

A Voluntary Local Review 2020

The implementation of the **2030 Agenda** for
Sustainable Development in the City of Turku

SUSTAINABLE
DEVELOPMENT
GOALS



CITY OF
TURKU

Opening statement by the Mayor

Cities are facing major challenges – climate change, digitalisation and the ageing and increasingly diverse population greatly impact on cities' field of operation and require cities to be able to adapt to constant change. Adaptation and adjustment to conventional ways of doing things is also needed in order to reach sustainability on a global level.

Cities and city networks have an ever-growing role to play as global influencers and local advocates in achieving the Sustainable Development Goals. Succeeding in accelerating sustainable development requires strong commitment and dedication from the city's decision-makers and the whole city organization.

Turku has a long tradition in promoting sustainable development and we want to make sure Turku is a good place to live in the future as well. Turku also wants to take responsibility and set an example in solving global sustainability challenges. That is why I consider it very important that Turku is among the first cities to participate in reporting city-level progress of achieving the Sustainable Development Goals. With this first VLR report, I am very proud to present the systematic work being done in Turku for sustainable development. I hope that the cities' growing role in implementing the 2030 Agenda for Sustainable Development becomes more visible to citizens, business life, organisations, other cities, government and other interest groups.

Together we have a chance to steer the course of development in a more sustainable direction.



Minna Arve
Mayor



A Voluntary Local Review 2020,

The implementation of the 2030 Agenda for Sustainable Development in the City of Turku

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Contents

Opening statement by the Mayor	2
Summary	4
Introduction	5
The City's Enabling Environment	6
Key responsibilities of municipalities	7
Turku's organisational model and authority	7
Strategy as a tool for leadership	7
The City's spearhead projects.....	7
Implementation of the 2030 Agenda in Turku	8
Methodology and process for review	9
Leaving no one behind in Turku	10
Progress on Goals and Targets	11
Goal 1 No poverty	12
Goal 2 Zero hunger	16
Goal 3 Good health and well-being	20
Goal 4 Quality education	24
Goal 5 Gender equality	28
Goal 6 Clean water and sanitation	32
Goal 7 Affordable and clean energy	36
Goal 8 Decent work and economic growth	40
Goal 9 Industry, innovation and infrastructure	44
Goal 10 Reduced inequalities	48
Goal 11 Sustainable cities and communities	52
Goal 12 Responsible Consumption and Production	56
Goal 13 Climate Action	60
Goal 14 Life below water.....	64
Goal 15 Life on land	68
Goal 16 Peace, justice and strong institutions	72
Goal 17 Partnership for the goals	76
Conclusion and next steps	80
Starting level and identified areas for development	80
Strategy and leadership for sustainable development	80
Challenges of measuring and comparability	80
Growing competence and resident participation	81
Terms and Abbreviations	82
Annexes	84
Annex 1. The Sustainable Development Goals and Turku 2029 City Strategy	85
Annex 2. Turku 2029 City Strategy and UN Sustainable Development Goals	86
Annex 3. The emission development of the City of Turku	88

Summary

The City of Turku reviews its activities and operations based on the United Nations 2030 Agenda for Sustainable Development

The goal of the City of Turku is to build its residents' well-being and the competitiveness and growth of the business life on an ecologically, socially, and economically sustainable foundation. In many respects, the current Turku 2029 City Strategy supports the implementation of the 2030 Agenda in the city. Turku aims to be carbon neutral by 2029 and a pioneer in socially sustainable urban and regional development.

Participating in the Voluntary Local Review (VLR) process is a new step for Turku towards systematically implementing the 2030 Agenda for Sustainable Development and a way to compile and examine the City's operations in this framework. In the first round of reviewing, the purpose was to define a baseline of the progress in Turku and to locate the areas and goals Turku needs to improve on in regard to implementing the 2030 Agenda. With this reviewing process, the effectiveness of the City's operations and measures can be observed, and the City can communicate to its residents and other interest groups about sustainable development in Turku. The report also functions as an example for national and international audiences of the work that is being done in Turku to achieve the Sustainable Development Goals.

This report includes a review all 17 Sustainable Development Goals and the targets applicable on a local level. The first review process focused on examining the Turku 2029 City Strategy and the spearhead projects implementing it, as well as the key operations of the City's five divisions and selected strategic entities. The VLR report 2020 has been compiled in cooperation with experts and specialists from the City divisions, spearhead projects, and the management and specialists of the selected strategic entities.

Finland's Voluntary National Review 2020 is presented to the UN in the summer of 2020. In the same occasion the VLR reports done by the City of Turku and the City of Espoo will be published for international audiences.



Photo: City of Turku / Seilo Ristimäki

Introduction

At the United Nations Sustainable Development Summit held in New York in September 2015, the United Nations member states agreed on common goals that guide the promotion of sustainable development until 2030.

The global 2030 Agenda for Sustainable Development is unique in its extensiveness: the goals are broad, ambitious and apply to every nation. The nations will report on their own region's progresses based on the VNR (Voluntary National Review) procedure. The role of cities as the local promoters and global influencers of sustainable development goals is significant. In 2018, New York City took the initiative by voluntarily reporting on the progress of the goals on a local level and challenged other cities to participate in the VLR (Voluntary Local Review) procedure.

Based on the decision made by the Mayor Minna Arve in July 2019, the City of Turku was among the first cities to implement a city-level review of the United Nations Sustainable Development Goals, which resulted in this Voluntary Local Review (VLR) report 2020.

Since the 1990s, Turku has been an active advocate and implementer of sustainable development. The City of Turku aspires to renew and grow in an ecologically, socially and economically sustainable way, thereby creating extensive and sustainable well-being for its residents. Turku's decision-makers are committed to promoting sustainable development across political party lines and the city's current Turku 2029 City Strategy takes the United Nations Sustainable Development Goals broadly into account. A concrete example of Turku's strong commitment is its goal to be carbon-neutral by 2029. Turku has also already implemented several concrete measures to achieve this goal and the work is ongoing.

During the review process, the city was able to examine its operations in the context of sustainable development and identify areas for development

related to its operations and activities. It also identified measures that implement and advance the 2030 Agenda for Sustainable Development at a local level. In this VLR report Turku examines its most important operations in terms of all the 17 Sustainable Development Goals. The report highlights concrete measures of the work that Turku does to achieve these goals, that also function as interesting examples for a global audience. Turku City Council has selected four particular goals as the report's focal points; Goal 6 – Clean water and sanitation, Goal 10 – Reducing inequality, Goal 13 – Climate actions, and Goal 17 – Cooperation and partnership. Turku invests in achieving these goals in a variety of ways and wants to share its good practices as an example for other cities and municipalities worldwide.

With the VLR report, Turku wants to increase residents' and interest groups' awareness of the 2030 Agenda and the work the City is doing to achieve its goals. Turku also wants to work as a promoter of sustainable development at city level and inspire other cities to report and share good practices in implementing the 2030 Agenda. By sharing information and working together we can create a better, more sustainable future.

The City's Enabling Environment

Turku is a vibrant city of science, culture and sustainable development

Turku (Åbo in Swedish) is the centre of Southwest Finland, located on the shore of the Archipelago Sea and in the estuary of the Aura River. Turku, the oldest city of Finland, was established in 1229, and today it is the sixth largest municipality and the third largest urban area in Finland.

With its neighbouring municipalities, Turku is a vibrant growth centre of the Baltic Sea Region. The diverse economic structure, dynamic companies, high-quality education opportunities, cultural offerings and services, and beautiful archipelago form an attractive combination in Turku. The city is surrounded by 40,000 islands, islets and Archipelago National Park.

Age distribution in Turku

AGE DISTRIBUTION	% OF POPULATION
0–7	6.1%
7–12	5.1%
13–15	2.4%
16–18	2.5%
19–49	46.7%
50–64	16.6%
65–74	11.5%
Over 74–	9.3%
Foreign nationals	6.6%
Swedish speakers*	5.5%
Other than Finnish or Swedish speakers	11.8%

Population: 193,015 (3/2020)

*The City of Turku is officially bilingual, with Finnish and Swedish as official languages

City of Turku in numbers:

The oldest city in Finland,
established in

1229

20,000 businesses

130,000 jobs

Over 100 nationalities

40,000
university students

Over 4000 international
students or exchange students
every year

Key responsibilities of municipalities

The Finnish government guides the operations of municipalities, and the municipalities' statutory duties include services that increase social growth and well-being, such as early childhood education and compulsory education, social and health care services, and cultural, youth and library services. In addition to this, the municipalities are responsible for organising appropriate city planning, land use, water and energy production, waste management, environmental services, and fire and emergency operations. Municipalities can also exercise responsibilities related to finance, employment and housing.

Turku's organisational model and authority

In the City of Turku organisational model, the highest authority is vested in the City Council, which consists of 67 councillors. Residents of the municipality elect the councillors in municipal elections every four years. The City Board is responsible for the City Administration and economic management as well as the preparations, implementation and monitoring the legality of the City Council's decision-making proceedings. In addition to the City Council and City Board, other city bodies include committees, their sections and commissions.

Turku City Administration consists of a Central Administration lead by the mayor and four divisions: Welfare Division, Education Division, Urban Environment Division and Recreation Division. The City Board also includes the Southwest Finland Emergency Services and six service centres. The City Group also includes strategic subsidiaries in which the municipality alone or together with other municipalities or communities belonging to local authority corporations in the region has authority. In addition the City Group includes numerous other subsidiaries or affiliated companies and communities.

Strategy as a tool for leadership

The strategic framework of the City of Turku consists of the City Strategy which includes the vision and the strategic programmes supporting it and the strategic and operative agreements derived from them. The most important investments and the most decisive and widely influencing functions of the City Strategy are implemented as spearhead projects.

The City's spearhead projects

The Development of the City Centre spearhead project aims in many ways to revitalise and modify the city centre to make it more attractive. As the core of the city expands, its attractiveness and liveliness are strengthened. The old town is elevated to a well-deserved position not only as a tourist attraction but also as a European living room by adding more diversity to the area's services and limiting the traffic passing through the area.

The Turku Science Park project aims to strengthen the international attractiveness of the area and combine functionality, building and mobility in comprehensive urban development. Within this broad concept, the attractive city growth and environment, as well as smart development of the City's service channels, are simultaneously strengthened.

The Smart & Wise Turku spearhead project involves investment in climate matters and the smart city concept. The aim is to improve the well-being of city's residents, the city's competitiveness, and the productivity of the City's own operations with the help of digitalisation and the data it provides. Digitalisation allows for the provision of services that are independent of time and space and improving the productivity of the City's own operations (Smart City). By creating conditions for utilising data for the city's residents and businesses, the City facilitates financially, socially and environmentally sustainable growth to support well-being (Wise City).

Implementation of the 2030 Agenda in Turku

Turku is one of the pioneers in implementing the 2030 Agenda for Sustainable Development and creating a sustainable Finland and Europe. In many respects, the current Turku 2029 City Strategy supports achieving the Sustainable Development Goals, through means such as the ambitious goals to be a carbon-neutral city by 2029 and a pioneer in socially sustainable urban and regional development. The City's investments in spearhead projects and implementation of the City Strategy, among other financial projects, such as the Turku Urban Infrastructure investment package worth over €300 million, play a vital part in accelerating the implementation of the 2030 Agenda for Sustainable Development in Turku.

By participating in the review process, the City aspires to enhance the implementation of the 2030 Agenda at local level. In this first round of reviewing, the purpose was to create an overall picture of Turku's starting point in regard to the implementation of the 2030 Agenda. In addition to this, the achievement of the goals and the trend of development can be monitored in the following review reports. The aim was also to locate the areas and goals in which Turku needs to improve, and to identify the areas in which the City has managed to advance the Sustainable Development Goals.

The purpose is also, with the help of the VLR report, to increase awareness of the Sustainable Development

Goals and the work Turku is doing to promote them within the City organisation and its communities, residents and different interest groups. Turku also wants to set an example by working as a city-level implementor of global sustainable development.

Turku City Council selected four Sustainable Development Goals to be the focal points of the first VLR report. In the focal points listed below, the City has significant competence, experience and/or measures that it wants to highlight and share as good examples to both international and national audiences. The implementation of these and the City's other measures are described in the report.



The Turku region has international excellence in water expertise.



Turku is one of the world's leading climate cities and aims to be carbon neutral by 2029.



Turku actively prevents and reduces inequality of its residents.



Turku has long been an active member and initiator in various cooperation networks. Also the local cooperation between the City, universities and businesses is comprehensive and effective.

Methodology and process for review

Scope of the report and subjects of review

Turku's first review process focused on the Turku 2029 City Strategy, the City divisions' main activities and the spearhead projects implementing the City Strategy and promoting sustainable development: Development of the city centre, Turku Science Park, and Smart and Wise Turku. Of the entities owned by the City of Turku, the first round of reviewing included companies responsible for the city's water production and purification: Turku Region Water Ltd and Turku region wastewater treatment company – Turun Seudun Puhdistamo Oy.

Turku decided to examine all of the operations of the above-mentioned sections under review, from the point of view of all 17 Sustainable Development Goals and the applicable targets.

Key indicators

During the review process, a number of indicators were identified that were considered to be closely related to the Sustainable Development Goals and that are used to describe progress in the City's competitiveness and well-being. Additionally, indicators and statistical information were collected from sources such as Statistics Finland and the Finnish Institute for Health and Welfare to facilitate systematic monitoring of the progress of sustainable development in Turku.

For this first VLR report, an overall picture was created using indicators from the areas examined that were identified as matching the key indicators set by the United Nations or indicators that were recognised suitable for following the implementation of the Sustainable Development Goals.

Inclusive and cross-cutting process

The process of reporting and reviewing required multidisciplinary cooperation between different operators of the City Group, and the process was designed to be comprehensively inclusive from the start.

The preliminary work on Turku's operations linked to the 2030 Agenda was carried out during summer

2019 when the Turku City Strategy was examined in relation to Sustainable Development Goals. As a result of this work the Turku 2029 City Strategy was seen to include rather well the Sustainable Development Goals and achieving the goals in line with development on the national level. A detailed document showcasing the linkages between the Turku 2029 City Strategy and the Sustainable Development Goals including an assessment on how the different targets of each goal fit to local level can be found in the annex 2. of this report.

The VLR review process began by collecting and identifying the documents that guide the City's operations and the indicators that measure the City's operations and progress. These documents and indicators were reviewed against the indicators set by the UN to the Sustainable Development Goals. This was followed by examining the main activities and operations of the subjects under review: Turku 2029 City Strategy, the key operations of the City and the focus point areas of the spearhead projects that implement the City Strategy along with selected entities. The review process was carried out goal by goal with surveys, interviews and workshops. An expert panel of representatives of the City's different divisions and spearhead projects chose the example measures selected to highlight actions in Turku.

The Project Development Unit of Turku Central Administration was responsible for compiling the report. Specialists from the whole City Organisation, focus point areas of the spearhead projects and entities examined participated in writing and drafting. Workshops, interviews and surveys were also organized. The owner of the process was the Mayor and as the project's steering group acted the Mayor's Management Group which consists of all the City's division directors and directors of the groups and areas of responsibility of the Central Administration. Turku City Council approved the principal messages and highlighted goals for the first VLR report in March 2020 and the whole report at its meeting in June 2020.

External cooperation was carried out during the process in workshops and planning meetings with the Prime Minister's Office, preparing a VNR report this year and with the City of Espoo, which was also working on its first VLR report.

Leaving no one behind in Turku

A common goal of the United Nations is to ensure that nobody is excluded from the 2030 Agenda for Sustainable Development and to enable all population groups to participate in the implementation of the agenda. To achieve this common goal Turku aspires to promote its residents' extensive well-being and prevent the uneven distribution of resources and rights. One of the most important focal points of the Turku 2029 City Strategy is the prevention of social exclusion and regional segregation. The work Turku does to reduce inequality has also been highlighted as one of the focal points in Turku's first VLR report ensuring that the 2030 Agenda's goals and targets are met for everyone.

In early 2019, Turku City Council approved the large-scale agenda for preventing social exclusion and regional segregation. This ambitious and extensive programme is important to Turku. By Finnish standards, this is one of the most extensive programmes as it includes the goals of promoting socially sustainable urban development, suburban development and reducing homelessness. Turku is working in particular to prevent the loneliness and social exclusion of children and young people in order to break the spiral of loneliness and social exclusion on time. This is one way in which the City is investing in residents' future well-being.



