Ympäristöministeriö
Miljöministeriet
Ministry of the Environment
Finland

Finland’s Report on the Implementation of the New Urban Agenda

2021

EXECUTIVE SUMMARY

PART 1: Transformative Commitments for Sustainable Urban Development

1.1 Sustainable Urban Development for Social Inclusion and Ending Poverty
1.1.1 Social Inclusion and Ending Poverty
1.1.1.1 Eradicate poverty in all its forms
1.1.1.2 Reduce inequality in urban areas by promoting equally shared opportunities and benefits
1.1.1.3 Achieve social inclusion of vulnerable groups
1.1.1.4 Ensure access to public spaces including streets, sidewalks, and cycling lanes
1.1.2 Access to Adequate Housing
1.1.2.1 Ensure access to adequate and affordable housing
1.1.2.2 Provide access to sustainable housing finance options
1.1.2.3 Support security of tenure
1.1.2.4 Establish slum upgrading programmes
1.1.3 Access to Basic Services
1.1.3.1 Access to safe drinking water, sanitation and solid waste disposal
1.1.3.2 Access to safe and efficient public transport system
1.1.3.3 Access to modern renewable energy
1.1.3.4 Access to Information Communication technology (ICT)

1.2 Sustainable and inclusive urban prosperity and opportunities for all
1.2.1 Inclusive Urban Economy
1.2.1.1 Promote productive employment for all including youth employment
1.2.1.2 Support the informal economy
1.2.1.3 Support small and medium-sized enterprises
1.2.2 Sustainable Urban Prosperity
1.2.2.1 Support the diversification of the urban economy and promote cultural and creative industries
1.2.2.2 Develop technical and entrepreneurial skills to thrive in a modern urban economy
1.2.2.3 Strengthen urban-rural linkages to maximize productivity

1.3 Environmentally sustainable and resilient urban development
1.3.1 Resilience, Mitigation, and Adaption of Cities and Human Settlements
1.3.1.1 Address urban sprawl and loss of biodiversity
1.3.1.2 Climate Change mitigation and adaptation actions
1.3.1.3 Develop systems to reduce the impact of natural and human-made disasters
1.3.1.4 Build urban resilience through quality infrastructure and spatial planning
1.3.2 Sustainable Management and use of natural resources
1.3.2.1 Strengthen the sustainable management of natural resources in urban areas
1.3.2.2 Promote resource conservation and waste reduction, reuse, and recycling
1.3.2.3 Implement environmentally sound management of water resources and coastal areas
1.3.2.4 Adopt a smart-city approach that leverages digitization, clean energy and technologies

Part 2: Effective Implementation

2.1 Building Governance Structure: Establishing a supportive Framework
2.1.1 Decentralization to enable subnational and local governments undertake their assigned responsibilities
2.1.2 Linking urban policies to finance mechanisms and budgets

2.1.3 Legal and policy frameworks to enhance the ability of governments to implement urban policies
2.1.4 Strengthen the capacity of local and subnational governments to implement local and metropolitan multilevel governance
2.1.5 Promote participatory, age- and gender-responsive approaches to urban policy and planning
2.1.6 Promote women's full participation in all fields and all levels of decision-making

2.2 Planning and Managing Urban Spatial Development
2.2.1 Integrated and balanced territorial development policies
2.2.2 Integrate housing into urban development plans
2.2.3 Inclusion of culture as a priority component of urban planning
2.2.4 Planned urban extensions and infill, urban renewal and regeneration of urban areas
2.2.5 Improved capacity for urban planning and design, and training for urban planners at all levels of government
2.2.6 Strengthening the role of small and intermediate cities and towns
2.2.7 Promote sustainable multimodal public transport systems including non-motorized options

2.3 Means of Implementation
2.3.1 Mobilization of Financial Resources
2.3.1.1 Develop financing frameworks for implementing the NUA at all levels of government
2.3.1.2 Mobilize endogenous (internal) sources of finance and expand the revenue base of subnational and local governments
2.3.1.3 Promote sound systems of financial transfers from national to subnational and local governments based on needs, priorities and functions
2.3.1.4 Mobilize and establish financial intermediaries (multilateral institutions, regional development banks, subnational and local development funds; pooled financing mechanisms etc.) for urban financing
2.3.2 Capacity Development
2.3.2.1 Expand opportunities for city-to-city cooperation and fostering exchanges of urban solutions and mutual learning
2.3.2.2 Promote the capacity development as a multifaceted approach to formulate, implement, manage, monitor and evaluate urban development policies
2.3.2.3 Strengthen the capacity of all levels of government to work with vulnerable groups to participate effectively in decision-making about urban and territorial development
2.3.2.4 Support local government associations as promoters and providers of capacity development
2.3.2.5 Promote capacity development programmes on the use of legal land-based revenue and financing tools
2.3.2.6 Promote capacity development programmes of subnational and local governments in financial planning and management
2.3.3 Information Technology and Innovation
2.3.3.1 Development of user-friendly, participatory data and digital platforms through e-governance and citizen-centric digital governance tools
2.3.3.2 Use of digital tools, including geospatial information systems to improve urban and territorial planning, land administration and access to urban services
2.3.3.3 Strengthen capacities at all levels of government to effectively monitor the implementation of urban development policies
2.3.3.4 Support all levels of governments in the collection, disaggregation, and analysis of data

Part 3: Follow-up and Review

EXECUTIVE SUMMARY

Finland is a stronghold of the Nordic welfare state. Finland has progressed excellently with most of the themes of the NUA and is a leader in many areas such as digitalisation, circular economy and prevention of homelessness. A special feature are the strong partnerships between the cities and the state.

The government plans to turn Finland into the world's first carbon neutral welfare society by 2035. Urban challenges include e.g. the increasing housing prices and the ageing population.

A participatory process including representatives from all the instances of the society working with sustainable urbanization was conducted when preparing the report.

PART 1: Transformative Commitments for Sustainable Urban Development

1.1 Sustainable Urban Development for Social Inclusion and Ending Poverty

1.1.1 Social Inclusion and Ending Poverty

1.1.1.1 Eradicate poverty in all its forms

Section 19 of the constitution of Finland provides for the right to social security, which includes the right to indispensable subsistence and care, basic subsistence in the event of unemployment, illness, and disability and during old age as well as at the birth of a child or the loss of a parent, adequate social, health and medical services, and it mandates that public authorities promote the health of the population.

In Finland, economic inequality and the risk of poverty and exclusion increased in the second half of the 1990s until the beginning of the 2000s. Since then, it has remained largely at the same level. Regardless of the indicator, poverty in Finland is linked in particular to one's position in the labour market and to family structures.

Long-term unemployment is a key factor in explaining poverty, and the number of long-term poor people has increased in recent decades. One in six Finns lives at risk of poverty or exclusion, but only a few percent of Finns suffer from direct material deprivation[1]. In addition to the experiences of unemployment, working life and careers have become more broken[2]. Female pensioners are at risk of poverty or social exclusion (AROPE) more often than men due to a more fragmented career and lower pay. The level of unemployment benefit and labour market support is low by European standards[3].
Studies have shown that economic disadvantage is explained by being unemployed or, especially, by living alone or being a single parent[4]. People living alone, especially men, more often have low income, are outside the labour force and are customers of the last-resort income security[5][6]. The low income rate has remained around 12%, but the number of households with no income at all has doubled over the last

1 Eurostat: Living conditions in Europe - material deprivation and economic strain
[2] Kangas, Olli (2019) Suomalaisten työssäkäyvien köyhyysriski EU:n alhaisimpia. TITA Policy Brief 5/2019.
[3] Hussein, M. Azhar & Kangas, Olli (2014): Työttömyys, työttömyysturva ja tuloköyhyysriski Euroopassa.
[4] Niemelä, Mikko (toim) (2014) Eurooppalaiset elinolot.
[5] Kähäri, Antti & Sistonen, Laura & Niemelä, Mikko (2017) Yksin asuvat voivat muita huonommin. TITA Policy Brief 5/2017.
[6] Haataja, Anita (2014) Yksin asuvana EU:ssa – taloudellinen riski vai mahdollisuus?

decade. Single-parent families with children are particularly vulnerable. The impoverished life is partly burdened by the healthcare customer fees that are high by European comparison.
The high housing costs in large cities increase the recourse to social assistance. The transfer of basic social assistance to Kela complicated the position of the people of limited means who also need the supplementary or discretionary social assistance granted by municipalities or other social welfare support. The level of minimum benefits has remained low, and Finland has received comments from international actors monitoring human rights.

Every four years, the Ministry of Social Affairs and Health commissions an overall assessment of the adequacy of basic security. The relative reduction in primary benefits compared to social assistance has led to an increase in the need for social assistance in 2015–2019. According to estimates, social assistance has compensated for the deterioration of basic security, especially for the unemployed.

A general increase in the level of basic security benefits and small pensions was made as of 1 January 2020, and the index adjustment practice was resumed. In the coming years, social assistance will be reformed so that the reform strengthens the role of social assistance as a last-resort financial support in social welfare.
The task of the parliamentary committee appointed by the government is to reform social security as a whole, dealing with basic security, earnings-related security, social assistance and the link between them and their funding, as well as better coordination of services with benefits. In the health and social services reform of the government of Sanna Marin, basic-level services are strengthened and the focus is shifted to preventive work in order to better address people's needs and problems in a timely manner.

In Finland, absolute poverty is experienced especially by people who are outside public social security and are thus vulnerable to work-related exploitation and homelessness. Homelessness has increased in the largest cities. For the past decade, homelessness has been managed according to the Housing First principle, and open homelessness has decreased.[7] Despite the government's programmes directed at special groups, homelessness is still common among prisoners, for example.[8]

The open visibility of poverty on the streets of the largest cities is a new phenomenon in Finland. Support from individual actors has evolved to support beggars. Persons without a residence permit waiting in Finland for deportation have also become people falling between two stools in the social security system.[9] In addition to the healthcare services offered by Global clinic[10], which is spontaneously and voluntarily maintained by the largest cities, the aim of the government term is to secure the necessary care for all persons without a residence permit.

Food aid, which began in the 1990s, has established its existence, and food aid is currently distributed regularly. There is no systematic operating model or role in social security for the distribution of food aid, but over the past few years efforts have been made to direct food aid in a more communal and inclusive direction, and the establishment of its funding has been investigated under the Ministry of Social Affairs and Health's mandate. In addition, the European Social Fund (ESF) has been used to develop services for people in the most difficult situation outside working life and to support social inclusion.

Authors: Sakari Kainulainen, Specialist, Adjunct Professor, Diaconia University of Applied Sciences and
Ritva Liukonen, Senior Specialist, The Ministry of Social Affairs and Health

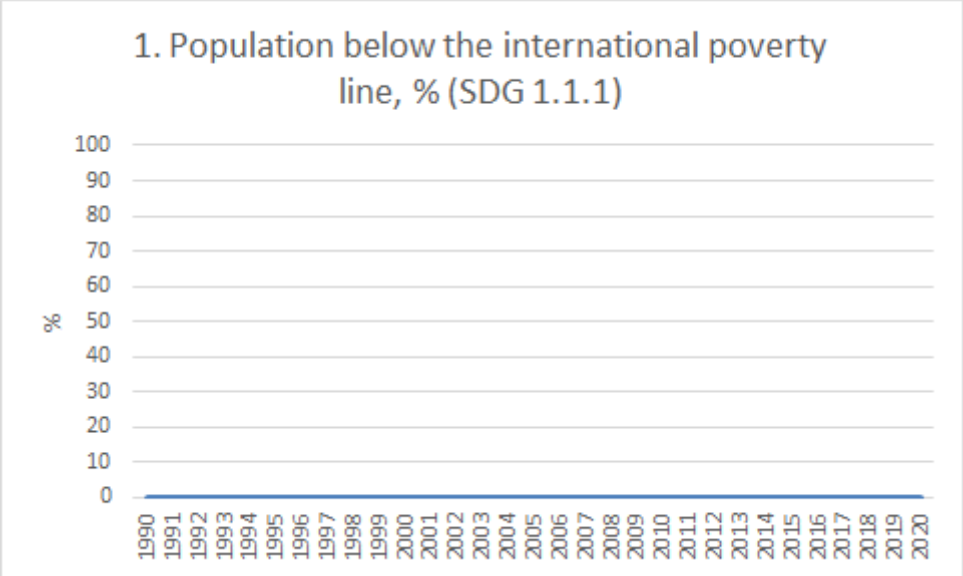
---

7 Housing First: Finland
8 Helsinki Times: Hundreds of prisoners released into homelessness every year in Finland
9 Laanti, Mirva; Sulvaran, Marisa (2020): Paperittomien tuen tarve turvapaikanhakuprosessin aikana
10 Global clinic: Health care for people with an irregular immigration status in Finland

Contributors: Olavi Kaukonen, Chairperson of EAPN-Fin; Mikko Aaltonen, City councillor, City of Tampere; Mikko Niemelä, Professor of Sociology, University of Turku; Antti Veirto, Research manager, Service Union United PAM; Timo Ollila, Chief financial officer, ELY Centre[11] for North Savo; Jouni, Kytösaari, Financing Expert (European Social Fund), ELY Centre for Southwest Finland

Indicators

1. Proportion of population below the international poverty line, by sex, age at national urban level



Proportion of population below the international poverty line in 2020: 0%.
No population below the international poverty line. Disaggregation between sex, age or urban/rural not available. National poverty statistics would be more a more relevant indicator for Finland.

Indicator is compatible with SDG 1.1.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.1.1.2 Reduce inequality in urban areas by promoting equally shared opportunities and benefits

In international comparisons, the internal social segregation within Finnish cities has been limited. However, the tendency has intensified also in Finland over the last three decades, particularly as a result of the growth in income and welfare inequalities, the increase in housing prices in the largest cities and the functioning of the housing market. The trend is pan-European.

[11] https://www.ely-keskus.fi/en/web/ely-en

During the depression of the 1990s and the subsequent economic boom, permanent "poverty pockets"[12] formed in the suburbs of the capital, and not all suburbs and their inhabitants have been able to participate in economic development. Although the growth in income differences has levelled somewhat since 2005, socio-economic and ethnic segregation has increased in the largest cities and urban regions[13].

The development of urban segregation causes concern in Finland, as it is considered to threaten balanced development and increase insecurity. The development of segregation in residential areas is reflected in the perceived safety of residential areas, selectivity of migration and housing prices in Finland. It is also reflected in the learning outcomes of children and young people. Free access to basic education and upper secondary education level out polarisation, but there is evidence in Finland that, for example, school choices have accelerated the concentration of disadvantage in certain areas[14]. The inheritance of education has increased, and the significance of educational, economic and other resource differences among families has increased in the 2000s. This is reflected in the differences in learning between both urban schools and their students. In particular, over the past decades, neighbourhoods that have been left behind have developed in the largest urban areas in Finland, and the learning outcomes in their schools are the worst[15].

In Finland, efforts have been made to curb urban inequality by mixing forms of housing management, investing in the provision of affordable housing, promoting resident inclusion and communality and improving living environments and their comfort. In Finland, housing policy is also closely linked to social security and housing allowance, which also enable independent housing for low-income people. An interesting special feature in Finland has been the *Housing First* policy, in which homeless people first receive housing and only then are other support measures considered. In Finland, non-profit actors have also developed models that combine housing with support for the employment and functional capacity of residents. Employment measures are also otherwise important in mitigating segregation. In particular, increasing the employment rate of vulnerable people evens out welfare and health inequalities and thus also affects the development of inequality. For example, programmes aimed at reducing bullying have been used to combat inequality in schools, and early intervention practices have been utilised in early childhood education and care and child health clinics[16].

Finland has also worked to prevent the development of segregation through extensive national development programmes specifically targeted at the largest cities, which have been implemented in 2008–2011, 2013–2015 and 2020–2022, and with the cities' own suburban and other development programmes. The programmes have typically combined different perspectives of social sustainability at the same time, promoting the participation and communality of the residents, developing services in the regions and improving the comfort, functionality and safety of the living environment.

In cities, there has been a wide range of measures to reduce segregation. For example, programmes aimed at reducing bullying have been used to combat inequality in schools, and early intervention models have been utilised in early childhood education and care and child health clinics. Regional aspects related to the exclusion of young people are linked to cross-generational matters, which is why the preventive role of services for children, young people and families is also significant in the measures. In Finland, efforts are

[12] Kortteinen & Vaattovaara (2007). Miten Helsingin käykään? https://www.julkari.fi/handle/10024/101718
[13] Saikkonen et al. (2018). Sosiaalinen kestävyys, asuminen, segregaatio ja tuloerot kolmella kaupunkiseudulla; Kortteinen & Vaattovaara (2007); Ramadan (2020).
[14] Bernelius & Vikama (2019), Urban Studies 2.
[15] Bernelius, Venla & Huilla, Heidi (2021). Koulutuksellinen tasa-arvo, alueellinen ja sosiaalinen eriytyminen ja myönteisen erityiskohtelun mahdollisuudet. Publications of the Prime Minister's Office 2021:7.
[16] The Finnish child health clinic system is a healthcare service that focuses on monitoring the health and development of children before birth and under school age, as well as their family, on supporting interaction, and on child care guidance for parents.

also being made to intervene in the development of segregation in schools through the Ministry of Education and Culture's ongoing *Right to Learn* development programme (2020–2022), which reflects on measures to promote educational equality and positive special treatment in early childhood education and care and pre-primary and basic education. *Urban well-being reports and plans* have also increased their profile as management tools that curb the development of inequality.

In Helsinki, the strategic *Project for Youth Social Inclusion* has tackled the reduction of inequality and the prevention of exclusion. Its measures are aimed at preventing over-generational exclusion and systemic change by addressing the root causes of exclusion. In particular, measures have been targeted at those urban areas in which most of the factors that predict disadvantage accumulate, such as low income, non-education and unemployment. The City of Vantaa has implemented a socially sustainable city development idea, for example with a *programme of positive special treatment*. The programme covers all sectors of the city, including early childhood education and care and the development of schools, health and social services and the urban environment.

Collective agreements and progressive taxation, which curb differences in salaries, have also played a key role in reducing segregation. In particular, an increase in the employment rate of vulnerable people has been considered in Finland to balance the differences in well-being and health and thus have an effect on the development of inequality. Vulnerable groups include the long-term unemployed, immigrants and people experiencing diverse problems related to functional capacity and exclusion. A particular concern in Finland has been the exclusion of young people, the risk factors associated with it and the inheritance of welfare gaps[17].

In Finland, organisations are closely involved in curbing the development of segregation. The focus of the activities of the approximately 11,000 social welfare and health organisations operating in Finland is on helping those who are most vulnerable and do not necessarily receive help from elsewhere. The organisations support people in improving their work and functional capacity and participation, and thus also contribute to regional development. Finland has numerous examples of the activities of organisations that respond flexibly to the needs of residents, and also identify them proactively and interact closely with cities and other communities in order to solve social problems[18]. The close integration of higher education institutions into the social development of cities also creates opportunities for making use of their research development and innovation competence.

Author: Soile Kuitunen, Managing Director, The Rehabilitation Foundation

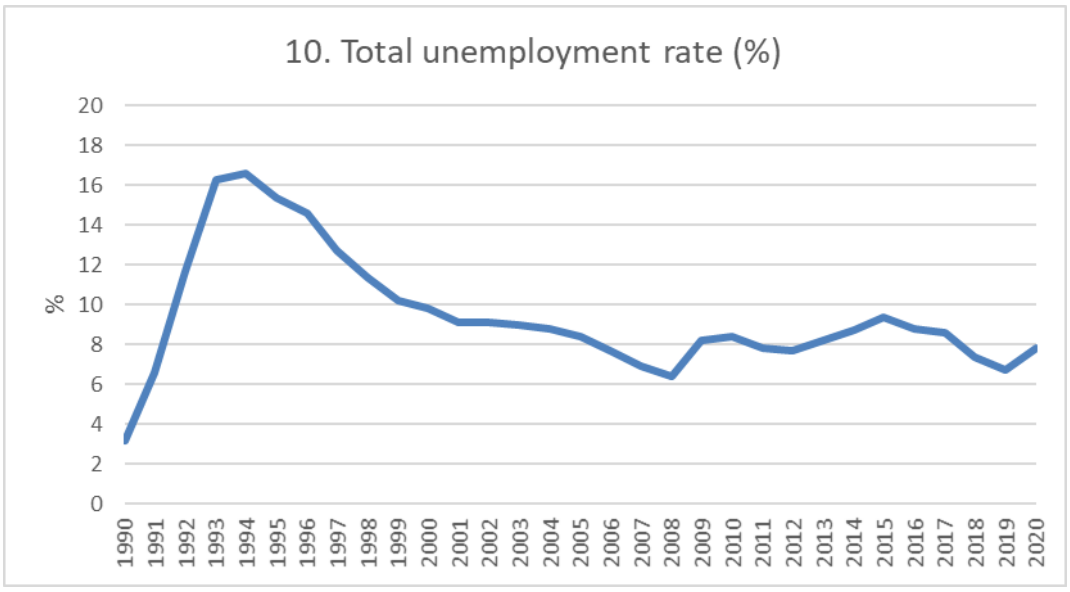
Contributors: Ilkka Kaukoranta, Chief Economist, SAK; Miia Wikström, Researcher, Interest Group Coordinator, Finnish Institute of Occupational Health; Sari Tuuva-Hongisto, Ph.D., Project Manager, Youth Research and Development Centre, South-Eastern Finland University of Applied Sciences – Xamk; Katja Rajaniemi, Project Manager, City of Helsinki; Jaana Nevalainen Senior Environmental Adviser, Department of the Built Environment, Ministry of the Environment; Hanna Kirjavainen Research Coordinator, Lecturer, Turku University of Applied Sciences

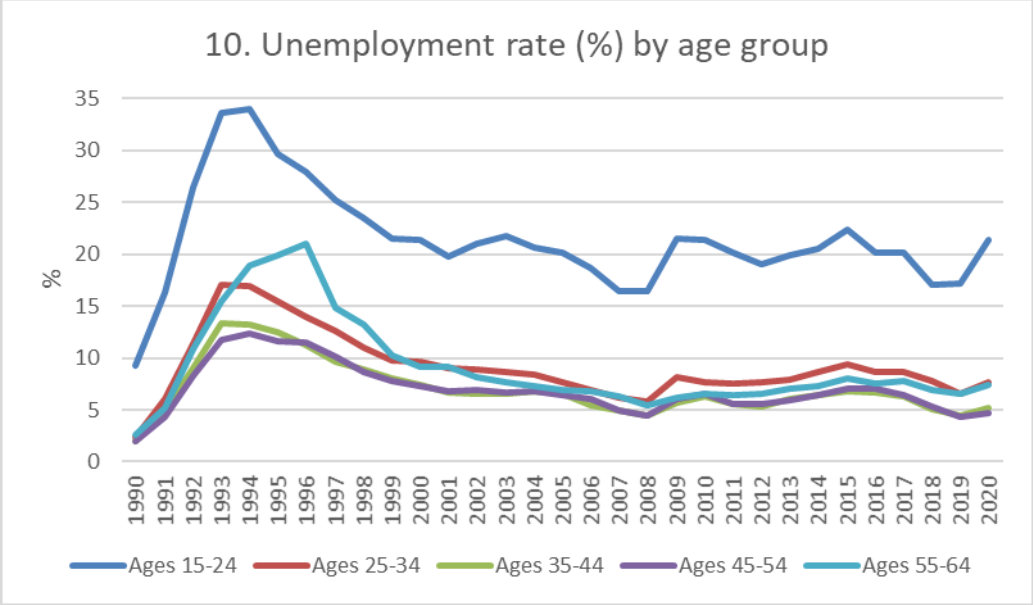
[17] Shemeikka R, Rinne H, Saares A. 2014. Regional differences in health and health behaviour among young adults in Finland; Kaivonurmi M et al. (eds.): The 15th Biennial Conference of the European Society for Health and Medical Sociology (ESHMS). Discussion paper 28/2014. National Institute for Health and Welfare

[18] https://kuntoutussaatio.fi/assets/files/2020/06/Järjestöt-rakentamassa-sosiaalisesti-kestäviä-naapurustoja.pdf

Indicators

10: Unemployment rate by sex, age, persons with disabilities and by city





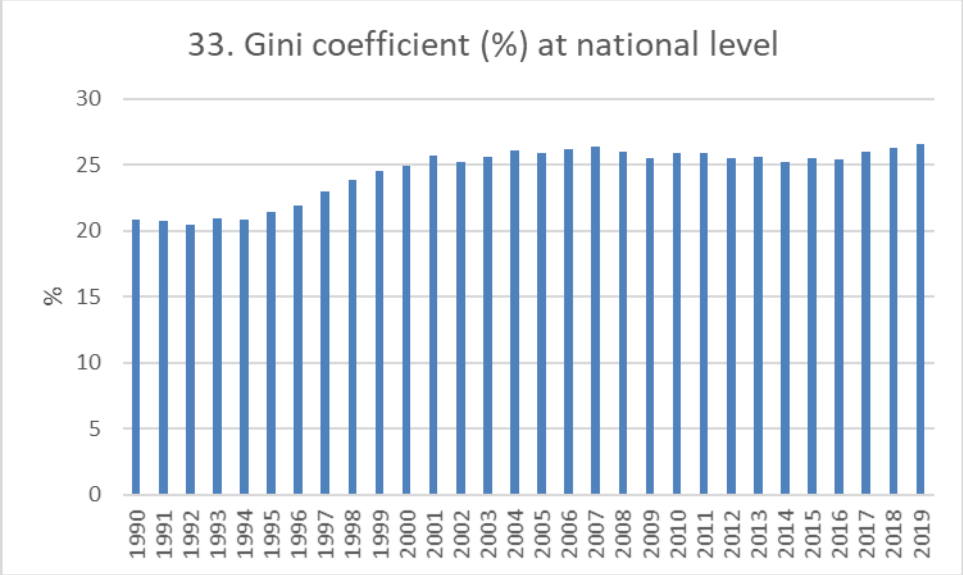
10. Unemployment rate by sex and age group in 2019 and 2020:

10. Unemployment rate (%) by sex and age group (national)	2019	2020
Total	6,7	7,8
Men	7,2	8,0
Women	6,2	7,5
Ages 15-24	17,2	21,4
Ages 25-34	6,6	7,7
Ages 35-44	4,4	5,2
Ages 45-54	4,3	4,7
Ages 55-64	6,6	7,4
Persons with disabilities	data not available	data not available

The global Covid-19 pandemic is likely to have had an impact on unemployment in 2020. According to the title of the indicator, data should be disaggregated by sex, by age group, by disability status and city/urban level. There is no specific information related to city / urban level in metadata. Unemployment data is available on municipality level in Finland. There is no data available on unemployment by disability status, because disability as a concept is not in use in the employment survey at the moment. There will be a change in the employment survey from 2021 onwards, more information (in Finnish): http://stat.fi/ajk/tyovoimatutkimuksen-uudistus.html

Indicator is compatible with SDG 8.5.2. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

33: Gini coefficient at national/ city /urban levels;



Gini coefficient at national level in 2019: 26,6%
Gini coefficient in capital city Helsinki in 2019: 33,5%

National Gini coefficient calculated based on disposable cash income (excl. capital gains, cross-nationally comparable concept, sample-based data). Data available also on municipality level.

Data source: Statistics Finland
https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__tul__tjt__henkiloiden/statfin_tjt_pxt_11x3.px

1.1.1.3 Achieve social inclusion of vulnerable groups (women, youth, older persons and persons with disabilities and migrants)

A revised *Act on Non-Discrimination (Act No. 1325/2014)* entered into force in Finland in 2015. Together with *the Act on Equality between Women and Men (609/1986)*, it creates a framework for action against discrimination and for equality and inclusion. The Non-Discrimination Act prohibits discrimination on the following grounds: age, origin, nationality, language, religion, belief, opinion, political activity, trade union activity, family relationships, state of health, disability, sexual orientation, or other personal characteristics. In terms of fostering gender equality, Finland is one of the world's leading countries.

The Non-Discrimination Act applies to both public and private activities. Chapter 2 sets out the measures for the promotion of equality, which pertains to all authorities. The municipalities, including the cities, in Finland, have far-reaching responsibilities as authorities and service-providers in important areas, such as primary and secondary education, social and health services, and urban planning and infrastructure—and they are large employers. Hence, the obligation in the Non-Discrimination act to plan measures to promote equality are applicable to cities as authorities, providers of education, and as employers. The same planning

obligations are included in the Act on Equality between Men and Women, and in the cities these planning processes are often carried out in parallel.

In 2017-2018, the Finnish Association of Municipalities and five municipalities, including the towns and cities of Oulu, Kuopio, Tampere, Vaasa and Utsjoki participated in *the Rainbow Rights – Promoting LGBTIQ Rights in Europe project*. The aim of the project was to promote the equality particularly of LGBTIQ-persons, and to develop equality planning on the local level[19].

Cities in Finland work actively on equality and non-discrimination. The city of Helsinki has collected all its non-discrimination and equality work on one website under the heading *Human Rights Helsinki*[20]. Measures in Helsinki have included i.a. positive differential treatment, by channelling additional resources to schools in socio-economically challenged areas of the city. The city of Vantaa has a broad agenda in enhancing non-discrimination and gender equality and it is e.g. developing a method for gender budgeting.[21] The city of Tampere has worked e.g. with participatory budgeting and reducing the differences in wellbeing among children and young people. Tampere has also collected its non-discrimination and equality work under one website[22]. Similarly, The City of Turku declared itself *a Discrimination-Free Zone* on November 16, 2018, on the International Day for Tolerance[23]. The initiative for the declaration was launched by the City Council of Turku.

An important focus for municipalities in their equality work is the promotion of accessibility. In Finland, the *Convention on the Rights of Persons with Disabilities* was enacted by law: *Act No. 373/2015*. Accessibility needs to be at the core also in urban planning and construction, and cities in Finland have worked actively to provide accessibility for all citizens in the built environment[24].

There are, however, also challenges, and the *Non-Discrimination Ombudsman*, an autonomous and independent authority[25], receives complaints also from persons who have experienced discrimination in municipal services. The statistics for 2020 show 258 contacts related to the municipalities, concerning i.a. health and social services, education, and housing. Discrimination was reported to have occurred on i.a. the basis of disabilities and ethnic origin. The corona pandemic also brought reports of concerns related to restrictions concerning access to family life based on age and disabilities in service housing, which is also the responsibility of municipalities, although the facilities are not run by them. The pandemic demonstrated the importance of precise and adequate information from national authorities in order to prevent misunderstandings and discriminating practices on the local level.

The integration of immigrants is a field which is regulated by the *Act on the Integration of Immigrants (1386/2010)*, which sets out the responsibility for municipalities to locally coordinate the measures used to promote integration. The current Sanna Marin Government´s *Government Integration Programme*, coordinated by the Ministry of Economic Affairs and Employment, promotes integration at the national level through a comprehensive action plan on the need to reform integration measures and provides guidelines for public officials and integration actors.[26] Access to gainful employment is a challenge for

19 https://www.localfinland.fi/blog/2018/gender-equality-and-non-discrimination-are-basic-human-rights
20 https://ihmisoikeudet.hel.fi/?lang=en
21 https://www.vantaa.fi/hallinto_ja_talous/talous_ja_strategia/strategia/tasa-arvo_ja_yhdenvertaisuus
22 https://www.tampere.fi/en/equally-yours/otheractions.html
23 https://www.turku.fi/en/news/2018-11-12_city-turku-declares-itself-discrimination-free-zone
24 Examples in Finnish: City of Turku - https://www.turku.fi/esteeton-elinymparisto and City of Vaasa - https://www.vaasa.fi/tietoa-vaasasta-ja-seudusta/kehittyva-ja-kansainvalinen-vaasa/kaupungin-kehittaminen/esteettomyys/
25 https://syrjinta.fi/en/ombudsman
26 https://kotouttaminen.fi/en/report-progress

immigrants and ethnic minorities in Finland, and discrimination in recruitment is reported in many studies. The responsibility of promotion of employment is with the state-run Offices of Employment and Entrepreneurship, but as of the beginning 2021, there is a national project where employment services for certain designated groups, i.a. immigrants and persons speaking foreign languages, will be taken over by municipalities. It is mostly the large cities and towns which participate, aiming at linking together more closely municipal services e.g. in the field of education and employment services. The Ministry of the Environment coordinates a programme in 2020-2022 to develop the suburbs of the largest cities in Finland to increase the welfare and prosperity of the suburbs, promote inclusion, prevent segregation and ensure a good quality of housing and services.[27]

Cities have taken an active role in the promotion of the equality of children and youth from ethnic minorities also in youth, culture and sports activities. *The Right to Learn development programmes (*The Ministry of Education and Culture, 2020-2022) aim to secure an equal start for all children by improving the quality and equality of early childhood education and care (ECEC) and comprehensive school education. The objective is to reduce and prevent learning differences arising from children's socioeconomic status, immigrant background or gender, to strengthen support for learning and for special needs, and to improve literacy.[28,29]

Author: Kristina Stenman, Non-Discrimination Ombudsman, Office of the Non-Discrimination Ombudsman

Contributors: Emma Hannula, CEO, Finngroup Consultants; Meija Tuominen, Administrative specialist, City of Vantaa

Indicators

4: Women's recognized legal right to property inheritance and ownership

Presence of Women's recognized legal right to property inheritance and ownership: yes.

