus/deficit from previous accounting periods + surplus/deficit for the accounting period) / number of residents 31 December

Loans 31 December

= Liabilities – (deferred income + accounts payable + accrued expenses and deferred income + other liabilities)

Loans, EUR/resident

= Loans 31 December / number of residents 31 December

Loan and rent liabilities 31 December

= Liabilities – (deferred income + accounts payable + accrued expenses and deferred income + other liabilities) + rent liabilities

Loan and rent liabilities EUR/resident

= (Liabilities – (deferred income + accounts payable + accrued expenses and deferred income + other liabilities) + rent liabilities) / number of residents 31 December

Loan receivables

= Bond and other loan receivables recognised in investment under non-current assets

5 Signatures and notes

Helsinki, 31 March 2023

Mia Nygård-Peltola, chair

Kristiina Lindroos

Sirpa Hertell

Taisto Miettinen

Laura Jokela

Dennis Pasterstein

Kristiina Kokko

Tia Seppänen

Anna Korkman

Leo Stranius

Kari Kuusisto

Tuomas Suihkonen

Paula Lehmuskallio

Antti Vuorela

Tommi Fred, Executive Director

Auditor's note

A report on the audit performed has been issued today.

Helsinki, ____ ____ 2023

KPMG Julkistarkastus Oy

Outi Koskinen
JHT, KHT



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