Photo: iStockphoto

Progress on Goals and Targets





GOAL 1

No poverty

In Finland, social security guarantees the basic conditions of life, such as housing, adequate food and a basic livelihood, to all people. Social assistance secures the most necessary day-to-day expenses for which a person's income and resources would not be sufficient without support. Social security systems are essential for maintaining and advancing social well-being and equality. The general at-risk-of-poverty rate is higher in Turku than in other large cities in Finland. The at-risk-of-poverty rate of children is also higher in Turku than in other large cities in Finland.

Solutions for the root causes of the problems are sought

Turku invests in preventive services that strengthen residents' opportunities to take responsibility for themselves and their loved ones. Efforts are made to address the root causes of poverty, such as unemployment and substance abuse problems, at an early stage. The social lending adopted by Turku helps city residents break their debt cycles. This lending works under social security and does not affect other benefits or subsidies. Turku is also actively preventing regional segregation. City residents' access to services and information is facilitated by bringing the City's services and social security services to the same visiting address. The continuous development of digital services facilitates dealings and improves the accessibility of services.

Homelessness is tackled by proactive measures

In early 2019, the City of Turku introduced a new plan to reduce homelessness. The aim is to invest in the prevention of homelessness through service guidance, housing consultation, financial education, better access to temporary housing and promoting the provision of affordable rental housing. The property company owned by the City of Turku has more than 11,000 apartments for rent throughout Turku. However, the demand for affordable rental housing is higher than the supply.

Turku is looking into the background of homelessness by creating profiles of the homeless, which will help better identify the causes of homelessness and target the necessary support measures correctly. At the end of 2019, there were a total of 433 homeless people in Turku, and after two years the number is declining again. However, homelessness is a bigger problem in Turku than in other Finnish cities, with the exception of the capital, Helsinki.

Turku also e.g. arranges emergency accommodation for the undocumented when needed and cooperates with the associations and organisations that support them. Turku also provides services to ensure a dignified life, such as emergency food aid.

Public services create quality of life

Turku offers several benefits and services that improve the quality of life. Libraries, outdoor sports facilities and parks, for example, provide free activities to people's everyday lives. Turku offers free primary health care to its most vulnerable residents and free maternity and child welfare clinics and school and student health care to all residents of Turku.

Turku invests in high-quality, versatile and affordable public transport. This ensures the mobility of even the most vulnerable residents. In 2020, Turku introduced participatory budgeting, or Asukasbudjetti, that enables all city residents over the age of 13 to influence the development of their own residential area and promotes equality and socially sustainable urban development.

Selected measures from Turku



Family Centres and systemic approach

The family centre model launched in Turku in 2018 brings the services of children and families with children under one roof. A family-oriented approach puts the needs of the child, young person and family at the centre and brings the services together close to the client. This also allows for the flow of information between professionals to be made more efficient and concerns to be addressed at an early stage. The systemic approach is the cornerstone and foundation of family and social services in the family centre

model. The systemic model is a way of organising child welfare into teamwork, in which the employee responsible for the child's affairs is supported by a multiprofessional team. Service guidance plays an important role in the implementation of the model so that clients can find the services they need. A client forum has been formed from the clients of the family centre, which monitors the activities and provides feedback.



Homelessness plan

The City considers the elimination of homelessness as one of its strategic goals. Turku is a partner in a cooperation programme for halving homelessness, which is based on the Government Programme. As part of this programme, the City is developing the activities of organisations and other parties operating in the field of homelessness to be more systematic

and goal-oriented than before. To make the services more effective, research study and a plan to reduce homelessness will be carried out. The aim of the research study is to understand the underlying reasons and diversity of homelessness and make the services more effective by targeting them correctly.



A multi-service centre will be built in Turku

The multi-service centre for substance abuse care, to be completed in 2023, will provide temporary accommodation and services supporting independent life, such as supported housing and housing trials, on a low-threshold walk-in principle of service guidance. The services are intended for residents of Turku who have become homeless or are at risk of homelessness. As a completely new function, a housing emergency service will also be implemented. It will provide temporary crisis accommodation and

help in determining the support services the client needs. Supported housing is mainly intended for rehabilitation clients. In supported housing, the client trains and maintains the skills needed in everyday life, such as cooking and doing laundry. The basic idea is a complete service chain and a low threshold to move from substance abuse services through daily support activities to housing trials and eventually to supported housing.



Turku Main library.
Photo: City of Turku / Kari Vainio



Overview of the progress in Turku

The first goal of sustainable development is to set a common goal for all countries to end poverty in all its forms. Poverty does not only mean the lack of certain standard of living. Also nutrition disruptions, the inadequacy of education, health care and basic services, and political non-participation are signs of poverty as well. At city level, many of the measures related to ending poverty are embedded in the City's basic operations. It becomes evident with the fact that this goal's indicators were clearly identified from the Turku City Strategy, and they correlate with indicators set by the UN.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
General at-risk-of-poverty rate of the municipality	2018: 18.4 %	↓	↓
Persons receiving income support	2017: 9.9 %	↑	↓
Persons receiving disability pension	2017: 6.4 %	↓	↓
Access to services	No data to be reported as a single figure		



The at-risk-of-poverty rate is higher in Turku than in other large cities.

Source: Sotkanet, THL

Turku has the third most homeless people.



Source: Ara: Asunnottomat 2018

Sample of key figures from Turku

Average annual income 2019:

28 950 €

Long-term recipients of income support

3.3 %

Number of long-term unemployed 2019

2 741 kpl

Unemployment rate 2019:

11.5%

Number of homeless:

433

Childhood poverty 2018:

17.80 %

Over **22,000**
hours of home services
are offered annually, with
a service voucher, to families
with children in Turku.





GOAL 2

Zero hunger

In Finland, a more significant problem than malnutrition is excessive weight, which has become more common in recent years, especially in the working-age population. 56% of the residents of Turku are overweight, and the situation strongly reflects the national development. Nutritional deprivation occurs only in certain vulnerable groups, such as older people living alone at home, and is often linked to other than economic factors or availability of food.

Nutritious school meals for every child

Turku offers a varied and nutritious lunch to every child and young person in early childhood education and comprehensive school. Upper stage comprehensive schools and general upper secondary schools also offer a vegetarian option to all students on a daily basis. Turku is actively seeking to increase the share of vegetarian meals in the food services provided by the City. At the same time, attention is being paid to reducing food waste. Improving the quality of nutrition is supported by the 'Terveempää elämää' (Healthier life) project in Turku's schools, which aims to reduce excessive weight and obesity in children through nutrition counselling. Every day, 39% of pupils in the 8th and 9th grades of comprehensive school skip school lunch, and the number is lower but growing among upper secondary school students as well.

Food production in the area and production reliability

As an urban area, Turku has very little primary agricultural production and farmland. Less than one per cent of the city's working-age population works in primary production. However, the City itself is a fairly large owner of agricultural land and thereby actively seeks to influence the development of sustainable agricultural practices in its area. In Finland as a whole, food industry is in many respects dependent on imports, and agriculture is generally unprofitable without subsidies.

In recent years, local food has become an emerging trend. The guidelines of the City's food service providers on the use of local food support the primary production in the areas surrounding Turku. Arkea Oy, which provides food services in Turku, is involved in the 'Portaat luomuun' (Stairs to organic food) programme and carries out a policy in its food procurement to increase the use of organic and local food. Turku also takes fair trade criterias into account in its procurements and has been a Fair Trade Town since 2017.

The production reliability of drinking water is at an excellent level in Turku. Tap water is always of high quality and safe to use as drinking and household water.

Building awareness of the origin of food

Turku offers its residents the opportunity to grow crops on land owned by the City. The City provides cultivation boxes, which have been placed in different parts of the city according to the wishes of the residents. Box farming can be the first opportunity for many children to observe the growth of their own harvest. In 2019, crops were already grown in more than 250 places in Turku. There are also several allotments in Turku that can be used by city residents for urban farming as a hobby.

Turku increases children's and young people's awareness of the origin of food through food education in schools and day care centres, where children become acquainted with primary production and learn where food comes from.

Selected measures from Turku



Free, clean food in early childhood education and schools

The purpose of free school meals is to support the pupils' healthy growth and development, their ability to study and their food skills. According to the recommendations for school meals, a school meal covers about a third of a pupil's daily energy intake

and thus supports the growth and development of children and young people. A balanced school meal follows national nutritional recommendations, and all special diets are taken into account when organising the meals.



'Syödään yhdessä' project and donation of surplus food

The 'Syödään yhdessä' (Let's eat together) activities include weekly community meals that make use of surplus food, various pop-up experiments and events, as well as cooperation with the food aid network. The aim of the networking and community meals is to diversify the existing service offerings and thereby try to increase people's inclusion and reduce loneliness.

The activities are substance abuse -free and free of charge. The activities are organised by a private foundation. The food service company owned by the City of Turku makes surplus lunches available to those in need through third sector organisations. Third-sector operators are also responsible for the distribution of the surplus food of shops and restaurants.



Nutrition-related services provided by the City of Turku

The City of Turku maintains several services that support a healthy diet and nutritional balance. Dieticians working for the City provide help with nutrition-related problems, such as addressing problems with eating and treating illnesses that require a special diet, as well as advice on nutritional issues arising from a special diet. The City of Turku also

employs a home economics counsellor who provides support in all practical household matters. The home economics counselling service organises e.g. varied and practical cooking courses for city residents. Basic skills in housekeeping, cooking and nutrition are taught in home economics to every child in upper stage comprehensive school.



Market stand in the centre of Turku.
Photo: City of Turku / Mikaela Jalanne



Overview of the progress in Turku

The purpose of goal two is to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture. It should be possible to grow, share and consume food fairly and without burdening the environment. Although measures implementing goal two were identified in Turku, goal two indicators were not directly identified in the Turku City Strategy.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
No indicators identified			



More than a third of students do not eat school lunches

School lunch is skipped by

39% of secondary school students

34% of upper secondary school students and

43% of vocational institute students

Source: Sotkanet, THL

Sample of key figures from Turku

Share of income spent on food 2016 in the households of Turku:

10.02%

Area of land owned by the City:

1 690 ha

In 2018

87%

of children in Turku ate vegetables daily

Obesity rate of residents of Turku year 2019:

56%

Erosion risk of arable land:

0,42 t/ha/y

The City of Turku offers its

60,000 students

a well-balanced school lunch.





GOAL 3

Good health and well-being

Turku's goal is the permanent well-being of its residents. Turku considers the promotion of well-being and health to be an economically profitable investment in the future and emphasises the importance of preventive work in its activities. Timely and well-targeted health services provide the basis for good preventive work. The City is not only a provider of services but also an enabler for them. Turku promotes action by increasing incentives for all activities that promote well-being and prevent social exclusion. The development of mental health and substance abuse work is part of the basic activities of the City's Welfare Division. Turku will enhance this work by implementing a city-level preventive mental health work model.

Turku responds to identified health threats

Turku has identified the health threats affecting its residents and actively aims to address them. There are more mental concerns in all age groups than before, and there are more people with significant mental strain in Turku than in Finland on average. People in Turku feel more lonely than Finnish people in general. Alcohol use and daily smoking are also more common in the region than in the rest of the country. Suicide is the single biggest cause for women of prematurely losing years of potential life. However, Turku's active efforts have paid off. According to the index measuring the health status of the city's residents, the health of Turku residents has improved compared to recent years. The disease groups examined in the index are cancer, coronary heart disease, cerebrovascular diseases, musculoskeletal disorders, mental health problems, accidents and dementia.

Aiming for a good life for all ages

Turku provides the best possible start to the early stages of life by offering maternity and child welfare clinic services to expectant mothers, children under school age and families free of charge. The maternity and child welfare clinic's services include vaccinations in accordance with the national vaccination programme. The Turku region has a good vaccination coverage. However, the target of zero non-vaccinated children under 3 years of age, for example, has not

been fully achieved, with the share of non-vaccinated children in the age group being 2.18% (2018).

The Turku Contraception Clinic offers free family planning and contraception counselling to those under 25 years of age. In addition to statutory services, Turku invests in sexual health, for example by offering free contraception to every young person in Turku. The Contraception Clinic also offers free services to those who have just given birth.

As the population ages, new services are needed for the well-being of older people. Turku promotes the possibility for older Turku residents to live and manage independently at home instead of a nursing home for as long as possible. Turku supports this goal by directing resources to home care and housing services. The majority of Turku residents over the age of 75 estimate that they receive enough help and they also take care of themselves without much difficulty. 91% of Turku residents over the age of 75 live at home.

The growth pressure of customer services due to the ageing of the population has been alleviated by developing the service guidance for older people e.g. by introducing new digital work methods, streamlining the service structure and investing in the optimal planning of customer work. Turku also promotes the health and activity of other special groups e.g. with the KIMMOKE wristband for low-income people, which enables engaging in low-threshold cultural and physical activities.

Selected measures from Turku



Services supporting the health of elderly people

Turku invests in promoting the well-being and health of older people. Elderly people's use of intoxicants is influenced by professionally supervised Pilke group activities based on peer support and prevention, organized together with a private foundation. The aim of the weekly Pilke groups is to bring regularity to everyday life, prevent social exclusion and offer support in coping with everyday life so that the participants can continue to live at home longer.

Turku acts as a pilot city in the operation of a clinic for 75-year-olds. All Turku residents receive an invitation to the clinic around the time they turn 75, and an appointment is personally agreed upon. At the clinic appointment, everyone receives a personal assessment of their health and referrals to the necessary services. In addition to the nurse appointment, the services of a doctor, a pharmacist and a physiotherapist are also available.



Future Health and Social Services Centres Programme

The purpose of the programme is to establish broad-based health and social centres in Finland. The programme has five main goals: Availability – improving equal access and timeliness of services, Prevention – shifting emphasis to proactive and preventive work, Quality – improving the quality and effectiveness of services, Coordination – ensuring the coordination of social and health services and their interfaces with other services, and Costs – curbing

cost increases. The City of Turku will create its own health and social services centre model. Service guidance will be enhanced by extending the digital counselling and service guidance model previously developed for older people in Turku to other target groups as well. The promotion of health and well-being will be enhanced by extending knowledge-based management to the entire service chain.



Turku invests in mental health work

Mental health is the foundation of well-being and activity. In Turku, preventive mental health and substance abuse work aims to prevent health problems caused by alcohol and other intoxicants, as well as suicide cases. The work will be enhanced by a new mental health and substance abuse unit, which will start operating in 2020.

The prevention of social exclusion, which supports mental health work, is also one of the focal points in the City of Turku Smart and Wise spearhead project, which implements measures to develop mental health services. These measures include e.g. mental health first aid training for City employees and the placement of psychiatric nurses in upper stage comprehensive schools, upper secondary vocational schools and maternity and child welfare clinics to enhance the mental health work for children and young people.



Steamship S/S Ukkopekka on a day cruise to island of Loistokari.
Photo: Visit Turku / Tommi Selander



Overview of the progress in Turku

Goal three aspires to ensure healthy life and well-being for residents of all ages. The work to ensure health and well-being is constant. In Turku, issues related to quality of life, happiness and substance abuse arise as matters that need to be invested in in the future. Residents' well-being is strongly enshrined in the Turku City Strategy, and numerous indicators of this goal were identified from the strategy. One indicator was found that directly matches the UN indicators.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Depression	2014: 11.5%	↓	↓
Proportion of people over 75 years old living at home (% of the whole age group)	2018: 90.9%	↑	↑
Quality of life experienced by the population	2018: 54.5%	↓	↑
Road safety*	2018: 0.77	↓	↓

*People injured in road accidents/1,000 residents.

In Turku, too much alcohol is consumed and daily smoking is more common than in the rest of the country.

The number of prematurely lost years of life has decreased in Turku.
Source: Sotkanet, THL

There are more mental health concerns in all age groups than before.