Indicator is compatible with SDG 5.a.2 (Countries where the legal framework guarantees women's equal rights to land ownership and/or control). Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

34: Presence of national legislation forbidding discrimination in housing, access to public facilities and social services on the basis of race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status

Indicator value: yes.

Data source:

The Constitution of Finland (731/1999); section 6
Equality, https://www.finlex.fi/fi/laki/ajantasa/1999/19990731
Non-discrimination Act (1325/2014)

[27] https://ym.fi/lahioiden-kehittaminen
[28] https://julkaisut.valtioneuvosto.fi/handle/10024/161950
[29] https://minedu.fi/en/qualityprogramme

https://www.finlex.fi/fi/laki/smur/2014/20141325

19: Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities.

Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities: no data available.
Indicator is compatible with SDG 11.7.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.1.1.4 Ensure access to public spaces including streets, sidewalks, and cycling lanes

In addition to the placement of buildings and various functions, the design of high-quality public space has been identified as an important part of a sustainable, pleasant, safe and vibrant city. As the starting point for planning, it is considered important to take global megatrends into account, such as climate change, internationalisation and the ageing of the population.

The planning of public spaces is primarily steered by municipalities in Finland by planning and implementative planning (e.g. street planning and landscape planning). In accordance with the Land Use and Building Act (MRL), the task of the municipality is also to ensure that public spaces meet the requirements of good urban image and comfort. Using a building ordinance issued under the same act, municipalities issue regulations necessary for the realisation of a good living environment, in which attention is paid to aesthetics, safety and accessibility. These regulations may apply to various outdoor structures that must not obstruct movement and operation, or to public urban space lighting, which increases safety and comfort. Pedestrian and bicycle routes must also remain accessible and safe.

The development of cycling opportunities in Finnish cities has been examined by means of an extensive survey in 2018. In the largest cities, around 85–90% of cycle routes are maintained by municipalities, while in smaller municipalities the share is less than 70%. In about one third of cities, cycling was seen as an equal mode of transport. According to the report, a quarter (25%) of Finnish municipalities have a cycling promotion programme, strategy or similar. Around half of the municipalities have made political decisions to promote cycling, while in 2010 the share was just over one fifth.

According to a passenger transport survey conducted in 2016, approximately 30% of all trips in Finland are made by walking and cycling.

In Finland, seasonal variation affects the mode of transport selected. Cold, dark and snow in winter reduces the number of cyclists and shortens the distance cycled. Fluctuations in winter maintenance levels and variations in daily weather and the resulting maintenance challenges make predictability more difficult and reduce the willingness to cycle. Intervening in maintenance discontinuity is important both on main routes and on routes leading to main routes. Some 60 percent of municipalities have defined sufficient quality requirements for main routes, and the maintenance of the most important routes has been improved, which has increased the number of cyclists. For example, the Oulu region has invested in the infrastructure of walking and cycling in planning, construction and winter maintenance. The aim is to increase the utilisation rate of walking and cycling routes throughout the year in Oulu through a new type of *winter maintenance contract model*. The contract will be implemented by a joint agreement between three

orderers (the city of Oulu, the municipality of Kempele and the ELY centre), with the aim of a main cycling network with unified and high-quality maintenance.

The Ministry of the Environment has launched a three-year *action plan on housing for older people*[30] (2020–2022), the aim of which is to support the development of housing conditions and age-friendly living environments, such as accessibility of streets and pedestrian routes. Living at home for the elderly requires not only a safe home, but also a residential area where services, outdoor activities and encounters with other people can be safe and accessible. The development of an age-friendly living environment is linked to the themes of accessibility and planning that are central to safety.

The state and the municipalities of the largest urban regions have concluded *land use, housing and transport agreements (MAL agreements)* with the aim of socially, ecologically and economically sustainable development in urban regions. The cities commit to planning housing areas for good locations with respect to public transport, walking and cycling. The agreements guide and support the planning and construction of walking and cycling routes, taking into account the requirements set for a good living environment. The measures in the agreements also guide the location of workplaces, services and green areas. With the agreements, the state supports housing construction in places that are good for sustainable mobility and measures promoting walking, cycling and public transport.

The contract procedure currently applies to the seven largest urban regions, in which more than 55% of Finland's inhabitants live.

The state supports the activities of the *national network for the development of land use, housing and transport (MAL network)*, which is based on the urban policy of the state and large urban regions, the promotion of regional strategic planning and peer learning of the member regions. The MAL network is looking for new ways to create preconditions for the sustainable development and vitality of urban regions.

Living City Centres of Finland is a networking operator established by cities, property owners and entrepreneurs. Its aim is to promote the development of city centres as versatile places for activities, services and events as well as encounters and housing that can be easily achieved through different forms of mobility.

The investment programme for walking and cycling supports municipal walking and cycling infrastructure projects through government transfers[31]. In addition, the preparation of programmes to promote walking and cycling is supported by government transfers[32]: There are also government transfers for general mobility guidance[33]: These government transfers are open to all municipalities, including outside the MAL regions.

Author: Kaisa Mäkelä, Senior Ministerial Adviser, Ministry of the Environment

Contributors: Hanna Strömmer, Special Adviser, Traficom; Soile Purola, Sustainable mobility coordinator, Centre for Economic Development, Transport and the Environment for North Ostrobothnia; Emma Hannula, CEO, Finngroup Consultants

[30] https://www.ymparisto.fi/fi-FI/Asuminen/Ikaantyneiden_asuminen
[31] https://www.traficom.fi/fi/liikenne/liikennejarjestelma/kavelyn-ja-pyorailyn-investointiohjelman-valtionavustus
[32] https://www.traficom.fi/fi/liikenne/liikennejarjestelma/kavelyn-ja-pyoraliikenteen-edistamisohjelmien-valtionavustukset
[33] https://www.traficom.fi/fi/liikenne/liikennejarjestelma/liikkumisen-ohjaus-ja-valtionavustukset

Indicators

35: Percentage of road length that has dedicated bike lanes (excluding motorways).
Data according to the NUA specification on the percentage of road length that has dedicated bike lanes (excluding motorways), isn't available. Data can possibly be developed and gathered through supplementary data collection and calculations.

36: Percentage of road length that has dedicated sidewalks (excluding motorways).
Data according to the NUA specification on the percentage of road length that has dedicated sidewalks (excluding motorways), isn't available. Suggested as possible alternative sources of information: e.g. to calculate separately 1) the percentage of road length dedicated to sidewalks, 2) the length of combined pedestrian and bicycle lanes in relation to the length of the streets, or 3) to look at the proportion of walking in the national passenger transport survey.

- NOTE: It is unclear whether combined pedestrian and bicycle lanes that are not connected to the highway should also be considered here. According to the definition of NUA metadata, a sidewalk is "a path with a hard surface on one or both sides of a road that people walk on".

1.1.2 Access to Adequate Housing

1.1.2.1 Ensure access to adequate and affordable housing

Inclusiveness continues to be the founding principle of the Nordic welfare state. Finland has been one of the strongholds of the so-called Nordic welfare regime, a system based on progressive taxation, universal social benefits, high-quality public services and a strong redistribution of market income by the state. The result is seen in one of the most equal income distributions in the Western world and in the relatively low poverty rate. Equality has also been pursued in housing policy. The development of the standard of living is guided by legislation and other normative guidance. The Housing Finance and Development Centre of Finland, ARA, has a major role and responsibility for the implementation of Finnish housing policy. It grants subsidies, grants and guarantees for housing and construction, and controls and supervises the use of the ARA housing stock to promote ecologically sustainable, high-quality and reasonably priced housing. Furthermore, urban housing policy and residential planning have also aimed at a socially balanced, mixed, structure.

There have been several national programs to tackle homelessness. For example, during the last decade national *ARA investment grants* have been used to build 2,200 apartments for long-term homeless people. These investment grants have enabled a systemic change from temporary accommodation in shelters and hostels into more permanent housing in supported housing and independent scattered housing. Also housing advice services have been added. Thus, homelessness has decreased continuously since 2013.

A relatively late but rapid urbanization continues in Finland, thus the ageing of the population is a dominant feature in most of the country. The national level population growth in recent years has been entirely dependent on immigration. Thus, new divisions have emerged, on the national level between regions, and on the other hand within urban areas.

On the general level the housing market has been described as being one of the positive developments during the COVID-19 pandemic. Expectations to move to homeownership have reached a record high during 2020. However, polarization between regions has been visible also in the development of housing prices. Within the main urban regions housing prices have continued to increase, but already many of the middle-sized cities have witnessed stagnation. Large areas have seen housing values drop.

The last year has been dominated by the COVID-19 pandemic. Even if the pandemic revealed some organizational leakages in the response to the pandemic and still causes problems between the state and the major urban areas in formulating the best solutions and judgements to the situation – one could clearly state, that in this moment of crisis, the foundations of the welfare state have functioned.

There has been one major change in housing development within urban areas during the last decade. The average size of the housing units constructed has dropped. During 2020, within the metropolitan area of Helsinki, the average sizes of the whole constructed housing stock vary between 44m^2 to 57m^2 when about a decade ago they were clearly closer to 80m^2 to 90m^2. Similarly, Tampere, another major urban area, witnessed a drop in the average constructed housing unit size to 38.8 m^2. With immigration and emerging segregation in urban areas, this development also causes worries about whether access to adequate and affordable housing in Finland continues to be ensured, or if it is a negative sign of the financialization of the housing market.

Author: Mari Vattovaara, Professor of Urban Geography, Director of the Institute of Urban and Regional Studies, University of Helsinki

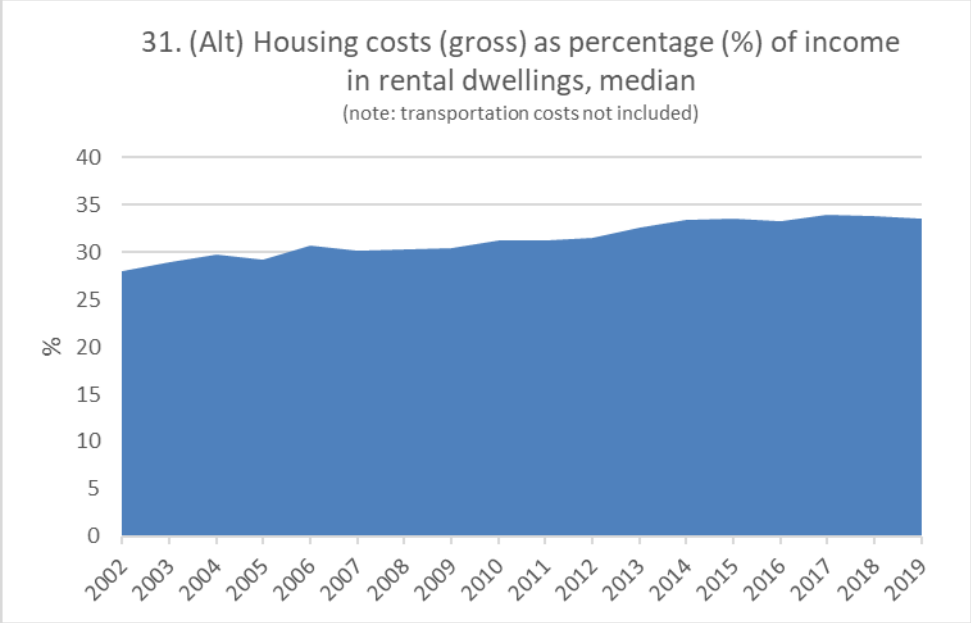
Contributors: Juha Kaakinen, CEO, Y-Foundation; Liisa Meritähti, Senior Specialist, Ministry of the Environment

Indicators

31: Median amount of money spent on housing and transportation per household as a percentage of the median annual household income of tenants

Data according to metadata description not available, alternative data proposed:

31. Alternative data: Housing costs (gross) as percentage (%) of income in rental dwellings, median (note: does not include transportation costs)



Data as described in metadata not available, suggested alternative data is income share of housing costs for households living in rental dwellings. Income share of housing costs for households living in rental dwellings in 2019 was 33,5%.

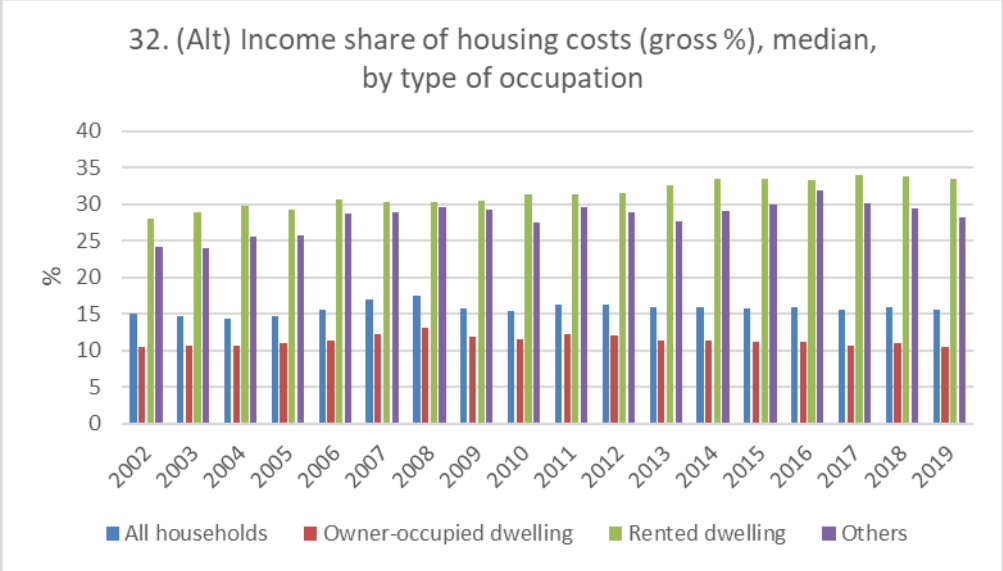
Alternative data does not include data on transportation. According to Statistics Finland (2018, https://www.stat.fi/til/ktutk/2016/ktutk_2016_2018-03-13_fi.pdf), households with a high income used 17% of their income on transport while low-income households used 10%. Transportation costs include e.g. costs of vehicle ownership; repairs; public transport; fuel and domestic and international travel. The income share of housing costs (in gross) indicates the share of housing costs in the household's disposable income (excl. real estate tax).

Data source: Statistics Finland https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin__tul__tjt__tulot/statfin_tjt_pxt_12g4.px/

32: Ratio of the median free-market price of a dwelling unit and the median annual household income

Data according to metadata description not available, alternative data proposed.

32. Income share of housing costs (gross %), median.

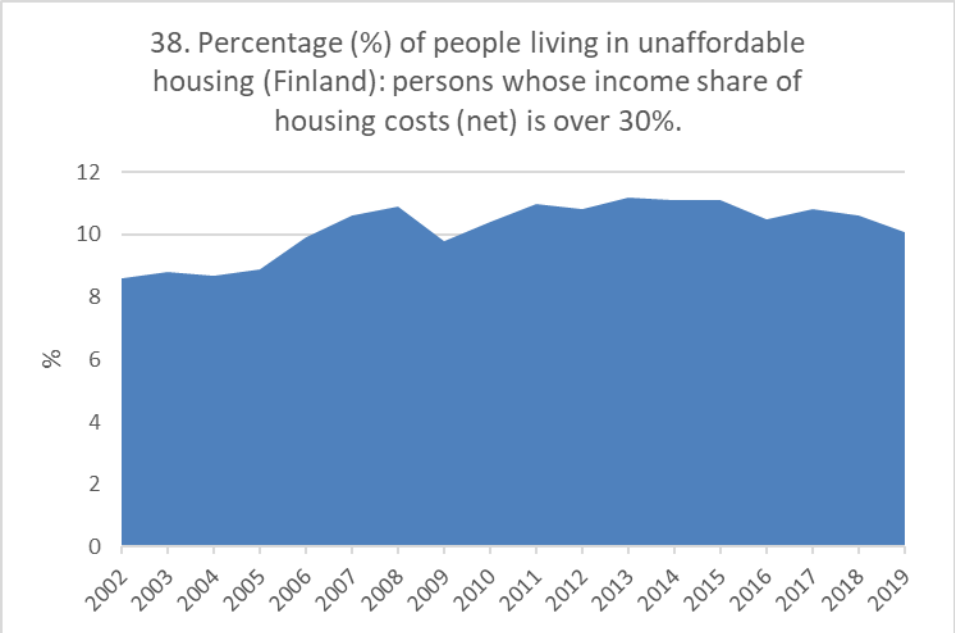


Data according to metadata description not available. Proposed alternative data: Income share of housing costs (gross %), median. All households, owner-occupied dwellings, rented dwellings and others. Gross housing costs and income include housing benefits. Income means household's disposable monetary income (excl. sales profits). Housing costs include operating expenditure, interests on housing loans and real estate tax paid by the household for its actual dwelling. Depending on its tenure status, the dwelling's operating expenditure comprises maintenance charges, rents, water and waste charges, separate energy expenses, costs of maintenance repairs, and other operating and maintenance expenditure of the dwelling.

Income share of housing costs (gross %), median, by type of dwelling occupation	**2019**
All households	15,5 %
Owner-occupied dwelling	10,5 %
Rented dwelling	33,5 %
Others	28,1 %

Data source: Statistics Finland https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin__tul__tjt__tulot/statfin_tjt_pxt_12g4.px/

38 Percentage of people living in unaffordable housing



Persons (%), whose income share of housing costs (net) is over 30% in 2019: 10,1%.

Includes both rented and owner-occupied housing. In 2019, 69,6% of the dwelling population lived in owner-occupied housing. Note that the data do not include housing benefits (general housing allowance, pensioners' housing allowance or housing assistance for conscripts) or tax deduction benefits for interests on housing loans.

Data source: Statistics Finland https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__tul__tjt__tulot/statfin_tjt_pxt_12g4.px/

1.1.2.2 Provide access to sustainable housing finance options

Current aims of Finnish housing policy on sustainable housing finance

According to the Constitution of Finland (section 19), it is the duty of public authorities to promote everyone’s right to housing, and to support attempts by individuals to find housing on their own initiative. The finance on housing comes primarily from the financial markets, but the state has a complementary role in supporting both home ownership and rented housing. It is relatively easy for households to obtain loans for home-ownership, but the high prices in the Helsinki region as well as the decrease in prices in rural areas set challenges to the housing market.

The current government programme (2019-2023)[34] includes various measures to promote sustainable housing, such as state-subsidised housing production, support for climate-friendly repairs and renovations and advancing wood building and low-carbon construction.

However, municipalities and cities have a key role in promoting sustainable housing. Municipalities are the largest owners of rental housing and they also provide land, infrastructure and other services for housing schemes. Municipalities have a monopoly on town planning on their own territories and they have complete control over zoning and town planning in areas within their borders. Due to this, municipalities have a central role in impacting land use e.g. the amount of housing and type of housing such as rental housing or owner-occupied apartments. Especially in Southern Finland the zoning areas of cities and municipalities are large presenting challenges related to land ownership, infrastructure and politics related to land use.

Municipalities and cities also directly influence construction through municipal land use decisions. 'Land use, housing and transport' (MAL) agreements are a vital element in the collaboration between the state and large urban regions. MAL agreements are made to ensure for example that urban regions have a sufficient land use volume to allow for diverse housing production in the long term.

Social rental housing and renovation subsidies

The Housing Finance and Development Centre of Finland (ARA)[35] may provide interest subsidies and guarantees for loans taken out to finance the construction, acquisition or renovation of housing for rental purposes. In addition, dwellings are typically subsidized by municipalities. Dwellings financed by interest subsidy loans are to be used as social rental dwellings for as long as the loans are accepted as interest subsidy loans. Tenants must be selected based on social appropriateness and financial need. Interest subsidies may also be granted to help finance the production of right-of-occupancy housing. For example in 2020, more than 9 000 apartments were built with the support of interest subsidy loans. ARA also grants other subsidies such as subsidies for improving the housing conditions of special groups, subsidies for accessibility repairs, and subsidies for energy-efficiency repairs. ARA also grants subsidies for example to improve housing advice, which is a one method to reduce homelessness.

Housing allowances and supporting home ownership

Housing allowances are paid to help residents in difficult financial circumstances to meet their housing costs. In 2019 2 135,5 million euros were paidas housing allowances. Housing allowances can be paid for rented or owner-occupied homes.

Home ownership rates are high in Finland, and home ownership is also supported in many ways. The biggest tax expenditures for home ownership are the non-taxation of imputed rental income and capital gains. Instead, the housing loan interest deductibility has been gradually reduced since 2012. First-time homebuyers are exempted from property transfer tax, which is normally 2 percent of the acquisition of homes owned by a housing company, and 4 percent for real estate deals. The ASP savings and loan scheme is designed for young first-time homebuyers, between the ages of 15–39. ASP agreements commit borrowers to save a certain amount as a down payment for their first home, while the bank is committed to grant them a loan once they reach their savings target.

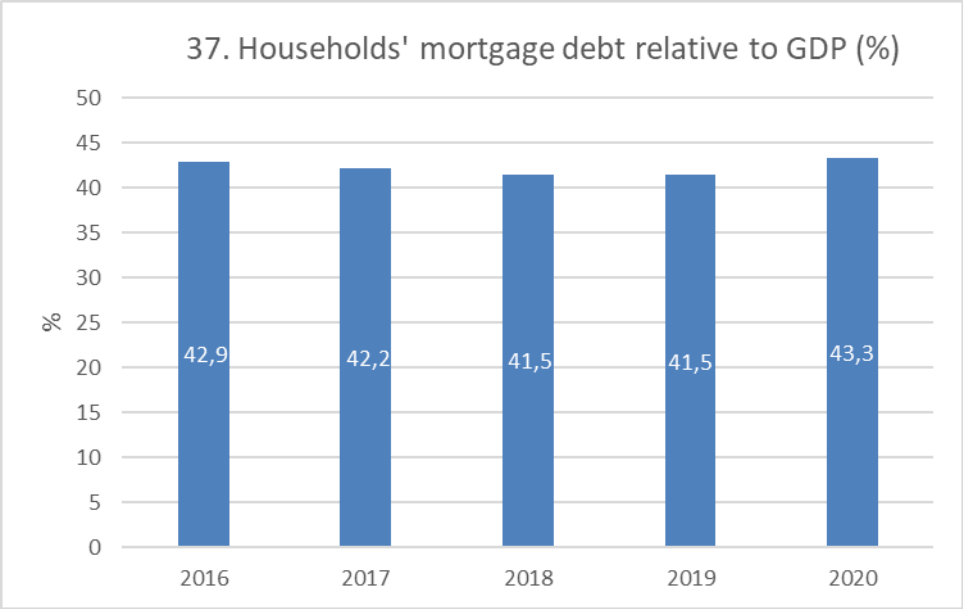
[34] https://valtioneuvosto.fi/en/marin/government-programme/housing-policy
[35] https://www.ara.fi/en-US

Author: Liisa Meritähti, Senior Specialist, Legal Affairs, Department of the Built Environment, Ministry of the Environment of Finland

Contributors: Henrik Wager, Senior Adviser at the Centre for Economic Development, Transport and the Environment, Helsinki; Essi Eerola, Research Director, D.Soc.Sc., VATT institute of economic research

Indicators

37 Mortgage debt relative to GDP



Finnish households' mortgage debt relative to GDP (%) in 2020: 43,3 %.

Note: sum does not include housing company loans, whose share has increased during recent years. If the housing company loans for which households are responsible would be included (18,8 billion euros) the share would be over 50% of GDP.

Data sources: Bank of Finland (mortgage debts) https://www.suomenpankki.fi/fi/Tilastot/rahalaitosten-tase-lainat-ja-talletukset-ja-korot/taulukot/rati-taulukot-fi/lainat_kotitalouksille_fi/ , information about housing company loans https://www.eurojatalous.fi/fi/2020/artikkelit/taloyhtiolainakanta-painottunut-paakaupunkiseudulle-ja-maan-suurimpiin-kaupunkeihin/ and Statistics Finland (GDP) https://www.tilastokeskus.fi/tup/suoluk/suoluk_kansantalous_en.html

1.1.2.3 Support security of tenure

Security of tenure can be regarded a central factor when thinking of the solid development of national prosperity and stable conditions in society. The corner stone for the security of tenure is the general protection of property that is provided for in the Constitution of Finland (731/1999). This general provision is contained in section 15 of the Constitution and it has impacts on every other legislation in Finland.

The possession of land is based on private ownership in Finland. The state, municipalities and private citizens, as well as companies and other corporations have the same rights and legal protection when they are in the position of owner of real estates. The roots of ownership of land areas go back in time several hundred years. Ever since then, the ownership of a certain land area has been transferred from the legal owner to a new one by means of a legal acquisition only.

Nobody can be deprived of his or her ownership without legally acceptable grounds. As mentioned above, the protection of property is guaranteed by the Constitution. However, property can be expropriated for public needs and against full compensation. The expropriation procedure is strictly prescribed in law.

The contents of ownership have not been defined in Finnish legislation expressly. It is determined by the protection the Finnish legal system grants to the owner in various situations. The owner has the right to use and possess his or her property without being disturbed or precluded. Others are excluded from the use and possession of the property. The owner can bring several types of civil actions if his or her rights concerning the property have been violated. Criminal charges can also be brought.

In the interest of society, there can be restrictions concerning the use of property by the owner. These restrictions can be based, e.g. on environmental legislation. Efficient and appropriate use of land in urban areas presupposes detailed planning. Town plans can contain restrictions on the use of land, too. In some cases, town plans may give the municipality a right of expropriation of a land area. When it comes to urban planning, the protection of ownership is guaranteed in the planning procedure by giving the owners the possibility to participate in the process in different stages. After a plan has been ratified by the municipality the owner can appeal to an administrative court.

The right to legally dispose of the property is another central feature pertaining to the right of ownership. The owner of the property can convey the property, raise lien over it or by way of contract establish so called limited property rights concerning the property. These rights are often called special rights in Finnish legislation. The most important of this kind of rights is land lease. There is detailed legislation concerning land lease in Finland. The legal status of the tenant can be compared in many respects to the legal status of the owner. Lease periods are often agreed to last for decades especially when the purpose of the lease agreement is to convey land for housing or industrial purposes. Nowadays, municipalities at least in the bigger cities prefer land lease agreements to the selling of their land to private actors.

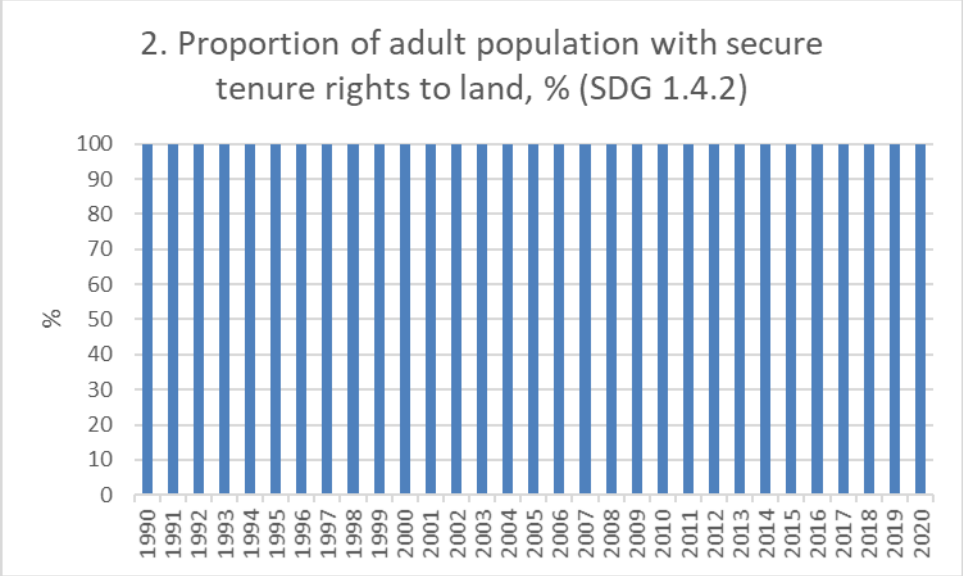
A reliable cadaster, i.e. real estate register, and a land register of high quality can both be regarded as important foundations of secure land tenure. In Finland, real estates are registered in the electronic cadaster. Titles, mortgages and special rights, e.g. rights of land lease, are registered in the electronic land register. The land register has so called public reliability. Both registers are nation-wide by their nature covering the land area of the whole country. For example, all acquisitions of real estates need to be registered in the land register. Undertaking legal transactions with a registered title holder is safe and secure.

Author: Kari Niemi, Chief Expert, Legal Services / National Land Survey of Finland

Contributors: Markku Markkula, Surveyor Counsellor, National Land Survey of Finland;
Antti T Leinonen, Director General, Department for Private Law and Administration of Justice, Ministry of Justice in Finland

Indicators

2 Proportion of total adult population with secure tenure rights to land with (a) legally recognized documentation; and (b) who perceive their rights to land as secure, by sex and type of tenure



Proportion of adult population with secure tenure rights to land with legally recognized documentation and who perceive their rights to land as secure, by sex and type of tenure (%) in 2020: 100%. Both sub-indicators combined, no disaggregation between sex and type of tenure available.

Indicator is compatible with SDG 1.4.2. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

39 Proportion of cities with slum upgrading programmes

Not relevant.

Indicator not relevant for Finland, because there are no slums. National programme for development of suburbs of largest cities 'Lähiöohjelma', current cycle 2020-2022 includes 13 cities and 18 research projects. National programme on housing policy being developed (https://ym.fi/asuntopolitiikka). In Finland there are 9 cities with over 100 000 inhabitants, and nearly 2,2 million people live in these cities. 1,19 million people live in the capital area (Helsinki, Espoo, Vantaa and Kauniainen).

Data source: Ministry of the Environment, Department of the Built Environment

40 Number of cities having annual budget allocations addressing any of the 5 slum deprivations and inclusive public spaces in known slum areas.

No data.

Indicator not relevant for Finland, because there are no slums. National programme for development of suburbs of largest cities 'Lähiöohjelma', current cycle 2020-2022 includes 13 cities and 18 research projects. National programme on housing policy being developed (https://ym.fi/asuntopolitiikka).

Data source: Ministry of the Environment, Department of the Built Environment

41 Percentage of cities that have integrated housing policies and regulations in their local development plans

Percentage of cities that have integrated housing policies and regulations in their local development plans: 100%. Housing is always considered in local development plans.

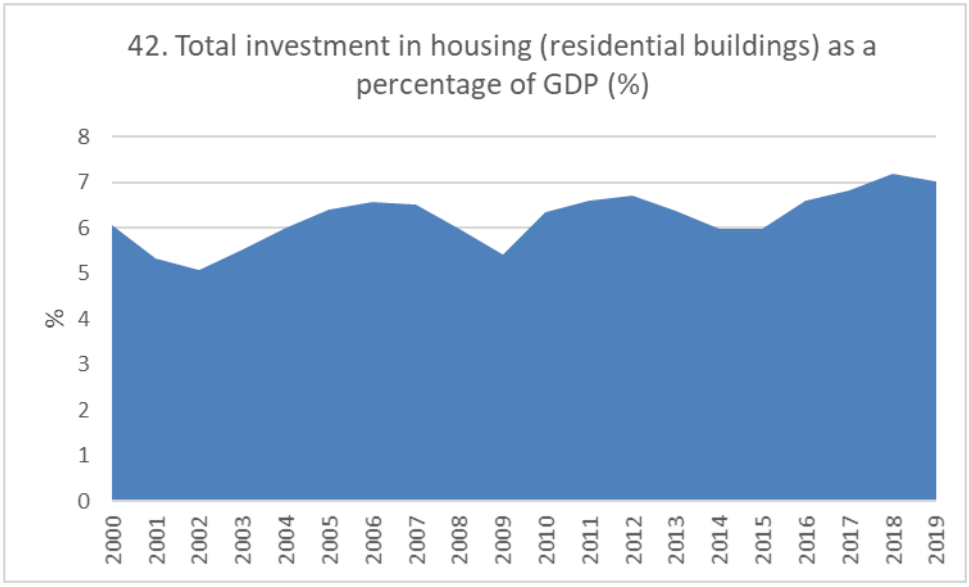
Data source: Ministry of the Environment, Department of the Built Environment & Association of Finnish Local and Regional Authorities [expert opinion].

1.1.2.4 Establish slum upgrading programmes

Finland does not have slums or slum upgrading programmes.

Indicators

42 Total investment in housing (in both formal and informal sectors in the urban area), as a percentage of gross domestic product.