Sample of key figures from Turku

Number of road
traffic fatalities:

3 (2018)

Operating costs of social and
health care services in total:

€3 373.0/resident (2018)

Turku residents' impressions of
municipal services on a scale 1–5:

3.64 (2019)

Proportion of people engaging
actively in exercise

24 % (2018)

Prevalence index:

97.8
(2017)

Vaccination
coverage:

97.3 %
(2017):





GOAL 4

Quality education

Organising early childhood education and compulsory education is one of the basic tasks of the City. Turku invests particularly in high-quality early childhood education with a significant impact and sees education as the best work to prevent and reduce inequality. Turku supports the schools in challenging city districts so that education would be equal to every child in Turku. The opinion of Turku is that the educational needs of immigrants must be strongly taken into account in supporting integration. In Turku, challenges related to the operating environment of education and competence include e.g. the different needs of individuals, changes in working life and rapid technological development. Responding to these changes requires taking advantage of the opportunities offered by new technology and an ability to constant renewal.

High-quality and free compulsory education

Turku offers every child free pre-school education at age 6 before the start of compulsory education. Compulsory education provides general education for all young people aged 7–16. In Turku, every young person has equal opportunity and skills to realise their dreams and plans. The content and objectives of education are defined in the national curriculum, which guarantees high-quality and uniform education in all schools. Turku invests in internationality in schools by diversifying and increasing language skills and developing learning environments that support learning. Turku's goal is for all young people to receive at least an upper secondary education. The goal has been achieved well, as 93 per cent of young people in Turku are studying or have completed at least an upper secondary degree.

Turku is the best student city in Finland

Good education is a prerequisite for competitiveness. Turku offers several high-quality study options. General and vocational upper secondary schools act as a stepping stone to adulthood and create a solid foundation for professional skills. Furthermore, adult education centres and other forms of adult education provide an opportunity for lifelong learning. Turku's special strength are the six high-quality universities in the city that support the city's continuous renewal by

creating a foundation for wide-ranging expertise and creativity. Turku's 40,000 students create significant potential for the city and its companies. The City of Turku invests in its role as a student city through the Study in Turku cooperation, which includes all six universities, student unions and organisations, and Turku Science Park, in addition to the City. The goal is to make Turku the best student city in Finland, and the goal is also included in the Turku 2029 City Strategy. In addition, a faculty of engineering will be established at the University of Turku in 2021, which is a significant step forward for the development and competitiveness of the regions of Turku and Southwest Finland. To support this development, the City of Turku donated two 5-year professorships in mechanical engineering and material technology to the University of Turku.

A place to work or study for every young person

Turku has been a pioneer in the development of the Youth Guarantee both in Finland and throughout Europe. The Youth Guarantee is an initiative implemented at the start of 2013 in Finland. It guarantees every person younger than 25 and every recent graduate younger than 30 a job, a work try-out or a place in education, a workshop or rehabilitation within three months of becoming unemployed. The Youth Guarantee supports placement in education and the labour market and prevents the prolongation of unemployment and social exclusion.

Selected measures from Turku



Education and Youth Guarantee measures

In Turku, the Training Guarantee is implemented very well: 98% of young people continue their studies after compulsory education, either in upper secondary or preparatory education. According to the Youth Guarantee, all people under the age of 29 are offered the opportunity for a place to study, work or train. To ensure regional equality and promote the learning of children in need of support, Turku spends almost one

million euros per year in compulsory education on equalising learning differences and opportunities. After completing vocational education, 80% of students become employed and 10% continue to higher education. After general upper secondary education, 72% of students continue to further studies or working life.



Schools as centres of well-being

In Turku, day care centres and schools are developed from the perspective of well-being and inclusion. Schools have active pupil councils, and the Parliament of Children and Youth Council participate in influencing at the city level. All children and young people are actively supported in being active and taking care of themselves, and children and young people themselves are involved in the planning of these activities. The Finnish Schools on the Move and Joy

in Motion programmes have made physical activity a part of all lessons and activities, and teachers flexibly combine physical activity with theoretical subjects. In 2018, Turku received the Finnish Schools on the Move award. Breaks and outdoor activities are part of the Finnish curriculum. School bullying is actively addressed in accordance with the KiVa operating model. School health care has been strengthened by psychiatric expertise brought to schools.



Digital leap in schools

During 2017–2019, digital devices were procured in Turku for all pupils in grades 4 and 7 of comprehensive school. In addition to this, teachers were trained at all grade levels to use new e-learning materials and devices. To support the activities, Turku schools employ two digital tutors who help teachers and pupils take advantage of new technology. During 2020 all

pupils in grades 4 to 9 will have a personal computer provided by the City. Furthermore, pupils, students and staff are actively familiarised with cybersecurity, for example. A special course in cybersecurity, Hack with Turku, was held at Kerttuli Upper Secondary School in Turku in cooperation with the university and companies in the area.



Students next to the Turku Cathedral.
Photo: City of Turku / Minna Kankare



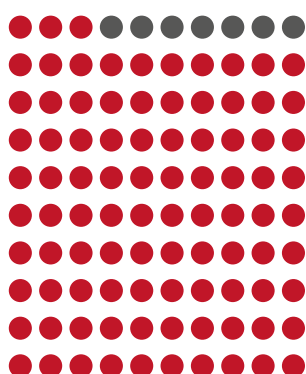
Overview of the progress in Turku

The aim of goal four is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Organising free education is one of municipalities' statutory duties, and literacy and numeracy are some of the basic skills of the population. The population's good education level and high-quality education guarantee a better life to the following generations and promote the city's attractiveness and competitiveness. In Turku, high-quality compulsory education and vocational education belong to everyone equally. Numerous indicators of this goal were identified in the Turku City Strategy, but the goal's international indicators are not suitable for strategy-level monitoring as is, due to their detailed nature.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
People excluded from education aged 17 to 24, % of the population of the same age	2018: 6.8%	↓	↓
Education level index of the population	2018: 405	↑	↑



93 %

93% of young people are studying or have completed at least an upper secondary qualification.

Source: Sotkanet, THL

13% of secondary school students and vocational institute students and 15% of upper secondary school students experience anxiety.

7% of comprehensive school students, 4% of vocational institute students and less than 1% of upper secondary school students experience bullying.

Sample of key figures from Turku

Number of university applicants/
available intake (2019):

Turku University of Applied Sciences 3.2
University of Turku 3.3

Net income spent on
educational and cultural services:

€1,903.4/resident (2018)

People with upper
secondary education:

79.61%
(2018)

Participation rate in early childhood
education covered by municipalities:

80.65% (2018)

Proportion of academically
educated people in Turku:

13.6% (2018)

The level of education of people
who speak other languages
(people who have completed a degree after
compulsory school, % of people at least
15 years old who speak other languages):

45.5% (2017)

All Turku's pupils
in grades

4 to 9

have a digital
device.





GOAL 5

Gender equality

Equality between women and men is one of the most significant values and success factors in the Finnish welfare society. A sub-objective of the City of Turku's well-being and activity programme is the promotion of gender equality in a planned and targeted manner in all activities. Turku signed the European Charter for Equality of Women and Men in Local Life in 2007. With the Charter, Turku has affirmed its commitment to promoting equality in political decision-making, service provision and its role as an employer, as well as in sustainable development. In Turku, the realisation of equal treatment is guided by the equality plan and monitored by the Equality Committee.

Equal work and family life

The City of Turku is committed to treating its personnel equally, regardless of the person's gender, age, ethnic origin, religion or belief, opinion, health status, disability or sexual orientation. The realisation of gender equality is monitored e.g. through a national occupational well-being survey aimed at the municipal sector. According to a study carried out in 2019, the experiences of women and men in Turku are parallel with regard to work-related stress and experiences of violence, among other things, but men experience more discrimination based on their gender. The City of Turku seeks to combat gender discrimination by introducing anonymous recruitment, in which the selection during the first stage is based on the competence presented without any identifying information about the applicant. In Turku, the salary of all employees is defined based on the job and is not affected by personal characteristics. The City also encourages fathers to use more family leave in order to improve gender equality.

Recognition of genders and sexual equality

In the City of Turku's work environment, the aim is to promote the use of gender-neutral concepts and titles where possible. The City's services recognise the genders of woman, man and non-binary. The City's activities have zero tolerance for all inappropriate behaviour, and gender identities and sexual diversity must not result in any form of discrimination, harassment or violence.

Close relationship violence Identification and prevention of close relationship violence

Close relationship violence can be experienced by any gender. Turku has a working group for the prevention of close relationship violence, whose task is to create operating models for the identification of violence in close relationships and families, early intervention and helping the different parties. Living in a violent atmosphere impairs a person's quality of life and deteriorates their well-being and health. The direct and indirect costs to the City are also significant. Violence is therefore an issue for everyone, and no one can neglect to intervene in it in their work. Turku uses the Turku model for tackling close relationship violence and has an extensive and very comprehensive network of operators doing preventive and corrective work on violence.

Selected measures from Turku



The operating model for culturally sensitive close relationship violence and the integration of immigrants

Turku is a partner in the joint European Equalcity project that identifies actions arising from immigrant communities to prevent gender-based and sexual violence and supports their introduction into immigrant communities. The work is supported by the implementation of an operating model for the prevention of culturally sensitive close relationship violence in immigrant communities. A family-centred approach to integration work promotes the integration

of the whole family. The Finnish language and society studies of immigrants outside working life and in a weak labour market position, such as housewives, are supported by arranging childcare for the duration of the studies. The school mentoring model trains immigrants who have lived in Finland for a longer period of time to provide peer support in school related matters to the children of other immigrant families and their parents.



SomeBuddy service

The City of Turku acquired the SomeBuddy service for students and staff in comprehensive and upper secondary schools, as well as for regional youth workers and school nurses. It provides the opportunity to report inappropriate online behaviour. SomeBuddy helps in situations where a person's images or posts

are mocked, their secret or private information is shared, lies are spread about them, their personal images are shared or used without permission or pictures or videos are taken of them in secret. So far, the service is the only one of its kind in Finland.



The Turku Model for tackling close relationship violence

The aim of the Turku model is to guide and facilitate the work of municipal and third sector employees in the city in preventing and addressing violence in close relationships. The model is very practical and easily applicable to one's own work for a non-violent Turku, and it briefly reviews what close relationship violence is and how common it is in Turku. The model gives a

clear picture of what should be done with a client or patient, for example, when violence against the client or patient surfaces during work. The model also serves as a tool in everyday work and makes it quick and easy to find the parties that can be cooperated with to help the client or where to direct them.



Students in Turku Main Library.
Photo: City of Turku / Jussi Vierimaa



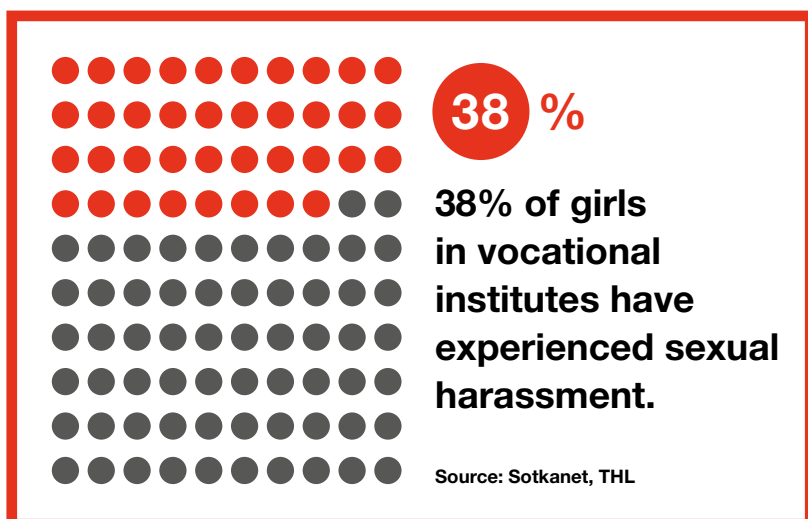
Overview of the progress in Turku

The aim of goal five is to promote equality between genders and to strengthen women's and girl's rights and opportunities. Education that is equal and independent of gender, ending violence and discrimination, and equal participation in decision-making in society benefits the sustainable development of societies and the whole world. In Finland, there is an equality law in force, which states that authorities must, in their operations, promote equality in a planned and targeted manner. Authorities must also create and standardise management and practices that will ensure the promotion of equality between women and men in preparation work and decision-making as well. Gender equality is a major value for the City of Turku. However, direct goal indicators were not identified from the Turku City Strategy.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

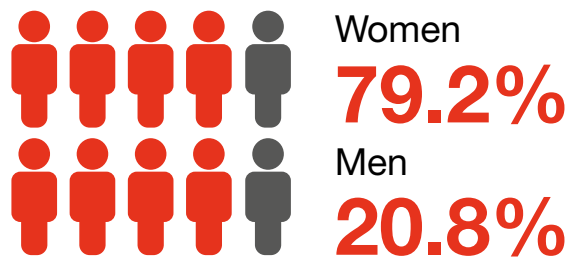
City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
No indicators identified			



Suicide is the single biggest cause of prematurely lost years of potential life for women.

Sample of key figures from Turku

Proportions of women and men in the City of Turku personnel (2019):



Average monthly wage:

Women €2,665.60

Men €3,483.76

Proportion women make up of the City Council:

49%

Proportion fathers account for of all recipients of parental allowance (2019):

4.43%

Women on the Management Group of the City:

50%

Proportion of single-parent families:

27.9%

Day care is provided for over

8,000

children in Turku.

Early Childhood Education Services make it possible for parents to work.





GOAL 6

Clean water and sanitation

In Finland, the majority of households are connected to the water supply network. Turku develops the water supply in its area in accordance with community development. The starting point for the operations is to secure water supply for all and guarantee the supply of sufficient and healthy household water at a reasonable cost as well as to organise sewerage in a manner appropriate for health and environmental protection.

Uniquely sustainable drinking water production

The natural groundwater reserves of the Turku area are not sufficient to cover the water needs of the entire area as they are, so Turku has secured its drinking water supply with a reliable water production system. Turku Region Water Ltd produces artificial groundwater for the 300,000 inhabitants of the area using a natural, sustainable method. Artificial groundwater is created like groundwater, but the process is controlled and accelerated. The perfect quality of the drinking water is ensured at several stages of the purification process. The reliability of the system is guaranteed by a well-rounded preparedness for possible disturbances. The production capacity of the artificial groundwater system is significantly higher than the current demand, so according to the population development and the water use forecast, it will be sufficient for years to come without additional construction related to the production capacity.

The reliability of the drinking water supply network is generally good. The risks of the supply network mainly concern the large islands of Turku. Turku has identified the need to improve the islands' security of supply as the population grows.

Wastewater treatment at an international top level

The treatment of the wastewater of the residents of the Turku region is handled by Turun seudun puhdistamo Oy. All municipal wastewater in the Turku region is directed to be treated centrally at the Kakolanmäki wastewater treatment plant. The industrial plants in

the region also use municipal sewerage and utilise the wastewater treatment service. The treatment process of the wastewater treatment plant excavated into the bedrock in the central area of Turku is world-class. Thanks to an efficient, multi-stage treatment process, the removal of organic matter, phosphorus and nitrogen is better than the permit conditions set for the operation of the plant. The annual average treatment efficiency of the plant was 99% for organic matter, 99% for total phosphorus and 86% for total nitrogen in 2018. The operation of the treatment plant has significantly reduced the load of municipal wastewater on the Turku sea area and it has a strong positive impact on the water quality of the area.

Disturbances, such as an increase in heavy rainfall, are prepared for by improving the process's resilience to disturbances and developing risk management as an ongoing process. The competence of the personnel is also maintained and developed. Furthermore, the treatment plant is taken care of with preventive maintenance.

Environmental aspects in water use

The status of the three groundwater areas in Turku has improved since the introduction of artificial groundwater, as the groundwater is no longer used as domestic water or industrial raw water. Turku has paid attention to the status of small water bodies e.g. with the restoration measures of the Pomponrahka Natura area, the purpose of which is to restore the water balance of the bog in the area and increase biodiversity. Water pollution is prevented by monitoring the runoff from the Topinoja waste treatment centre, for example. The leachate from the area is collected into a sump, from where it is directed to wastewater treatment.

Selected measures from Turku



Sustainable regional raw water production

Turku Region Water Ltd has ensured sustainable raw water production and water supply for the residents of the Turku region with a highly efficient, sustainable and reliable water production system, where the perfect quality of the drinking water is ensured at several

stages of the purification process using the multi-barrier approach. The preparedness of the security of supply of raw water production is based on the extensive Water Safety Plan risk assessment and the guidelines implemented based on it.



Wastewater treatment managed with information and research

Continuous optimisation and development require ambitious target setting and a high level of expertise. Turun seudun puhdistamo Oy's technical commission consists of experts and officeholders responsible for water supply in the member municipalities. The interest group work of the technical commission

enables the promotion of the continuous development of water supply in the region. To ensure sustainable and high-quality water production, the treatment plant also engages in active cooperation with equipment suppliers, research institutes, universities and other water management plants.



Increasing stormwater treatment capacity

The current removal channels of Turun seudun puhdistamo Oy are connected to the stormwater sewer of the City of Turku. The current capacity of the unloading system is insufficient and is exceeded during downpours. Turun seudun puhdistamo Oy will build a new removal channel and UV hygienisation unit

for treated wastewater in 2019–2022. Upon completion of the project, the plant's preparedness for changes in water volume will improve and the hygienic load caused by wastewater in the Turku sea area will be significantly reduced.



Bottles filled with purified wastewater and raw mixed sludge.
Photo: Robert Seger



Overview of the progress in Turku

The purpose of goal six is to ensure availability and sustainable management of water and sanitation for all. Clean water is the basis of well-being at many levels. In Turku, water supply is outsourced to regional companies partly owned by the City, and that centrally maintain the drinking water and wastewater management through municipal border-crossing cooperation. The goal's indicators were not found in the Turku City Strategy. Indicators of companies providing water services that were examined in the VLR report were used in the goal.

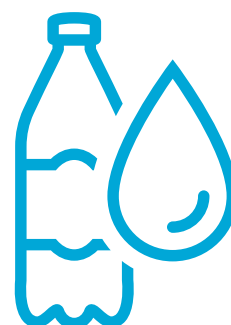
Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Organic matter treatment efficiency	2019: 99%	↑	↑
Phosphorus content and treatment efficiency	2019: 99%	↑	↑
Wastewater treatment level	2019: 84%	↑	↑



Safe and clean drinking water and efficient and high-quality wastewater treatment for the
300,000 residents of the region.



Sample of key figures from Turku

Amount of treated
wastewater (2019):

34,046,737 m³

Production volume
of drinking water:

22,930,000 m³/year

Wastewater index:

33/33

The structural elements
of the drinking water
production system are
designed to last at least

100 years

The household water
in Turku is artificial
groundwater produced by
natural methods.





GOAL 7

Affordable and clean energy

Turku is rapidly and determinedly reforming its energy systems, aiming for carbon neutrality by 2029 in accordance with Climate Plan 2029. Turku is increasing the use of renewable forms of energy production, and the city's strategic companies and organisations are closely involved in achieving the climate goals. The City of Turku's subsidiary Turku Energia is responsible for the sale and transmission of electricity and heat in the area. Turku Energia's operations also include the development, construction and maintenance of energy networks and energy production facilities. Turun Seudun Energiantuotanto Oy's task is to take care of the basic energy production in the Turku area economically and efficiently with diverse production capacity.

Use of renewable energy in Turku

Turku has invested in the sustainability of energy production by investing over 300 million euros in sustainable energy with its partners in the years 2014–2019. At the beginning of the millennium, the use of non-renewable energy sources, such as coal and oil, accounted for more than 90% of energy production. In 2020, coal only accounts for about 10% of all energy produced, and renewable energy accounts for about 70% of the electricity and heat sold by Turku Energia. Even though Turku's economic growth has been positive, emissions from energy production have been significantly reduced.

The goal of the City of Turku's Climate Plan is a carbon-neutral energy system in 2029, by which time district heating, district cooling and electricity used in the Turku area will be produced in a carbon-neutral manner, taking possible compensations into account. The most common form of heating in Turku is district heating, which is mainly produced in plants owned by Turku Energia's associated companies. A significant part of Turku's district heating is produced in combined heat and power (CHP) plants. The multi-fuel plant completed in Naantali in 2017 enables the replacement of coal with biomass and other alternative fuels. Concrete examples of sustainable heat production methods implemented in recent years in the Turku area include the Oriketo bioheat plant, the Kakola heat pumps, the Luolavuori pellet plant and the Artukainen wood gasification facility. Turku will completely give up the use of coal by 2025. A geothermal plant will be

implemented to replace the remaining fossil-based production. Long-term investment in energy-efficient, new and renewable energy sources will make it possible to reform the energy system while maintaining the development of electricity prices reasonable for users.

In addition to the Turku area's own combined production, Turku invests in the sustainability of electricity generation by increasing wind and hydroelectric power shares in associated companies and developing photovoltaic services. Turku is challenging citizens, companies and organisations to get involved in the energy reform, for example by accelerating subsidiaries' energy pilots and private energy investments in the Kuntalaisten energiakäänne project.

Comprehensive and reliable electricity network

In Turku, the electricity network is comprehensive and its operational deficiencies are almost always due to weather-induced faults in the electrical grid, such as snow or storm damage. With climate change, extreme weather phenomena will increase, and adaptation to the change will require investments in the development of the reliability of the electricity network. In Turku, the status of the electricity network can be monitored around the clock, and the usage monitoring systems receive information about network faults immediately. Turku promotes the security of electricity supply through network investments, preventive maintenance and repairs and contingency plans.

Selected measures from Turku



Energy from wastewater

In Kakola wastewater treatment plant a heat pump plant produces about 10 % of the district heating and district cooling by utilising the heat from the wastewater. The sludge is treated at a biogas plant that produces transport fuel for passenger cars and heavy

transport as well as electricity and district heating. The waste heat generated in the treatment plant's aeration process is recovered by a heat pump and utilised in the plant's other processes.



Open two-way energy networks

It is possible to sell surplus heat generated by properties and industry to the district heating network. The Skanssi district's new kind of low-temperature district heating network will also be used to develop two-way and open heat trading for small producers. Electrical energy can be generated by utilising e.g. solar, wind or bioenergy. If someone produces more

electricity than they consume, the surplus electricity can be transferred to the electricity network for others to use. Turku Energia provides both solar panels and funding to those interested, and one can also rent a personal solar panel from Turku Energia's solar power plant.



Energy saving

The City of Turku is a pioneer in energy efficiency. The City's goals of promoting energy efficiency in its own building stock and infrastructure are prepared and guided in more detail with the help of the Energy Efficiency Agreement. The energy efficiency work is guided by an energy management system. The City of Turku was involved in the first period of the Energy Efficiency Agreements in 2008–2016 and is also involved in the second period 2017–2025. Between

2008 and 2016, savings of approximately 7.5% (18,100 MWh) were achieved. For example, the waste energy of the city's ice halls is being utilised, and their consumption is less than one third of the average of Finnish ice halls. The City's subsidiaries have also taken significant steps. TVT Rental Housing, for example, achieved annual savings of more than two million euros by saving hot water together with its residents.



Port of Turku.
Photo: City of Turku



Overview of the progress in Turku

The aim of goal seven is to ensure access to affordable, reliable, sustainable and modern energy for all. Energy use and production have a major effect on climate change, with over half of Turku's greenhouse gas emissions caused by energy consumption. Effective, modern and renewable energy resources are needed to build a sustainable economy, jobs and food production. Energy production is directly connected to Turku's strong ambition to become carbon neutral by 2029. Three indicators of sustainable energy production were found in the City Strategy.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Proportion renewable and carbon-neutral energy production account for of total electricity generation	2018: 54%	↑	↑
Proportion renewable energy accounts for district heat production	2019: 61%	↑	↑
Proportion of energy produced utilising waste	2018: 79.5%		



2014–2019
Investments in sustainable energy over
€300 million.

Goal:
By 2029,
Turku will have
a carbon-neutral
energy system.

Sample of key figures from Turku

10%

of the region's district heat supply is produced with the lost heat recovered from the wastewater

The household water production process produced

1,658,000 kWh

of clean energy through water flow in 2019

Coal accounts for about

10%

of all energy produced in Turku

Renewable energy accounts for

70%

of the electricity and heat sold by Turku Energia

Turku's bioheat plants produce

11–15%

of the district heat.

The Kakola wastewater treatment plant produces

over ten times more

emissions-free energy than it consumes

Renewable energy accounts for

70%

of the electricity and heat sold by Turku Energia in 2020.





GOAL 8

Decent work and economic growth

The competitiveness of the City of Turku is based on the attractiveness of the area. Turku is investing in its position as a city where companies want to operate and people want to live. The best way to manage employment is to develop and support the creation, competitiveness and growth of companies, thus creating a genuine and lasting demand for labour. Turku's goal is to have a diverse economic structure and a growing number of jobs in the area. For companies and business life, the City offers a competitive and business-friendly operating environment, which is constantly developed and renewed in cooperation with various operators. Comfort, safety and an open and permissive atmosphere also increase Turku's attractiveness in the eyes of international students, professionals and companies. Turku seeks new sustainable innovations in circular economy, among other things: The development of sharing and circular economy services, the utilisation of nutrient, energy and material flows as well as the utilisation of waste and side streams create new opportunities for economic growth.

High-quality employment services

Turku aims to reduce unemployment through efficient services and partnerships aimed at proactively providing support that promotes employment. The services of the authorities have been combined into one low-threshold customer-oriented entity, which allows the unemployed to receive support as early as possible. Turku has reduced its municipal share of labour market subsidy by several million euros over the past few years as the employment rate has improved and the number of unemployed people has decreased. Turku supports employment opportunities through employment related public procurement. The aim of employment through procurements is to promote the increase of the city's employment rate and the employment of those in a poor labour market position by using employment conditions that include an employment obligation.

Turku is a sustainable employer

In Turku, cultural diversity is utilised in growing the city's competitiveness by increasing the connections between immigrants and business life. Turku supports equal employment opportunities by investing in effective learning of the Finnish language, supporting the prerequisites of employment and facilitating access to education.

Turku supports the employment of young people through the active implementation of the Youth Guarantee. Young people's access to working life

is supported e.g. by summer job vouchers, which encourage the hiring of young people for summer jobs. Turku allocates a part of the City's summer jobs specifically for young people. In 2020, the City offered summer jobs to 310 young people. The working hours, salary and statutory rights of young employees as well as the age limits for work are taken into account when hiring young people.

Sustainable tourism

Turku is a well-known tourist and congress city. Turku's history, cultural services, events, archipelago, river and proximity to the sea are important factors of attraction and vitality. The City of Turku has invested in the sustainability of tourism. As an example of this, the Turku region has begun to build its own cooperative regional programme of sustainable tourism. The Turku region also has the potential to gain a competitive advantage by investing in responsibility.

Turku develops the tourism infrastructure comprehensively, particularly along the riverside and by the sea, while promoting the accessibility of the archipelago. The City supports sustainable tourism e.g. by enabling affordable public transport for tourists as well. An electric bus line operates between the airport and the port, and the water bus serves as a public transport connection to the Turku archipelago. The accessibility of nature destinations has been improved by adding a permanent public transport line between Turku and Kuhankuono hiking trails and Kurjenrahka National Park.

Selected measures from Turku



Employment measures

Turku will carry out an employment experiment in accordance with the Government Programme, in which the promotion of employment will become a joint activity of all the City's divisions. The aim is for the City's services to support employability and employment. Ensuring competence and the ability to work is a natural part of a job seeker's service

path and the threshold to request support is low. The employment of young people will be improved consistently in accordance with the Youth Guarantee model, in which the necessary services from the cooperation network are brought together to support the young person's path and their life is taken into account as a whole.



Schools and working life together

All comprehensive and general upper secondary school students have the opportunity to become acquainted with working life as part of their studies. Vocational learning mainly takes place in working life. Companies are involved in the design of new learning environments, and schools and day care centres act

as business development platforms for companies. STEAM Turku project helps inspire children and young people to explore the world of technology and science and ensure the learning of future working life skills. In 2019, over 9,000 children and young people were involved in various STEAM activities.



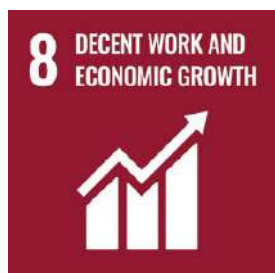
Sustainable economic growth and competitiveness

The Turku region supports the development of sustainable business in cooperation between business life, universities and the City. Over 2,000 new companies are established in the region each year, and the activities are supported by comprehensive business advisory services. Accelerators and invest-in

activities increase innovation, competitiveness and jobs throughout the urban region. Companies are supported in attracting international professionals to the region and by providing services to establish an international workforce in the region.



Preparing cargo in the Port of Turku.
Photo: City of Turku / Esko Keski-Oja



Overview of the progress in Turku

The aim of goal eight is to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Sustainable economic growth requires societies to be able to provide high-quality jobs to their residents without harming the environment. Cities have a major role to play as employers and providers of employment-aiding services. Several of the Turku City Strategy indicators measure the achievement of the goal indirectly from the point of view of economic and social sustainability.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

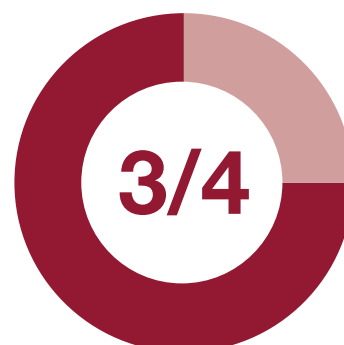
City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Unemployment rate	2018: 12.2%	↓	↓
Regional economy	2017: 102.9	↑	↑
Workplace self-sufficiency	2017: 122.7	↑	↑
Growth of tourism (number of registered nights spent in hotels)	2018: 866,431		



Unemployment has decreased in Turku, including the number of long-term unemployed and young people.

Source: Sotkanet, THL

Three out of four residents of Turku believe they will be able to work until retirement age.



Source: Hyvinvointikompassi, THL

Sample of key figures from Turku

Employment rate of
people employed in 2017

66.1%

Number of jobs in 2017:

100,128

Economic
dependency ratio
in 2017

132.4

Unemployment rate in
2019 for young people
under 25 years of age

12.5 %

Workforce (2017):

94,494

Development of
businesses (2018):

+722

Persons receiving
disability pension
in 2017

6.4%

Companies' impression
of business policy in
Turku on a scale of
4–10 was

6.47

in 2018.





GOAL 9

Industry, innovation and infrastructure

Turku wants to be an internationally interesting and competitive city in the northern Baltic Sea region. The Northern Growth Zone extending from Stockholm via Turku and Helsinki to Saint Petersburg and the logistical location in the EU's Trans-European Transport Network (TEN-T) offer the City an opportunity to become a major logistical hub. This requires the rapid transport of people and goods, as well as well-functioning land, sea and air connections.

The future is being built in Turku

Together with universities and other partners, Turku is building an attractive innovation environment and science park area, which will enable the accumulation, utilisation and commercialisation of expertise and provide students and businesses with an attractive and inspiring environment optimal for networking and a showcase for new kind of urban development.

Securing the availability of sufficient technological expertise is a key success factor for Turku. Innovations are essential for creating a more environmentally friendly society and improving the quality of life, but they are also needed to maintain and increase competitiveness in the global market. Joint innovation services support business growth, the creation of new businesses and student-oriented business activities. Cooperation between the City, universities, educational institutions and the business world enables new operating models and creates the conditions for continuous renewal and innovation in business life. Innovative business platforms, such as Turku Science Park and Blue Industry Park, that support the growth of new companies promote sustainable growth in the region. Industrial development and growth in the region is supported by strong areas of expertise, such as cleantech, the bioeconomy and the pharmaceutical and maritime industries.

Sustainable infrastructure as part of urban development

Turku carries out sustainable urban construction in a planned manner and by condensing and

supplementing the current urban structure. At the same time, Turku improves the quality of existing public spaces and develops the City's properties. In construction, the City's aim is to create a comfortable and functional living environment for residents. Complementary construction creates new public places or spaces where they are needed. The planning takes into account the comfort and attractiveness of the area e.g. by using a green factor and preserving and developing park areas. The development of transport routes and the transport environment is also a key part of a functional infrastructure. The Transport Centre to be built in the centre of Turku and investments in public transport systems, as well as the consideration of pedestrians and cyclists, are key factors in building a comfortable and functional urban environment.