Total investment in housing (residential buildings) as a percentage of GDP (%) in 2019: 7,01%. Note: only covers formal sector.

Gross fixed capital formation; residential buildings; as percentage of GDP (%). Gross fixed capital formation consists of resident producers' acquisitions, less disposals, of fixed assets. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly, or continuously, in processes of production for more than one year. Note: only covers formal sector. Metadata did not specify whether to use gross or net values, gross values used.
Data source: Statistics Finland. Investment in housing: https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_124l.px Gross Domestic Product: https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_11sf.px/

1.1.3 Access to Basic Services

1.1.3.1 Access to safe drinking water, sanitation and solid waste disposal

Water and sanitation

Approximately 90% of Finland's residents are covered by centralised water supply and about 75% are covered by centralised sanitation. There are 100,000 km of water supply networks and 50,000 km of sanitation networks. Most of the drinking water in communities is produced from groundwater and artificial groundwater. The wastewater generated is treated at wastewater treatment plants. In recent years, waste water treatment has been concentrated in large and efficient central treatment plants.
Provisions on the implementation of water supply are laid down in the Water Services Act 119/2001, on the acquisition of water in the Water Act 587/2011 and on treatment in the Environmental Protection Act 527/2014. The monitoring of the quality of domestic water and waste water discharges complies with EU directives. The requirements of the Nature Conservation Act, the Environmental Protection Act and the Water Act are taken into account in the permit processes for water supply and wastewater treatment plants.

Municipalities are responsible for organising water supply and developing it in general. The water service utility is responsible for the implementation and operation of the service in the water supply operating area specified for them. Property owners or holders are responsible for the water supply of their property. In a water service utility's operating area, joining is mandatory.

Water service utilities are mainly municipal utilities or enterprises and municipality-owned limited liability companies. In addition, some water services are provided through cooperatives established and owned by residents. Water utilities must cover the costs of organising water services by means of payments from customers. The average cost of water and sanitation for those who have joined joint water services is currently €6 per cubic metre. There are approximately 1,100 municipal water service utilities. The fragmentation of the water service utilities, limited resources and growing reorganisation debt are seen as the greatest threats in the sector.

The municipal environmental and health protection authorities and regional ELY centres are responsible for supervising water supply. ELY centres are also responsible for the regional development of water supply.

The national steering and regional planning of water supply have a long tradition of securing water supply during various disruptions. For more than ten years, adaptation to climate change (e.g., drought and floods) has also been taken into account in the planning. In connection with the planning processes, municipal residents and customers of utilities can participate in the development of water supply.
Finland's water resources are extremely rich and mainly of good quality. Water supply is therefore mostly secure and reasonably affordable, and recycling of washing water or purified wastewater is only used in pilot projects.

Solid waste management

According to Finnish waste legislation, the waste holder is primarily responsible for organising their waste management. However, municipalities are responsible for the management of household waste and the related arrangements. In addition, manufacturers and importers of products are responsible for the costs of waste management arising from the decommissioning of their products. The responsibility applies to vehicles, electrical and electronic equipment, paper, packaging, tyres and batteries.
In order to collect and process municipal waste, municipalities have set up waste management companies, which in turn use the waste management services companies on the market as subcontractors. The costs of municipal waste management are covered by waste charges charged to residents and users of waste management services, which aim to encourage the reduction of the amount and harmful effects of waste. Joining the waste management system is mandatory for residents, and therefore all municipal waste gets collected in Finland. Many towns accept non-municipal waste for treatment against payment, and thus waste treatment activities also bring income to the towns.

The Finnish waste management market offers services for sorting at the source of waste, separate collection, delivery to recycling and use for energy. Hazardous and non-usable waste can be disposed of in a controlled manner. Municipal waste management companies and producer organisations that implement producer responsibility also organise waste and recycling advisory services.
Finnish waste legislation is currently undergoing a reform in relation to the implementation of the waste legislation package adopted in the EU in 2018. The key objectives of the EU waste package are to reduce waste and to increase reuse and recycling. In Finland, the aim of the reform is to recycle 65 percent of municipal waste by 2035, while at the moment around 43 percent of municipal waste is recycled. Currently, paper, biowaste, cardboard, plastic, metal and glass packaging are generally covered by separate collection services. In the reform of the Waste Act, the aim is also to launch separate collection of disposed textiles.
The recycling rate of municipal solid waste has increased slowly, which has been particularly affected by separate collection of bio-waste and investments in recycling plants. Recycling plant infrastructure has also been built for further processing of household plastic packaging.

Raising the recycling rate to the EU goals has also been included in the government-approved national waste plan, which is currently being updated. The waste plan defines the target state of waste management and the measures for achieving the targets.

In addition to legislative measures, the achievement of environmental objectives is promoted by voluntary Green Deal agreements between the state and the business community.
However, most of Finland's solid municipal waste[36] is used as energy in combustion plants. Waste power plants utilise the energy contained in waste materials, for example in the production of district heating and/or electricity, also reducing the use of virgin fossil fuels.

[36] https://www.stat.fi/til/jate/2019/13/jate_2019_13_2020-12-09_tie_001_en.html

Only a small amount of non-mineral waste is disposed of[37] in landfills due to the legal restriction on the disposal of organic waste. In 2019, less than one percent of all municipal solid waste generated in Finland was disposed of in landfills.

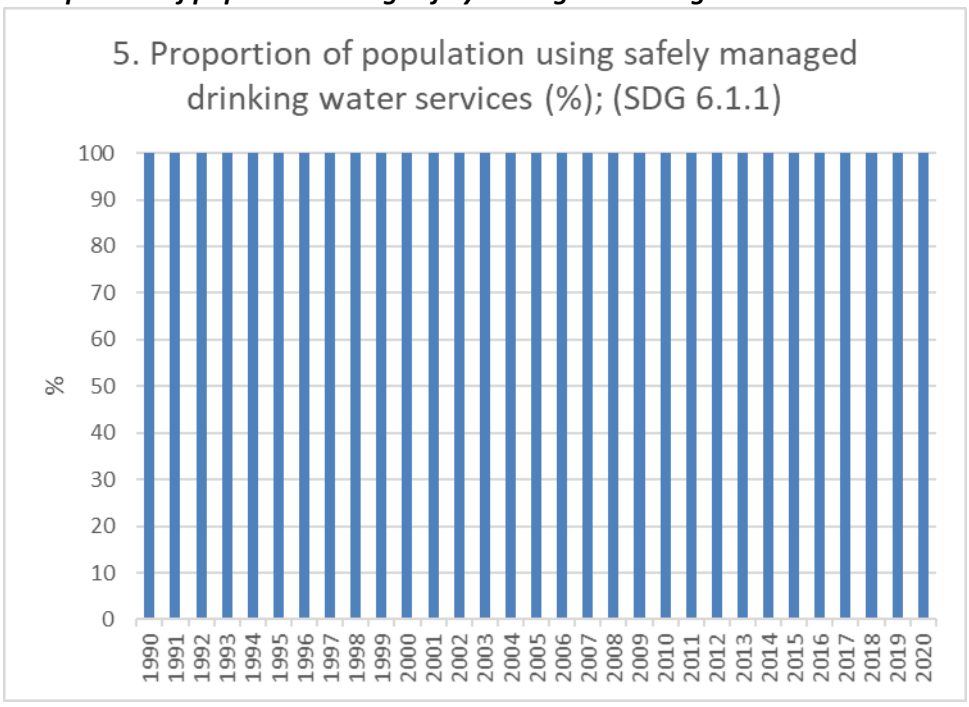
The state's regional environmental control authorities, the centres for economic development, transport and the environment (ELY centres), contribute to supervising the waste recovery and disposal sector and the use of waste materials in other industries. The task of the regional environmental authority is to ensure that waste management and circular economy are implemented in a way that is safe for the local environment and that the use of natural resources is reduced with the use of waste material. From the perspective of the environmental authority and the local environment, the challenges facing the circular economy include, among other things, problems with meeting the demand and supply of waste materials, a lack of markets and refining waste materials into harmless forms.

Authors: Jyrki Lammila, leading water management expert, ELY Centre[38] for Southwest Finland and Annastiina Juvankoski, Senior Officer, ELY Centre for Uusimaa

Contributors: Elina Saarinen, Editor-In-Chief, Uusiouutiset Finnish Circular Economy News; Marja-Riitta Korhonen, Senior adviser, Ministry of the Environment; Mitja Hokkanen, Specialist, Turku University of Applied Sciences

Indicators

5 Proportion of population using safely managed drinking water services

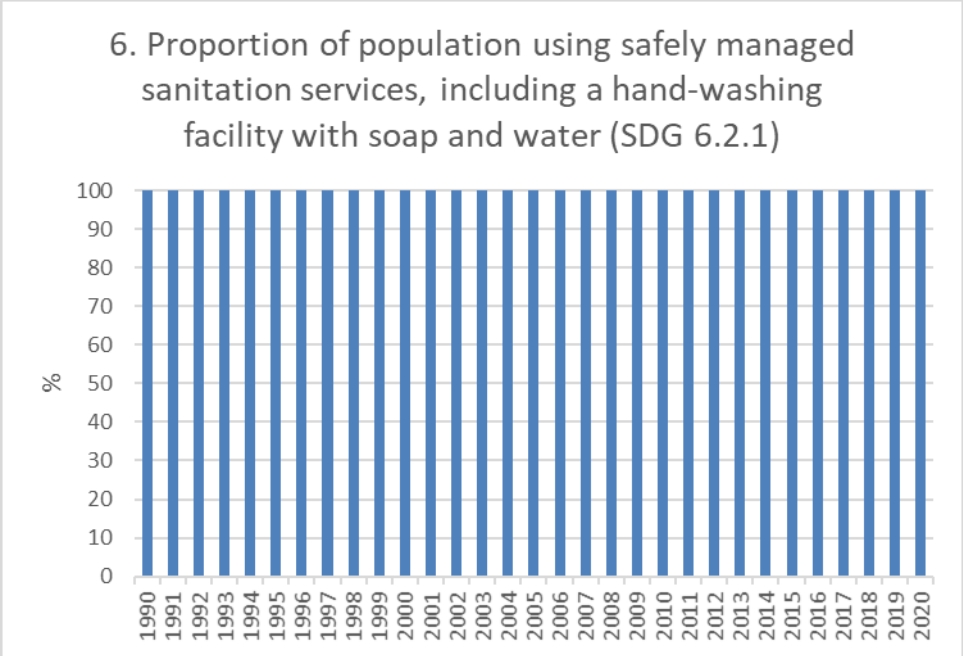


[37] https://www.stat.fi/til/jate/2018/jate_2018_2020-06-17_tie_001_en.html
[38] https://www.ely-keskus.fi/en/web/ely-en

Proportion of population using safely managed drinking water services in 2020: 100%. The quality and availability of drinking water is generally very good; only exceptional cases of e.g. contamination problems.

Indicator is compatible with SDG 6.1.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

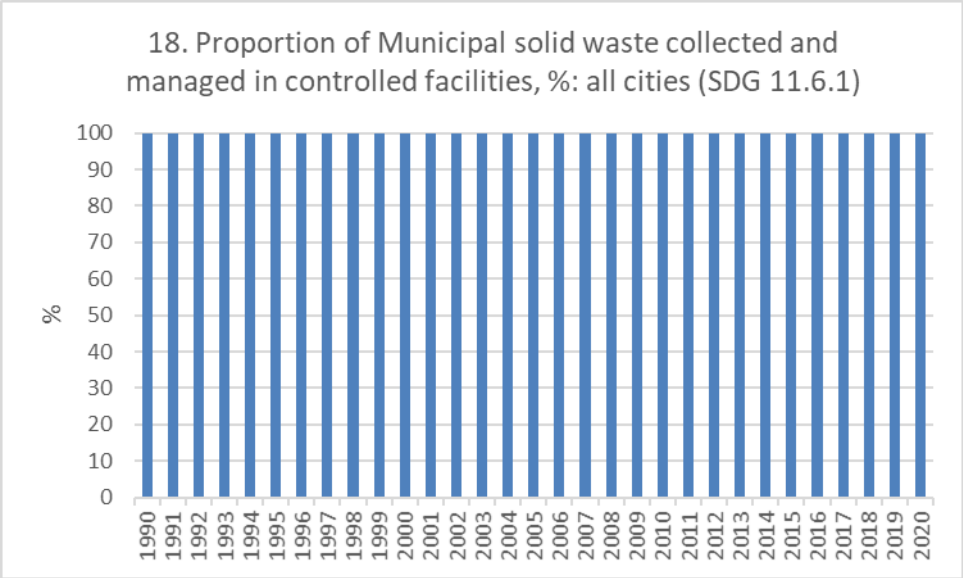
6 Proportion of population using safely managed sanitation services



Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water in 2020: 100%.

Indicator is compatible with SDG 6.2.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

18 Proportion of municipal solid waste collected and managed in controlled facilities out of total Municipal Solid Waste generated by cities;



The proportion of Municipal solid waste collected and managed in controlled facilities in 2020: 100%.

Urban solid waste regularly collected and with adequate final discharge out of total urban solid waste, %: all cities. Nationally it would be more relevant to look at the rate of recycling and circular economy indicators.

Indicator is compatible with SDG 11.6.1 Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.1.3.2 Access to safe and efficient public transport system

The modal share of public transport is around 20% of total trips in the Helsinki region, 10% in Tampere and Turku and 5% in other larger cities. Public transport ridership has increased considerably in the largest cities since these began to plan the public transport system regionally from 2014[39]. Public transport is organised in Finland in accordance with the EC regulation (1370/2007) on public passenger transport services by rail and road. The 36 competent local authorities in Finland define the public transport service obligation in their region. The regions cover a single municipality in mid-sized towns, a wider city region in the largest cities and wider areas in sparsely populated areas. If the service obligation is not fulfilled by public transport operators, public service contracts are used through a tendering process to ensure sufficient level of public transport services. In the largest cities there are several public transport operators, while in sparsely populated regions the services are usually provided through exclusive rights.

[39] https://paikallisliikenneliitto.fi/en/trade-information

Public funding accounts for around one third of public transport revenue in total and public transport is heavily subsidised in the largest cities in order to affect the modal choice of citizens towards public transport to reduce emissions and congestion. However, the majority of the public funding of transport services is provided as direct subsidies and public purchases of legally enforced transport services for special groups of public transport users, such as the elderly, disabled and schoolchildren as well as healthcare related transport.

Most regions in Finland have goals to increase the modal share of public transport, walking and cycling. Urban development is increasingly directed along public transport corridors enabled by light rail. The main drivers for rail investments are urbanisation and the emission reduction target for transport. There are several light rail projects planned and under construction in the Helsinki region and in Tampere, which have been boosted by the national governments commitment since 2018 to fund 30% of light rail infrastructure costs. The City of Helsinki is constantly improving the classic tram network and extending it to new urban development areas surrounding the inner city. During 2016-2021 several new suburban light rail lines have been planned to areas where no rail transport has been available, thus extending the regional rail transport network to better connect strategic districts of the city and to replace heavily used bus lines. A tramway is also being planned in Turku[40].

Competent local authorities are required to consult transport service providers[41] and routinely consult citizens regarding the public transport service level and changes to routes. Most authorities also carry out regular customer surveys and the Turku, Tampere and Helsinki regions have received great results also in international benchmarking studies. Finland also aims to boost Mobility as a Service (MaaS), i.e. combining different transport services (light rail, buses, city bikes, scooters, taxis, car-sharing) to seamless trips through a single app, through regulation (Act on Transport Services 320/2017[41]) that requires operators of passenger mobility services to open timetable and ticketing interfaces. Enabling third-party access makes new, seamless and multimodal mobility services possible. A Code of Conduct regarding contractual matters related to opening up the interfaces as set out in the Act on Transport Services has been prepared by the Transport agencies.

HSL, the public transport authority in the Helsinki region, has developed digital services such as a mobile ticketing system and a route planner using real-time traffic information, uniting the separate services to a single smartphone app in 2019, while keeping the interfaces open to everyone. This reform has made it easier to use public transport: currently more people buy a ticket using a mobile phone than by using conventional paying methods. Turku has also enabled public transport payment with contactless credit- or debit cards and mobile wallets[42]. HSL also underwent a restructuring of the local transportation zones in 2019 in order to make travelling across the Helsinki region easier and to increase the coherence between trip length and pricing. This has increased the amount of people using public transportation.

The Ministry of Transport and Communications follows continuously whether the Act on Transport Services has achieved its objectives on the transport market. Twice a year, the Ministry also hosts a stakeholder event called the Transport Markets Forum. The Transport and Communications Agency Traficom has also

[40] https://www.turku.fi/en/tramway
[41] https://www.finlex.fi/en/laki/kaannokset/2017/en20170320
[42] https://www.foli.fi/en/tickets/contactless-payment

set up a network of integrated transport services[43] that coordinates stakeholder cooperation, promoting especially the interoperability of interface practices.

The Ministry of Transport and Communications completed in spring 2021 a National Transport System Plan 2021-2032[44] that includes an action plan on how the transport network will be developed, maintained, and what kind of transport and mobility services will be purchased. The plan also includes a twelve-year government funding programme. The plan includes actions to develop public transport and travel chains.

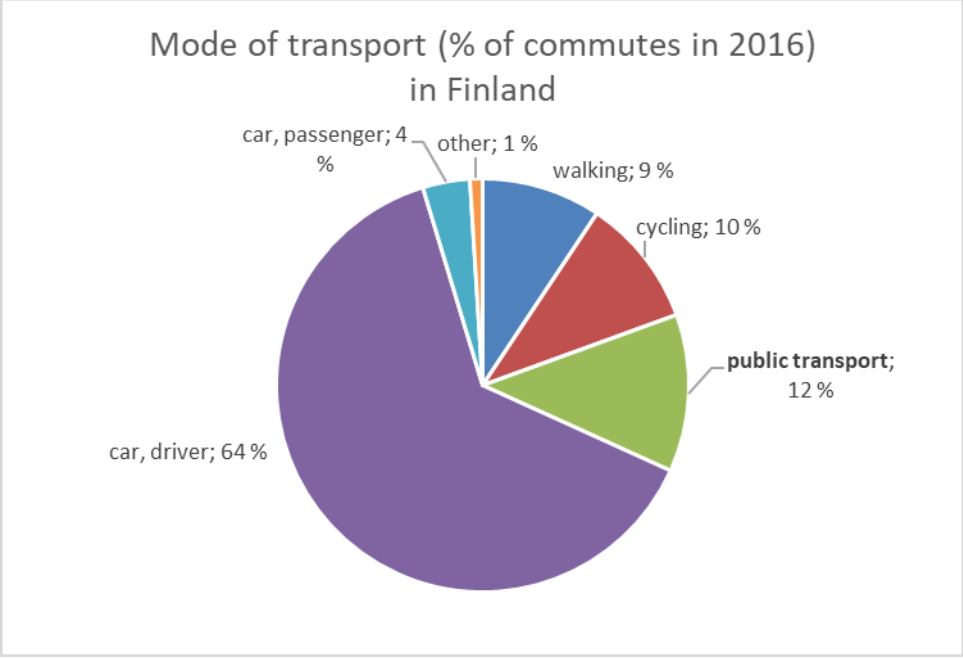
Greenhouse gas emissions from public transport are minor compared to passenger car emissions, but also these are being reduced by implementing battery electric buses and using renewable diesel in buses. Electric buses have recently been offered more widely than requested in tendering due to the competitive advantage in life-cycle costs compared to diesel buses. Finland has also set national regulation to increase the share of renewable fuels to 30% of total transport energy use by 2030, but some competent local authorities have set even stricter targets for buses.

Author: Heikki Liimatainen, Associate professor, Transport research centre Verne, Tampere University

Contributors: Niko Setälä, Project Manager, Urban Environment Division, City of Helsinki; Tiia Orjasniemi, EU Coordinator, Ministry of Transport and Communications FI; Helinä Teittinen, Senior Officer, Ministry of Transport and Communications FI; Hanna Strömmer, Special Adviser, Traficom; Minna Soininen, Toiminnanjohtaja, Suomen Paikallisliikenneliitto ry

Indicators

44 Percentage of commuters using public transport.



[43] https://liikkumisenrajapinnat.fi/en/
[44] https://www.lvm.fi/en/-/national-transport-system-plan-towards-an-achievable-sustainable-and-efficient-transport-system-1267005

The share of trips to work (not number of commuters) carried out by public transport in 2016 in Finland was 12 %. Note that also walking (9 %) and cycling (10 %) were common modes of commuting as many Finnish cities are relatively small. Data is from Finnish National Travel Survey 2016 (national survey carried out every 6 years). The method of data collection was changed for the 2016 study, so results are not comparable to those of previous studies. The National Travel Survey covering 2021 is currently on-going.

In the Helsinki Region (Capital region municipalities of Helsinki, Espoo, Kauniainen and Vantaa, the neighboring municipalities of Hyvinkää,
Järvenpää, Kerava, Kirkkonummi, Mäntsälä, Nurmijärvi, Pornainen, Sipoo, Tuusula, Vihti, and Siuntio, altogether 1,49 million inhabitants) in 2018, 36% of commutes were done by public transport, 13% by cycling and 7% by walking. (Helsinki Region travel study 2018)

Data sources: National Travel Survey
2016: https://www.traficom.fi/fi/ajankohtaista/julkaisut/valtakunnallinen-henkiloliikennetutkimus?toggle=Liikkumisen%20erot%20eri%20puolilla%20Suomea&toggle=Ty%C3%B6matkat

Helsinki Region travel study 2018
(2019) https://hslfi.azureedge.net/globalassets/hsl/tutkimukset/liikkumistutkimus/liikkumistutkimukset-helsingin-seudulla-2018-paaraportti.pdf

1.1.3.3 Access to modern renewable energy

In 2016–2019, renewable energy production in Finland increased by about 10%, from 129 TWh to 142 TWh. This represents 37% of total energy consumption and 47% of final energy consumption. In the comparisons of different countries, the amount of renewable energy is normally examined in relation to final consumption, as total consumption also includes losses during energy transmission and conversion.

Four fifths of renewable energy from wood

The most significant renewable energy source in Finland is wood energy, which produces about four fifths of renewable energy. Wood energy can further be divided into liquid wood fuels generated as by-products of the forest industry, which account for around 45% of wood energy, and solid wood fuels, which account for around 39%. The rest, approximately 15%, is wood fuels obtained directly from forests, mainly from logging residues and small wood.

Hydroelectric power is the second most significant source of renewable energy with its share of more than 8%. The shares of other biomasses, heat pumps, wind power and transport biofuels are approximately 4% each. The amount of solar energy is growing rapidly, but it still accounts for only a few tenths of a percent.

What are renewable energy sources producing?

Nearly four fifths of renewable energy – a significant proportion of which is wood – is used for heating, often for district heating in cities and smaller urban areas, and for separate heating in sparsely populated areas. Around one fifth of renewable energy sources is used for electricity production and the rest, about 4%, for transport. Hydroelectric power is the most significant form of renewable electricity production, and

wood energy and wind power follow after it. Renewable energy in road transport is still mainly made up of biofuels. The share of electricity in the driving power of passenger cars is growing strongly, which emphasises the importance of energy sources in electricity production.

In Finland, the state is responsible for the steering instruments of energy policy and the resources allocated to them. However, regional planning and land use planning and municipal choices can have a local impact on the transition of companies and households to the production and use of renewable energy. On the other hand, the choices made by properties and energy companies owned by municipalities are based on business criteria, and any transition to renewable energy takes place in connection with a new investment or investment requiring repair.

Steering instruments for energy policy[45]

In Finland, the production and use of renewable energy is promoted by means of economic, normative and informative steering instruments. The financial steering mechanisms can be divided into direct payments, tax subsidies and tax refunds. Normative steering methods are typically prohibitions, regulations and obligations. Information guidance mainly consists of advice and training and aims at influencing with information at the state and regional level.

There are many types of support systems and programmes in Finland, depending on the degree of maturity of production or consumption technology. Innovation and demonstration subsidies support projects that are expensive to exploit and are not yet in commercial use, such as offshore wind power or hydrogen economy. Production and tax subsidies, for their part, promote renewable energy technologies aimed at replacing heat and power plants using fossil fuels or replacing the use of fossil fuels. In addition, subsidies and tax reductions are used to promote the use of renewable energy, for example by supporting the purchase of electric cars and by reducing the installation costs of solar panels or heat pumps by means of a household deduction or help with giving up oil heating.

Prohibitions and regulations are used when it is estimated that the use of fossil energy will cause harm with related uncertainties or risks. An example of this is the ban on the use of coal in energy production, which will enter into force in 2029. Obligations, on the other hand, can be used to ensure, for example, demand for a specific raw material or a product, such as biofuels. An example of this is the biofuel distribution obligation in Finland.

Advice, training and information in Finland aim to influence the energy economy behaviour of households and housing companies, but also of municipalities and companies. The information may be related to the use of energy solutions, prices or permit matters. It may also be related to procurement where consumers can be advised, for example, on the use of small procurement subsidies or tax deductions.

Cheapest to produce renewable energy

Steering instruments aim not only to directly increase the production and use of renewable energy, but also to promote learning and technological development so that renewable energy is competitive compared to

[45] Finland submitted the national integrated energy and climate plan (NECP) to the European Commission in 2019. After this, the Ministry of Economic Affairs and Employment launched the preparation of a new climate and energy strategy in April 2020. More information on the national integrated energy and climate plan: https://julkaisut.valtioneuvosto.fi/handle/10024/161977. More information on the new climate and energy strategy: https://tem.fi/en/energy-and-climate-strategy

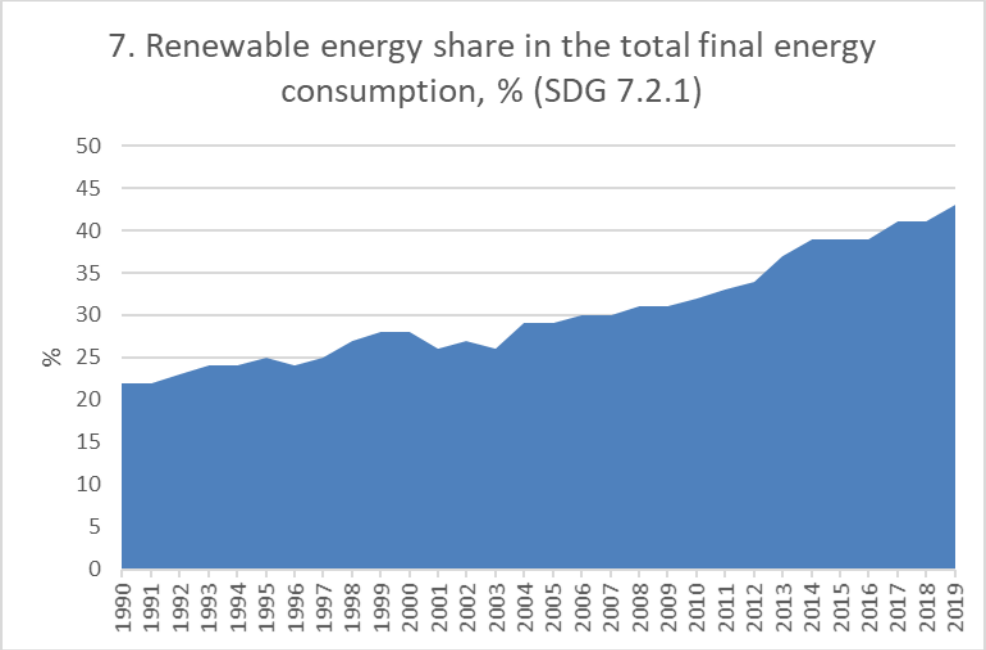
other forms of energy production. For example, some ten years ago, almost all electricity produced from renewable energy sources was more expensive in Finland than fossil and nuclear electricity. As a result of both the public sector's and commercial product development investments, production costs have decreased in recent years so that, for example, the production costs of a new wind or solar power plant are now about two to three times lower than those of a new nuclear power plant or a power plant using fossil fuels.

Author: Pekka Ripatti, Deputy Director General, Adj. Professor, Energy Authority

Contributors: Lea Gynther, Senior Expert, Motiva Oy; Maiju Westergren, Vice President, Sustainability and Public Affairs, Helen Ltd; Harri-Pekka Korhonen, Head of Heat Policy and Regulations, Corporate Public Affairs, Fortum Corporation; Emma Hannula, CEO, Finngroup Consultants

Indicators

7 Renewable energy share in the total final energy consumption.



Renewable energy share in the total final energy consumption in 2019: 43%.

This indicator is based on renewable energy consumed for electricity, heating and cooling, and transport with actual and normalised hydro- and wind-power generation and expressed as a share against gross final energy consumption. Definition (from metadata): Renewable energy includes electricity power generated using wind, sunlight, wind, hydropower, tides, waves and geothermal heat. The renewable energy share in total final consumption is the percentage of final consumption of energy that is derived from renewable resources.

Indicator is compatible with SDG 7.2.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.1.3.4 Access to Information Communication technology (ICT)

Despite being one of the leading countries of mobile usage in the world[46], Finland has had its challenges concerning access to internet connections and therefore digital services. Sparse population coverage demands broad digital infrastructure and hence creates a challenge for achieving equal digital opportunities for all - especially in the rural areas. However, with the wide rollout of fibre and 4G in the recent decade, many households and businesses have been able to purchase connections that offer download and upload speeds that are capable of delivering most of the current digital services. With the introduction of 5G, businesses and households can use mobile networks for more demanding services, such as cloud computing and virtual reality, that are already available for users of fibre and cable modem connections. Building connections that can deliver the digital services of the future for all is on the government agenda.

At the end of 2020, fixed internet connections[47] with download speeds of at least 30Mbps were available for 77 percent of Finnish households. Connections with speeds of 100Mbps or more were available for 65 percent of the households. For 51 percent of Finnish households, the highest available download speed for fixed connections was 1Gbps. There are differences in coverage among municipalities[48], but the coverage of fixed networks grows with the ongoing construction of fibre. In the biggest cities, fibre-based cable TV networks are able to provide these very high download speeds as well. Rural areas have less coverage of fixed connections. This is due to the lack of cable TV networks, but fibre is in fact more common in rural areas than in urban areas where cable TV and fast mobile networks are widely present. A new state aid project for broadband deployment[49] was established at the start of 2021 to increase coverage for all populated areas.

Many households in Finland have both a fixed and a mobile internet connection, and 45 percent of Finnish households have a mobile connection as their only broadband. As opposed to many other European countries, mobile broadband subscriptions have never primarily been sold in terms of data packages, but in terms of available download speeds. These subscriptions with unlimited data and good mobile coverage have made it possible to use mobile connections at home similarly to a fixed connection.
At the end of 2020, 4G with 100Mbps download speeds covered 93 percent of Finnish households whereas 5G with the same speed covered 67 percent. Mobile coverages[50] are built in terms of demand and they are, therefore, concentrated around city centres. Geographically, the 4G 100Mbps coverage was 17 percent and the 5G 100Mbps coverage 2 percent. These speeds in mobile networks are available in ideal conditions and do not take into account other users in the same area, obstacles such as buildings, or other issues that may affect the experienced speed. Therefore, unlike in fixed networks, the quality of mobile connections varies throughout the day. Despite this, Finns have used far more mobile data per person than most other European countries.

1. [46] **OECD broadband statistics update: https://www.oecd.org/digital/broadband-statistics-update.htm**

[47] https://www.traficom.fi/en/statistics/fixed-broadband-availability
[48] https://eservices.traficom.fi/monitori/area
[49] https://www.traficom.fi/en/nopea-laajakaista
[50] https://www.traficom.fi/en/nopea-laajakaista

According to the European Union's *Digital Economy and Society Index (DESI)*[51] Finland was on the fourth place in Europe in terms of the digitalisation of the public sector. The key to Finland's success in this aspect was the volume of users who handle their tasks with the public sector via digital means. When in Finland almost 95 percent of the population use public digital services, on average only 67 percent of people do so in the EU.