The new era of infrastructure

Turku is one of the 5G pioneer cities in the Nordic countries. Turku has piloted the opportunities brought by 5G technology in traffic, mobility and the prevention of social exclusion, among other things. The virtual walk pilots are one excellent example of the development of new kinds of 5G services that support people's well-being.

The new 5G data network offers the opportunity to provide urban residents with completely new types of digital services independent of time and place while also providing new business opportunities to companies in the area.

Selected measures from Turku



Urban planning innovations

Turku is developing an overall architecture of urban planning, which includes the planning of areas, the service network, the property management network and smart buildings. The overall architecture takes into account the potential of new technologies for knowledge-based management, such as data models for the city, urban infrastructure and buildings. The utilisation of 3D virtual models will be increased

in planning and construction as well as in the involvement of residents. The Smart Building section develops the sensing and data transfer enabled by the new IoT and 5G technologies for monitoring energy, water and electricity consumption. The measurement and monitoring data can be used to reduce the carbon footprint of buildings. The pilot targets are city hall and three other city service buildings.



The Aura River as a route for urban logistics

The Aura River is the reason why the city is in its current location. In today's Turku, the Aura River will once again be made into a hub for tangible and intangible logistics, for example by developing autonomous urban water transport with the Älyföri concept along the river. Service-integrated technology is expected to become a new form of sustainable

transport throughout the archipelago. The riverside will be the first regional entity to have a comprehensive 5G network with smart, integrated base station solutions. All development is aimed to have a positive impact on the business life and services of the riverside and the renewing surroundings of Turku Castle.



City and business ecosystem

In the Turku region, companies, universities and the City work together daily and closely to achieve common goals and strengthen the region's development. The city centre, Science Park, Port of Turku and Blue Industry Park serve as platforms around which the ecosystem is strengthened.

The combination of cross-sectoral expertise and TechCampus Turku as a platform for technical education and research promote the development of a diverse ecosystem and support companies in finding new technological solutions.



Turku Futurescapes showcases plans for the city.
Photo: Tara Jaakkola



Overview of the progress in Turku

The aim of goal nine is to build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. The City maintains the basic infrastructure. The sustainable development and standards of living of all societies can be supported by developing modern innovations that are accessible and available to all and making investments in traffic, energy production and communication. Turku area is very ambitious in promoting businesses' opportunities to create new innovations and promoting cooperation with universities and utilising the latest information. Four goal indicators were picked from the Turku City Strategy and two of them were seen to be direct matches to the UN indicators.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Expenses for research and development activities	2018: 6.6%	↑	↑
Logistical connections	No numeric values available	↑	↑
Regional economy	2017: 102.9	↑	↑
Development of turnover and personnel in the maritime industry	No numeric values available	↑	↑

Strong clusters as the engines of innovation



Sample of key figures from Turku

Around 8 %
of Turku's main cycleways
are of the recommended width
stated in the planning
instructions

The condition of the city's
buildings is monitored with
sensors in real time

Turku is a part of
an open data network:

**Turku has
33 open datasets**

The **5G**
mobile network
has been used in
Turku since 2018

Turku has
the world's first
5G café

Digital twin –
virtual simulation
model used as a tool
in urban planning in
the City of Turku

Annual increase in turnover:
In the third quarter of 2019,

43.6%

in the maritime industry.



© Esko Keski-Oja





GOAL 10

Reduced inequalities

Turku actively prevents and reduces inequality between its residents. Balanced urban development and a functional housing market, early childhood education and schooling are central to this work. Turku wants to be a pioneer in socially equal urban development and suburban policy. Regional inequalities are addressed e.g. by drawing up separate future visions for the suburbs. The suburban vision provides an opportunity to identify the strengths and weaknesses of residential areas and target development measures based on these.

Equal operating culture

The City of Turku declared itself a discrimination-free zone in 2018 and has zero tolerance for racism. To prevent inequality, the root causes of ill-being and social exclusion, such as loneliness and immobility, are addressed at an early stage. The City of Turku's equality and non-discrimination plan aims to prevent discrimination and improve equal access to services.

Everyone's Turku is diverse but united

Turku is a multicultural city that actively promotes community, equality, non-discrimination and the acceptance of diversity throughout the city. Turku's goal is to be the best integrator of immigrants in Finland. The aim is to prevent regional inequalities e.g. with complementary construction in the suburbs with the aim of revitalising the areas, ensuring the sustainability of the service structure and reducing the differences between areas. Turku promotes interaction between different cultural and religious communities through the intercultural and interfaith dialogue activity, which also allows the City to interact directly with Turku's immigrant communities. The activities are used for integrative cooperation with religious communities.

An accessible and comfortable city serves everyone

An urban environment built to be accessible is comfortable and functional for all users. Accessibility surveys, inspections and statements are used as tools in assessing the accessibility of Turku's urban environment. Turku employs an accessibility coordinator who develops ways of working that take accessibility into account in cooperation with the City's divisions. An example of this development work are the accessibility guidelines introduced into the planning of the built environment. Turku is developing city-specific guidance to improve accessibility throughout the city, and accessibility information is actively added into Turku's digital service map. Close cooperation with various interest groups, such as the Disability Council, contributes to the development of accessibility in the city. A concrete example of this is the cooperation between the accessibility panel and the maintenance panel to promote winter maintenance in the city centre.

Selected measures from Turku



Measures against regional segregation

Turku creates a suburban vision to describe a common mindset and operating models for suburban development as a basis for cooperation. The aim is to identify the most influential areas for development by identifying the profiles and risk factors of the residential areas with the help of data analysis and research results. The information will be used to create the conditions and new operating models so that the City's professionals can work more smartly to benefit

residential areas in cooperation with the residents and communities. The goal is for every residential area in Turku to be vibrant and attractive and a good place to live in. For the residents, the end result of the development is a comfortable, functional, accessible and safe everyday environment in which every resident can participate and feel that they are part of the community.



Accessibility service design process

A wide range of expert services is available for young people. The fragmentation of the service field has been a challenge and an obstacle for many young people in gaining the most effective support possible or access to services at all. At the heart of the new service design process are the accessibility of services and the way they are produced. The process is guided by the consultation and involvement of young people. Key issues in the development are e.g. whether

services are provided in a particular office or come to the client or even seek their clients, whether the services are available during office hours or when necessary, how the client is treated holistically as an individual and whether the services of different service providers form a seamless whole from the young person's perspective. The same principle also applies to examining the accessibility of services for other user groups.



"Osaamispiste" – service for immigrants

The immigrants' Osaamispiste offers support for the first steps into working life as well as help with integration in the workplace or alongside work. Osaamispiste provides services that promote the employment of immigrants, such as study guidance and activities that support studies and study skills. In addition to this, Osaamispiste provides compiled information on the employment, training and integration services of various operators, as well as the

rules of Finnish working life. Osaamispiste also has a language gym, where you can develop your Finnish language skills either under the guidance of a coach or independently by training with a robot, for example. The aim is to accelerate access to education and employment and alleviate companies' problems with the availability of skilled labour. Business cooperation has also lowered the threshold for hiring a person with an immigrant background.



Event in Turku Adventure Park – activity centre for children and families alike.
Photo: City of Turku / Antti Korpinen

10 REDUCED INEQUALITIES










Overview of the progress in Turku

The global aim of goal ten is to reduce inequality within and among countries. Inequality caused by income gaps is investigated in particular. Decreasing inequality requires everyone to be heard in the planning of economic development and population groups that are in weaker position to be taken into account. Income gaps in Finland are generally small due to progressive taxation, and equal rights to education and basic health care are guaranteed in law. The UN goal indicators mainly focus on the inequality caused by income gaps. In Finland and Turku, it is more reasonable to examine inequality from the point of view of equal treatment. Turku is investing in preventing social exclusion and strengthening resident participation, which is why goal ten is examined from this perspective. Four indicators from the City Strategy selected.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend

Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Quality of life experienced by the population	2018: 54.5%		
Narrowing of gaps in well-being between different groups of the population	No data to be reported as a single figure		
Level of education of people who speak other languages	2017: 45.5%		
People excluded from education aged 17 to 24	2018: 6.8%		

The trend is positive. As FinSote's regional comparison indicated, the regional differences of experienced well-being have narrowed in Turku. For example, the situation of Pansio-Jyrkkälä and Varissuo-Lauste areas have improved.

Source: FinSote 2018, THL

Sample of key figures from Turku

Participatory budgeting introduced in 2020:

1,000,000 €
for realising residents' aspirations

Open hearings for developing the city introduced in 2019

Turku had

2739

socially excluded young people between the ages of 15 and 29 in 2018

Proportion of people who speak other languages as their first language:

12%

(2020 preliminary data)

General at-risk-of-poverty rate of the municipality:

18.4%

(2018)

Over 70 languages

are spoken in the schools of Turku.

Multicultural encounters are a daily occurrence for students.





GOAL 11

Sustainable cities and communities

In addition to housing, land use and mobility, a sustainable city takes its residents' involvement into account in the development of the city. As the oldest city in Finland, Turku is a historically unique cultural environment. In accordance with the principles of Turku, the city's vitality and growth must be built on an ecologically, socially and economically sustainable foundation. The city is developing actively, and the innovative reuse of buildings is contributing to Turku becoming an internationally interesting example in the field of urban construction.

Sustainable housing, land use and transport in Turku

Turku wants to be a pioneer in socially sustainable urban and regional development. The City's visions specific to each residential area take into account the prevention of segregation and allocate resources accordingly. The development of a digitalised service network based on real-time data will enable area-specific planning based on the needs of residents and the prevention of regional segregation in urban planning. The City's activities also contribute to ensuring an adequate and diverse supply of affordable owner-occupied and rental housing in the area.

Turku is committed to the principles of sustainable planning and building in urban construction. The urban structure is developed through complementary construction focused on the defragmentation of urban space and the comfort of the areas. The construction is adapted to the specific values of the existing environment. The reuse of the old building stock and renovation expertise represent resource and material efficiency.

Turku's defragmenting urban structure and the services provided by city districts reduce the need for travel, and efficient public transport solutions make travel smooth. Turku supports the compatibility of different modes of transport with the Mobility as a Service concept and develops public transport from a regional perspective. Uniform pricing of regional public transport enables easy travel between Turku and its neighbouring municipalities with a single ticket and price. The growth of walking and cycling as modes of transport is supported by the development of pedestrian and cycling routes.

Residents involved in urban development

Urban development actively takes into account Turku residents' own experiences of their home city. The status of the city centre as a vibrant, shared, open and comfortable environment for the residents is strengthened. The Market Square is a meeting place for city residents, a park and a lively event centre.

Turku's goal is for all residents to feel that they are part of Turku and be able to influence the things they find important, such as the planning of services and the development of the city, especially in their own neighbourhood. The City invests heavily in inclusion, and the introduction of digital services enables more diverse and wider involvement of residents, regardless of place and time.

Stable values in the preservation of culture and natural heritage

Turku has a historical position as the oldest city in Finland, a port city by the Baltic Sea and historical church, science, trade and industry. The Turku region is some of the country's oldest cultural environment, the national landscape of which shows not only a diverse natural environment but also an urban and industrial heritage. The City of Turku uses its position as the authority controlling land use and construction responsibly and takes care of the preservation of both the natural and cultural environment.

Selected measures from Turku



Towards socially sustainable urban development with the suburban vision

The City of Turku is developing a suburban vision tool that can be used to identify the strengths and weaknesses of residential areas and allocate resources and development measures as co-creation across administrative boundaries. The goal is to create vibrant and attractive residential areas that provide comfortable, functional and safe everyday environments where every resident can participate and feel that they are part of the community. At the

regional forums held in all of Turku's major districts, residents have the opportunity to reflect together on the needs of their own neighbourhood and suggest ideas for improvement. The needs may include e.g. improvements in one's own environment, joint activities, innovative events and new types of services. One form of influence is also Asukasbudjetti (resident budget), which Turku introduced in early 2020.



Culture and conservation of natural heritage

Turku is one of the eight Finnish cities where a National Urban Park meeting the criteria of the Ministry of the Environment has been established. The National Urban Park is a green corridor connecting sites relevant to urban culture and nature, with the aim of preserving and managing the special values of urban nature and the urban cultural environment. In Turku, the heart of the park is the river environment that crosses the

city centre and the island of Ruissalo off the coast of the centre of Turku. In the area of the Urban Park, the preservation of cultural and natural heritage is based on the decisions of the City of Turku, which are bound by the urban park decision into an extensive network of values. Turku has the intention to expand the National Urban Park e.g. through land use planning measures.



Towards more sustainable modes of transport

Transport in Turku is being developed in many ways, and the goal is to increase the share of sustainable modes of transport to 66% by 2030. In recent years, special emphasis has been placed on winter cycling by piloting new winter maintenance methods and introducing a year-round city bike system. The City is also investing in increasing electric bus lines. Furthermore, City employees have been able to purchase a low-cost public transport commuter card since the autumn of 2019.

The opening of the city's traffic data enables the development of business cooperation in the field of mobility. The extensive ticket cooperation in regional public transport also promotes the formation of smooth travel chains. An example of this is the possibility to buy a public transport ticket in connection with a long-distance train ticket. In Turku, the ticket products of Turku City Theatre also serve as public transport tickets.



Panorama of the river Aura.
Photo: City of Turku / Seilo Ristimäki



Overview of the progress in Turku

The aim of goal eleven is to guarantee a safe living environment for all residents and ensure the economically, socially and ecologically sustainable growth of cities. Sustainable operations and building in cities is important as over the half of the world's population live in cities. Thus, the structure of cities is key to achieving sustainability. Climate change, rabid urbanisation and digitalisation are examples of phenomena that affect the everyday lives and operating environments of people all over the world. Turku has invested in long-term development of the city structure, and several examples that promote achieving the goals were identified in the City's operations. Three direct goal indicators were identified in the City Strategy.

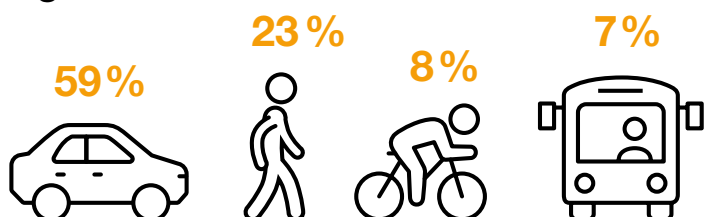
Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Number of public transport passengers/ resident	2018: 115	Stable	↑
Regional economy	2017: 102.9	↑	↑
Decreasing greenhouse gas emissions	2018: 866.9 kt CO ₂ eq per year	↓	↓
Residents' participation in city development projects	No data available		
Accessibility of services	No numeric values available		

Transport modal split in Turku region:

- Cars59%
- Walking23%
- Cycling8%
- Public transport7%
- Other3%



Source: National study on passenger traffic 2016, WSP Finland Oy

Sample of key figures from Turku

Building permits
granted for housing
in 2019:

1,722

Proportion of waste
located at municipal waste
dumping grounds (2018):

1.5%

Proportion walking, cycling
and public transport account
for of all modes of transport:

38%

Population growth:

+1%
per year

Population
density:

779
residents per km²
(2018)

3,850

hectares of
maintained areas
(2019)

26,600,000

trips were made
with Turku region public
transport in 2018.





GOAL 12

Responsible Consumption and Production

A strategic objective for the City of Turku is to implement the principles of resource wisdom and the city actively cooperates with regional, national and international actors to accelerate the transition to a circular economy. Turku defines circular economy as zero emissions, zero waste and sustainable use of natural resources. Implementing the principles of resource wisdom also reduces indirect emissions embedded in material and product life cycles.

There are numerous circular economy operators and pioneering practices in Turku. Regional solutions from wastewater treatment plant to waste management and energy solutions are at the heart of circular economy activities. Turku promotes circular economy both locally and internationally by participating and influencing in several circular economy cooperation processes and networks. Turku is a member of FISU (Finnish Sustainable Communities), a network of municipalities pioneering in circular economy and Turku also cooperates actively internationally for instance in ICLEI's Green Circular Cities Coalition.

Regional Cooperation: resource wisdom roadmap

Turku completed its first resource wisdom roadmap process in 2015, committing at the same time to the resource wisdom objectives. Finland's first regional circular economy roadmap was designed for the region of Southwest Finland in 2016–2017. Based on this roadmap the regional stakeholders identified the need for a more operational roadmap, setting clear targets and monitoring criteria.

A new Circular Turku roadmap is currently being prepared to accelerate the transition to a circular economy in the region. The City of Turku is preparing the roadmap in cooperation with Sitra – The Finnish Innovation Fund and ICLEI Local Governments for Sustainability network. Measures are planned around five chosen priority topics: food value chain and nutrient recycling, buildings and construction, energy system, transport and logistics, and water cycles. To complement the priorities, cross-cutting themes like public procurement and corporate collaboration are also included to ensure that the roadmap's objectives are achieved across all the sectors.

Active circular economy operators and business networks

A 2019 research conducted by Finland Futures Research Centre identified over 700 circular economy related actors in the Turku region. More than half of these are companies either partnering with the public sector or carrying out research and training or companies visibly engaged in circular economy. There are various types of circular economy actors in the region and for example, all the main industrial sectors – the bioeconomy, ICT, marine and metal industries, construction industry, logistics and creative industries- have the potential to significantly advance circular economy.

There are also active circular business networks in Turku: BASTU is a business enabler that promotes and accelerates circular economy in the region; Topinpuisto is a network of numerous companies and research institutes and a growing circular economy hub for waste and environmental companies and Turku Science Park's CleanTurku cluster has over 100 innovative companies focusing on bio and circular economy and cleantech. The City of Turku considers extensive collaboration between public actors, companies, the research community and civil society essential for the implementation of circular economy.

Selected measures from Turku



Resource wisdom actions: Food Services Carbon Footprint and City Owned Furniture and Equipment Recycling System

Turku is actively working towards reducing the life cycle emissions of its food services. By reducing food waste and increasing the number of vegetarian meals, a 25% reduction in emissions is expected by 2029. The different factors affecting the carbon footprint of the kitchen network and food services have been studied and a carbon footprint calculator is used to monitor the carbon footprint of food servings. Turku invests in extending the life cycle of goods, enabling efficient circulation of materials and movable property between offices within the City group. A specially developed Tavarat kiertoön

digital platform developed with open source data displays the available items accessible for the entire City group. The idea is that all surplus materials and movable property circulates through this recycling system guaranteeing that for example usable furniture will not end up as waste. The system is managed from the city's Employment Service Centre and operating the recycling system provides meaningful work tasks such as products replenishment and inventory maintenance for the long-term unemployed rehabilitative work activities.



Recovering waste and side streams: construction and textiles

The Turku region invests in resource efficient earthworks and construction and the utilization of surplus excavation material. This includes handling and storing soils and aggregates, refining building materials from demolition waste and coordinating the use of excess masses in construction. Also the reuse of dredging masses in earthworks is being investigated in the area.

The regionally owned waste management company, Lounais-Suomen Jätehuolto Oy, together with other Finnish waste management companies and a nationwide cooperation network Telaketju, specialized in textile material recycling, is developing an end-of-life textile processing plant to Turku. The processing plant is intended for the future treatment of all end-of-life textiles coming from all over Finland and from neighboring countries. The pilot processing plant will be opened in the Turku region in 2020.



Industrial Symbiosis boost circular economy: The Smart Chemistry Park example

A key factor in the development of circular economy solutions is strengthening chemistry competences in for example the plastics, construction or electronics industries. The Smart Chemistry Park (SCP) is an innovation platform and network for startups and SMEs providing solutions for the bio -and circular economy. The SCP was established in 2015 in the neighboring city of Raisio with the collaboration of Turku Science Park and the corporate sector. This was supported by

the cities of Turku and Raisio and the Finnish Innovation Fund, Sitra. The SCP provides laboratory, piloting and office space for companies and currently there are 14 companies operating in the platform and altogether 60 companies are involved in the cooperation network. Companies on the premises work together testing and utilizing each other's side streams. The core principle of the SCP's business model is to recycle the side streams of industries from the surrounding industrial area.



Walo rooftop bar in the city centre.
Photo: Visit Turku / Jemina Sormunen





Overview of the progress in Turku

The aim of goal twelve is to ensure sustainable consumption and production patterns. The world's population is growing at a rapid pace and our planet cannot sustain the ever-increasing consumption levels. The goal is for economic activities to increase wellbeing as much as possible, while decreasing the use of natural resources and pollution. In order this to happen, consumption patterns and mindsets need to be changed. To produce the natural resources needed for the average consumption patterns of a Turku resident would take 3.6 planets.

Turku aspires to promote instilling sustainable consumption procedures into the City's operations by training eco support staff to guide working communities and group entities in sustainable modes of operation. There are also guidelines in the works for the City's procurements, with the aim of steering the procurements carried out in the City in a more sustainable direction. The Turku City Strategy takes a stand on sustainable consumption. It is established in the City Strategy that a resource-wise mode of operation must cover all the operations in the city. Two goal development indicators were identified from the Turku City Strategy.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Proportion of energy produced utilising waste*	2018: 19%		
Proportion of waste utilised as material	2018: 79.5%		
Turku region ecological footprint	6.3 gha per year		

*Waste is not currently utilised as energy in the Turku region, but transferred outside the region to be utilised.

Sample of key figures from Turku

Turku has
473
trained eco support
persons

The Smart
Chemistry Park (SCP)
providing solutions for
the **bio -and circular
economy** since
2015

A study in 2019
recognized
700
circular economy
operators in the
Turku region

In 2019
1,894
pieces of movable
property have
circulated within
the City





GOAL 13

Climate Action

Turku is one of the world's leading climate cities (CDP Leadership A-list 2019). Turku implements climate action in wide cooperation at national and international levels. The main goal of Turku's climate policy is a carbon neutral city area by 2029 and climate positive from there onwards. At the same time with mitigating climate change, Turku also prepares for the effects of climate change.

The Turku City group, the higher education institutions, companies in the region and citizens have a significant potential to solve the challenges of climate change. The city creates climate change solutions in wide cooperation with the civil society, higher education institutions and businesses, hence the extent of the impact of these solutions is significantly wider than the city area itself.

Turku's Climate Actions

The City of Turku's climate plan was prepared in accordance with the common model of the European Union's Sustainable Energy and Climate Action Plan (SECAP). The City Council unanimously approved the climate plan in June 2018. The plan systematically guides the actions of the City group to mitigate and adapt to climate change and challenges also the whole society to get involved in climate action.

The City of Turku has had a climate programme approved by the City Council since 2009. The City group has been doing substantial climate work from the 2000s and has succeeded in reducing greenhouse gas emissions in the area by more than a third from the 1990 levels. By 2021, the area's greenhouse gas emissions will be at least halved from the 1990 levels.

The highest emission reductions have been achieved by switching from fossil energy to renewables. In addition to the energy transition, climate change is curbed by making the local mobility system low carbon, having a sustainable urban structure, strengthening the carbon sinks and by implementing climate responsibility in the City group. The area's businesses, communities and citizens are also challenged to join forces for climate action and innovation.

Climate Change Adaptation

As part of preparing the Turku Climate Plan 2029, Turku analyzed in cooperation with experts from industries, communities, the national government, universities, research institutes and organizations, the risks, vulnerabilities and impacts of climate change. The analysis is included in the Turku Climate Plan 2029 along with preparedness policies and measures and their objectives based on the analysis. Climate change causes significant water and construction as well as extensive ecological impacts in the region. For example, in addition to natural impacts, ecological impacts extend to food production. The risks associated to water and construction have also significant economic consequences. The risks and impacts also result from weather events like heat waves. With the risk analysis a preliminary review of the indirect impacts of climate change, for example through the effects on the global economy and migration, was carried out.

Working together against climate change

Turku creates climate solutions through strong cooperation. Turku develops comprehensive climate solutions in cooperation with ICLEI and other climate action forerunners. International pioneering strengthens Turku's position as an area for developing and piloting sustainable solutions and investments. Turku's climate actions are also widely disseminated annually at the United Nations Climate Change Conference.

Selected measures from Turku



Citizens' Energy Transition

Achieving the climate goal also requires the active participation of the city residents in climate action. The highest emissions result from energy consumption. In 2018-2019, the City of Turku and Sitra carried out a joint energy transition project for the city residents. The project increased the possibilities for the city inhabitants to invest in property-specific solar energy solutions, encouraged banks to make provisions for green loans to individuals and brought together

the most significant energy saving and sustainable energy projects of the City group's subsidiaries. For student housing, a new energy-positive housing block was introduced including a geothermal heat system beneath that generates more electricity than the housing block consumes. With the involvement of residents, heat and water savings campaigns were carried out in the City's rental apartments resulting in savings worth millions of euros.



Climate Investments in cooperation with the European Investment Bank

Turku and the European Investment Bank (EIB) are jointly implementing a 334million euro investment package called "Turku Urban Infrastructure". The investments are diversely targeted at buildings, the built environment, technical infrastructure and public transport. In accordance with the loan agreement signed in 2019, the EIB will lend 150million euros to the investment package. The financial cooperation with the

EIB enables significant climate investments for Turku and has significantly supported the City's readiness to assess, plan and validate its investments from a climate perspective. In line with the climate plan, the City combines climate and economic management. As part of the investment package, the EIB and Turku will also examine the cost-effectiveness of investments related to climate change adaptation.



Climate-friendly forest plan

Turku considers forests and green areas as a significant resource for climate change mitigation and adaptation. Their sustainable use and management strengthen biodiversity and have good health effects. The City of Turku renewed its forest plan in 2019. The new plan aims to strengthen carbon sinks and biodiversity. The felling target was reduced to 40% of annual growth - which significantly increases carbon sequestration and allows for the diversification of

equal age planted forests. For example, in the future it will be possible to offset the emissions of passenger cars in Turku from the carbon sink in our forests. Forests and green areas also protect the city from the adverse effects of extreme weather events. Basing the management of forests on sustainable principles improves safeguarding biodiversity as the climate gets warmer.



The legendary city ferry "Föri" runs on electricity.
Photo: City of Turku / Seilo Ristimäki



Overview of the progress in Turku

The common ambition of goal thirteen is to take urgent action to combat climate change and its impacts. Global warming causes floods, erosion, rising sea levels and unpredictable weather phenomena that are a threat to Turku as well. Climate change affects everyone, and immediate actions are needed to stop it. Turku has an ambitious goal to be carbon-neutral by 2029 and Turku is doing important work in stopping climate change and adapting to changes. Two indicators from the City Strategy were identified in addition to two other indirectly related indicators.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend

Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Decreasing greenhouse gas emissions	2018: 866.9 kt CO ₂ eq per year	↓	↓
Proportion renewable energy resources account for of district heat production	2018: 50%	↓	↓
Proportion walking, cycling and public transport account for of all modes of transport	2016: 38%		↑
Logistics connections	No numeric values available		

Where do Turku's emissions come from (2019)

- District heating **36 %**
- Road traffic **21 %**
- Electricity consumption of consumers... **12 %**
- Industrial Services and machinery **9 %**
- Individual forms of heating **7 %**
- Other modes of transportation **6 %**
- Electric heating and geothermal heat **3 %**
- Electricity consumption of industrial services... **3 %**
- Waste management **2 %**
- Agriculture **1 %**

Annex 3 more detailed description on the development of emissions in Turku.

Sample of key figures from Turku

The primary sources of greenhouse gas emissions in Turku are

district heating and transport

(preliminary data for 2020)

Turku's carbon storage per hectare in 2019:

105 t/ha

The district heating and district cooling produced by the Turku region wastewater treatment process decrease the area's carbon dioxide emissions by about

80,000 tonnes

per year.

Goals of Carbon neutral Turku

Emissions indexed to 1990 levels:

- 50% decreased in 2021.
- 65–70% decreased in 2025.
- Carbon-neutral urban area with zero net emissions by 2029.
- From 2029 onwards a climate positive city that absorbs more emissions than it produces.



Did you know that in Turku

1,000

new trees are planted in parks every year and that there are

34,000

trees in total to care for?





GOAL 14

Life below water

Turku's bodies of water are an important and unique source of attraction for the city. The Aura River flows through historic Turku towards the Baltic Sea and the unique archipelago starting at the mouth of the river. In addition to the Aura River running through the city, Turku's most important bodies of water are Kaksikerranjärvi, Maarian allas and Illoistenjärvi, as well as the sea area off the coast of Turku.

Turku shares the common concern for the Baltic Sea

The common challenges in the Baltic Sea region face also the City of Turku. Eutrophication is a serious problem in almost the entire Baltic Sea. Furthermore, an alarming amount of harmful chemicals and microplastics can be found in the aquatic environments. For these reasons, many Baltic Sea ecosystems and habitats are threatened. More than half of our coastal habitat types have been classified as threatened and a quarter as near threatened. Threatened habitat types account for approximately five per cent of the surface area. Half of the underwater habitat types in the Baltic Sea are either endangered or vulnerable. Due to warming winters and increasing rainfall, nutrient leaching from nonpoint sources is increasing. Climate change and the state of the Baltic Sea are strongly interlinked, so action against climate change will also support the improvement of the state of the Baltic Sea.

Turku is active in the protection of the Baltic Sea and the Archipelago Sea and also seeks to influence the activities of other cities in the Baltic Sea region through its networks in order to improve the state of the Baltic Sea. Turku is involved in the Baltic Sea Challenge launched in 2007, which aims to have cities, municipalities and organisations committed to voluntary measures to protect the Baltic Sea. Turku implements voluntary protection measures via the common action programme of the Baltic Sea Challenge. The first action programme was implemented in the year 2008–2013, the second action programme in 2014–2018 and the third is being implemented in 2019–2023. These action programmes take into consideration the recommendations

from the EU Baltic Sea Strategy and the Baltic Marine Environment Protection Commission for the improvement the state of the Baltic Sea along with regional environment strategies and programmes.

Turku has invested in the quality of the wastewater that returns to bodies of water. The water discharged into bodies of water via the Kakola wastewater treatment plant is of excellent quality. The load on bodies of water is caused by nonpoint source pollution as direct runoff as well as nutrients and pollutants carried by stormwater. The aim of stormwater control is to avoid spillover that impairs the wastewater treatment result at the wastewater treatment plant. The prevention of water littering is promoted e.g. with the help of annual beach cleaning events in Turku. Turku is an active member of the Baltic Sea region community and is involved in several projects aimed at improving the state of bodies of water and water quality.

The state of Turku's bodies of water

Based on the 2018 monitoring studies, the ecological state of the sea area off the coast of Turku varied depending on the attribute being monitored. As a whole, the water quality indicating the ecological state in the nearby straits was adequate, and in the open water areas it was satisfactory.

The state of the Aura River flowing through Turku is classified as adequate. The river is mainly burdened by stormwater from agriculture and sparsely populated areas. Wastewater from municipal wastewater treatment plants is no longer discharged into the Aura River. Instead, all municipal wastewater is treated centrally at the Kakolanmäki wastewater treatment plant in Turku.

Selected measures from Turku



Collection of nutrients from bodies of water

Nutrient runoff into bodies of water is aimed to be prevented by implementing buffer strips on City-owned fields. In addition to this, buffer zones, wetlands and submerged dams along rivers and streams are planned and implemented. Agricultural and forestry loading

sources in land areas owned by the City are localised and a project for building precipitation basins and creating wetlands is prepared, including maintenance and upkeep.



Prevention of harmful substances and oil spills

The Port of Turku will abandon the offshore disposal of dredged masses and participate in the Oil Spill project aimed at strengthening the oil spill response capacity of coastal areas in the Baltic Sea region. The oil spill response is the joint responsibility of ministries,

authorities and NGOs, as well as representatives of universities and the petrochemical industry. The Southwest Finland Emergency Services are responsible for managing the training activities and educational cooperation in the project.



Involvement and training

The people of Turku had the opportunity to submit proposals for measures related to the protection of the Baltic Sea in the open hearings online service in December 2019. The proposals that were selected for implementation during 2020 were the sifting of rubbish from stormwater, rehabilitation of urban streams and guidance of the harmfulness of boat chemicals.

The WeSeaChallenge idea competition open to all sought innovative solutions that could use satellite data to raise awareness of the state of the sea and support actions to improve it.