Finnish cities use ICT actively in providing city services. As an example of digitalisation of services in Finnish cities, the city of Helsinki actively collaborates with its residents to better leverage digitalization in making everyday life easier. Through its ambitious digitalisation program, Helsinki continuously improves the city's ability to predict what kind of services and information its residents, businesses, communities, and visitors need. Helsinki has for example developed a service that uses data to allocate suitable pre-schools for children so that parents no longer need to apply for a place in a preschool. As another example, the public libraries in Helsinki enable easy access to digital services for all. For start-ups, corporations and researchers Helsinki provides a testbed connecting different public and private players and data to accelerate the usage and accessibility of digital services.[52]

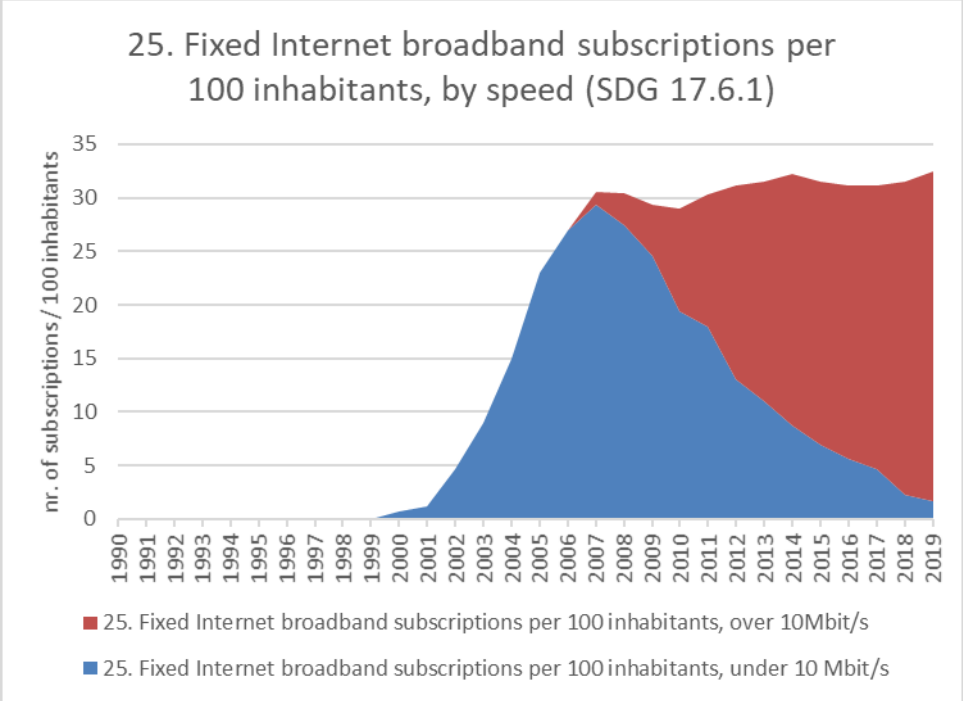
Author: Marja Heinonen, Communications Market Specialist, Finnish Transport and Communications Agency

Contributors: Joonas Orkola, Development Manager, Finnish Transport and Communications Agency; Markus Kühn, Chief Strategy officer, City of Helsinki

Indicators

25 Fixed Internet broadband subscriptions per 100 inhabitants, by speed.

[51] https://digital-strategy.ec.europa.eu/en/policies/desi
[52] Testbed.helsinki.fi



Fixed Internet broadband subscriptions per 100 inhabitants, under 10 Mbit/s in 2019: 1,6
Fixed Internet broadband subscriptions per 100 inhabitants, over 10 Mbit/s in 2019: 30,9

In addition to fixed broadband internet subscriptions, mobile internet subscriptions play an important role in data usage in Finland. In 2020, only 4% of households were without any broadband connection.

Indicator is compatible with SDG 17.6.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.2 Sustainable and inclusive urban prosperity and opportunities for all

1.2.1 Inclusive Urban Economy

1.2.1.1 Promote productive employment for all including youth employment

Promoting employment

The Employment and Economic Development Office (TE Office) can grant various subsidies for promoting employment and starting a business[53]. ***Pay subsidy*** is a discretionary subsidy paid for employers and aimed at promoting the employment of unemployed jobseekers. ***Employment policy project support*** is a government grant that the TE Offices can grant for projects that promote the employment of job seekers. The ***start-up grant*** is a subsidy paid to a person starting up a business in order to secure their income. The ***subsidy for arranging working conditions*** is a subsidy for an employer for making reasonable adjustments required by a disabled or chronically ill employee. ***Unemployment security*** provides unemployed jobseekers with the financial means to seek work and to improve their chances of finding work. There are three types of unemployment benefits in Finland: earnings-related allowance, basic daily allowance and labour market subsidy.

The current Prime Minister Marin's Government Programme emphasises the role of local governments as an organiser of employment services. To support this, the government launched in March 2021 local government pilots on employment[54], in which municipalities are partly responsible for the provision of TE services in their area. A total of 25 areas and 118 municipalities will participate in the pilot projects. The pilots will end in June 2023.

Unemployed jobseekers and jobseekers covered by employment services who are not entitled to earnings-related unemployment allowance will be transferred to the pilot projects in the areas. The target group also includes all jobseekers under the age of 30 and all immigrants and foreign-language speakers who are either unemployed or covered by employment services in the TE Offices in the pilot areas. The municipality is responsible for providing public employment and business services (TE services) to these customer groups. Instead of a strict service model, municipalities can develop services based on the needs of jobseekers and employers in their area. The participating municipalities will arrange pilot projects to test different ways of providing employment services and to identify the best practices for renewing service structures. Continuous statistical monitoring and impact assessments will be used to monitor the pilots. TE services will be transferred entirely to municipalities in 2024.

Promoting youth employment

Finland has implemented the idea of a youth guarantee[55] since 2013. The idea behind the Finnish and more widely the European youth guarantee is to speed up the service processes of young people. Through the youth guarantee, the employment and economic development administration is committed to working for a situation where an unemployed young person can be offered work, education or rehabilitation within three months of the start of unemployment. The objective is ambitious and cannot be achieved by one sector alone. The core idea of the youth guarantee has been the public–private–people partnership model.

[53] https://tem.fi/en/support-and-compensations
[54] https://tem.fi/en/local-government-pilots-on-employment
[55] https://minedu.fi/en/youth-guarantee

A network of low-threshold service points was created to promote this idea, which strengthens cooperation between the state and municipalities and, more broadly, between the public, private and third sectors.

The network of low-threshold service points has expanded into a network of approximately 70 sites. The service's popularity, which has proven greater than originally estimated, has shown that operators need a common platform. In addition to bringing together the actual service providers, multidisciplinary work requires a reform of the working culture and working methods. In addition to the participation of employment services, the state's task has been to encourage municipalities to bring their services to the common platform.

The development of the network of low-threshold service points has accelerated in 2016–2021. During this period, the activities have shifted from temporary project work towards established activities. *Ohjaamo*[56] is a low-threshold service point for people under 30 years of age. Its operating model consists of a service point offering personal guidance, information and support in a multidisciplinary manner, the basic services of various administrative branches and an extensive cooperation network. The main reasons for using low-threshold Ohjaamo services are work and entrepreneurship. The second is education, followed by subsistence, well-being and housing. The aim of the low-threshold services for young people is to encounter the young person comprehensively and reduce sending them from one office to another to manage different things. Young people must receive services in a multidisciplinary and low-threshold manner.

The current government of Sanna Marin has decided to fund the development of Ohjaamo centre operations with €13 million through the *Sustainable Growth Programme*[57]. The status of young people in after-care will be improved through ESF project funding from the European Social Fund[58]. The measures may target support for young people's daily functioning capacity, skills and housing, income and financial management, training and work, and the presence of a safe adult and regular contacts with the support person. In order to increase effectiveness, the programme will pay particular attention to the systematic development and strengthening of structural cooperation between schools and educational institutions, youth, social and healthcare services and the employment and economic administration. In the future, it will be important to pay increasing attention to the further development of cooperation between youth education, social and health services and employment services.

The Ohjaamo network has been assessed from various aspects, and when assessing the employment impacts of the network, young people were found to have faster access to services and more comprehensive support through the Ohjaamo centres. On the other hand, research has shown that developing a multidisciplinary approach requires time and work, and results should not be expected quickly.

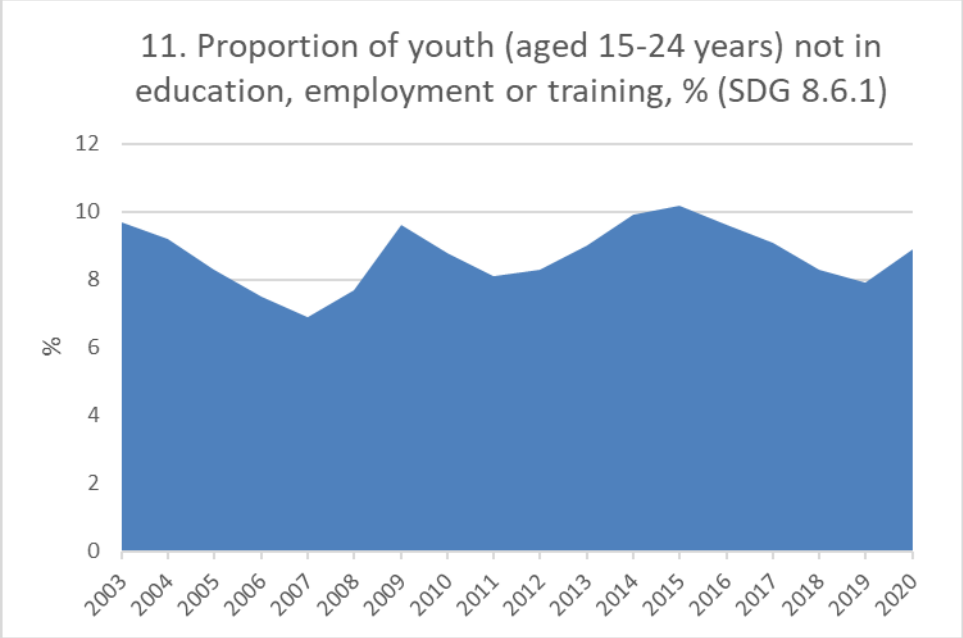
Authors: Janne Savolainen, Chief Specialist, Ministry of Economic Affairs and Employment and Emma Hannula, CEO, Finngroup Consultants

Contributors: Marjut Pihonen-Randla, Youth Secretary, Service Union United

[56] https://www.ely-keskus.fi/web/kohtaamo/mika-on-ohjaamo-
[57] https://vm.fi/en/sustainable-growth-programme-for-finland
[58] https://ec.europa.eu/esf/home.jsp?langId=en

Indicators

11 Proportion of youth (aged 15-24 years) not in education, employment or training.



Proportion of youth (aged 15-24 years) not in education, employment or training in 2019: 7,9 % and in 2020: 8,9 %.
The share of young people not working, studying or performing compulsory military service used by Statistics Finland's Labour Force Survey describes the share of young people aged 15 to 24 who are not working, studying for a degree or qualification, attending course training or performing military or non-military service compared to the entire age group. The figure of Statistics Finland's Labour Force Survey differs slightly from the almost corresponding NEET rate used by Eurostat. NEET is an abbreviation of Not in Employment, Education or Training. The figure published by Eurostat is based on data where the population does not include young people performing military or non-military service. Data available from 2003 onwards. The global Covid-19 pandemic is likely to have had an impact on unemployment in 2020.

Indicator is compatible with SDG 8.6.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

9 Annual growth rate of real GDP per employed person

Annual growth rate of real GDP per employed person in 2019: -0,8 % and in 2020 -1,3 %.

Annual growth rate of real Gross Domestic Product (GDP) per capita is calculated as the percentage change in the real GDP per capita between two consecutive years. Real GDP per capita is calculated by dividing GDP at constant prices by the population of a country or area. Note: The global Covid-19 pandemic has had an impact on value in 2020.

Indicator is compatible with SDG 8.2.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.2.1.2 Support the informal economy

Indicators

9 Proportion of informal employment in non-agriculture employment, by sex.

Data not available for Finland.

Indicator is compatible with SDG 8.3.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.2.1.3 Support small and medium-sized enterprises

There are many public services for SMEs in Finland. They can be roughly divided into information and advisory services, development services (e.g., consulting and training), financial services and services related to the development of networking and the operating environment.

The services are provided by the state, regional actors (e.g., municipal development companies) and municipalities. In particular, the Ministry of Economic Affairs and Employment and the Ministry of Agriculture and Forestry are responsible for state services. The service providers in the regions are employment and economic development offices and ELY centres. National services are provided by, for example, BusinessFinland (innovation services and internationalisation) and Finnvera (corporate funding).

Information on the services can be found on the *Suomi.fi portal* and on the service providers' own websites. Most of the services can also be applied for online.

Services are available for different stages of a company's life cycle. The launching of business activities is supported by advice and, for example, start-up grants. The development of home market companies is supported by, for example, development services and grants as well as loans and guarantees. The majority of financial services in particular focus on promoting the growth and internationalisation of companies. Growth and internationalisation are also promoted by networking SMEs and large companies with each other, for example in research and product development projects. The ways in which companies can be supported vary somewhat across Finland, with large regional variations in terms of funding in particular.

Municipalities and joint municipal authorities play an important role, especially in the early stages of business services, and the largest cities in particular also have other services, including attracting foreign investments. Key actors in the largest cities to promote entrepreneurship and (linked) employment are the cities' development companies. Their tasks include providing advice on setting up a business idea and a company, offering incubator activities to start-ups, funding, internationalisation support, innovation services and placement services. In the last few years, more and more development companies have also assumed responsibility for promoting employment. This allows for strengthening entrepreneurship and employment in an integrated manner, and the perspective of inclusion is increasingly involved. Employment services include coaching, counselling and strengthening the possibilities of entrepreneurship through pre-incubator activities.

In order to strengthen engagement, many cities use rehabilitative work facilities and also societal and social enterprises locally. However, getting social enterprises running at a national level has not been achieved to the desired extent.

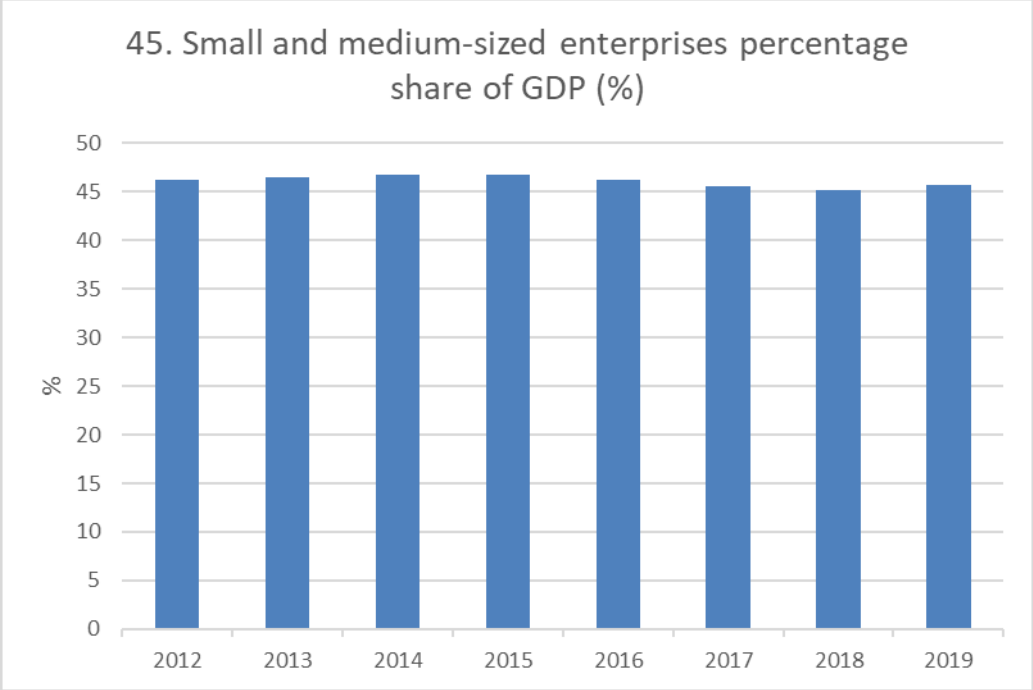
For example, Oulu with its approximately 200,000 residents and its urban development company *Business Oulu* added the promotion of employment to their entrepreneurship services a few years ago. The national local-government pilot on employment, which brings responsibility for strengthening employment to the city, is implemented regionally under Business Oulu's responsibility. Several other cities' development companies have followed Oulu's way of integrating extensive entrepreneurship services, including the development of innovation in companies under the same roof as strengthening employment. Positive results have been achieved through the model, and municipal-led promotion of employment is a path that will be followed in the near future. According to the current view, the responsibility for managing employment is being transferred to municipalities, and thus the municipal pilots are becoming more permanent.

Authors: Pertti Hämäläinen, Ministerial adviser, Ministry of Economic Affairs and Employment; Olli Voutilainen, Senior specialist, Ministry of Economic Affairs and Employment

Contributors: Timo Metsä-Tokila, Director, Business and industry, labour force, competence and cultural activities, Centre for Economic Development, Transport and the Environment, Southwest Finland

Indicators

45 Small and medium-sized enterprises percentage share of GDP.



SME's value added as percentage of all enterprises value added used as approximation for indicator, because share of GDP not available. In 2019: 45,7 %. Note: Data does not cover agriculture, forestry and fishing and financial and insurance activities.

Data source: Statistics Finland https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__yri__yrti__oik/statfin_yrti_pxt_11qb.px/

1.2.1.4 Promote an enabling, fair and responsible environment for business and innovation

How does Finland promote innovation?

Finland's innovation policy draws it strength from a wide field of sectors: traditional technologies and non-technological skills. Digitalisation and the growing importance of services in the economy offer new ways of creating value.

The Ministry of Economic Affairs and Employment is responsible for preparing and implementing Finland's innovation policy. The Research and Innovation Council[59], chaired by the Prime Minister, coordinates the

[59] https://valtioneuvosto.fi/en/research-and-innovation-council

development of Finland's innovation system. The EU is a significant innovation policy player, especially through its research and innovation programme Horizon 2020[60].

To boost innovation, separate agreements will be drafted during the term of Sanna Marin's current government with university towns. The agreements are part of the government programme, and they include a strategic allocation of public and private Research, Development and Innovation (RDI) funding. The agreements will contribute to the implementation of the objectives of other national instruments under preparation, namely the National Roadmap for Research and Innovation and the Export and International Growth Programme. The implementation of the agreements will take place with the resources for sustainable urban development in the EU programming period 2021–2027. The objective of the agreements is to build and strengthen globally competitive innovation-ecosystems in Finland.

The ecosystem agreements also aim to bring research projects and networks using them together into larger, mutually reinforcing competence clusters. A common factor for the cities involved is that their progress is based on high university-driven competence and its utilisation. The state will sign ecosystem agreements with the Greater Helsinki area and other university cities and towns.[61]

How does Finland promote responsible business conduct?

Finland was the fourth State in the world to publish a National Action Plan on business and human rights in 2014. Since then, the Government has promoted business and human rights by building stakeholder dialogue, conducting research, offering capacity building both to companies and civil servants, and through legislation. The Government has incorporated responsible business conduct into its state-ownership steering and key public financing instruments. The new Government public procurement strategy published in fall 2020 emphasizes business and human rights and encourages public buyers – also in cities and municipalities – to incorporate social aspects into their procurement practices. A recent study on the human rights performance of Finnish companies[62] commissioned by the Government benchmarks companies in order to spur performance.

Sustainable development will not happen without responsible business conduct, where businesses identify, prevent and mitigate adverse impacts on issues such as human rights and the environment in their own activities, supply chains and other business relationships. The Finnish Government expects companies operating in Finland and Finnish companies operating abroad to follow internationally recognized responsible business conduct guidelines. At the moment the Government is considering introducing national legislation on mandatory due diligence on human rights and the environment. Similar considerations are ongoing at the EU level, where the European Commission has announced it will introduce a legal initiative on sustainable corporate governance in summer 2021.
Such legislation is expected to have a positive impact on issues such as work conditions, quality of jobs, and the realization of human rights of vulnerable stakeholders affected by business conduct. Likely positive environmental impacts relate to issues such as biodiversity, efficient use of resources, waste management, and prevention of pollution. All of these are naturally critical issues for achieving sustainable cities.

[60] https://ec.europa.eu/programmes/horizon2020/
[61] https://tem.fi/en/ecosystem-agreements
[62] https://julkaisut.valtioneuvosto.fi/handle/10024/162648

How does Finland regulate and promote business operations?

In Finland, the freedom to engage in business activities is secured as a fundamental right laid down in the constitution. This so-called freedom of livelihood includes the fact that everyone is entitled to earn their livelihoods through their chosen work, occupation or trade. The right as such applies not only to all Finnish adult persons and communities but also to persons and entities domiciled in the EEA. In addition, there are separate conditions under which minors and persons and entities outside the EEA may engage in business in Finland.

Business activities are regulated in many ways. For example, there are conditions involving the general registration of business activities in the trade register and tax administration's registers, as well as accounting and auditing obligations. In addition, activities carried out in different types of companies are subject to their own provisions, depending on whether the activities are carried out, for example, as a limited liability company or as a private entrepreneur. In the interests of society, some livelihoods are legally subject to a permit or a separate obligation to register; in other words, the pursuit of activities in these sectors requires a permit granted by the authority or the fulfilment of certain conditions for registration. These include the serving of alcoholic beverages, the security business, package travel, debt collection and estate brokerage.

Grants for business development, business development services and start-up grants are intended to increase new business activities and encourage existing companies to develop their business and to utilise new business opportunities. Public funding lowers the threshold for entrepreneurship and encourages companies to develop their activities in a goal-oriented manner.

Public business services include various information and advisory services for companies, chargeable training and consultancy services, financial services, networking services and operating environment development services. In addition, companies are offered services for the development and recruitment of personnel and for training. Personal business advice can be obtained from, for example, the region's business services and from the TE office. Experts from regional ELY centres provide assistance with utilising financing and development services and other public business services.

Municipalities also support new companies in many ways. For example, the task of the new enterprises unit of the City of Helsinki's business services (NewCo Helsinki) is to promote the City of Helsinki's corporate culture and start-up activities. NewCo provides start-ups and existing businesses with comprehensive basic information, support measures and operating models for successful business operations. In addition, NewCo assists start-ups in obtaining funding, partners and networks for internationalisation and provides free advice in ten languages for all sectors.

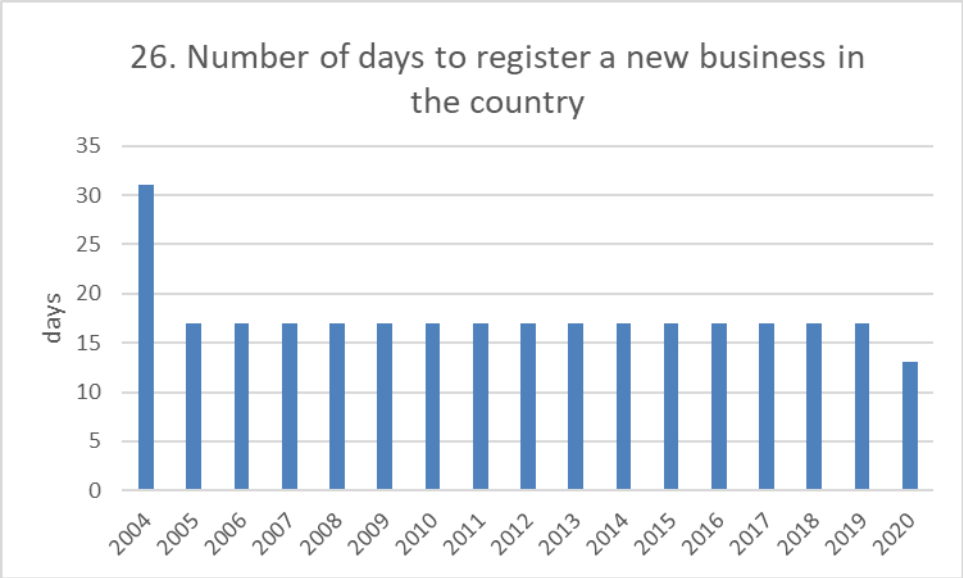
Business services for companies applying for international growth are provided as part of the Team Finland network. Team Finland services include advice, networking, training and development and financing services. Finnvera Plc, a specialised financing company wholly owned by the State, offers funding for the beginnings, growth and internationalisation of business activities as well as protection against export risks.

Authors: Linda Piirto, Senior Advisor, Responsible Business Conduct, Ministry of Economic Affairs and Employment; Sami Teräväinen, Senior Officer for Legal Affairs, Ministry of Economic Affairs and Employment; Emma Hannula, CEO, Finngroup Consultants

Contributors: Hannele Kostiainen, Head of Services, NewCo Helsinki, City of Helsinki

Indicators

26 Number of days to register a new business in the country.



The total number of days required for an individual to register a new firm in 2020 was 13. The measure captures the median duration that incorporation lawyers indicate is necessary to complete a procedure with minimum follow-up with government agencies and no extra payments. No difference between men and women. Data concerns Helsinki. The Finnish Patent and Registration Office estimates the average processing time of a starting up notification of a company (submitted online) to be 3 working days (April 2021 https://www.prh.fi/en/kaupparekisteri/kasittelyajat.html), the average processing time in the years 2017 - 2021 was 3,6 working days.

Data source: World Bank / Doing Business. Data available from 2004. https://www.doingbusiness.org/en/data/exploreeconomies/finland

1.2.2 Sustainable Urban Prosperity

1.2.2.1 Support the diversification of the urban economy and promote cultural and creative industries

The creative and cultural sectors as well as the creative economy sector more broadly were already identified as a major public development target both socially and economically a few decades ago. More extensive regional and municipally coordinated development work was at its most active at the turn of the 2010s. At that time, several regional projects and development networks emerged to support the role of creative competence, especially from an economic perspective. The central government tool was the strategic project for creative economy implemented by the Ministry of Economic Affairs and Employment in 2008–2012. In the same network, municipalities had their own creative economy development programmes, based on which the municipalities have strong creative economy development actors and operating methods.

After the strategic project, the work has continued mainly through structural fund programmes. Operating models are developed in the regions to strengthen the business activities of companies in the creative industries, for example through thematic networks and competence development. The focus has been on the regions' and municipalities' own measures and thematic projects.

In 2019, the current government recorded creative industries and the creative economy as one of its priorities. As a result, a roadmap for the creative economy was drawn up in cooperation between ministries and key actors, outlining key national development areas, identifying ecosystems and joining international networks, developing competence, supporting start-ups, internationalising businesses and developing metrics. The goal in it all is to create sustainable growth.

A key group of creative economy actors is those engaging in events and facilities for experiences, art and culture. Their significance to the vitality and conservation power of a region has been identified. However, business development has mainly focused on strengthening replicable content and products and services for companies. The opportunities for growth also at the regional level have been taken into consideration by supporting the creation of various clusters of expertise in the largest cities, for example, in the audio-visual and gaming fields, by the cities' own development companies.

The Ministry of Education and Culture has operating and festival grants and institutions funded by the government transfer system. The government transfer system (VOS) refers to government transfers granted to museums, theatres and orchestras for operating costs of the institutions. In this way, the state participates in the funding of cultural services and seeks to ensure their equal supply and availability.

In terms of the vitality and diversity of municipalities, experiential event activities connected to time and place require nationally networked and systematic investments. At the moment, there are challenging areas of discontinuity in the development, although there are many types of subsidies available. One of these challenges is how to better encourage individuals and working groups of individuals to be organised into limited liability companies or cooperatives to benefit from different support programmes. This problem is particularly apparent in the areas of performing arts and visual arts. Another challenge is how to involve VOS-funded actors in supporting market mechanisms and the emergence of market mechanisms for operators in their field, rather than vice versa.

Companies in the creative sector may also receive grants from municipalities or regional councils. Direct business support for innovation activities and internationalisation is also available. The Ministry of Economic Affairs and Employment supports companies mainly through innovation funding from Business Finland. Project funding has its own objectives. More information on creative projects at https://www.creativefinland.net/.

Most financial instruments, with the exception of the municipalities' own direct support, rarely recognise the key logic or role of the supported object as a resource of its environment. Funding can therefore guide the development of operations in directions where regional strengthening or sustainability is not supported. In addition to digitalisation, one of the major challenges facing the creative and cultural sectors is to identify all the ways in which sustainability can be influenced.

Author: Petra Tarjanne, Ministerial Adviser at Innovation Department on Intangible Value and Digital Transformation, the Finnish Ministry of Economic Affairs and Employment

Contributors: Erik Båsk, Managing Director, The Alfred Kordelin Foundation; Nea Leo, Executive Director, Trade Union for Art and Culture Professionals TAKU

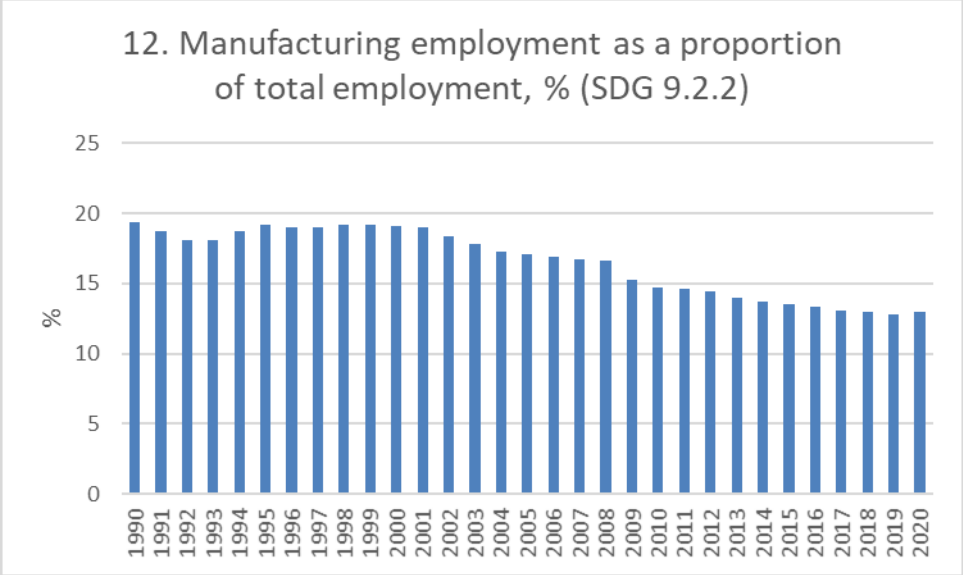
Indicators

46 Employment in cultural and creative industries of as proportion of total employment

Employed labour force in cultural industries 2008–2018, share of all employed labour force (%) in 2018: 3,8 %. Classification slightly different than in NUA metadata, based on industry, not occupation, but %-share very similar to data based on occupation. Data based on occupation available for 2018, share was 3,7 %.

Data source: Cultural Statistics, Labour force survey, Statistics Finland https://pxhopea2.stat.fi/sahkoiset_julkaisut/kulttuuritilasto/html/engl0010.htm

12 Manufacturing employment as a proportion of total employment



Manufacturing employment as a proportion of total employment in 2019: 12,8 % and in 2020: 13,0%.

The indicator is represented by the share of manufacturing employment in total employment.

Indicator is compatible with SDG 9.2.2. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.2.2.2 Develop technical and entrepreneurial skills to thrive in a modern urban economy

Urban development is a complex phenomenon and involves a multitude of participants. Similarly, sustainability is a complex concept that calls for a multidisciplinary approach. Developing carbon neutral solutions and moving towards circular economy have been identified as the most urgent sustainability issues within the built environment.

In Finland, the public and private sectors alongside with academia have successfully joined forces to develop strategies, roadmaps, and processes to tackle these multifaceted challenges.

Public-private-people partnerships as social innovations have been pivotal in enabling these developments. Cities have taken several roles in these partnership arrangements – in practice anything from being project partners in experiments that are closely related to the jurisdiction of the local authorities to orchestrating whole innovation ecosystems. In the best cases such as *Otaniemi OK*[63] and *collaborative planning for urban infill in Tammela* the governance system doubled as a learning system.

[63] https://aaltodoc.aalto.fi/bitstream/handle/123456789/19841/isbn9789526066929.pdf?sequence=1

Another story of successful collaboration are the *low-carbon roadmaps*[64] conducted in 2020. A total of 13 industries including the construction and real estate sectors prepared their sector-specific roadmaps in cooperation with the Finnish government. The roadmaps showed that the Government's goal of a carbon neutral Finland by the year 2035 is achievable. The roadmaps' purpose was to provide a more accurate picture of the technologies, costs and conditions of the measures needed to move to a carbon neutral Finland.

The UN/ILO report *"Skills for Green Jobs"* stated already in 2011 that environmental and climate change policies will bring enormous employment opportunities but also the risks associated with structural changes. Since then, green restructuring, emerging of new occupations and general greening of existing jobs has accelerated significantly.

Climate change, loss of biodiversity and overconsumption alongside with social justice issues have brought to the surface risks related to many kinds of economic activities. Because of the new requirements from finance and public, the traditional carbon-intensive industries and processes are losing jobs.

At the same time, moving towards a greener economy is creating opportunities for new technologies, investment and employment since every job can potentially become greener. Several traditional manufacturing industries have already experienced a structural change towards servitization, which increases the demand for the skills required in service professions. Concurrently boundaries between different industries are blurred while new business models are being developed.

New professions have emerged first in renewable electricity generation, circular economy e.g. in recycling, repair, and remanufacturing with an emphasis on technical engineering as well as business and administrative skills. The emergence of new low-carbon professions also requires general skills that are key to innovation, such as creative, multidisciplinary, and interdisciplinary cooperation. Most Finnish universities have sustainability courses or even full sustainable development programmes in their curriculum, but sustainability is usually still a voluntary part of the studies. Finnish universities have recently adopted common approaches to integrate sustainable development throughout their operations, which should introduce also compulsory studies on the subject.[65][66]

Last years' rapid development has also revealed that skill shortages already constrain the transition to a greener economy. In real estate, for construction and consulting engineering the challenge in the past has been that they do not profile themselves as drivers of climate change, thus making it difficult for them to acquire the professionals and expertise needed.

Successful transitions to new, greener industries and occupations pose continuous and evolving challenge to efficient retraining and skill upgrading. Initiatives targeted at lower vocational training levels and thus to segments of the population typically at a disadvantage in the labour market are seen elementary. Also, integration of sustainable development and environmental awareness into education and training at all levels, starting from early childhood education, is an important task since it will contribute to changing consumer behaviour and spark market forces to push the greening agenda ahead.

[64] https://julkaisut.valtioneuvosto.fi/handle/10024/162851
[65] https://www.unifi.fi/viestit/kestavan-kehityksen-ja-vastuullisuuden-teesit/
[66] https://www.arene.fi/wp-content/uploads/PDF/2021/Arene_kestava_kehitys_ja_vastuullisuus_webinaari_ryhm%C3%A4t_2021.pdf?_t=1614086564

In secondary vocational education in Finland all qualifications nowadays contain themes of sustainable development such as circular economy. Especially technical development has brought new elements to vocational education such as digitalization, robotics, battery technology etc. Technical development has also brought changes to competence requirements and pedagogy. Some examples of technical developments affecting requirements of secondary vocational education are electric cars, bicycle repair, textile recycling and food waste reduction.

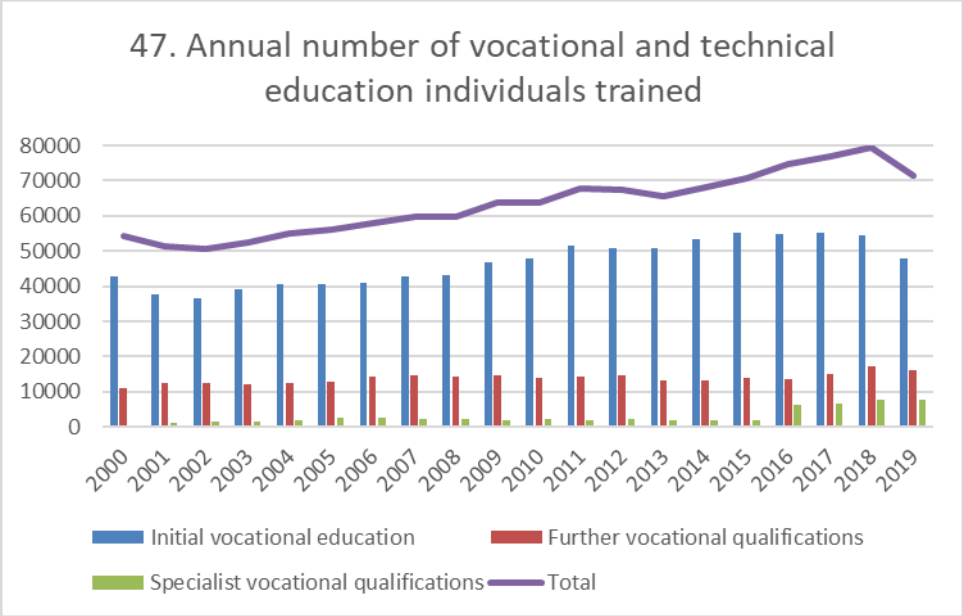
Finally, it is important to note that the most important thing is to nurture the drivers and create a favourable framework for change - whatever the future skills needs are. For example, basic digital collaboration skills, cognitive meta-skills such as seeing the big picture, learning ability, and self-leadership and resilience form the cornerstones of our skills' future.

Author: Helena Soimakallio, Executive Director, Sustainable Development, Technology Finland (Teknologiateollisuus)

Contributors: Päivi Lehtinen, Principal, Turku Vocational Institute; Touko Apajalahti, Advisor, Higher Education, Technology Industries of Finland

Indicators

47 Annual number of vocational and technical education individuals trained



Annual number of vocational and technical education individuals trained	2019
Initial vocational education	47777
Further vocational qualifications	16121
Specialist vocational qualifications	7681
Total	71579

Annual number of completed vocational education (initial vocational education, further vocational qualifications and specialist vocational qualifications and calculated sum of aforementioned). Data available from 2000 onwards.

Data source: Statistics Finland; Students and qualifications of educational institutions, https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__kou__opiskt__opiskt/statfin_opiskt_pxt_12dc.px/

1.2.2.3 Strengthen urban-rural linkages to maximize productivity

The commuting and service areas of urban regions have expanded. Population growth is also directed at development corridors linking larger cities. The strengthening of digitalisation and communications technology will increase remote working. The COVID-19 pandemic boosts development and further increases interaction between the urban area and its neighbouring rural areas, periurbanisation and multi-location. Due to the multi-location nature, an increasing number of small rural centres outside the area affected by cities are increasingly connected to the labour and education markets of large centres. The circular economy, the energy transition in particular, also has its effect. In the energy transition, decentralised energy systems based on renewable forms of energy strengthen the interaction between urban and rural areas.

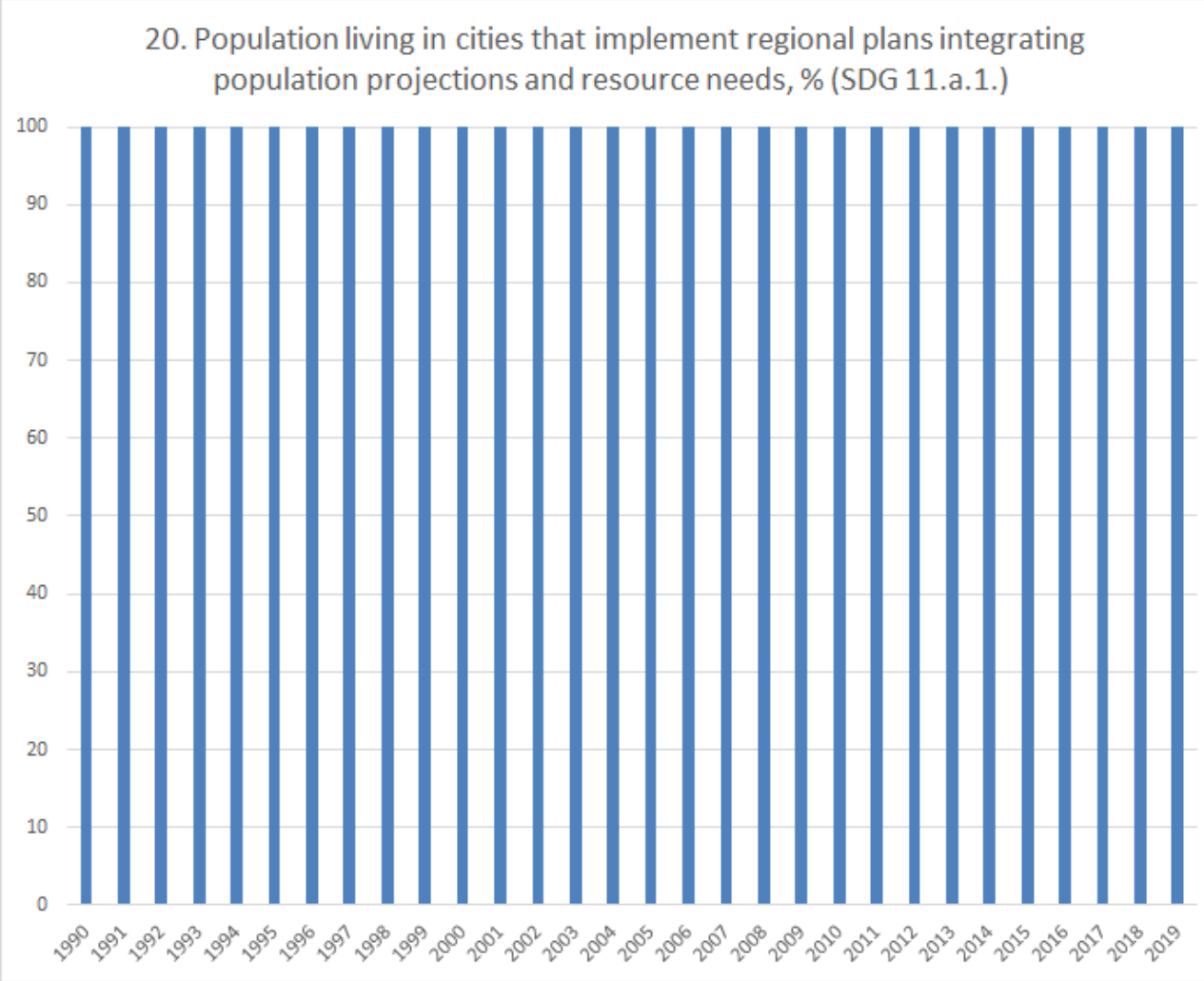
Interaction between urban and rural areas is guided by local master plans and regional planning. Regional planning coordinates the needs for the use of municipal areas, especially with respect to the transport system, infrastructure and green and recreational areas. The government supports digitalisation by building broadband networks. By international standards, Finland also significantly supports commuting between home and work through tax incentives.

The COVID-19 pandemic is seen to change the development of regional and urban structures. A number of research and development projects have been started to prepare for the post-pandemic period and the necessary changes in the steering instruments. The update of the document Perspectives for Land Use in Finland has also been initiated, and the national transport system plan has just been prepared.

Author: Mika Ristimäki, Senior Specialist, Ministry of the Environment

Indicators

20 Does your country have a National Urban Policy or Regional Development Plan that (a) responds to population dynamics, (b) ensures balanced territorial development, and (c) increase in local fiscal space.



Population living in cities that implement regional plans integrating population projections and resource needs 2019: 100%.

Indicator is compatible with SDG 11.a.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

1.3 Environmentally sustainable and resilient urban development

1.3.1 Resilience, Mitigation, and Adaption of Cities and Human Settlements

1.3.1.1 Address urban sprawl and loss of biodiversity

Finnish land use planning is guided by national land use guidelines drawn up by the government (Ministry of the Environment 2017), which aim at, e.g. well-functioning communities and sustainable mobility, a safe and healthy living environment, and vibrant natural and cultural environments and natural resources. The consolidating of urban form has been emphasized in these guidelines since 2000 but implementing the objective into practical planning processes has been slow and difficult. The key idea of the Finnish term

"consolidation" has been development within existing infrastructure. The national legislation guides urban planning. Finnish cities are planned at the regional scale (regional plans) and at the local scale (municipal master plans and detailed plans). A renewal of the Land Use and Building Act has been under preparation since 2018 and it is to be promulgated by the end of 2021. According to a recent report related to the renewal process, the new Act should include more concrete obligations for preserving biodiversity than previously. Especially the legal requirements of the content of land use plans should be elaborated. One concrete need is to obligate plans to mark the green connections significant for biodiversity, but it is still uncertain how this will realise in the Act. The reform of the Nature Conservation Act and Decree has begun in 2020 with objectives to examine the possibility to use ecological compensation and the interfaces between the Nature Conservation Act and other legislation to more effectively prevent the fragmentation of habitats.

A coherent urban form has long been one of the key objectives in municipal planning but striving for compact cities has recently been reinforced by the aims of climate change mitigation. In addition, actions for biodiversity have been carried out in many municipalities. Some municipalities have their own programmes or strategies for preserving biodiversity, such as the *Nature Protection Program of the City of Helsinki*, or the *biodiversity programme of the City of Kuopio*. In the beginning of the 2000s, the most dominant type of urban growth was the construction of low-density housing at the edges of city regions as urban sprawl despite objectives for coherent urban structures.[67] However, this development suddenly weakened after the economic downturn in 2008–09. Since then, urban sprawl has been weak in terms of outward expansion but the pressure to develop green areas inside the localities and green spaces within urban areas has increased.[68] There is no national strategy of "no new net land take" in Finland but developing brownfield areas has become much more common in many cities than previously. For example, the City of Helsinki has developed residential brownfield areas in two previous port areas with target populations of 20,000 (Jätkäsaari) and 25,000 (Kalasatama). However, developing greenfields inside urban areas is still going on. In the 8 largest city regions in Finland, 61% of the new developments built in 2018-2020 were constructed in previously built-up areas, 5% in previous agricultural areas and 34% in previous forests or other natural areas.[69,70,71] The share calculated for inhabitants or for hectares of built-up land area is roughly the same considering the previous land cover.

There is no administrative body to govern land use on the city-region scale, but the so-called *MAL letters of intent* are agreements between the state and city-region municipalities aiming at enhancing cooperation. Unfortunately, the tool has been insufficient to fully solve problems related to the lack of integrated, inter-municipal planning, such as urban sprawl in the peri-urban municipalities.[72,73] There is a growing amount of knowledge and methods of identifying green infrastructure important for biodiversity in cities[74] but there are challenges in implementing that knowledge in actual land use decisions.[75] Urban sprawl in terms of land use has weakened but the sprawl of urban functions is continuing. For example, the opportunities for walking and cycling commuting trips in cities have been decreasing (pre-COVID-19 situation).[5] This reflects that much of the urban infill development is for residential land use or transforming previous workplace areas for housing. The car dependency of commuting has an indirect effect on natural resources and

[67] https://doi.org/10.1016/j.apgeog.2018.10.001
[68] http://hdl.handle.net/10138/236327
[69] http://vrk.fi/en/building-information
[70] https://ckan.ymparisto.fi/dataset/corine-maanpeite-2018
[71] https://ckan.ymparisto.fi/dataset/ykr-kaupunkiseudut
[72] https://doi.org/10.1080/14649357.2015.1016548
[73] https://doi.org/10.1177/0969776413490424
[74] http://urn.fi/URN:ISBN:978-951-51-6579-4
[75] https://doi.org/10.1016/j.landusepol.2019.01.007

biodiversity. The urbanisation rate in Finland has increased from 70% in 2010 to 72% in 2018. However, city-regions only cover 5% of the total land area.[76] Because of the large distances between cities and the relatively loose urban form compared to many other European cities, the accessibility to natural or semi-natural recreation areas in Finland is very good: over 50% of the population lives within 100 m of a green space suitable for recreation.[5] The newest Residents' Barometer 2016 also indicates that Finns value nature in their residential environment. Nature is considered the second most important well-being factor of the living environment after location and transport connections among Finnish people.[77]

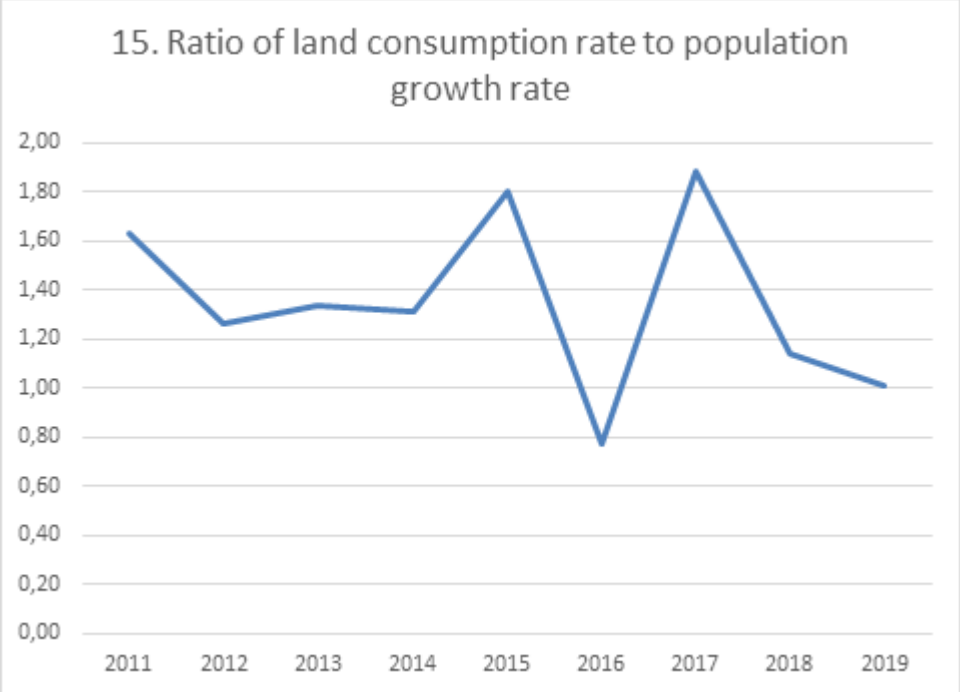
In the national assessment of threatened species (2019), "construction relating to housing, business, traffic and recreation, road construction, earthmoving and disposal operations relating to construction" is recognized as the fourth most common cause for threat". Construction is not most often the main cause of threat (only for 4,4 % of the threatened species), but it is mentioned as one of the reasons much more often. Construction is also the fourth most common cause for the natural habitats to have become threatened. 10,6% of Finland's forests are protected as statutory conservation areas. However, most of the conserved forests are in sparsely populated Northern Finland, whereas only 5% are in Southern Finland where the country's population and the largest cities are located.[78] This emphasizes the need for additional planning tools for preserving forest biodiversity from urban sprawl. The tools could include for example the use of an urban growth boundary, such as the Marka border in Oslo that has helped to preserve a large forest area from fragmentation right in the vicinity of the capital region.[79]

Author: Maija Tiitu, Researcher, Finnish Environment Institute SYKE

Indicators

15 Ratio of land consumption rate to population growth rate.

[76] https://www.syke.fi/en-US/Current/Updated_urbanrural_classification_Finlan(57443)
[77] http://hdl.handle.net/10138/193009
78 http://hdl.handle.net/10138/308426
79 https://doi.org/10.1080/09654313.2020.1817865



Ratio of land consumption rate to population growth rate 2019: 1,01

Indicator is compatible with SDG 11.3.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/table/tableViewLayout1/

Additionally, the indicator could be calculated using the Finnish Environment Institute's YKR-datasets by calculating the ratio of densely populated areas and population.

Data source:

- https://www.avoindata.fi/data/en_GB/dataset/ykr-aluejaot

48 Proportion of land under protected natural areas

No indicator data available according to the NUA specification, but data can be gathered through supplementary data collection. National data available in different sources.

Data sources:

- https://www.protectedplanet.net/country/FIN
- https://www.tilastokeskus.fi/tup/suoluk/suoluk_alue_en.html

1.3.1.2 Climate Change mitigation and adaptation actions

Climate work in municipalities and cities is at a better pace in Finland than at the state level. The targets and measures for reducing emissions in Finnish municipalities and cities are based on, for example, The *Paris Agreement on climate change* (warming max 2 °C, target 1.5 °C), the *European Union's emission reduction targets* (Fit for 55 Package: emission reduction -55% in 2030, net zero emissions in 2050), Prime Minister Sanna Marin's government programme (Finland carbon neutral in 2035), the new Climate Change Act in planning and the planning systems under the climate act (*medium-term climate change policy plan*

2035, *climate and energy strategy*, *climate plan for the land use sector*). The rise of the climate perspective as an enabler of a vibrant future for cities is also well reflected in the *National Urban Strategy 2020–2030* and the *Implementation Programme of the Regional Cities Programme 2020–2022*.

Finnish municipalities strive for carbon neutrality: almost half of the municipalities by 2030, and nearly two thirds by 2035. When realised, the annual emission reduction would be 20 million tonnes (megatonnes) from the 2018 level by 2035, accounting for more than half of the emissions reduction required by Finland's carbon neutrality target.

Climate work in Finnish municipalities and cities is largely based on voluntary action and networking, for example *through the HINKU, FISU, Ilmastokunnat and Circwaste networks*. Finland is one of the most innovative developers of voluntary local and regional climate work in the world.

In their areas, municipalities are responsible for land use planning, land use, transport planning, ownership steering of energy companies, selection of heating methods for many buildings and public procurement, thus actively influencing the amount of their greenhouse gas emissions (municipal carbon footprint). In addition to their own climate work, municipalities can accelerate the emission reductions of residents, companies, communities and other stakeholders (municipal carbon handprint), and cooperation with stakeholders is needed, as the municipal group typically only accounts for 10% of the emissions in a municipality's area.

The Ministry of the Environment's *Municipal climate change solutions programme* and the *Sustainable City programme* have started funding about one hundred local and regional climate projects in 2018–2021. Municipalities and cities can make use of many international sources of funding to promote climate work, such as the EU stimulus package and multiannual financial framework instruments. At the national level, the most important funding methods include responsible funding instruments of different financial institutions, energy subsidies from Business Finland and subsidies for innovative public procurement, ERDF funding, support from the ARA centre and sector-specific funding applications from various ministries. Finding and utilising funding can be challenging for municipalities and cities, and it could be one of the most effective ways to accelerate climate work. Many climate measures are economically viable, which is why municipalities and cities should make use of climate, environmental and green transition economic policies.

Since 2019, regional centres for economic development, transport and the environment (ELY centres) have promoted an internal climate roadmap with the support of the Ministry of Agriculture and Forestry and the Ministry of the Environment, aiming at enabling practical mitigation and adaptation to climate solutions. Significant issues related to cooperation between regional administration and municipalities include land use planning, transport, environmental protection and urban green structure. In addition, the ELY centres have been strongly involved in regional climate and circular economy networks and co-financed, for example, LIFE climate and circular economy projects.

While the majority of Finnish municipalities have local climate plans, they are largely focused on mitigation. Dedicated adaptation planning has so far focused on largest cities. Adaptation aspects are, however, integrated in the various duties of municipalities. Preparedness for extreme weather events and disaster risk reduction in municipalities is steered by *the Emergency Powers Act*. The importance of preparing for various climate risks is also noted in *the National Security Strategy for Society, the* triennially updated *National Risk Assessment* (2018) and the associated *Regional Risk Assessments*, in which for example urban stormwater floods, heat waves and snowstorms are threats requiring local level preparedness.

Municipalities have an important role in managing flood risks in line with the *Flood Risk Management Act* (2010). They participate in local *Flood Management Groups* that implement flood risk management plans and organize stakeholder participation. ELY-centres are responsible for fluvial and coastal flood

management. Flood risk management will be integrated into general preparedness planning and industry plans. Municipalities are also responsible for urban storm water management that is steered by the *Land Use and Building Act*. Various tools have been developed to support climate change adaptation at the local level, including the *Green Factor tool* for assessing local plans for sufficient green infrastructure.

The Helsinki metropolitan area adopted an *inter-municipal Climate Change Adaptation Strategy* for 2012-2020. During this period, the focus of adaptation planning shifted from the regional to the city level. Currently, all four cities have signed up to *the Covenant of Mayors for Climate & Energy initiative*. Therefore, their vulnerability assessment and the definition of adaptation measures are integrated into the SECAP process. The need for common research and development of risk scenarios and effective adaptation measures for the cities in the Helsinki metropolitan area is being answered in a new *sustainable urban living programme (2021)*, which is an action plan for enhancing cities' collaboration on climate change mitigation, adaptation and circular economy.

The lack of regional climate risk information is one of the challenges municipalities are facing. *The Finnish climate platform*[80] is currently being updated, and will provide improved information on regional climate impacts, risks and possible solutions. Moreover, a new guide for municipalities to adapt to climate change was published in 2020. However, municipalities face continued challenges related to lack of financial and human resources.

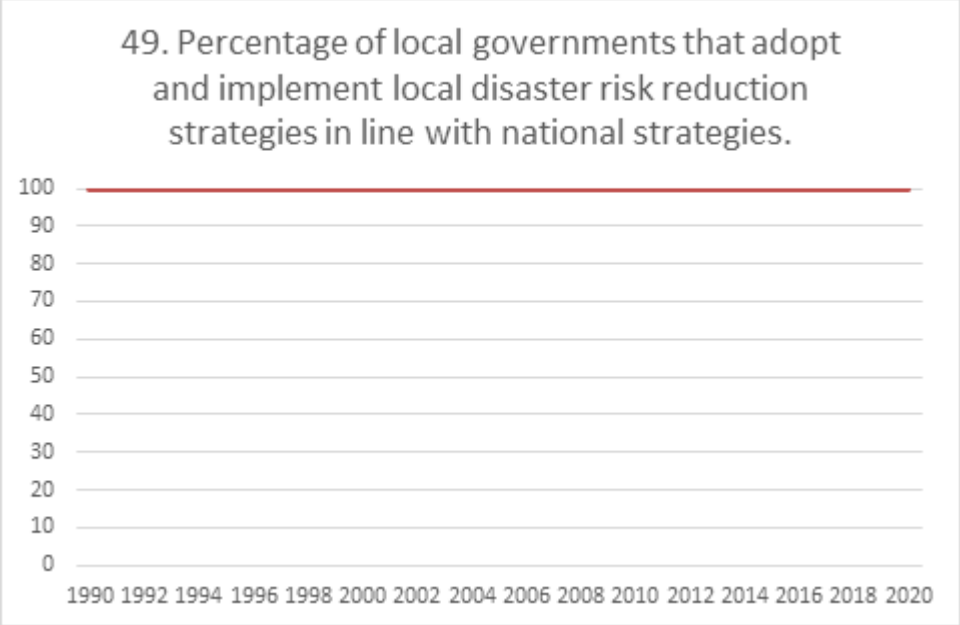
Authors: Olli-Pekka Pietiläinen, Program manager, Ministry of the Environment and Kirsi Mäkinen, Ministerial Adviser, Ministry of Agriculture and Forestry

Contributors: Valeria Kerkkä, Senior Specialist, ELY Centre for Pirkanmaa; Emma Hannula, CEO, Finngroup Consultants

Indicators

49 Percentage of local governments that adopt and implement local disaster risk reduction strategies in line with national strategies

[80] www.climateguide.fi

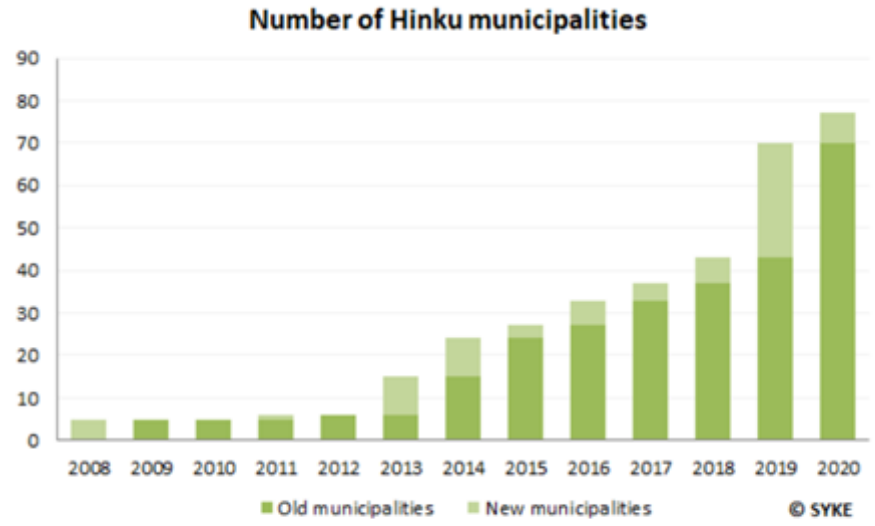


Percentage of local governments that adopt and implement local disaster risk reduction strategies in line with national strategies in 2020: 100 %

Indicator is compatible with SDG 11.b.2. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/table/tableViewLayout1/

50 Percentage subnational/local government with budgets dedicated to climate change mitigation and adaptation actions

No indicator data available according to the NUA specification. Alternative data provided. Share of Finnish municipalities and citizens that are part of the Towards Carbon Neutral Municipalities (HINKU network) network and committed to an 80 % reduction in greenhouse gas emissions from 2007 levels by 2030 in 2021: 26 % of municipalities (79 out of 309) and 39 % of Finnish citizens.



Number of Hinku municipalities per year. Source: SYKE. © SYKE

The HINKU-network brings together municipalities, businesses and experts to create and carry out solutions to reduce greenhouse gas emissions. The municipalities involved are committed to reduce greenhouse gas emissions more extensively and rapidly than EU targets require. The network aims to create solutions that have economic and social benefits as well as environmental advantages. Some Finnish regions are also involved in the Hinku network. The network is coordinated by the Finnish Environment Institute (SYKE). The municipalities in the network are committed to an 80% reduction in greenhouse gas emissions from 2007 levels by 2030. The municipalities must formulate annual plans on investments that reduce emissions.

Data source:

- https://www.hiilineutraalisuomi.fi/en-US/Hinku
- https://www.hiilineutraalisuomi.fi/en-US/Hinku/Hinku_in_figures
- https://www.hiilineutraalisuomi.fi/fi-FI/Hinku/Hinkukriteerit/Hinkukriteerit(49464) (only in Finnish)

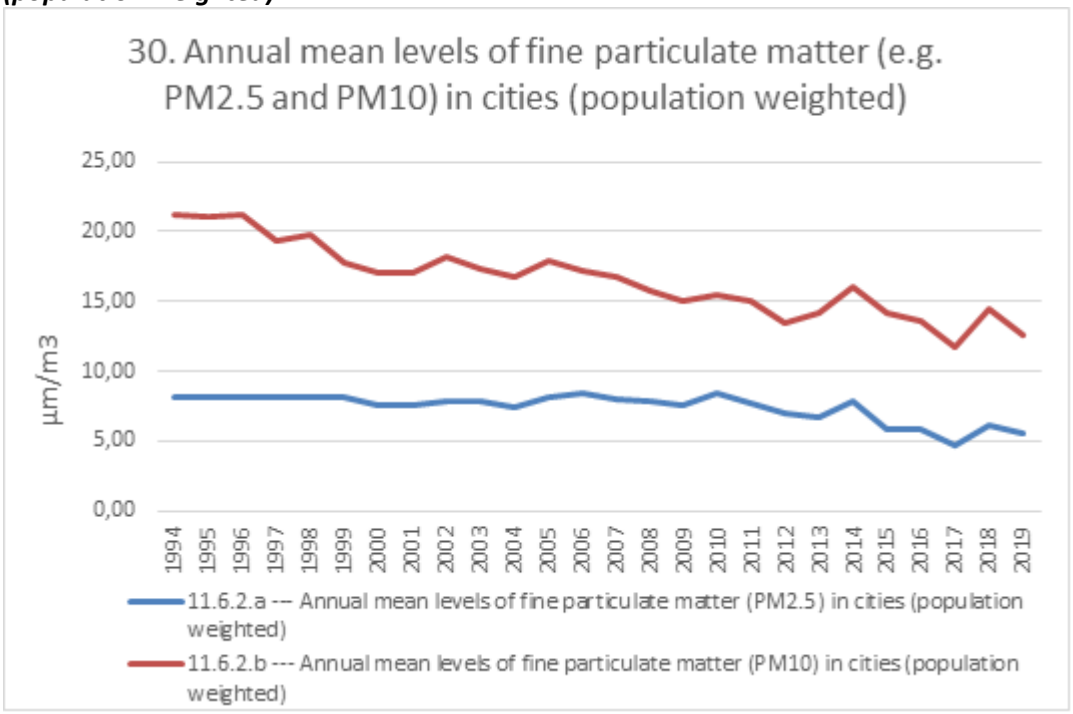
51 Percentage of cities with multi-hazard mapping

No indicator data available according to NUA specification on city level and thus no aggregation into national level available either. Possible data for qualitative analysis presented. Suggested to develop indicators according to the Sendai Framework for Disaster Risk Reduction. Weather and climate risks are systematically assessed and managed in only few municipalities in Finland. However, in flood risk areas, risk management is taking place and e.g. flood warnings and other up-to-date information on the water situation are available. The joint Flood Center of SYKE and the Finnish Meteorological Institute works in close co-operation, e.g. with ELY-centers and rescue services. In addition, flood hazard and flood risk maps prepared by ELY-centers for significant flood risk areas are available from the Flood Map Service.

Some of the data sources:

- https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/161498/11_2019_Kansallisen%20ilmastonmuutoksen%20ss%202022%20tp%20valiarviointi_netti.pdf
- https://www.ymparisto.fi/fi-FI/Vesi/Tulvakeskus
- https://www.undrr.org/implementing-sendai-framework/what-sendai-framework

30 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)



Mean annual concentration of fine particulate matter in cities (population weighted) in 2019:
PM2.5 (µm/m3): 5,60
PM10 (µm/m3): 12,6

Indicator is compatible with SDG 11.6.2.a. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/table/tableViewLayout1/

3 Mortality rate attributed to household and ambient air pollution[2]
No indicator data available according to the NUA specification. However, data has been gathered in Finland on the disease burden (in disability-adjusted life years, DALY) of environmental health hazards.

Data source (only in Finnish):
https://thl.fi/fi/web/ymparistoterveys/riskinarvio/tautitaakka

1.3.1.3 Develop systems to reduce the impact of natural and human-made disasters

Finland has several times been found to be the happiest country in the world[81]. Happiness also means that people feel safe.