Cooperation with schools gets young people involved in the protection of the Baltic Sea. Turun klassillinen lukio Upper Secondary School and the City of Turku co-produced a set of Baltic Sea videos during the academic year 2019–2020, while students from Kaarina Upper Secondary School and the natural sciences track of Turun Suomalainen Yhteiskoulu Upper Secondary School hosted a seminar on the Archipelago Sea in March 2019.



Turku archipelago.
Photo: City of Turku / Esko Keski-Oja



Overview of the progress in Turku

The aim of goal fourteen is to conserve and sustainably use oceans, seas and marine resources. Seas are one of the most important elements that make life on Earth possible. They affect factors such as the amounts of rain and drinking water and oxygen, weather, climate and food. In Turku, the sea and archipelago are indisputable tourist attractions and sources of recreation as well as an important route for trade and traffic. As one of the two executors of the Baltic Sea Challenge, Turku is an active developer of sustainable sea and coastal areas. No direct indicators from the City Strategy were identified.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend

Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
No indicators identified			

The City of Turku supports the operations of the Protection Fund for the Archipelago Sea



The protection fund has funded over 50 concrete protection measures over the last decades



Sample of key figures from Turku

Turku has planned

97 actions

for the action programme
of the Baltic Sea Challenge
to improve the state of
the Baltic Sea
in 2019–2023

73

of the planned actions
are on-going (2019)

There were

17 active externally
funded projects

improving the state of
the Baltic Sea in 2019

Turku has over

€2.9M

of external funding for the
years 2019–2023 to improve
the state of the Baltic Sea

228,000 m³

of waste water from
different vessels sent for
waste water treatment from
the Port of Turku during 2014–2018

Offshore disposal of

dredging masses

masses ended in 2019

The Baltic Sea Challenge (BSC)
was initiated by the City of Turku
together with the City of Helsinki
in 2007. By 2019 over

300 organizations have
joined the international
BSC Network.





GOAL 15

Life on land

Environmental protection and biodiversity are important to Turku. Turku's location between land and sea, on the Baltic coast, provides a diverse and beautiful natural landscape. In land use planning, Turku takes the preservation of biodiversity and any threatened species into account.

Diversity is supported by sustainable forest management

According to the City of Turku's forest plan, the principle of forest management is to regenerate forests using methods of continuous cover forestry. These take into account the protection of biodiversity, mitigation of climate change and improvement of the recreational use of forests. In broad-leaved forests, oak-friendly management measures are implemented in particular. By reducing the felling target Turku strengthens carbon sinks and biodiversity in the forests. The felling target used to be 60% of annual growth. The new plan lowered the felling target to 40% of annual growth. This decision significantly increases carbon sequestration by thousands of tons in the coming years.

Urban nature is a comfortable living environment

The National Urban Park of Turku is the core area of the city's green and recreation network, covering an area of about 15 kilometres from Airisto to the Kurala Village of Living History. The heart of the park is the Aura River environment. In the area of the City of Turku, there are 18 nature reserves established under the Nature Conservation Act, with a total area of approximately 700 hectares. Urban green spaces have a significant positive impact on the well-being and health of city residents. Connected green spaces also act as green corridors, supporting biodiversity.

We safeguard biodiversity

The nature of the Turku area is exceptionally diverse in Finland. Approximately 12% of Finland's threatened species have been found in the area, with the most occurrences found in the old oak groves of Ruissalo and Katariinanlaakso. In the assessment of threatened species, 189 species threatened in Finland have been found in Turku.

Grazing and clearing of reed beds are carried out annually at bird bays and coastal meadows. The restoration of threatened habitat types, such as wetlands and bogs, is important to Turku. The City of Turku states in the principles of hunting permits that no animal species classified as threatened or near threatened are to be hunted in its area, and the occurrence of threatened species is taken into account in construction projects.

Selected measures from Turku



Bog restoration

Restoration work has been conducted at the Pomponrahka raised bog. The water balance of Pomponrahka has been disturbed as a result of several measures taken in and around the area, which has led to the decline of the species of the habitat at the Natura area. Efforts have been made to restore the water balance in the bog, e.g. by damming along the

area's bypass road so that the bog water would not flow into the ditches and drainage structures of the bypass. Many conifers, especially pines, have also been removed from the area to restore the bog's vegetation and reduce the drying effect of trees. Next, the plan is to close up open ditches in the Pomponrahka area.



Taking care of vulnerable habitats

In August 2018, the six-year CoastNet LIFE project began, the purpose of which is to promote the management of Natura areas. The project targets the Natura areas of Ruissalo, Katariinanlaakso, Rauvolanlahti, Friskalanlahti and Pähkinäinen. The measures implemented in the project focus on groves,

broad-leaved forests, coastal meadows and fields in these Natura areas. Other measures of the project include the construction of a wetland in Ruissalo, the control of invasive species in all Natura areas and the promotion and development of Ruissalo Nature School and guidance.



The control of invasive species ensures the survival of native species

The number of invasive species in the city has not been determined except in Ruissalo as part of the CoastNet LIFE project. Although the distribution of invasive species is not well known, their control has been carried out in areas owned by the City for more than 10 years. Control measures have been focused on hogweed, Himalayan balsam, Spanish slug and small invasive predators such as American mink and

raccoon dog. Control measures are implemented especially in nature reserves and their vicinity. For the control of invasive species, 4–7 people have been hired for the summer season to work in the field. In the case of small invasive predators, control measures have mainly been carried out in cooperation with local hunting clubs.



Kurjenrahka National park.
Photo: Visit Turku / Petri Hautala



Overview of the progress in Turku

The goal is to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Protecting life on land is essential to preserve ecosystem services. On a strategic level, goal fifteen is underrepresented and there are no applicable indicators in the Turku City Strategy.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend
Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
No indicators identified.			



The general goals of the forest management plan 2019–2029 are:

- protection of biodiversity
- mitigation of climate change
- improvement of the recreational use of forests and
- economical yields of forest management

Sample of key figures from Turku

Turku's oldest conservation area Choraesus was established in

1933
in Ruissalo

The forest management plan encompasses

4,295
hectares

A maximum of

40%
of annual tree growth is felled

Number of conservation areas:

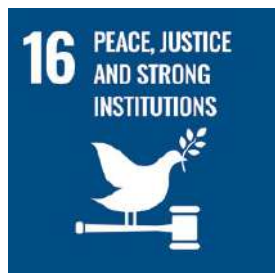
18

Area of conservation areas:

603
hectares

Turku has
biodiverse
species





GOAL 16

Peace, justice and strong institutions

In all its activities, Turku emphasises honesty, fairness, equal treatment and transparency. The operations commitments that guide the City's personnel include resident and customer orientation, responsibility and tolerance and renewal and cooperation. The City, together with its residents, strives to build a stable and safe environment, respect the legal rights of its residents and personnel and support their well-being and comfort.

Turku's operations commitments create the basis for good administration

Turku's City Strategy and operations commitments include choices, values and principles that the City wants to emphasise in its operations. Resident and customer orientation means that Turku values its residents and customers and involves its residents in the development of high-quality and easily accessible services in cooperation with the City's partners.

Responsibility and tolerance are reflected in the City's efforts to act in accordance with the principles of sustainable development in all its activities and in taking responsibility for a comfortable and safe living environment now and in the future. Turku promotes the acceptance of diversity, a sense of community and equality throughout the city. The City's ownership policy is based on the same principles, and it guides the operations of City-owned companies and organisations. The City of Turku has drawn up common ethical principles that guide the operations of the entire City, paying attention to the rights of both the residents and the City's employees, the fairness of operations and the independence of decision-makers. The personal interests of employees and decision-makers must not influence decision-making or operations at any level.

Knowledge-based management and inclusive, transparent decision-making

The City of Turku strives for open, timely, proactive and truthful decision-making and communication and must provide residents, the media, authorities and other interest groups with adequate and appropriate information on decision-making and services. In Turku,

decision-making must be transparent and consistent. In order for the entire City organisation to be able to evaluate its results and successes, background information must be openly available, decisions must be based on the best possible information and the achievement of objectives must be measured and monitored. In increasing transparency, open data brings new opportunities and Turku strives to be an international leader in the field. The City is involved in various regional, national and international open data networks, such as Open and Agile Smart Cities.

Turku is a safe city

The residents of Turku are satisfied with the safety of their residential areas. In Turku, crimes and acts of violence against a person occur relatively rarely on an international level: 7.7 per one thousand residents. However, by Finnish standards the figure is high. Similarly, there are more crimes against property and cases of drunk driving than in the other large cities of Finland. However, with the exception of drug-related offences, crime rates have decreased.

Turku has raised safety as an issue to be promoted with a spearhead project. A situational picture of safety will be created for the use of the City, which will improve situational awareness in the event of disturbances and the ability to anticipate changes in safety in the city. In order to increase regional safety and well-being, Turku has invested in the involvement of residents and developed and tested new types of operating models to increase involvement and opportunities to influence. Residents' sense of security will be invested in e.g. by increasing lighting and camera surveillance in areas considered unsafe. The safety of residents is also attended to e.g. by ensuring the security and privacy of customer data and its processing.

Selected measures from Turku



Safety plan

The aim of the safety plan is to increase the feeling of safety and improve the safety of all city residents by reducing the number of accidents, injuries, crimes and disturbances. The City of Turku's safety plan was prepared on the basis of a safety survey and expert analyses. The improvement of housing safety,

properties' safety documentation for use of the authorities and increasing the feeling of safety were identified as the most important issues. The parties involved in the implementation report annually on how they have implemented the safety plan.



Prevention of violent extremism

The local cooperation network consists of representatives of the City's divisions, the police, the Finnish Security and Intelligence Service, the National Bureau of Investigation, the Finnish Defence Forces and the Criminal Sanctions Region. The main activities of the network include regular progress reports and the exchange of information, support for multiprofessional cooperation, cooperation with various organisations and associations, organisation of training/workshops and participation in national and international events.

The aim is to strengthen regional, coordinated cooperation, develop the skills of regional and local operators and promote dialogue between different communities. The model makes it easier for the operators in the area to contact the relevant parties when needed. At the same time, the flow of information is improved, communication harmonised and dialogue and interaction between these operators increased.



Participation in Turku – many ways to make a difference

Participation means closer cooperation between residents, public servants and trustees. The City's activities must respond to the new situations and needs of residents and entrepreneurs. Participation aims to create satisfied residents and smart ways of providing public services. The City of Turku has representatives from all of its divisions in the regional

work, accessibility and participation development group. The group aims to promote participation and develop participatory practices throughout the city. In Turku, participation is divided into three entities: participation in decision-making, planning and operations.



Turku City Hall by night.
Photo: City of Turku / Vesa Aaltonen



Overview of the progress in Turku

The aim of goal sixteen is to promote peaceful and inclusive societies provide access to justice for all, and build effective, accountable and inclusive institutions at all levels. Non-violence, respecting human rights, transparency of the decision-making and responsibility are the fundamental pillars of peaceful societies and thus of a sustainable future. In Turku, goal sixteen is examined from the point of view of good administration and resident participation. Several indicators from the Turku City Strategy were identified.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend

Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
Turku residents' impressions of municipal services	2019: 3.64	↑ *	↑
Participation in development projects	No numeric values available		↑
Safety	No numeric values available		↑
Access to services	No numeric values available		
Profitability of the operations	2018: €5,706 per resident		↑

*Compared to 2016. The value has nevertheless decreased in the last two rounds of examination and is now at the average level compared with other Finnish cities.



**The meetings of
the City Council
are publicly streamed
in real time**



Sample of key figures from Turku

Participation in
municipal elections
in 2017

59%

Quality of life
experienced by
population (2018):

54.5

Municipal
tax rate:
19.5%

**Crimes against life
and health in 2018**

(number per
1,000 residents):

7.7





GOAL 17

Partnership for the goals

Promoting sustainable development requires strong commitment and dedication from the City's decision-makers. Cooperation and partnership, sharing of information, learning and helping each other create tremendous opportunities. Only by working together can we solve the challenges facing cities, countries and the planet. The importance of cooperation is emphasised at the city level, as cities have limited influence and resources, such as money, expertise and personnel. Together, new approaches and models can be used to harness the potential and expertise of residents, customers, various interest groups, operators and partners for the common good of us all.

The City of Turku is a locally, nationally and internationally known active and proactive player and a pioneer of sustainable development. Cooperation is not limited to the local area or country, but rather it also applies to international cooperation and partnerships.

Turku nationally

At the regional level, the City of Turku is a significant factor and operator. By investing in education, Turku has a strong impact on expertise in the region and thus also on companies and industry, as well as the region's economy as a whole. The City's local cooperation and partnership networks include close links with various research institutes, universities and institutions of higher education, industry and business, and organisational operators.

At the national level, Finland's largest cities cooperate significantly with each other, either directly or through several different networks. In addition to this, Turku also works closely with other municipalities in the Turku region and nationally with various municipalities and cities. The cooperation is based on respect, openness and trust. We want to succeed together.

Turku globally

Turku has long been an active initiator in various cooperation networks at an international level. Turku's

role in the Baltic Sea region has been strong and proactive. Turku has been willing to take responsibility and cooperate with other cities and interest groups. Turku has been a key member of the Union of the Baltic Cities (UBC), established in 1991, and has hosted the UBC Sustainable Cities Commission Secretariat in Turku since 1997.

Turku cooperates extensively in European and Nordic networks and is actively involved in twin city activities. Cooperation with the City of Saint Petersburg, in particular, has been extensive and focused on the cities' sustainable development as well. Open information exchange and project cooperation between the City and other operators at an international level is at the heart of the cooperation.

Turku has become an internationally known factor and operator, especially through its climate actions. Turku participates actively in the United Nations Climate Change Conferences and has been an active member of ICLEI since 1994. Through active cooperation Turku is involved in solving climate change related challenges and developing a low carbon circular economy by collaborating both on the local and the global level.

Selected measures from Turku



Union of the Baltic Cities – Sustainable Cities Commission

Since 1997, Turku has hosted the UBC network's Sustainable Cities Commission Secretariat. The role of the Secretariat is to prepare and strengthen the activities of UBC member cities in the field of environment and sustainable development. The Secretariat has coordinated several multi-sectoral projects promoting sustainable development, hosted major city conferences and created various campaigns. A particularly important role has been played by UBC member city surveys, which have been used to

monitor the direction and challenges of sustainable urban development and have served as a basis for urban development projects. Since 2017, UBC has encouraged its member cities to report on climate and water issues to the global CDP organisation (Carbon Disclosure Project), through which cities receive an international benchmark for their own work and results. Turku has been actively supporting development aimed at finding better information and sustainable development solutions.



WHO Healthy Cities Network

Turku has been actively involved in the World Health Organization's (WHO) Healthy Cities Network since 1987 and has hosted the Secretariat of the Baltic Region Healthy Cities Association under it since 1998. The aim of the Secretariat is to promote good health for residents in the cities of the Baltic Sea region and support WHO's programmes and services. The work is carried out in cooperation with the City of Turku, the

University of Turku, the Turku School of Economics, Åbo Akademi University and the Social Insurance Institution of Finland. The activities support and develop electronic health services facilitating residents' dealings, observe the health effects of urban planning and increase the well-being of residents. The aim is also to highlight equal and healthy opportunities and lifestyles and the importance of safe sex education.



Europe Forum Turku

Turku also encourages its residents to participate in social discussion and influencing. This is made possible by Europe Forum Turku, a top economic and political event open to everyone and held annually in Turku since 2018. The Forum provides up-to-date information on the EU and promotes open, wide-ranging and research-based discussion between citizens and decision-makers. The Forum

is focused on democracy and open discussion and dialogue between different actors in society: political decision-makers, NGOs, businesses, labour market organisations, experts and citizens. The event has become a very popular place for discussion and meeting, where different parties can exchange opinions and share their experiences.



Europe Forum Turku 2019.
Photo: City of Turku

17 PARTNERSHIPS FOR THE GOALS



Overview of the progress in Turku

The key aim of goal seventeen is to strengthen the means of implementation and revitalise the global partnership for sustainable development. It would not be possible to achieve the goals of sustainable development without cooperation between governments, private sectors and civil society. Cooperation needs to cover international, national and local levels. Thus, goal seventeen is ideal for execution at city level as well. In Turku, the goal is examined through a variety of City partnerships and cooperation networks. Turku's role as an initiator in the networks is significant. The indicators of the City Strategy are not directly applicable for measuring this goal.