Finland's security is ensured in accordance with the operating principle referred to as the *cooperation model for comprehensive security*. In it, the vital functions of society are ensured through cooperation between the authorities, businesses, organisations and citizens. Experience has shown that also citizens trust the regulations issued by the authorities, which is part of the result of the cooperation model.

The *national security strategy* defines the threat models that the authorities, businesses, communities and citizens must prepare for. The threat models include serious disturbances in power supply, serious disturbances in telecommunications and information systems, serious disturbances in transport logistics, serious disturbances in communal technology, serious disturbances in food supply, serious disturbances in the financing and payment system, disturbances in the availability of public finances, serious disturbances in the health and well-being of the population, major accidents, extreme natural phenomena and environmental threats, terrorism and other crime threatening the order of society.

The society's security strategy also extends to society as a whole through strong local government. In many respects, municipalities in Finland are responsible for promoting preparedness and security in their areas, and extensive service production close to people in municipalities creates resilience in communities, the ability to tolerate crises and to recover faster from them.

The most difficult disturbance that has led to emergency conditions in Finland in 2020–2021 is the COVID-19 pandemic affecting the whole world. However, so far, Finland has managed the pandemic better than most other countries. Among assumed contributing reasons are the rapid response of society, people's trust in government recommendations and advanced use of technology, whereby the coronavirus application, which automatically reports exposure to coronavirus using the location data of the phone and thus helps to implement quarantine regulations, is widely used in Finland[82]. The fact that Finland is not a very densely populated country has also helped to cope with the pandemic.

The same applies to many other smaller disruptions – trust, cooperation and technology expertise help tackle disruptions faster, and disruptions can also be recovered faster. In addition, local government close to people helps understand different phenomena and create expertise in managing them. For example, in segregated suburbs, it has been possible to create services, improve the sense of community and change the living environment by rebuilding areas and making them pleasant so that problems have not become as bad as in many major cities in the world.

However, no country is able to protect itself from all the threats that occur in everyday life. The COVID-19 pandemic has also shown that crises often extend across borders and can be global in nature. The Finnish cooperation model for comprehensive security could also be a suitable cooperation model between different countries. This also involves increasing crisis awareness as part of future thinking. In any case, we need globally closer cooperation on issues such as climate change and large-scale migration. In addition, the COVID-19 situation is not over yet – the sooner the world has been vaccinated, the faster we can finally

[81] https://www.nytimes.com/2021/04/20/world/europe/world-happiness-report-ranking.html
[82] https://www.dw.com/en/coronavirus-finland-sweden-role-model/a-55664117

get out of the pandemic. However, this requires shared resources and international solidarity for a tomorrow that is safer for all.

Author: Ari Korhonen, Security and Preparedness Specialist, Association of Finnish Local and Regional Authorities

Contributors: Sirkka Heinonen, Professor emerita, Finland Futures Research Centre (FFRC), University of Turku

Indicators

52 Does the country have a multi-hazard monitoring and forecasting system?
No indicator data available according to NUA specification. Possible data for qualitative analysis presented. The joint Flood Center of SYKE and the Finnish Meteorological Institute work in close co-operation, e.g. with ELY-centers and rescue services. Flood hazard and flood risk maps prepared by ELY-centers for significant flood risk areas are available from the Flood Map Service. Additionally, Finland has an emergency warning system where authorities can issue emergency warnings when the public faces threats to life or health or when property is at risk of destruction or significant damage. An all-clear may also be given when the danger has passed.

Applied data: Yes, an emergency warning system and flood map service.
Data sources:

- https://intermin.fi/en/rescue-services/rescue-operations/emergency-warnings
- https://www.ymparisto.fi/en-US/Waters/Floods/Flood_risk_management/Flood_risk_management_planning/Flood_mapping

53 The number of cities that have / percentage of urban population that is covered by multi-hazard early warning systems.
Same information as in indicator 51. No indicator data available according to NUA specification on city level and thus no aggregation into national level available either. Possible data for qualitative analysis presented. Suggested to develop indicators according to the Sendai Framework for Disaster Risk Reduction. Weather and climate risks are systematically assessed and managed in only few municipalities in Finland. However, in flood risk areas, risk management is taking place and e.g. flood warnings and other up-to-date information on the water situation are available. The joint Flood Center of SYKE and the Finnish Meteorological Institute works in close co-operation, e.g. with ELY-centers and rescue services. In addition, flood hazard and flood risk maps prepared by ELY-centers for significant flood risk areas are available from the Flood Map Service.

Some of the data sources:

- https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/161498/11_2019_Kansallisen%20ilmastonmuutoksen%20ss%202022%20tp%20valiarviointi_netti.pdf
- https://www.ymparisto.fi/fi-FI/Vesi/Tulvakeskus
- https://www.undrr.org/implementing-sendai-framework/what-sendai-framework

1.3.1.4 Build urban resilience through quality infrastructure and spatial planning

Finnish urban planning has been reformed in numerous ways during the 2000s. Environmental aspects in particular have changed the knowledge base of planning, the progress of planning processes and the assessment of impacts. In the 2010s, people have been waking up to the importance of mitigating climate change and adapting to it. Global warming will also cause many changes in the state and diversity of nature and in livelihoods, buildings and structures in Finland. The main impacts and risks arising from climate change are related to increased precipitation and the spread of extreme phenomena.

In Finland, the risk of catastrophe is negligible from an international perspective: from a global perspective, Finland is a "disaster-free area". Finnish society is stable and safe, storms are small-scale, temperatures are reasonable (excluding occasional hard frosts) and the bedrock is stable. However, climate change has changed this setting to some extent. For example, the region of Turku has had to prepare for drought periods by shifting to an artificial groundwater system in the production of raw water[83], for heavy rainfall by increasing the capacity of the wastewater treatment plant[84] and for storms through ground cabling of the electricity grid. These infrastructure projects alone are about investing hundreds of millions of euros, and their implementation has required extensive regional cooperation.

Even weather conditions have already become more surprising: in winter 2019–2020, there was no snow in southern Finland at all, while in other winters the snow deposits are large. Storms and floods have also intensified in recent years. The future rise in sea level, combined with the effects of storms, will impose new requirements on the built environment and urban planning. The average increase in sea level in the Gulf of Finland will be 90 cm[85] by the end of the century. The most significant flood risk areas in Finland have been identified by the Finnish Environment Institute in 2018[86], and the cities have taken precautionary measures. For example, a management plan has been drawn up for the flood risk in the Helsinki and Espoo coastal areas, and flood risk heights are taken into account in land use planning and construction in coastal municipalities, and existing settlements are protected by flood dams and gates. At the same time, it has been necessary to pay particular attention to the management of exceptional situations and adaptation to climate change. Individual events, such as the extensive sea flood that took place in Helsinki in 2005, often lead to changes that make it possible to better manage a similar situation.

Sufficiently large, uniform and diverse green areas help nature adapt to changing conditions, such as climate change and diseases. Growth is steered in urban areas in Finland by intensifying the urban structure, which may reduce the capacity of the built environment to adapt to changes brought about by climate change if the number or quality of green areas is reduced. In cities, the prerequisites for an integrated green network are created at the local master plan level. For example, one of the premises of *Turku's local master plan 2029* was a *green network plan*, for which a comprehensive goal-oriented green network divided into value classes was presented. In Helsinki, the *VISTRA development plan for the green and recreational network* serves as a similar basis for local master plan work for 2050.

[83] https://www.turunseudunvesi.fi/en/
[84] https://www.youtube.com/watch?v=QSa8PjlyTaQ
[85] https://www.sciencedirect.com/science/article/abs/pii/S0278434316302060?via%3Dihub
[86] https://www.ymparisto.fi/fi-FI/Vesi/Tulviin_varautuminen/Tulvariskien_hallinta/Tulvariskien_hallinnan_suunnittelu/Tulvariskien_alustava_arviointi_vesisto_ja_meritulvat?f=PohjoisPohjanmaan_ELYkeskus

The condensing urban structure creates entirely new challenges related to flood risk management and stormwater solutions. At the same time, it must be ensured that there are preconditions for increasing the construction density of the city and regional efficiency. For example, design principles and material choices and the favouring of permeable surfaces also play a role. In Helsinki, a *priority order*[87] for stormwaters is used to support planning. Permeable surfaces are favoured where this is possible with respect to the structure.

A *green area factor* tool has been introduced in the largest Finnish cities. For example, in Helsinki and Turku, the target levels for green efficiency have been set for new local detailed plans for the entire city. The *blue-green factor*[88] is used to estimate the amount and quality of vegetation, surfaces and possible stormwater structures on a plot or block and how they delay the stormwater.

Green areas and street green also play a role in extreme heat cycles. According to studies, Finland's rare heat waves in 2003, 2010, 2014 and 2018 increased mortality, especially in Helsinki[89]. In Finland, temperatures are rising considerably faster than the global average, and impacts in the urban environment may be pronounced. *Turku's urban climate study* has seen an increase in temperature faster than the rest of the environment in the vicinity of heavily constructed areas[90]. It has also been observed that the heat island phenomenon has intensified.

Cities are under increasing pressure to seek so-called nature-based solutions for adaptation to climate change, but green solutions are fighting for space with other activities. Several projects have been implemented in Finland in relation to this. For example, depressions and small wetlands can help reduce the risk of flooding. Green solutions can be used in the street space to slow down the effects of stormwater flooding and to provide shade. The climate sustainability of plants[91], street trees[92, 93]and urban forests[94] has also been improved in several Finnish cities: for example, an urban tree policy has been prepared for Tampere to guide the species of trees to be planted.

Climate change has caused increasing costs and correction pressures in the built environment. During mild winters, the temperature keeps fluctuating above and below zero, increasing the need to combat slipperiness and wearing down structures. Heavy single rainfalls and storms have greatly increased erosion in parks and on beaches.

Authors: Heidi Huvila, Environmental Specialist, City of Helsinki and Pasi Rajala, Head of Master planning, City of Helsinki

Contributors: Susanna Kankaanpää, Environmental Planner, City of Helsinki; Riina Känkänen, Business Manager, Ramboll; Miika Meretoja, Senior Specialist, City of Turku; Sanna Mari Huikuri, Development Manager, City of Tampere; Maarit Talvitie, Climate specialist, City of Oulu

[87] https://www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/julkaisu-03-18.pdf
[88] https://carbonneutralfinland.fi/en-US/Current/News/Building_a_lush_green_city_in_Turku(59562)
[89] https://www.mdpi.com/2073-4433/12/1/46; https://www.duodecimlehti.fi/duo11638
[90] https://doi.org/10.3354/cr01649
[91] https://kaupunkikasviopas.hel.fi/
[92] https://yle.fi/uutiset/3-9708389#:~:text=Katupuulla%20tarkoitetaan%20Helsingiss%C3%A4%20puuta%2C%20joka,on%20lehmuksia%2C%20koivuja%20ja%20vaahteroita.
[93] https://www.turku.fi/sites/default/files/atoms/files//turku_puulajilinjaus_esite_160x210_eng_lr.pdf
[94] https://www.turku.fi/en/news/2020-12-15_turku-among-first-cities-join-eu-green-city-accord

Indicators

51 Percentage of cities with multi-hazard mapping
See: 1.3.1.2 Climate Change mitigation and adaptation actions

1.3.2 Sustainable Management and use of natural resources

1.3.2.1 Strengthen the sustainable management of natural resources in urban areas

The sustainable use of natural resources in public procurement

Finnish municipalities use annually more than 20 billion euros to procure goods, services and works. The raw material use by procurement and investments of municipalities and associations of municipalities was around 29 Mt in 2015.[95] The construction of buildings and infrastructure as well as their maintenance explains much of the raw material consumption.

Circular public procurement can lead to extended lifespans of products, value retention and/or remarkably improved and non-risky cycling of materials. In Finland, circular public procurement has been realized e.g. in construction, transport, waste management, food and catering as well as in the use certain product groups such as textiles and IT equipment.[96]

Finnish examples of sustainable procurement can be found in the *KEINO Competence Centre*'s website[97]. The use of wood-based products has increased in building construction, the low carbon school in Kuopio as an example. In infrastructure projects major savings in materials and money have been achieved by utilizing recycled materials, for example in Helsinki. Good examples in the waste sector and wastewater management can be found in Turku and Porvoo where the recovery and more efficient circulation of nutrients was focused on the procurement of biowaste and wastewater solutions. In the mobility sector, public procurement has promoted the use of biofuels. Also, car sharing has been made available for urban use in several cities such as Lappeenranta. In textile procurement, examples from Tampere and Sakupe Ltd show that the sustainability and recyclability of materials can be considered in procurement. Sustainable criteria for food products can improve the sustainability and resource-efficiency of food chains, such as in Salo. Although circular procurement is not yet a systematic way of procuring in municipalities, good examples can lead the way towards more circular cities and municipalities, such as in the *CIRCWASTE - network*.[98]

Strengthen nature-based solutions in urban areas

Nature-based solutions have been promoted in Finnish cities at several planning levels, from strategies and local master plans to local detailed plans and further to implementation planning, construction and management.[99]

95 https://helda.helsinki.fi/bitstream/handle/10138/312377/SYKEre_15en_2019.pdf?sequence=1&isAllowed=y
96 Alhola, K., Ryding, S-O., Salmenperä, H. & Busch, N.J. 2019. Exploiting the potential of public procurement: Opportunities for circular economy. Journal of Industrial Ecology, 23(1):96-109.
97 https://www.hankintakeino.fi/en
98 Myllymaa et al. 2021. Executing circular economy strategies in practice in Finland Results and experiences from the Circwaste project. Reports of the Finnish Environment Institute 19.
99 http://urn.fi/URN:ISBN:978-952-287-775-8.

The urban strategy of many cities includes objectives that promote nature-based solutions. For example, Helsinki emphasizes the ecological quality and accessibility of the green and blue networks as well as the diversity of urban nature and storm water management.[100] Urban green infrastructure and the carbon sinks it offers are an important part of the climate change adaptation and mitigation strategy in climate programmes of several cities, such as Tampere and Helsinki[101]. The importance of nature-based solutions for well-being has also been emphasized. The COVID-19 pandemic has increased physical activity in people's immediate surroundings and, for example, a quarter of Finns feel that their relationship with nature has developed positively.[102]

To support nature-based solutions, many cities have developed storm water programmes, green service programmes for the development of green services, green ceiling objectives and urban tree policies. Over the past ten years, the importance of strategic planning of green areas and network thinking have strengthened, especially in large cities: for example, the *Kehä Vihreä green circle development project for Jyväskylä's central park* and the *development plan for Helsinki's green and recreational network* (2016), which aimed to respond to the growth presented in the local master plan and its impacts[103]. The *national urban park network* is also a good example of a strategic planning concept, in which the aim is to preserve valuable urban nature and cultural environment as a coherent and broad-based entity. Finland has a total of 10 national city parks, most recently Kuopio (2017) and Kokkola (2020)[104]. In local detailed planning, the *green area factor* is becoming increasingly important as a tool for nature-based solutions, as it can be used to control the number of green surfaces of plots and thus the management of storm water and comfort[105]. The green area factor is currently used in five Finnish cities, and its use is increasing. Nature-based solutions have also become more common in storm water management in green areas and streets[106].

Nature-based solutions are establishing their status as an integral part of Finnish urban planning. At the same time, they respond to a number of societal challenges, combine the objectives of the different sectors of the city and emphasize the importance of green infrastructure at different decision-making levels. Nature-based solutions also require new types of planning practices and operating models that promote cooperation.

Research that serves the practice is also needed, for example in connection with urban green carbon sequestration and life cycle assessment as well as supporting diversity[107]. The mainstreaming of nature-based solutions also requires legal support: the Land Use and Building Act, which is currently being reformed, will have a provision on a green structure network, which will further strengthen the importance of green infrastructure in urban planning[108].

Authors: Katriina Alhola, Senior Research Scientist, Finnish Environment Institute (SYKE) and Ranja Hautamäki, Associate Professor, Landscape architecture, Aalto University

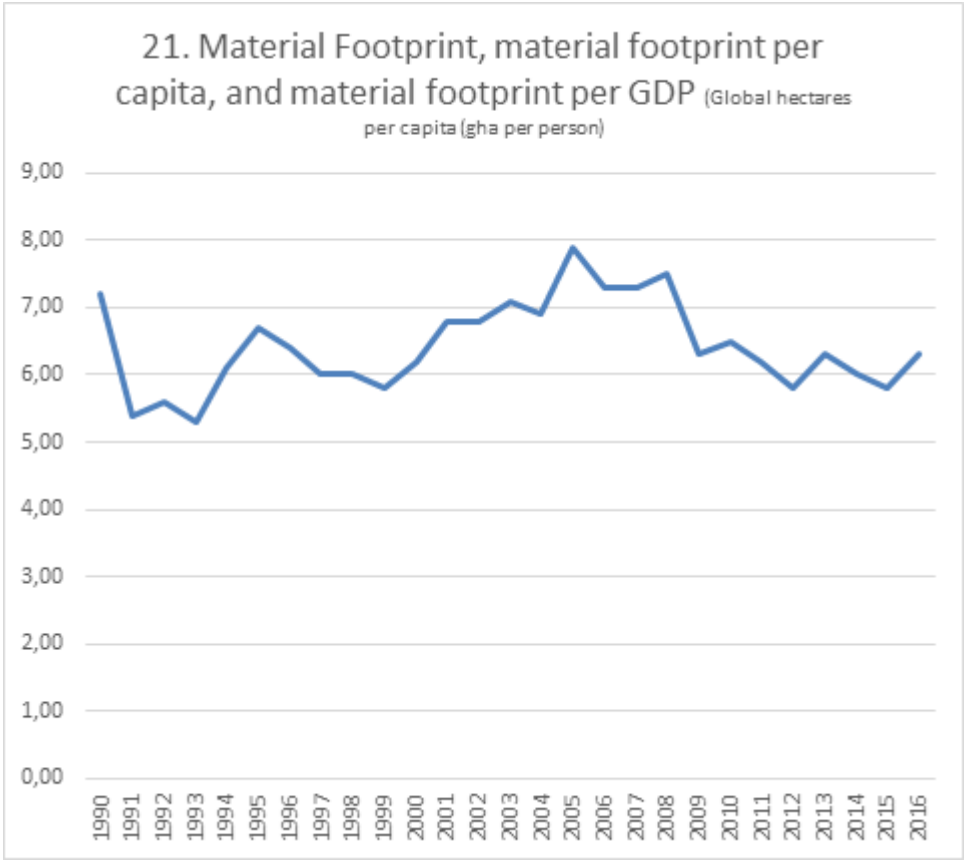
---

100 https://www.hel.fi/helsinki/en/administration/strategy/strategy/city-strategy/
101 https://www.tampere.fi/tiedostot/c/n1quv1hoN/Carbon_Neutral_Tampere_2030_Roadmap.pdf;
https://www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/HNH-2035/Carbon_neutral_Helsinki_Action_Plan_1503019_EN.pdf.
102 http://hdl.handle.net/10138/153461; https://www.ymparisto.fi/fi-FI/Luonto/Koronakevat_vaikuttanut_suomalaisten_luo(57849)
103 https://www.hel.fi/hel2/ksv/julkaisut/aos_2016-2.pdf; http://www2.jkl.fi/kaavakartat/Keha_vihrea_konseptis/Keha_vihrea_21022017.pdf
104 https://ym.fi/en/national-urban-parks
105 https://viherkerroin.aalto.fi/
106 https://unalab.eu/en/blog/co-creating-nature-based-solutions-front-runner-city-tampere;
https://www.uuttahelsinkia.fi/fi/kuninkaantammi/hulevesipilotti; http://www2.jkl.fi/greenstreet/raportti.pdf
107 https://cocarbon.fi/en/; https://www.sciencedirect.com/science/article/pii/S0169204619317025
108 https://mrluudistus.fi/wp-content/uploads/2021/01/MRL_ilmastovaikutusten_arviointi_raportti_taitettu_150121.pdf

Contributors: Leena Hamberg, Senior Scientist, Natural Resources Institute Finland (Luke)

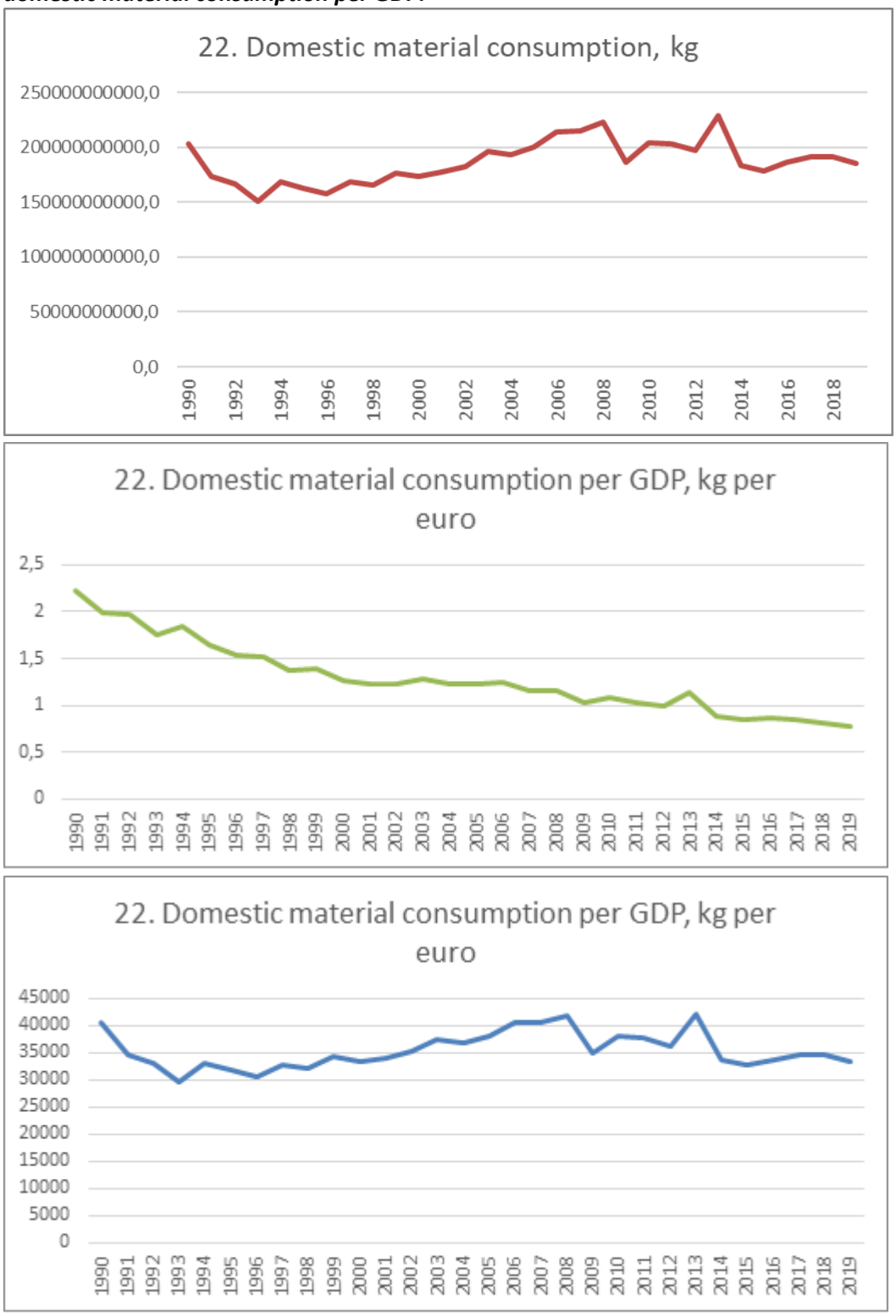
Indicators

21 Material footprint, material footprint per capita, and material footprint per GDP.



Material Footprint, material footprint per capita, and material footprint per GDP in 2016: 6,3.
Indicator is compatible with SDG 8.4.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/table/tableViewLayout1/

22 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP.



Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP in 2019:

Domestic material consumption: 185000000000,0 kg

Domestic material consumption per capita: 33482 kg
Domestic material consumption per GDP: 0,77 kg per euro

Indicator is compatible with SDGs 8.4.2.a, b, and c. Data source: Statistics Finland, National SDG
Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/table/tableViewLayout1/

27 Green Area per capita
No indicator data available according to the NUA specification, but data can be gathered through supplementary data collection. Similar data has been collected from different cities by the cities themselves, by the Finnish Environment Institute and in different projects.

Data sources:
- https://liiteri.ymparisto.fi/
- https://www.statista.com/statistics/858976/green-areas-per-inhabitant-in-helsinki-finland/
- https://www.tampere.fi/liitteet/5tay5Nq1j/kyms_luvut_4_6.pdf (only in Finnish)
- https://api.aluesarjat.fi/pxweb/fi/Ymp%c3%a4rist%c3%b6tilastot/Ymp%c3%a4rist%c3%b6tilastot__01_Maankaytto__4_Luonto%20ja%20virkistys/M12_virkistysalueet.px/ (only in Finnish)

1.3.2.2 Promote resource conservation and waste reduction, reuse, and recycling

Finland aims to be a pioneer in a carbon-neutral circular economy. Finland was the first in the world to publish a national roadmap for the circular economy in 2016. In April 2021, the government approved a *Strategic programme to promote a circular economy*[i] up to 2035.

The aim is that carbon-neutral circular economy will become the foundation of Finland's successful economy. The aim is to reduce the consumption of non-renewable natural resources: the use of primary raw materials in Finland will not exceed the 2015 level in 2035.

The promotion of circular economy has been found to require cross-administration and cross-sectoral cooperation. The biggest obstacles to the progress of circular economy are the silo mentality and the fact that the old structures often support linear-economy operating models. To date, circular economy has made more progress in Finland in terms of attitudes and thoughts than in terms of results measured through indicators.[ii] However, a shared commitment and goal are the first steps of the transition to circular economy.

In 2018, the circular economy rate of materials was around 7% in Finland. The aim is to double the level. Compared to other EU countries, the level of circular economy is weakened by the extent of mineral excavating.

Since 2016, circular economy has made strong progress, for example in the *CIRCWASTE – Towards a circular economy*[iii] project with its 20 partners and 10 co-funders. The project is co-financed by the European Commission's LIFE IP programme. More than one hundred circular economy projects have been implemented or launched in Finland since 2016.[iv]

Cooperation requires a facilitator that connects different actors and provides a platform for circular economy innovations.

The Ministry of the Environment, Sitra, the Finnish Environment Institute, the state's sustainable-development company Motiva, research institutes and higher education institutions have played a strong role as an accelerator of circular economy. Examples of this are the *CICAT2025 research consortium*[v] that combines higher education institutions, ministries, unions and cities, and the joint *KiertotalousAMK project*[vi] of 19 universities of applied sciences that ended in 2020.

Municipalities and municipal waste companies have taken a strong role as facilitators of circular economy. For example, the city of Nokia, the city's development company Verte and the waste management company Pirkanmaan Jätehuolto have accelerated the formation of the Finnish bio- and circular economy business area, ECO3.[vii] Finland has created a national network of circular economy and eco-industry parks and a circular economy centre, Kiertotalouskeskus.[viii] Municipalities and cities must also promote circular economy through sustainable land use and zoning solutions, circular economy in construction and engaging citizens.

Finnish cities and municipalities have numerous key circular economy projects. Below are a few examples.

In Tampere, the *Hiedanranta area* serves as a development platform for circular economy pilots.

The City of Helsinki has saved over €55 million in 2014–2020 and avoided more than 20,200 tonnes of carbon dioxide emissions since it has started to use surplus and excavation land mass in its own earthworks. The City of Helsinki approved the *roadmap for circular economy and sharing economy*[ix] in 2020.

The *Circular Turku roadmap*[x] speeds up the resource-smart development of the entire vicinity of Turku. In Turku, circular economy is progressing in areas such as the *Topinpuisto circular economy centre* and *Smart Chemistry Park*[xi]. Turku University of Applied Sciences is leading a project that improves the circular economy of the maritime cluster[xii].

The circular economy of textiles is developed in Finland through the extensive *Telaketju network*[xiii] and *Finix research cooperation*[xiv]. The first *disposed-textile treatment plant* in the Nordic countries will be built in Paimio.

Finland has developed a lot of circular-economy learning materials and courses for different levels of education. Sitra's work has increased the learning content of circular economy in comprehensive schools, upper secondary schools and higher education institutions, reaching an estimated 70,000 children and young people around Finland in 2018–2019.

A significant indication of circular economy cooperation has also been the preparation of the *national plastic roadmap*. The *Smart & Clean cooperation* project in the Helsinki Metropolitan Area has promoted the recycling of plastics.

Finland has been an international pioneer in circular economy through the annual *World Circular Economy Forum (WCEF)*[xv] launched by Sitra in 2017. WCEF will be one of the organisational platforms for the discussions of the global circular economy alliance.

Municipalities, municipal waste plants, the association Suomen Kiertovoima KIVO and the environmental administration have launched several recycling projects in cooperation with other actors. For example, the

national *"Love every crumb" advisory and communication campaign* aims to increase the sorting activity of biowaste.

The recycling rate of municipal waste is approximately 40%. In particular, beverage packaging, metal, glass, fibre and paper are recycled well. Thanks to the *beverage deposit system*, Finland's beverage-container recycling is almost the best in the world.

Other measures worth mentioning include *The National Waste Plan 2030*, the *sustainable consumption and production programme* and various voluntary commitments and agreements, as well as social commitments for sustainable development[xvi].

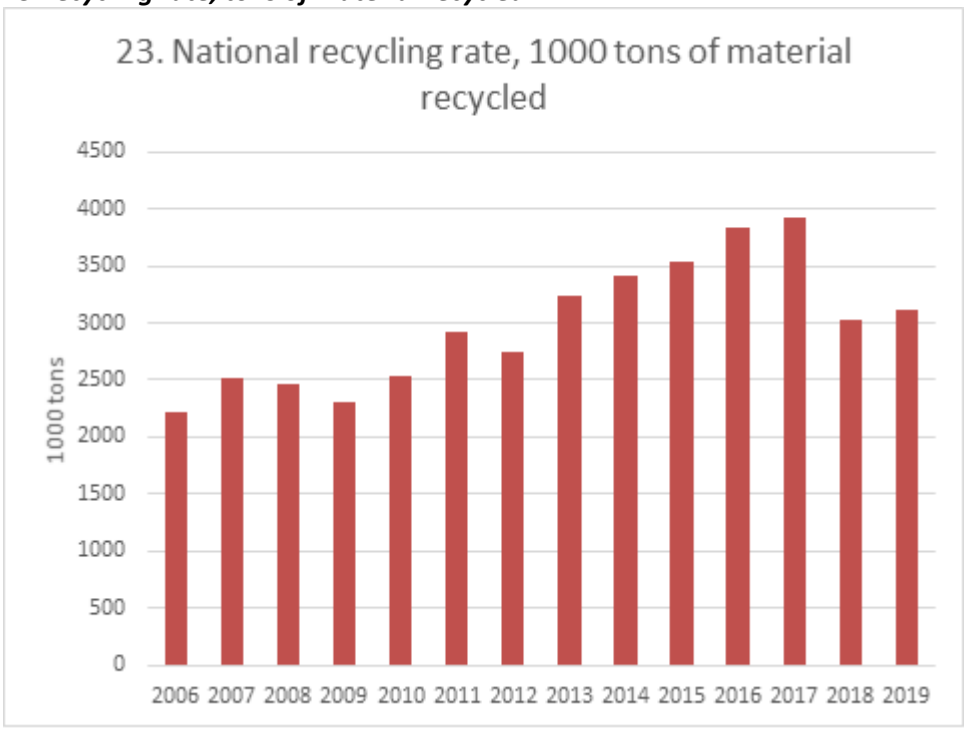
Circular economy supports Finland's climate work[xvii]. According to Sanna Marin's current Government Programme Finland will be carbon-neutral by 2035, and the world's first fossil-free welfare society.

Author: Elina Saarinen, Editor-In-Chief, Uusiouutiset Finnish Circular Economy News

Contributors: Tuomo Joensuu, CEO, Evolving Symbiotic Cities; Marja-Riitta Korhonen, Senior adviser and Riitta Levinen, Senior Ministerial Adviser, Ministry of the Environment; Tani Järvinen, Chairman of the board, Finnish Circular Economy Association; Piia Nurmi, Research group leader and Annika Holmbom, lecturer, Turku University of Applied Sciences; Mikko Suominen, Land mass coordinator, City of Helsinki; Annastiina Juvankoski, Senior officer, ELY Centre for Uusimaa[18]; Tuuli Teittinen, Designer, Ramboll; Eero Jalava, Specialist, Finnish Innovation Fund Sitra; Liisa Lahti, Project manager, City of Turku

Indicators

23 Recycling rate, tons of material recycled.



National recycling rate: Community waste (tons of material recycled) in 2019: 3 123 000 tons

Indicator is compatible with SDG 12.5.1b. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/table/tableViewLayout1/

1.3.2.3 Implement environmentally sound management of water resources and coastal areas

The maritime spatial plan promotes the sustainable development of the sea and the coastline and the protection of the maritime environment

A *maritime spatial plan*[109] was drawn up for the Finnish maritime areas in 2017–2020. The plan promotes "blue growth" and the favourable state of the marine environment by reconciling different needs for use, taking into account conservation needs. The maritime spatial plan is a general strategic plan that assigns significant and potential areas to different needs. When preparing the maritime spatial plan, the interaction between the land and the sea with respect to the coastal area and also rivers has been extensively examined.