Indicators included in the City Strategy

Green arrow downwards/upwards = Positive trend

Red arrow downwards/upwards = Negative trend

City Strategy indicator	Turku indicator value	Turku indicator trend	Desirable trend
No indicators identified			



Turku has long been
an active initiator
in various
cooperation networks

Sample of key figures from Turku

Active member of the
ICLEI network
since **1994**

Part of the World
Health Organizations'
Healthy Cities
network since
1987

Cooperation networks and partnerships

Part of the
**Union of the
Baltic Cities**
since
1991

Hosted the UBC
**Secretariat of
Sustainable Cities
Commission**
since
1997

International networks:

- Global Covenant of Mayors
- ICLEI (Local Governments for Sustainability)
- GCCC (Green Circular Cities Coalition)
- CDP – Disclosure Insight Action
- IASP (International Association of Science Parks and Business Areas)
- Urban Transitions Alliance
- WHO Healthy Cities network
- Open and Agile Smart Cities

Nordic and national networks:

- CLC – Climate Leadership Coalition
- Nordic Smart City Network
- LHT Network
- Six Cities Network
- SITRA
- FISU

European networks:

- EU Covenant of Mayors for Climate and Energy
- Eurocities
- Union of the Baltic Cities (UBC)
- New Hanseatic League
- The Baltic Sea Challenge
- Twin cities:
 - **1946** Bergen (Norway), Gothenburg (Sweden), Aarhus (Denmark)
 - **1953** Saint Petersburg (Russia)
 - **1958** Gdańsk (Poland), Constanța (Romania), Rostock (Germany)
 - **1963** Varna (Bulgaria)
 - **1967** Cologne (Germany)
 - **1971** Szeged (Hungary)
 - **1976** Bratislava (Slovakia)
 - **1992** Florence (Italy)
 - **2008** Tartu (Estonia)

Conclusion and next steps

Starting level and identified areas for development

Turku City Strategy and other documents that guide operations and divisions' daily operations already take into account the main areas of sustainable development well, social, economical and ecological sustainability. However, the United Nations 2030 Agenda for Sustainable Development was not directly used as a basis for the City Strategy or other programmes or plans.

With the VLR report, a situational picture of the City's starting point and biggest areas for development has been created in the context of sustainable development. As demonstrated in the report, the City is already taking concrete measures and doing a lot of work to promote sustainable development.

While working on the review report, the need to compile appropriate indicators for sustainable development as a part of strategy reporting was identified as one of the areas for development. Another area of development was the Sustainable Development Goals that should be made more visible in the City's central operations and strategy documents. Examples of goals that should have more focus are SDG 5 Gender equality, SDG 14 Underwater life and SDG 15 Life on land.

With the review, the City can update and change existing plans, programmes and measures and draft new ones. In the future, the City can also more easily review and select the measures that provide the most effectiveness.

Strategy and leadership for sustainable development

The current City Strategy, strategic programmes, divisions' basic operations and the City's spearhead projects include matters that widely aim for the promotion of sustainable development as visions and as concrete measures. When the strategy was drafted in 2014 and updated in 2018, the United Nations 2030 Agenda for Sustainable Development was not,

however, directly used as a basis for the City Strategy or other programmes or plans.

The City Strategy will be updated in the near future and it is then advisable to take a moment to examine the United Nations Sustainable Development Goals and set more precise goals in the city context. The City's management system will also be changed, and the City will transition from the current employment relationship based leadership to a politically appointed mayor. This also gives an opportunity to prepare the model for the management of sustainable development in such a way that its functionality and policy consistency can be ensured in the future.

Challenges of measuring and comparability

Measuring sustainable development and verifying progress at city level is challenging because cities and their operating environments are different and comparable data is not always available.

In this VLR process we have reviewed the City's current strategy indicators and several other city-level indicators. In Finland, there are also city-level indicators compiled from national data sources, some of which can be used in the future in the strategy reports. The Sustainable Development Goals and measuring the progress should be tightly connected as part of the strategy indicators and regular evaluation and reporting. This allows continuous and systematic monitoring of the progress.

Growing competence and resident participation

The VLR procedure helps with communicating the goals and measures of sustainable development both inside the organisation and to different interest groups. One of the goals of the self-review is to increase cooperation and competence inside the City across divisions and also to create a common vision and goals for the city of Turku for sustainable development.

Over the last few years, the city has invested in particular in promoting the participation and involvement of the city's residents, customers and other operators, aiming to harness this huge potential for the common good. Involving city residents and interest groups into working together we can create sustainable future solutions.



Photo: City of Turku

Terms and Abbreviations

Terms

5G: the fifth-generation superfast data transmission network that facilitates the development of smart cities.

Six Cities Network: The cooperation network of the largest cities in Finland, including Helsinki, Espoo, Tampere, Vantaa, Turku and Oulu.

EU Covenant of Mayors for Climate and Energy: The Covenant of Mayors founded by the European Commission encourages and supports local authorities in implementing measures in the introduction of sustainable energy procedures in the EU countries.

Eurocities: cooperation network and interest organisation formed by European cities. The network was founded in 1986 and it covers over 120 cities. Finnish member cities include Helsinki, Espoo, Vantaa, Turku, Tampere and Oulu. The aim of the network is to make the quality of life better for the people living in the member cities by cooperation between the cities, sharing information, and working together to influence city policy at EU level.

Europe Forum: an annual event open to different actors in society and citizens, where Finland's role in Europe and the EU is discussed.

National Urban Park: A wide entity of valuable cultural and natural landscapes and recreational areas located in urban areas that is defined in the Finnish Land Use and Building Act [1] and that the city or municipality is committed to manage.

LHT Network: The LHT Network is a national land use, housing and transport development network. Its operations are based on the government's and large urban areas' city policy and promoting regional strategic planning and peer learning in the member regions. The goal of the network is to create opportunities for the sustainable development and vitality of urban areas.

Nordic Smart City Network; Cooperation network of Nordic smart cities

Open and Agile Smart Cities (OASC) is a global network of over 140 cities that aims to lay the foundations for international data-based cooperation by promoting compatible solutions, companies' innovations and creation of smart services. The Six Cities of Finland are the founding members of the network.

Abbreviations

CDP – Disclosure Insight Action: A non-profit organisation that collects and shares information and help cities, companies and other operators to fight climate change.

CLC – Climate Leadership Coalition: Common climate network of Finnish companies, cities and research institutes that aspires to influence competitiveness and the preparedness to address the threats brought about by climate change and supply of natural resources and the ability to utilise the business opportunities created by these.

IUC – EU International Urban Cooperation programme

EIP – European Investment Bank

GCCC – Green Circular Cities Coalition International urban network of circular economic operators launched by ICLEI that seeks solutions for transferring from a linear economic model to a circular economy

IASP – International Association of Science Parks and Business Areas

ICLEI – Local Governments for Sustainability, a network of over 1,750 local and regional authorities that is committed to sustainable urban development ICLEI works in over 100 countries to promote sustainable development and promotes local measures to find low-emissions, nature-based, fair, flexible and circular solutions.

UBC – Union of the Baltic Cities

KELA – the Social Insurance Institution of Finland

KRP – National Bureau of Investigation

SECAP – Sustainable Energy and Climate Action Plan: Sustainable energy and climate action plan of cities and regions reported to EU.

Sitra – The Finnish Innovation Fund, public expert organisation


















TEN-T – Trans European Network

WHO – World Health Organization

UN – The United Nations

Annexes

Annex 1. The Sustainable Development Goals and Turku 2029 City Strategy

Goal	SDG visible in the City Strategy	Level of visibility	Indicators identified from the current strategy indicators
1 NO POVERTY 	No	○ ○ ○	Yes
2 ZERO HUNGER 	No	○ ○ ○	No
3 GOOD HEALTH AND WELL-BEING 	Yes	● ● ●	Yes
4 QUALITY EDUCATION 	Yes	● ● ●	Yes
5 GENDER EQUALITY 	Yes	● ○ ○	No
6 CLEAN WATER AND SANITATION 	No	○ ○ ○	No
7 AFFORDABLE AND CLEAN ENERGY 	No	○ ○ ○	Yes
8 DECENT WORK AND ECONOMIC GROWTH 	Yes	● ● ●	Yes
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	Yes	● ● ●	Yes
10 REDUCED INEQUALITIES 	Yes	● ● ●	Yes
11 SUSTAINABLE CITIES AND COMMUNITIES 	Yes	● ● ●	Yes
12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	Yes	● ● ○	Yes
13 CLIMATE ACTION 	Yes	● ● ●	Yes
14 LIFE BELOW WATER 	Yes	● ○ ○	No
15 LIFE ON LAND 	Yes	● ○ ○	No
16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	Yes	● ● ○	Yes
17 PARTNERSHIPS FOR THE GOALS 	Yes	● ● ○	No

○ ○ ○ No visibility ● ○ ○ Low visibility ● ● ○ Moderate visibility ● ● ● Good visibility

Annex 2. Turku 2029 City Strategy and UN Sustainable Development Goals

Prior to the actual VLR process the Turku 2029 City Strategy was examined in relation to Sustainable Development Goals to see how well they are visible in the City Strategy. A clear link was seen to be found if the content of each Sustainable Development Goal was clearly pictured and mentioned in the City Strategy. Also the targets from each Sustainable Development Goal were examined and those fitting to local level reviewing were identified. In this process, the following Sustainable Development Goals were not included: 1 No Poverty, 2 Zero Hunger, 5 Gender equality and 6 Affordable and clean energy. Out of the total of 169 overall targets, 136 targets were reviewed

in this process and 97 of those 136 targets were seen suitable for local level reviewing. Based on this review, a clear link between 43 targets and the Turku 2029 City Strategy was identified.

In the table below, the targets are marked with their corresponding numbers and the targets identified as visible in the City Strategy are color coded. The targets not visible in the City Strategy but assessed to fit local level reviewing are also identified in the table. Based on this review and linkages between the Sustainable Development Goals and the Turku 2029 City Strategy, the goals with low or no visibility can be identified.

Table:
Linkages between reviewed SDGs and their targets and the Turku 2029 City Strategy

Sustainable Development Goal	Goal 1 No poverty							Goal 2 Zero hunger								Goal 3 Good health and well-being												
Target visible in Turku 2029 City Strategy	1.1	1.2	1.3	1.4	1.5	1.a	1.b	2.1	2.2	2.3	2.4	2.5	2.a	2.b	2.c	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.a	3.b	3.c	3.d
Target can reviewed on a local level																												

Sustainable Development Goal	Goal 4 Quality education										Goal 5 Gender equality										Goal 6 Clean water and sanitation							
Target visible in Turku 2029 City Strategy	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.a	4.b	4.c	5.1	5.2	5.3	5.4	5.5	5.6	5.a	5.b	5.c	6.1	6.2	6.3	6.4	6.5	6.6	6a	6b	
Target can reviewed on a local level																												

Sustainable Development Goal	Goal 7 Affordable and clean energy					Goal 8 Decent work and economic growth										Goal 9 Industry, innovation and infrastructure									
Target visible in Turku 2029 City Strategy	7.1	7.2	7.3	7.a	7.b	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	8.10	8.a	8.b	9.1	9.2	9.3	9.4	9.5	9.a	9.b	9.c
Target can reviewed on a local level																									

Sustainable Development Goal	Goal 10 Reduced inequalities										Goal 11 Sustainable cities and communities									
Target visible in Turku 2029 City Strategy	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.a	10.b	10.c	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.a	11.b	11.c
Target can reviewed on a local level																				

Sustainable Development Goal	Goal 12 Responsible consumption and production												Goal 13 Climate action						Goal 14 Life below water											
Target visible in Turku 2029 City Strategy	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.a	12.b	12.c	13.1	13.2	13.3	13.a	13.b	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.a	14.b	14.c				
Target can reviewed on a local level																														

Sustainable Development Goal	Goal 15 Life on land												Goal 16 Peace, justice and strong institutions											
Target visible in Turku 2029 City Strategy	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	15.a	15.b	15.c	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	16.10	16.a	16.b
Target can reviewed on a local level																								

Sustainable Development Goal	Goal 17 Partnerships for the goals																		
Target visible in Turku 2029 City Strategy	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	17.10	17.11	17.12	17.13	17.14	17.15	17.16	17.17	17.18	17.19
Target can reviewed on a local level																			

Preliminary review done in summer 2019.

Annex 3. The emission development of the City of Turku

Table 1. The emission development of the City of Turku and forecast for 2029

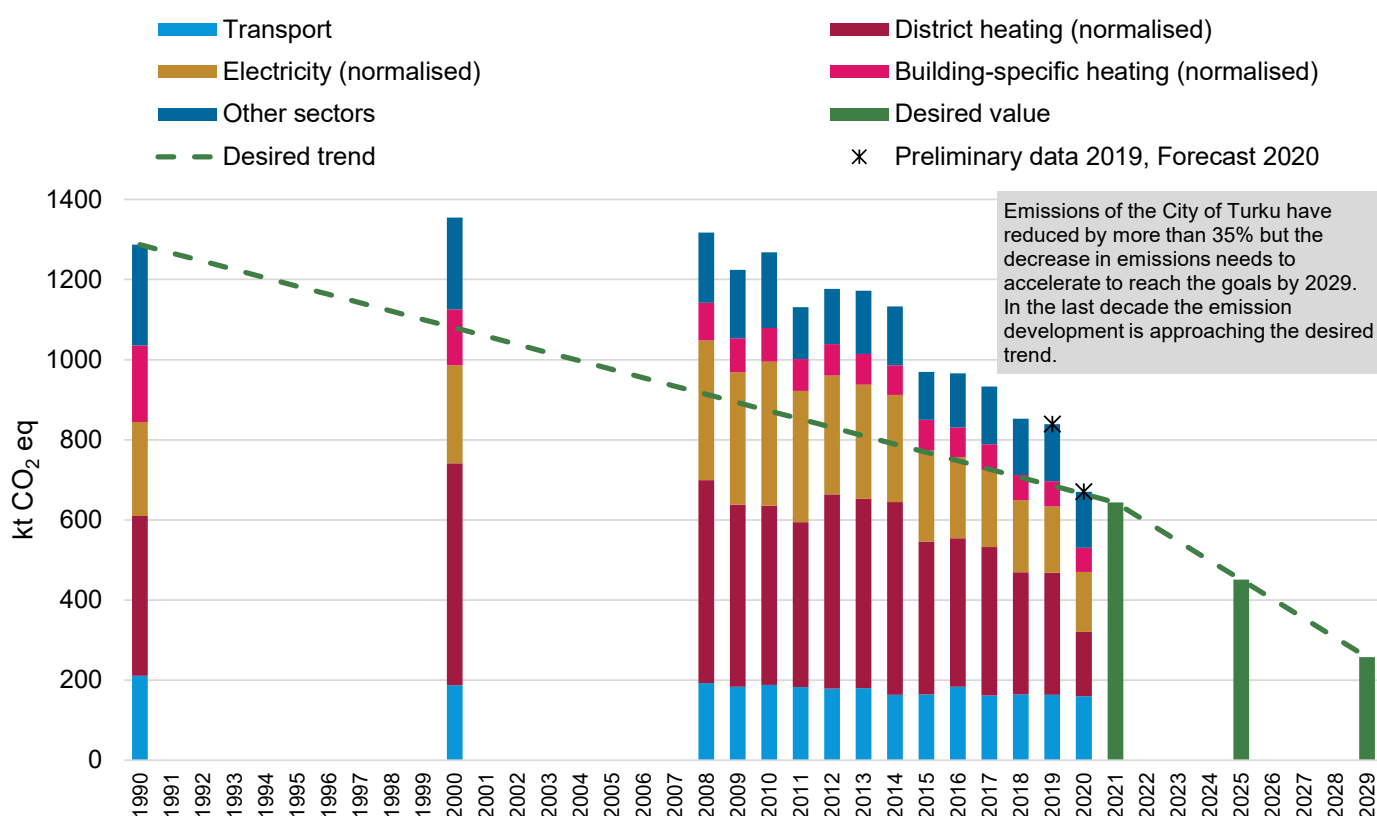


Figure 1. Emissions by source of energy in the City of Turku 1990–2020