The basis of the plan is the classification of coastal waters according to which sea waters are divided into three planning zones: 1) the inner archipelago and the inner coastal waters, 2) the outer archipelago and the outer coastal waters and 3) the open sea. Potential areas assigned to different uses are adapted to the resilience of each zone. The plan indicates significant ecological links, which, on the coastal area, are rivers and their coastal zones relevant to migratory fish, as well as other sea–land blue-green links. The river estuaries near urban areas are typically particularly important in terms of underwater natural values, as are the shallow areas close to the coast.

In the coastal areas of cities, the different usage needs are presented overlapping and are not prioritised. In addition to this, the coordinating role of the maritime spatial plan is emphasised by the fact that the plan has been drawn up in very extensive stakeholder cooperation. Stakeholder participation increases the value of the plan and the commitment of various parties to its implementation in their own activities.

The coastal areas of most cities are assigned areas with potential for cultural values, significant underwater natural values, tourism and recreation, shipping, ports and the maritime industry. A "special coordination area" has been identified in the maritime spatial plan, i.e., an area with a need for more detailed planning.

Key projects related to water protection and the national Water Protection Programme - supporting the practical implementation

The nutrient load from agriculture and forestry as well as the introduction of new harmful substances have been the main concerns of water protection in Finland. Climate change is also challenging our traditional planning processes as well as the effectiveness of the usual means and methods. Climate change mitigation as well as biodiversity loss have further highlighted the need to better align both the policies and measures of all the different sectors that have a stake in water management and protection.

[109] https://meriskenaariot.info/merialuesuunnitelma/en/suunnitelma-johdanto-eng/

To tackle this challenge, in 2016-2018, the Finnish government financed over 30 innovation and cooperation-based water management and restoration key projects. Their main aims were to strengthen the information base as well as to test and develop new methods for water restoration, nutrient reduction and recycling, and the management of harmful and hazardous substances. Many of these projects developed new operational models, piloted nature-based solutions for the reduction of nutrients and hazardous substances from urban and agricultural runoff, and they established new partnerships.

Building partly on the good results and experiences of the past projects, the Finnish government launched the national *Water Protection Program of 2019-2023*. In addition to introducing new water protection practices and methods, its main aims are to allocate funds to the most effective measures to improve the quality of all waters and further strengthen the cooperation between stakeholders.

Concrete results include big investments to reducing nutrient load by spreading gypsum on a large scale on arable lands in the catchment area of the Archipelago Sea. Alongside of gypsum, the use of structure lime and fibre sludge is being investigated. Over 300 water restoration projects have been funded, and a pilot project on nature-based water management solutions for agriculture and forestry will launch in 2021.

In the field of urban water management, the program has put its focus on reducing discharges of harmful substances into surface waters and groundwater. It also aims to provide more science-based information on the presence of harmful substances in aquatic environments. Seven R&D projects, working on developing methods for reducing harmful substances in municipal wastewater have been launched, and a new set of projects working with reducing harmful substances in runoff waters and storm waters is starting soon. In the next steps, the program will also call for projects looking into the management of harmful substances in combined sewer overflows. There has been wide interest among research institutions, companies, wastewater treatment plants, as well as cities and municipalities to develop efficient, sustainable and replicable solutions to manage, monitor, and reduce the input of harmful substances from urban waters. The results are expected to support the planning and implementation or urban land use and water management, and ultimately, improve the water quality and ecological status of both inland and coastal waters.

Authors: Tiina Tihlman, Ministerial Adviser, Ministry of the Environment and Jenni Jäänheimo, Senior Advisor, Ministry of the Environment

Contributors: Risto Saarinen, General manager, Federation of water protection Associations

Indicators

54 Existence of an enforced coastal and/or land management plan in the country.

At the national level, short questionnaires will be sent to the focal point agencies or responsible ministry to confirm whether:
There is an enforced national coastal land management plan in the country?

- Yes, a Maritime Spatial Plan 2030 (Suomen merialuesuunnitelma)

If yes, has this plan has been updated in the past five years?

- Yes, 15.12.2020

Description of the maritime spatial plan: The purpose of maritime spatial planning is to promote the sustainable development and growth of the different uses of maritime space, sustainable use of natural resources, and achievement of a good status for the marine environment.

The Maritime Spatial Plan sets out the broad guidelines for coordinating the use of maritime space by different sectors, including energy production, maritime transport, fishing and aquaculture, tourism and recreation, as well as the conservation, protection and improvement of the natural environment. The needs relating to cultural heritage, mineral extraction, blue biotechnology and maritime industry are taken into account. Other matters to be considered include the needs relating to national defence, special characteristics of the maritime space and interaction between land and sea.

Data sources:

- https://www.ymparisto.fi/en-us/Living_environment_and_planning/Maritime_spatial_planning)
- https://www.merialuesuunnittelu.fi/en/
- https://www.syke.fi/en-US/Current/Coastal_spatial_planning_forms_the_basis(43537)

1.3.2.4 Adopt a smart-city approach that leverages digitization, clean energy and technologies

Currently 78% of Finnish inhabitants live in cities that are committed to energy efficiency reductions. The yearly energy savings are 149 GWh and the investments for energy efficiency are 26 M€.[110]

Finland has an initiative for carbon neutral cities to which already 78 cities are committed[111]. Those cities are aiming for 80 % carbon emission reductions by the year 2030 compared to the level in 2007.

All of the biggest cities in Finland have adopted the UN SDGs in their strategies. In addition, the main stakeholders in city ecosystems such as energy and construction companies have mainly adopted the SGDs in relevant fields.

Finland is also currently preparing a *sustainable growth program*[112] together with cities, ministries and industries.

Finnish cities are well integrated with European cities in developing smart city solutions aiming to climate neutrality in the *EU Smart City Lighthouse projects*. Finnish cities are in five big European consortiums where solutions are developed together with cities, citizens, industries and research. The five-year projects have a European funding budget over 125 M€.

Smart city solutions are being tested and piloted in real city environments in different cities in Finland such as in Turku[113], Oulu[114], Espoo[115] and Tampere[116]. The Helsinki-Uusimaa Region as the biggest region in

[110] www.roti.fi
[111] https://www.hiilineutraalisuomi.fi/en-US/Hinku/Hinku_municipalities
[112] https://vm.fi/en/sustainable-growth-programme-for-finland
[113] https://www.turku.fi/en/smart-and-wise
[114] https://smartcityoulu.com/en/
[115] https://www.enterespoo.fi/key-industry/smart-city

Finland by population and *the most innovative region in the European Union*[117] has a smart specialization strategy called *Resource Wise Helsinki-Uusimaa*[118]. The region has set a goal to be carbon neutral by 2035. Smart city and smart countryside solutions are needed to reach the goal. Different players from the whole region – large businesses and start-ups, the public sector, research and education centres – have joined forces to create smart innovations and test them together with people. One recent example is *a joint project to pilot how drones could contribute to carbon neutral mobility and logistics*, while also helping in remote security.[119]

The capital city Helsinki was ranked the world's second smartest city in 2020 by the *IMD Smart city index*[120,121]. As an example of Helsinki's smart city development, *Smart Kalasatama*, a brownfield, has been used as a smart city experimental innovation platform to co-create smart and clean urban infrastructure and services. Smart Kalasatama also hosts innovative agile experimentation projects, such as mobility as a service, and smart grid.[122] **Helsinki hosts also a yearly *SLUSH Start-up Festival* that** is one of Europe's leading meetups for start-ups, tech talent and investors.[123]

The city of Tampere was selected as a finalist in the *World Smart City Awards* in 2020 in the Barcelona Smart City Expo[124]. Tampere is focusing its Smart City development on creating a climate neutral and resilient city by and for citizens[125]. One of the newest development areas is *Hiedanranta* which is aiming to become a climate positive district. Furthermore, circular economy has a strong emphasis in Tampere. The city uses co-creation and artificial intelligence for creating better services with a lower carbon footprint. Tampere is also testing drones for city environments.[126] Tampere hosts the annual Tampere Smart City Week, which gathers cities, industries and research to discuss and innovate solutions for a sustainable urban future.[127] Tampere aims to be Carbon neutral by 2030.[128]

The City of Espoo was an innovation capital runner up in 2020 especially awarded for the city's smart mobility and self-driving bus innovations.[129] Espoo has the largest innovation and technology ecosystem in northern Europe, where it pilots CO_2-emissions-slashing solutions and technologies. These innovations focus on making Espoo more sustainable and resilient against the effects of climate change and a centre of clean energy for transport and for heating homes. Espoo aims to reach the UN Sustainable Development Goals by 2025.

Author: Miimu Airaksinen, CEO and Managing Director at RIL Finnish Association of Civil Engineers and Emma Hannula, CEO, Finngroup Consultants

Contributors: Venla Virkamäki, Senior adviser EU Affairs, The Helsinki-Uusimaa Regional Council

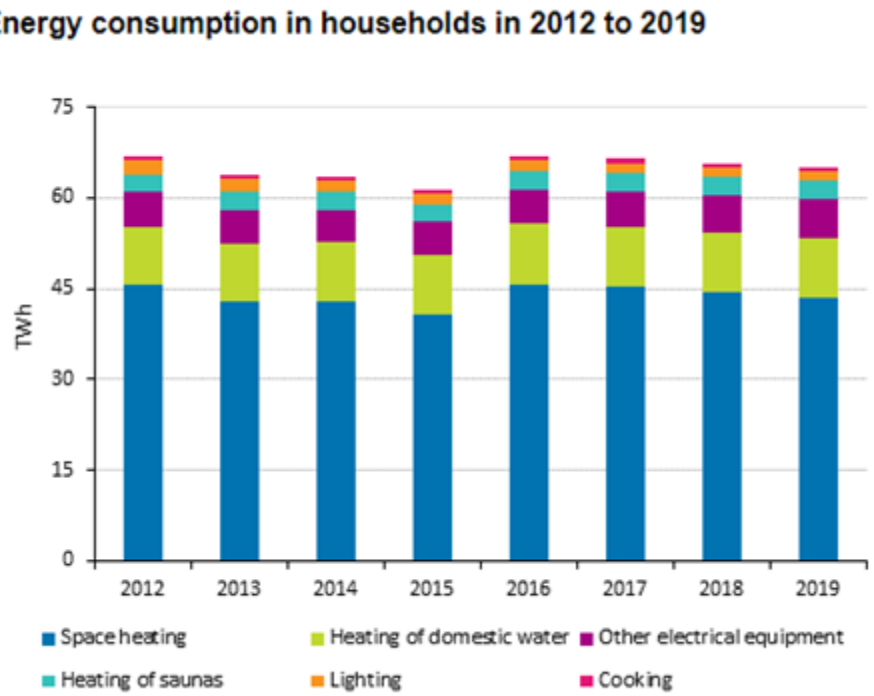
---

[116] https://smarttampere.fi/en/home/
[117] https://helsinkismart.fi/european-comparison-helsinki-uusimaa-at-top-of-attractiveness-survey/
[118] https://helsinkismart.fi/
[119] https://helsinkismart.fi/case/drones-contribute-to-advancing-the-carbon-neutral-helsinki-uusimaa-region/
[120] https://helsinkismart.fi/helsinki-fared-excellently-in-the-2020-smart-city-comparison/
[121] https://www.imd.org/smart-city-observatory/smart-city-index/
[122] https://fiksukalasatama.fi/en/smart-city/
[123] https://www.slush.org/
[124] https://www.tampere.fi/en/city-of-tampere/info/current-issues/2020/11/06112020_1.html
[125] https://smarttampere.fi/en/home/
[126] https://smarttampere.fi/en/develop/drone-test-area/
[127] https://smarttampere.fi/en/tampere-smart-city-week-2021-2/
[128] https://www.tampere.fi/en/smart-tampere/sustainable-tampere-2030.html
[129] https://horizon-magazine.eu/article/leuven-named-2020-european-capital-innovation.html

Indicators

55 Percentage reduction in annual final energy consumption in homes using smart monitoring systems.
No indicator data available according to the NUA specification. In addition to the percentage reduction, data on total consumption could complement the indicator. Alternative data suggested.

Energy consumption in households in 2019: 65 terawatt hours (TWh)



Data sources:

- https://www.stat.fi/til/asen/2019/asen_2019_2020-11-19_tie_001_en.html

56 Share of street junction with traffic lights connected to traffic management systems
No indicator data available according to the NUA specification but calculation is possible using Digiroad. However, the indicator is not relevant for Finland. Four way or more street junctions with street traffic lights are being replaced in Finland by roundabouts in order to streamline traffic.

Data source:

- https://julkinen.vayla.fi/oskari/

Part 2: Effective Implementation

2.1 Building Governance Structure: Establishing a supportive Framework

2.1.1 Decentralization to enable subnational and local governments undertake their assigned responsibilities

Municipalities

Municipalities in Finland differ largely by size, population and other circumstances. In the last two decades these differences have been increasing especially due to changes in population structure and internal migration. Ageing of the population throughout, still on-going urbanisation and low fertility in the last decade affect municipalities' financial footing and their ability to provide basic services going forward.

In response to these developments, the operational capacity of municipalities differs more than before. Larger cities in particular have strengthened their role in supporting sustainable development (economic, ecological and social), and intensified their cooperation, especially in advocacy.

Finnish municipalities have wide responsibilities and duties that are laid down in the legislation. The number and scale of statutory local government functions have continued to increase in the period 2016-2021, despite the Governments' attempts to reduce them. Finnish municipalities are responsible for providing statutory basic public services, which include social and health care, day-care for children, preschool education, comprehensive school, libraries, general cultural services and basic art schooling. Statutory services include also tasks concerning urban planning, land use, water and waste management, building supervision and other environmental services. The state participates in the funding of these services according to the Act on Central Government Transfers to Local Government for basic public Services (1704/2009).

On average the state grant system covers about 20 % of the total revenues of municipalities. In general, all grants are based on legislation and are determined on a calculatory basis, not on the real cost of the municipalities / service providers.

The Finnish central government grant system for basic public services consists of two main parts: 1) the block grant system, and 2) revenue equalisation. The block grants system aims to offset disparities in public service costs. The emphasis is on the equalisation of differences both in costs and in demand. The revenue equalisation equalises differences in the income base of the municipalities.

Other regional actors

Regional administrative structures and roles have remained largely unchanged in the period 2016-2021. The 18 Regional Councils, which are based on intermunicipal cooperation, take care of regional development, regional and land-use planning, and the promotion of regional interests in general. In the state administration, there are six Regional State Administrative Agencies in mainland Finland (AVI Centres) and additionally the State Department of Åland. The fifteen Centres for Economic Development, Transport and the Environment (ELY Centres) are responsible for the government's regional implementation and development tasks. Both tha AVI and ELY Centres act as regional state administrators with ELY Centres having especially close connections to municipal land use planning, as well as environment, transport and economic development issues.

Reforms

The health and social services reform that is currently under development would transfer responsibility for the organisation of health and social services from municipalities to counties. The health and social services reform will restructure the organisation of public healthcare and social welfare in Finland. Rescue services will also be restructured as part of the reform. Municipalities will continue to organise certain services, including childcare, education, sports and cultural services as well as services concerning land use, municipal infrastructure, building and the environment.

The public governance strategy guides and strengthens the renewal of public governance as a whole from 2020 to 2030 from the state to regional and local level. Well-functioning public governance is a key element of a well-functioning democracy and welfare society. A consistent and determined renewal of governance, as described in the strategy, will streamline everyday services, ensure legal certainty in society and create new opportunities for business and communities.

The national urban strategy 2020-2030 outlines the principles of partnership between cities and the central government. Partnership is gaining strength as an operating practice between cities and the central government with close collaboration having increased, but there is a need to further deepen the partnership and expand it to new areas.

Author: Emma Terämä, Chief specialist, Ministry of Finance

Contributors: Arto Haveri, Professor, School of Management, University of Tampere; Anne Jarva, Development Manager, Land Use and Spatial Planning, Association of Finnish Municipalities

Indicators

57 Is supervision of local authorities exercised in accordance with such procedures and in such cases as provided for by the constitution or by law?

Local authorities exercise their authority and fulfil their responsibilities in accordance with such procedures and in such cases as provided for by the constitution or by law: Yes – as Finland is state ruled by constitution and laws.

Data provided only at the national level, national sample of cities to estimate the information on city-level wasn't gathered. Data sources: Finlex / Constitution of Finland https://www.finlex.fi/en/laki/kaannokset/1999/en19990731 ; Finlex / Local government Act https://www.finlex.fi/en/laki/kaannokset/2015/20150410

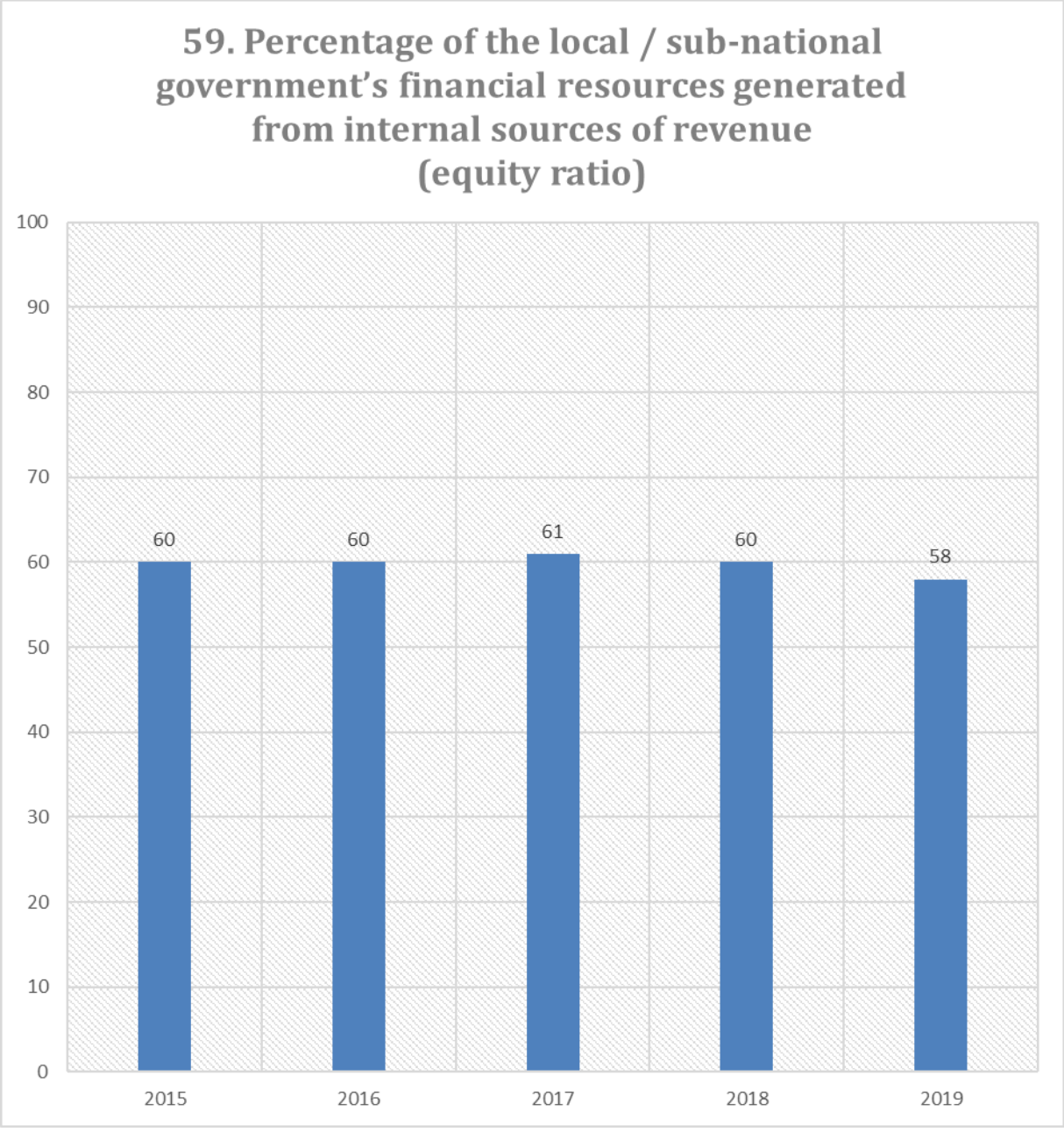
58 Percentage of the total budget that the local / sub-national government have discretion over to decide on priorities (financial autonomy)

Percentage of the total budget that the local / sub-national government have discretion over to decide on priorities (financial autonomy) (%): 100%.

Data is based on the expert opinion of Finnish Environment Institute. Indicator refers to the share of the budget that the municipality can decide on independently and, at its discretion, guide its use according to different priority areas. In Finland, municipalities have extensive

self-government and e.g. the right to tax, which allows municipalities to allocate funds relatively freely insofar as their budget allows. Municipal decision-makers guide the use of funds within the framework provided by the Municipal Act and the Constitution. Municipalities also receive state contributions to cover their statutory obligations. Municipalities also receive project funding from, for instance ministries, and have the possibility to apply for loans and accept donations.

59 Percentage of the local / sub-national government's financial resources generated from endogenous (internal) sources of revenue



Equity ratio (share of municipality's own sources of revenue from total financial resources) of Finnish municipalities in 2019: 58%.

Data provided only on national level. Data source: Local government finances, Statistics Finland https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__jul__kta/statfin_kta_pxt_12ml.px/

2.1.2 Linking urban policies to finance mechanisms and budgets

There is a variety of finance mechanisms related to urban policies in Finland, of which a selection is presented below.

Sustainable Growth Programme for Finland

Funding for the programme comes from the one-off EU recovery package *'Next Generation EU' (NGE*U), *Recovery and Resilience Facility (RRF)* being the largest of its instruments.[130] The total amount of funding for 2021–2023 is approximately EUR 2.1 billion (final amount to be confirmed in 2022 based on Finland's economic performance). Finland will begin the first reforms and investments related to the programme in 2021 but most of the funding will be used in 2022–2023. In May 2021 the government submitted to Parliament a proposal, which will begin the implementation as follows: 1) green transition, EUR 48.5 million, 2) digitalisation, EUR 9.5 million, 3) employment and skills, EUR 134.9 million, 4) health and social services, EUR 45 million. Research, Development and Innovation will be supported by EUR 45 million through the Academy of Finland and EUR 62 million through Business Finland.[131]

The European Regional Development Fund (ERDF)

The European Union contributed approximately EUR 1.3 billion to the funding of the *'Sustainable growth and jobs 2014 - 2020 - Finland's structural funds programme'*. With an equal amount of national public co-funding, the total volume of the programming was EUR 2.6 billion. The state accounted for 75 per cent and municipalities and other parties for 25 per cent of the public funding.

When the technical assistance and funding allocated for national activities were deducted for the EU-funding (EUR 1.3 billion), the remaining amount (about EUR 1.089 billion) was funding coming under regional decision-making. Of this, two thirds were ERDF funding (EUR 716 million) and the rest *ESF (Employment and labour mobility) funding*.

Ecosystem agreements

The Government allocated EUR 5 million in national regional development funding to urban areas for the launch of ecosystem agreements in the beginning of 2021 which include a strategic allocation of public and private Research, Development and Innovation funding. After the launch phase, the agreements will be financed with EU funding for sustainable urban development in 2021–2027.[132]

---

[130] https://vm.fi/en/sustainable-growth-programme-for-finland
[131] https://vm.fi/en/-/sustainable-growth-programme-s-reforms-and-investments-to-start
[132] https://tem.fi/-/valtion-ja-kaupunkien-sopimusyhteistyolla-vauhditetaan-vahahiilisia-digitaalisia-ja-hyvinvointia-edistavia-innovaatioita?languageId=en_US

National Transport System Plan

The National Transport System Plan was accepted in April 2021. According to the plan, the funding for the maintenance of basic roads will be increased to EUR 1,4 billion per year from 2025 onwards. Development investments will be ca. EUR 500 million per year. The transport network will be developed with EUR 6,1 billion during 2021-2032. Significant investments will be appointed to e.g. the development of trip chains, public transportation and digitalisation.[133]

MAL agreements

The state of Finland has concluded agreements concerning land use, housing and transport (MAL agreements) with the largest urban regions since 2010. According to the agreements, the state gives the regions guidance and considerable amount of funding e.g. to state subsidised housing and infrastructure in central and public transportation bound areas. Rail transportation, upgrading of the transportation network, climate friendly public transportation, digitalisation of transport services and promotion of walking and cycling are also supported in central areas.

Subsidies for sustainable mobility

The Finnish Transport and Communications Agency Traficom grants subsidies for projects with the aim of supporting sustainable mobility and influencing people's choice of modes of travel. For example, in 2020 35 projects of municipalities, joint municipal authorities and non-profit organisations were financed with a total of EUR 1.15 million.

Municipal climate change solutions programme and the Sustainable City programme

The *Municipal climate change solutions programme (2018–2023*) and the *Sustainable City programme*, both coordinated by the Ministry of the Environment have funded approximately 100 projects at the local and regional level during 2018-2021. *The Sustainable City programme*[134] (2019-2023) is implemented with a budget of approximately EUR 6 million. The programme funding accounts for approximately EUR 4,4 million. Additionally, partnering organisations' project funding accounts for approximately EUR 1,6 million. The programme funds experiments and pilots with calls that are open for municipalities and associations and companies working with municipalities. The Ministry of the Environment funds a maximum of 60% of these pilots and the project implementer stands for at least 40%.

Funding for circular economy

In 2021 the Ministry of Economic affairs and employment funds innovative future circular economy solutions for projects with 1 million euros (max 200 000 per project) implemented by June 2023.[135]

Funding to prevent homelessness and segregation

The state has directed funding to third-sector organisations for projects and for buying apartments from the market and renting them to homeless people. During 2008–2019 the state and the ten largest Finnish

[133] https://valtioneuvosto.fi/en/-/draft-for-the-national-transport-system-plan-approved
[134] https://www.kestavakaupunki.fi/en-US
[135] https://tem.fi/kiertotaloustuki

cities concluded detailed agreements for concrete projects, such as site development, recruiting and training new staff, allocation of flats, commissioning and organising provision of services.

The *Cooperation Programme to Halve Homelessness 2020–2022* aims to strengthen the homelessness work of local authorities through e.g. the use and development of social services. The ministry of the Environment invited the municipalities with the largest amount of homeless people in 2018 to the programme and opened them a funding call for 2020-2022 worth approximately 3 million euros.[136]

The ministry of the Environment also coordinates a programme for the sustainable development of the largest suburbs in 2020-2022 which aims to e.g. to prevent segregation. The state funds the largest cities participating in the programme with a total of 21 million euros, and also supports research projects.[137]

The Wood Building Programme (2016–2022)

The programme coordinated by the Ministry of the Environment aims at increasing the use of wood in urban development, public buildings as well as large constructions.[138] The programme funds research and development projects related to the sustainable use of wood with a total funding of 5 million euros.[139]

Author: Emma Hannula, CEO, Finngroup Consultants

Contributors: Ministry of the Environment - Suvi Anttila, Senior specialist, Urban policies; Olli-Pekka Pietiläinen, Programme manager, Municipal climate change solutions programme; Virve Hokkanen, Programme manager, Sustainable City programme

Indicators

59 Percentage of the local / sub-national government's financial resources generated from endogenous (internal) sources of revenue

See: 2.1.1 Decentralization to enable subnational and local governments undertake their assigned responsibilities

2.1.3 Legal and policy frameworks to enhance the ability of governments to implement urban policies

In Finland, the role of urban policy as part of the national policy has varied by government term. In most cases, national urban policy has been defined and guided through compiling strategic-level policy programmes: the *decision-in-principle on urban policy for 2009–2011*, *the Urban Policy Action Plan 2012–2015*, the *urban programme 2018–2019 (–2022)* and the *National Urban Strategy 2020–2023 (–2030)*. These strategic policy programmes have been characterised by the fact that they have not directly included their own operational implementation programme with earmarked resources, but the implementation of the programmes is based on tools (such as MAL and growth agreements), resources and processes defined in other contexts. A key element in Finland's urban policy activities is cooperation and partnership between

[136] https://ym.fi/en/homelessness

[137] https://www.kuntaliitto.fi/sites/default/files/media/file/STM%20valtionavustushankkeet%20ja%20Ty%C3%B6kykyohjelma%20esittely%2024.4.2020.pdf

[138] https://ym.fi/en/wood-building

[139] https://ym.fi/kasvua-ja-kehitysta-puusta-tukiohjelma

the state and cities, continued and deepened for a long time, which has been implemented especially through the Urban Policy Committee (since 2007), but also with more focus on certain urban groups through the metropolitan policy (since 2007) and regional municipality cooperation. The statutory status and steering of cities is based on the Local Government Act.

At present, the key document defining national urban policy is the *National Urban Strategy*, which was adopted in autumn 2020. The urban strategy, which has been prepared together with cities, aims not only to coordinate national policies and measures affecting cities, but also to strengthen the partnership between the state and cities. In the implementation, the strategy relies on the tools, resources and processes defined in other contexts. The Urban Policy Committee and the political steering group for public administration reform promote and monitor the implementation of the strategy. Parallel to cooperation in general urban policy, there are the *partner-based cooperation in metropolitan policy* focusing on special issues in the Helsinki region (the cooperation group for metropolitan policy and its working programme) and the *regional urban cooperation* focusing on special issues in small cities (regional urban programme 2018 and its implementation programme 2020–2023).

Key tools for implementing urban policy in recent years have been various contractual instruments between the state and cities, especially MAL and growth agreements. The land use, housing and transport (MAL) agreements (prepared since 2011) between the state and the seven largest urban regions provide an agreement on the long-term development and financing of the urban area's urban structure, housing production and transport system. Growth agreements between the state and the largest cities supporting the vitality and competitiveness of cities and urban regions have been drawn up since 2013. At the moment, these objectives are being implemented through the recently (2021) concluded state and university city *innovation ecosystem agreements*.

A five-year *Sustainable City programme (2019–2023)* coordinated by the Ministry of the Environment accelerates broad-based sustainable urban development and contributes to the implementation of the UN's New Urban Agenda and Agenda 2030 Sustainable Development Goals. The themes of the programme are low carbon, intelligence, healthiness and social sustainability, and new solutions are sought especially for questions that cut across these themes. The *Lähiöohjelma* programme for suburban areas, launched at the beginning of 2020, supports socially balanced urban development, prevents segregation and promotes the inclusion and well-being of residents.

In recent years, the EU's urban policy instruments have also played an increasingly important role in the implementation of the national urban policy. Examples of this include the *6Aika strategy* of the six largest cities implemented with the EU's sustainable urban development funding in 2014–2021, the *Urban Innovative Actions (UIA)* projects of four Finnish cities, and the active participation of cities in, for example, the thematic *Urban Agenda for the EU* partnerships and *URBACT programme* projects.

From the perspective of policy frameworks, the opportunities to promote sustainable urban development in Finland have improved in recent years. Cooperation has intensified in the structures of both informal and formal cooperation, in terms of both cooperation between cities and the state and cooperation between different sectors of the state. This has improved both the position of urban policy in general and the consideration of sustainability aspects in urban policy. However, the challenges of urban policy still lie in the variation in its status by government term, which makes the policy and its means of implementation short-term. The challenge also lies in the fact that urban policy funding and other resourcing do not fully meet the situation of the urbanisation development that has become increasingly strong for a long time.

Despite positive developments, the need remains to coordinate the state's sector policies more strongly to support sustainable urban development. From the perspective of sustainable urban development, there are also challenges related to how functional urban areas would be managed in a less fragmented way and better as a whole.

Author: Olli Maijala, Ministerial Adviser, Ministry of the Environment

Contributors: Olli Voutilainen, Senior Specialist, Ministry of Economic Affairs and Employment; Katja Palonen, Chief Specialist, Ministry of Economic Affairs and Employment; Emma Terämä, Chief Specialist, Ministry of Finance

Indicators

60 Quality of law

60. Quality of law			
	Yes	**Somewhat**	**No**
a) Do subsidiary laws consistently state their objectives and cite the statutory source for the objectives? (Regulatory measures/laws/by-laws in this area have consistent objectives based on clear policies).	x		
b) Clarity of: decisions made; criteria to apply; identity of the decision makers; and time frames (Processes are clearly defined and outcomes of decisions do not involve any discretion.)	x		
	Yes (well-coordinated)	**Somewhat**	**No**
c) Organization of institutional roles and responsibilities (Institutional roles and responsibilities in this sector are concentrated in one efficient institution or in several well-coordinated institutions.)	x		
	Clear	**Not clear**	
d) Clarity in standard of drafting (Legislative texts are written in clear and unambiguous language, understandable by professionals and common citizens.)	x		
	Adequate	**Not adequate**	
e) Capacity for implementation (Human and financial resources are adequate for the successful implementation of the legislative framework in this area.)	x		

Data is provided by ticking the correct answer in the table above. Answers are based on the expert opinion and assessment by Finnish Environment Institute. Data source: Finlex / Legislative drafting process guide http://lainvalmistelu.finlex.fi/en/

Data is provided only at national level, no city level data. The reform of the Land Use and Building Act is underway in Finland. In the qualitative evaluation, further explanations should be given for instance for the section (e) (e.g. there might be need for improvements).

2.1.4 Strengthen the capacity of local and subnational governments to implement local and metropolitan multilevel governance

Guidance of municipalities by the central government on urban development

Collaboration between cities and the central government has increased in Finland in the recent years and various ministries guide the urban development of cities. The urban policy activities of various ministries are coordinated and developed by the Urban Policy Committee appointed in 2020. Its objective is to strengthen partnerships between the Government, cities, and urban regions, to promote the ability of urban regions to renew, as well as to improve their competitiveness, social sustainability, and capacity to deal with challenges related to climate change. The Urban Policy Committees secretariat has coordinated the development of *a national urban strategy* (published September 2020), which takes into account the broad objectives of the New Urban Agenda[140]. The Urban Policy Committee is chaired by Mika Lintilä, Minister of Economic Affairs, and it has representatives from most ministries, as well as from 22 cities including the six largest cities Helsinki, Espoo, Vantaa, Tampere, Turku and Oulu.

The Sanna Marin government also appointed a *Committee for metropolitan governance* in autumn 2020 to solve special issues related to the urban development of the Helsinki metropolitan area. The aim of the committee is to strengthen the partnership of the government and the Helsinki metropolitan area to better coordinate the sustainable development and growth, employment, and global competitiveness of the capital region. The committee includes the relevant ministers and mayors of the Helsinki metropolitan region.

State level guidance for municipalities on land use planning and building

Regional and municipal planning in Finland are directed by national land use guidelines that are prepared by the Ministry of the Environment. These national guidelines are given a more specific and concrete form in regional and municipal plans and planning decisions. The Ministry of the Environment is also responsible for developing steering instruments that ensure that land use and planning meets the requirements set by the legislation. The 15 regional centres for economic development, transport and the environment steer and monitor municipal land use planning, providing advice on land use planning issues.

General guidance for land use planning[141] and building activities is based on *Land Use and Building Act*, which is currently being revised. The revised Land Use and Building Act will strengthen the role of municipalities and regions in land use and building and provide new guidance tools for municipalities for land use and building.

[140] https://valtioneuvosto.fi/en/-/10623/national-urban-strategy-supports-role-of-cities-as-innovators-and-in-boosting-competitiveness
[141] https://ym.fi/en/land-use-planning

Since 2010, the State of Finland and the largest urban regions in Finland have concluded *Land use, housing and transport agreements*[142] (MAL agreements). The purpose of the agreements is to support cooperation between municipalities and between municipalities and the State. The matters specified in the agreements include objectives for sustainable land use development and housing production including affordable housing solutions for the most vulnerable and key development projects concerning the sustainable development of the transport network. In 2016-2021, the MAL contract procedure has concerned the four largest urban areas (Helsinki, Tampere, Turku and Oulu), in which approximately 46% of Finnish residents live. Since 2021, three new urban areas have joined. Currently the MAL agreements cover municipalities in which in total 55% of the Finnish population live. The objectives of the agreements in 2016-2021 have been achieved quite well. The contract procedure has improved dialogue, partnerships, and commitment to common goals, both between the state and the municipalities and between the municipalities in their regions.

Health and social services reform

Finland is undergoing a *health and social services reform*[143] that will develop healthcare and social welfare services and reorganise their structure. At present, the responsibility for organising health and social services in Finland rests with 310 municipalities. The health and social services reform will transfer the responsibility for organising services to 22 health and social services counties which is thought to provide people a more equal access to services than with the current system.

Capacity building through city networks

The Association of Finnish Local and Regional Authorities (AFLRA)[144] undertakes lobbying activities for municipalities and supports and builds the capacity of cities in many ways. One of its initiatives is a partnership called the *Network for regional cities*. Cities included in the network are cities that are regional centres but not the main cities of their counties. The aim of the network is to proactively support and lobby for the regional cities. AFLRA is also actively working with indicators and conducted a network project that collected indicators prepared for municipal strategies from different municipalities and analysed them from different perspectives.

There are also several other active city networks in Finland that support the sustainable development of cities. ***6Aika*[145] is a joint strategy for sustainable urban development of the six largest cities in Finland: Helsinki, Espoo, Vantaa, Tampere, Turku and Oulu.** *The C21* is a permanent city network that includes 21 cities including the capital city Helsinki. The network strengthens Finnish urban policy debate and the interest advocacy of the cities. *Fisu (Finnish Sustainable Communities*)[146] is a network of Finnish municipalities committed to working towards becoming carbon neutral and waste-free and curbing overconsumption by 2050. The network consists of 11 municipalities. *The Towards Carbon Neutral Municipalities (Hinku)*[147] network brings together municipalities, businesses, citizens and experts to create and carry out solutions to reduce greenhouse gas emissions. The municipalities involved are committed to reducing greenhouse gas emissions more extensively and rapidly than EU targets require. The network is

[142] https://ym.fi/en/agreements-on-land-use-housing-and-transport
[143] https://soteuudistus.fi/en/frontpage
[144] https://www.localfinland.fi/
[145] https://6aika.fi/en/frontpage/
[146] https://www.fisunetwork.fi/en-US
[147] https://www.hiilineutraalisuomi.fi/en-US/Hinku

coordinated by *the Finnish Environment Institute (SYKE)*. The Finnish Environment Institute (SYKE) also coordinates a network for municipalities that aims to support the work of municipalities to protect the biodiversity and sustainable use of the natural environment[148].

Author: Emma Hannula, CEO, Finngroup Consultants

Contributors: Kaisa Schmidt-Thomé, Senior Expert, Demos Helsinki; Kaisa Mäkelä, Senior Ministerial Adviser, Ministry of the Environment; Suvi Anttila, Senior Specialist, Ministry of the Environment

Indicators

61 Published performance delivery standards at the sub-national level

No data available according to NUA specification.

Aim of the indicator is to measure the quality of local government services by looking at the publicly available indicators and standards to monitor activities (e.g. the provision of services). Unlike in NUA metadata, no list has been collected of municipalities that 1) have published metrics and 2) have not published them. In Finland, municipalities do not carry out comprehensive monitoring of services or municipal operations by law, and monitoring is sector-specific (e.g. in the case of municipal finances, the Ministry of Environment monitors the state of municipal finances based on financial statements).

As an additional data, here is provided as an example the share of municipalities that publish welfare reports (aims, actions and evaluation report in their welfare related activities) in their website which is in accordance with the obligation stated in the Health Care Act (1326/2010, § 12). Share of municipalities that publish their welfare reports is currently 100%. In addition, the Association of Finnish Municipalities (Kuntaliitto) has developed an electronic welfare report (paid service).

Data sources:

- Finlex / Health Care Act https://www.finlex.fi/en/laki/kaannokset/2010/20101326
- About municipal welfare reports (in Finnish) https://thl.fi/fi/web/hyvinvoinnin-ja-terveyden-edistamisen-johtaminen/hyvinvointijohtaminen/hyvinvointijohtaminen-kunnassa/kunnan-hyvinvointikertomus

2.1.5 Promote participatory, age- and gender-responsive approaches to urban policy and planning

Irrespective of the long history of equality between women and men in Finland, which was the first country in the world to grant women full political rights in 1906 and currently occupies the fourth place in the EU Gender equality index 2020, Finland is a gender-neutral, even a gender-blind country, especially in terms of urban policy and planning.

[148] https://www.syke.fi/fi-FI/Tutkimus__kehittaminen/Tutkimus_ja_kehittamishankkeet/Hankkeet/Luontokuntaverkosto

The comprehensive, normative, multi-level planning system focuses on land-use planning (Land-Use and Building Act 1999), which includes the right to participate in the planning process at a certain phase. However, gender is not mentioned in the planning law, nor taken into account on the national, regional or local level[149]. In addition, there is a lack of gender competence in the planning organizations, as the only equality institution in Finland lies at the government level. Thus, there are hardly any gender-responsive approaches to urban policy and planning, nor gender mainstreaming of urban development in Finland, during 2016-2021.

There is, however, one example of participatory urban planning from a feminist intersectional approach in Finland. It is organized by a Helsinki-based planning company - FEMMA - led by two geographers. FEMMA does participatory research, holds workshops for professional planners and residents interested in urban or regional planning. FEMMA highlights the fact that residents' backgrounds, gender, age and socioeconomic status have an impact on the residents' experiences in the city space.[150] [151]

Nevertheless, there is a diversity of participatory, bottom-up or horizontal projects with spatial consequences, implemented by the so called fourth sector (informal groups or movements)[152]. Quite a few of the informal movements are women-dominated, with the core value of care for the natural and built environment, such as the National Urban Park to Helsinki. However, they are ´doing gender` implicitly, not being aware of its meaning. The same applies also to the movements led by men, for example, ´More City to Helsinki`[153]. There are also several projects on gender budgeting, but without a specific focus on urban planning.

In the 1990´s, when the Gender and Human Settlement Network was active in Europe, even Finland had several gender-sensitive urban policy projects[154]. This was due to the fact that there was an interesting power coalition constructed by a gender-sensitive Minister of the Environment (Sirpa Pietikäinen), who enabled her research staff to support an active women´s movement (Housing and Building on Women´s Terms) and to liaise with European Commission gender experts, supported by a feminist Commissioner. This kind of mechanism is currently missing, but perhaps the implementation of the SDGs, enhanced by a variety of digital tools, may bring forth new ways to increase gender-responsiveness.

Recently, the City of Helsinki has become involved in an EU-project called 'Drivers of Equality' which deals with equality and anti-discrimination in urban planning and urban spaces. As collaborators in the EU-project the City of Helsinki has the Finnish Ministry of Justice (coordinator), the Finnish institute of health and welfare and the Non-Discrimination Ombudsman. Helsinki's side project has its own steering group.

---

[149] Tuggener, S. & Zibell, B. (2019) Selected European Perspectives: planning systems and gender issues in nine European countries. In B. Zibell, D. Damyanovic & U. Sturm (Eds.) Gendered Approaches to Spatial development in Europe – Perspectives, Similarities, Differences (pp.37-57). London: Routledge.

[150]https://participationpool.eu/project/inclusive-cities-preventing-social-conflicts-in-public-space/, https://drive.google.com/file/d/1LJNR6-wt38ylGFQQB8ZHKV7ydQkltV7J/view).

151 https://anchor.fm/lahiomysteeri/episodes/5--Black-Lives-Matter--Why-is-the-public-space-dangerous-for-people-of-color-efbuib)

[152] Mäenpää, Pasi & Faehnle, Maija (2021) 4 sektori. Kuinka kaupunkiaktivismi haastaa hallinnon, muuttaa markkinat ja laajentaa demokratiaa. Vastapaino.

[153] Horelli, L. & Damyanovic (2019) Evaluation of spatial development from the gender+ perspective. In B. Zibell, D. Damyanovic & U. Sturm (Eds.) Gendered Approaches to Spatial Development in Europe – Perspectives, Similarities, Differences (pp.157-180). London: Routledge.

[154] Horelli, L. & Booth, C. & Gilroy, R. (2000) The EuroFEM Toolkit for Mobilising women into Local and Regional Development, Revised version. Helsinki: Helsinki University of Technology.

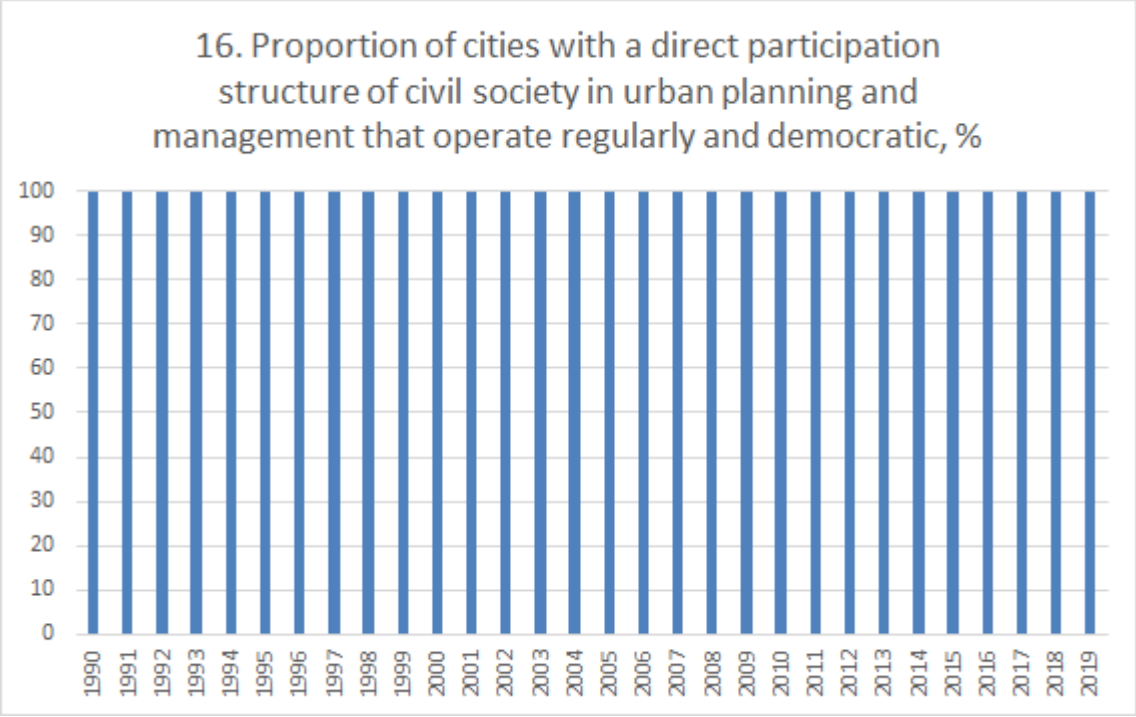
The project carried out by the City of Helsinki is an applied research project that includes interviews, workshops, a literary review and international co-operation. The analysed results of this research material are used for creating a planning tool that supports equality in urban planning – in Helsinki and elsewhere. Interviewees represent urban planning professionals – both employees and executives – working at four units of the Land use and city structure department at the Urban Environment Division. The scrutinized planning sectors are strategic urban planning, detailed planning, traffic and street planning and urban space and landscape planning. Workshops are aimed at third sector organizations and divided into five different categories according to the type of the organization. The organizations represent 1. the homeless, socially excluded, poor and unemployed people, 2. men, women, transsexuals, and sexual minorities, 3. a spectrum of families, children and young people, 4. the elderly, disabled persons, visually impaired and allergic people, bicyclists and pedestrians, and 5. immigrants, cultural and linguistic minorities and religions and worldviews. The literary review deals with studies concerning equality and anti-discrimination in urban planning. The international co-operation includes e.g. Helsinki-based workshops for invited international urban planning professionals.

Author: Liisa Horelli, PhD, Adjunct professor, Environmental Psychology, Department of Built Environment, Aalto University

Contributors: Milla Kallio, Founder, FEMMA Planning; Miika Norppa, Project planner, City of Helsinki; Virve Hokkanen, Programme Manager (Sustainable City), Ministry of the Environment

Indicators

16 Proportion of cities with a direct participation structure of civil society engagement in urban planning and management, which are regular and democratic.



Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratic 2019: 100%.

Indicator is compatible with SDG 11.3.2. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

2.1.6 Promote women's full participation in all fields and all levels of decision-making

Finland is one of the world's most equal countries. Equal representation of women and men in decision-making bodies has also improved in Finland in recent decades. On the other hand, there is still room for improvement: there are more men in managerial positions than there are women[155]. In addition, the *CEDAW Committee on the Elimination of Discrimination against Women* has expressed its concern that Sámi and Roma women are underrepresented in Finland's political and public activities. Women with immigrant backgrounds, women with disabilities and people belonging to gender minorities are also underrepresented in political decision-making at all levels[156].

Equal and democratic decision-making requires that men and women have equal opportunities to participate in decision-making in all areas of society. Equality in decision-making has been promoted in Finland through legislation, especially the *Act on Equality between Women and Men*. The *quota provision of the Act on Equality between Women and Men*, which entered into force in 1995, applies to government and municipal decision-making, but not to private-sector companies. The quota provision applies, for example, to state committees, advisory boards and working groups as well as to municipal and intermunicipal cooperation bodies, with the exception of municipal councils. The quota principle is also applied in many parties, although their activities do not fall within the scope of the quota provisions.

On average, quotas have led to gender balance in the bodies in which they are applied. The quota provision is fully applied to the composition of the central government's committees and working groups (average proportion of women 42% in 2015). In local government, legislative quotas have improved the gender balance in municipal executive governments and municipal committees: in 2012, women accounted for 46% and 48% of these bodies respectively. At the regional level, the share of women in regional governments subject to quotas is 48% (2017). Women are in a minority in the highest positions of local government, such as the chairs of joint municipal authorities and mayors, to which quotas do not apply. However, the proportion of women has increased in these positions as well, especially in recent years.

Gender quotas have also ensured the representation of men in the bodies to which the quota provision applies. Quotas have alleviated gender-based segregation in highly gendered sectors such as education and social services and technology. In Finland, the labour market is still highly gendered, and even from this perspective, gender quotas are an effective means of increasing gender equality and balanced participation of women and men in political decision-making.

In terms of gender, election funding received by candidates has been imbalanced in favour of men, which affects the likelihood of being elected. The challenge is that the funding information by gender for the 2019 parliamentary and EU elections is not available. In the statistics on election funding notifications, it should be possible to examine the situation by gender. In Finland, a good practice – even globally unique – is that

[155] https://thl.fi/en/web/gender-equality/gender-equality-in-finland
[156] https://naisjarjestot.fi/wp-content/uploads/2020/11/PEKING_raportti_taitto_V4_DIGI-002.pdf

five percent of political party funding granted in the state's budget is intended to support women's political activities[157].

In recent years, Finland has woken up to the extent and harm of hate speech, especially online. According to the equality barometer 2018, women experience almost twice as much hate speech as men. Furthermore, the results showed that belonging to a minority exposes women in particular to hate speech. According to a government report, one third of municipal decision-makers have been subject to hate speech due to their work, and the same amount said that their willingness to participate in decision-making has decreased. Hate speech is a phenomenon that undermines democracy.

According to the current government programme, cross-administrative measures are implemented to address systematic harassment, threats and online shaming that threaten freedom of expression, official activities, research and information. Women's organisations have also actively campaigned against gendered hate speech. Opposing hate speech has also clearly emerged in public debate, and there is a willingness to curb the phenomenon.

Author: Tanja Auvinen, Director, Gender Equality Unit, Ministry of Social Affairs and Health

Contributors: Hanne Lyytikkä, Programme Manager, Political Parties of Finland for Democracy – Demo Finland; Emma Hannula, CEO, Finngroup Consultants

Indicators

24 Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions

Distribution of positions (by sex, age, disability and population groups) in public institutions in relation to population distributions: no data available according to the NUA specification. Indicator is compatible with SDG 16.7.1., and based on the Statistics Finland's National SDG Indicator database, no data available. Source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

As additional data, national surveys on the gender of members of parliament, members of municipal councils and chairmen of municipal councils and governments are presented. Of the MPs elected in the 2019 parliamentary elections, 94 are women, or 47%, and men are 53%. Of the delegates elected in the 2017 municipal elections, 39% are women and 61% are men. In municipalities less than 5,000% residents 36% of the elected to the council were women. In municipalities with more than 100,000 inhabitants, almost as many women and men were elected.

Data source: Parliament: Prime Minister's Office, THL 2021 &

[157] https://naisjarjestot.fi/wp-content/uploads/2020/11/PEKING_raportti_taitto_V4_DIGI-002.pdf; https://thl.fi/fi/web/sukupuolten-tasa-arvo/tasa-arvon-tila/valta-ja-paatoksenteko/vaalit-poliittinen-osallistuminen-ja-sukupuoli

Municipal councils: Statistics Finland, Association of Finnish Municipalities, THL 2020 https://thl.fi/fi/web/sukupuolten-tasa-arvo/tasa-arvon-tila/valta-ja-paatoksenteko/sukupuoli-ja-politiikan-johtopaikat

2.2 Planning and Managing Urban Spatial Development

2.2.1 Integrated and balanced territorial development policies

In Finland, integrated and balanced territorial development is steered by means of regional planning and regional development, which are laid down in the Land Use and Building Act and the Regional Development Act. The government's decisions on *national land use objectives* of 2017 and regional development of 2020 outline issues of national significance, and their preparation is based on close interaction between ministries and regions.

From the perspective of balanced regional development, the key challenges are related to urbanisation and, consequently, the segregation of the regional structure. In Finland, the coverage of the urban network has remained country-wide, although in recent years growth has been strongly directed at the Helsinki metropolitan area and the largest urban regions, whose functional areas have also expanded. Evolution and development are thus characterised by growth and sustainable management on the one hand and the safeguarding of vitality and living conditions in areas with diminishing populations on the other. The increasing service-orientation of livelihoods and business activities and the specialisation of the labour market have favoured the concentration of activities. On the other hand, digitalisation and location-independence, and especially the use and processing of natural resources, as well as tourism, create more vitality.

From the perspective of balanced regional development, government decisions emphasise the utilisation of the strengths and existing structures of different regions, i.e. location-based development. The promotion of a multi-centre, networked regional structure based on good transport connections is a key policy. Large and medium-sized centres in different parts of the country act as nodes of the regional structure while striving to strengthen their interaction and division of labour with the surrounding areas, each other and Finland's neighbouring areas. As regards urban regions, emphasis is placed on defragmentation of the urban structure and its development as balanced entities by relying on existing centres.

From the perspective of balanced regional development and the implementation of national policies concerning it, it is essential that Finland has been divided into 18 functionally unified regions, i.e., provinces, where regional councils as joint municipal authorities are responsible for regional planning and the preparation of regional development programmes and keeping them up to date. Through their planning and programme work, the provinces promote balanced regional development based on the conditions and needs of the province, taking national policies into account in it. The regional plan is also a key tool for the balanced development of the urban and service structure of urban regions. The ex post confirmation of the regional plan was abandoned in 2016, and more proactive cooperation between the authorities during the preparation of the plan was introduced. Correspondingly, new operating methods have been developed for regional development, such as the state and provincial discussions on regional development introduced in 2021.

National policies are implemented in the activities of various administrative branches. As an example of a new form of planning, the *12-year national transport system plan* introduced in 2021 will promote

balanced regional development and sustainable mobility in urban areas. The state has also supported thematic networks and development zones between provinces and municipalities that implement national objectives. For example, *Growth Corridor Finland*, which connects large cities in southern Finland, has served as a pilot platform for projects concerning sustainable mobility or urban–rural cooperation. The agreements between the state and the largest urban regions on land use, housing and transport (MAL) have improved the functioning and competitiveness of urban regions as well as the balanced development of municipalities. Several projects related to regionally balanced development have been implemented and initiated in the government's research and development activities. They address, for example, multi-locality, mobility of labour or, more broadly, the future needs of regional and urban structures, and also assess the needs for developing policy measures.

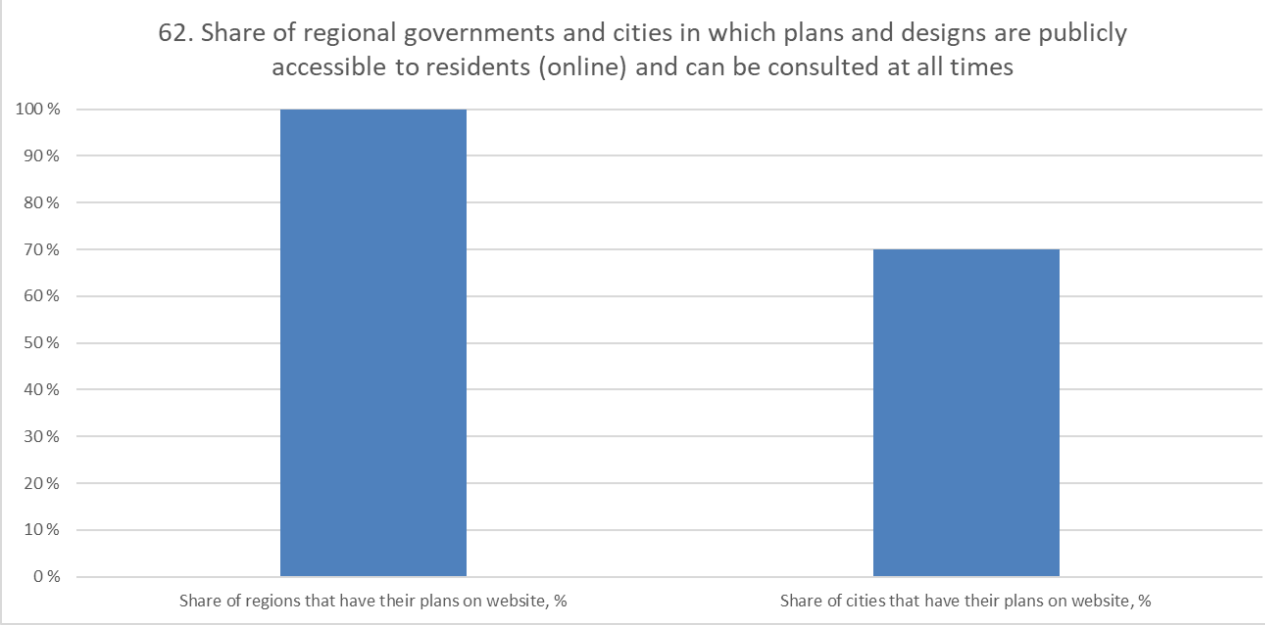
Author: Timo Turunen, Senior Advisor, Ministry of the Environment

Contributors: Pia Hastio, Head of Masterplanning, City of Tampere

Indicators

20 Does the country have a National Urban Policy or Regional Development Plan that (a) responds to population dynamics, (b) ensures balanced territorial development, and (c) increase in local fiscal space.[1]
See: 1.2.2.3 Strengthen urban-rural linkages to maximize productivity

62 Number of countries, regional governments, and cities in which plans and designs are publicly accessible to residents (on-line) and can be consulted at all times



Share for regional councils that have their plans on website is 100% and that of municipalities 70%.

The indicator describes the percentages of both regional councils and municipalities whose 1) regional plans, programs and land-use plans and 2) urban development strategies, programs and land-use plans are freely available on the organisation's website. Data on the shares is based on expert assessment of Finnish Environment Institute.

In addition to the municipalities' own websites, the land-use plans are compiled in Living Environment Information Service Liiteri - for instance, about 180 municipal up-to-date detailed plans, which are read from the municipalities' wfs- and wms-interfaces. The content varies between municipalities. Use of the service is subject to a fee. In addition, combinations of Finland's verified master plans (subject to a fee) are available from SYKE's Master Plan Service. In addition, municipalities are required to conduct a planning report annually, and in addition, the plans' participation and evaluation plans, plan proposals and completed plans must be available, but current legislation does not direct the publication of materials on, for example, the municipality's website. The ongoing reform of the Land Use and Building Act will propose to add information to municipalities' websites.

Data sources:

- Information Service Liiteri https://www.ymparisto.fi/en-US/Living_environment_information_service_Liiteri
- Master Plan Service (in Finnish) https://www.ymparisto.fi/fi-FI/Elinympariston_tietopalvelu_Liiteri/Yleiskaavapalvelu

2.2.2 Integrate housing into urban development plans

Land use planning creates preconditions for a good living environment. The general steering of land use planning is based on the Land Use and Building Act. In Finland, national land use targets guide planning in provinces and municipalities. In addition to national objectives, the Finnish land use planning system includes the *regional plan, local master plan* and *local detailed plan*. Land use is also influenced by various *regional* and *municipal strategies*, municipal land policy and construction order. The regional plan resolves the regional issues of land use, while the local master plan indicates the objectives of the use of the areas in the municipality. The local detailed plan is the most detailed plan level of the hierarchical planning system. It is used to steer land use and construction as required by local conditions, urban image and landscape, good construction practices and other jointly agreed objectives.

Since 2010, Finland has been using the *agreement procedure* between central government and municipalities in urban areas on *land use, housing and transport*. The aim of the agreements is to promote socially, ecologically and economically sustainable development of the urban structure of urban regions on the basis of climate change mitigation and adaptation. The aim is also to secure diverse and affordable housing solutions for people who are worst off. The agreements prevent segregation and polarisation within regions and reduce homelessness.

In 2016–2021, the MAL agreement procedure has applied to the four largest urban regions (Helsinki, Tampere, Turku and Oulu regions), in which some 46% of Finnish residents live. Since 2021, three new urban regions have been included, after which some 55% of Finnish residents live in municipalities covered by the MAL agreement procedure.

The objectives of the agreements between 2016 and 2021 have been achieved fairly well. The agreement procedure has improved the link, partnership and commitment between the state and the region as well as between municipalities in the region.

In the agreements, the state allocates both steering and financial support to urban regions. For example, the state supports rental housing production, which the municipalities commit to directing to places that are good for sustainable mobility. The ambitious housing production targets set for the regions have increased affordable housing production in the largest cities, where both owner-occupied and rented housing are the most expensive. Construction and new areas with local detailed plans are located in well-accessible areas that support the integrity of the social structure.

The direction of regional development has depended greatly on the region in Finland. According to the situation of 2017, construction in the largest urban areas is largely guided by local master plans and local detailed plans, whereas 38% of construction in rural municipalities is located outside local master plans and local detailed plans. Population growth and new construction have increasingly concentrated on a few strongly growing urban areas. The amount of floor space of new buildings completed in urban areas has grown somewhat in recent years, but a bigger change has been the strong decline in new construction in small urban areas and rural municipalities. In 2018, more than half of the completed floor area of all buildings was located in the municipalities of the four largest urban regions and two thirds in the municipalities of the ten largest regions. Population growth and new construction have increasingly concentrated on a few strongly growing urban areas. The amount of floor space of new buildings completed in urban areas has grown somewhat in recent years, but a bigger change has been the strong decline in new construction in small urban areas and rural municipalities. In 2018, more than half of the completed floor area of all buildings was located in the municipalities of the four largest urban regions and two thirds in the municipalities of the ten largest regions.

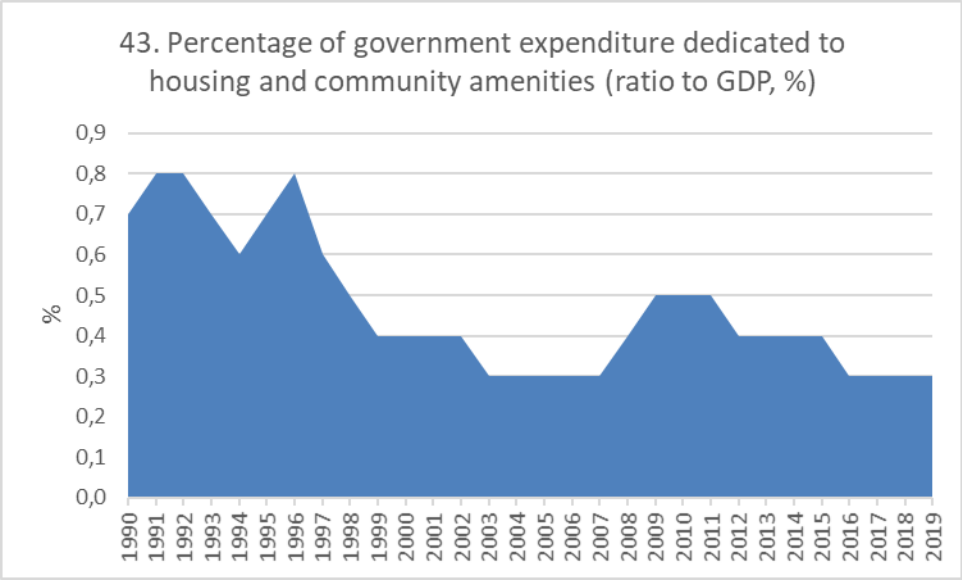
The current *Land Use and Building Act (132/1999)* entered into force at the beginning of 2000. The most recent significant changes to the act in question related to the use of land have been the elimination of the obligation to confirm regional plans and the transfer of the power of derogation to municipalities in its entirety in spring 2016. The comprehensive reform of the act in question, which started in 2018, responds to the challenges, changes and development needs of land use planning and construction. Significant changes have taken place in the operating environment during the validity of the Land Use and Building Act, and the visible development also challenges new measures. These phenomena include climate and energy issues, diversification of the regional structure, urbanisation, change in mobility, digitalisation and changes in administrative structures.

Authors: Sanna Andersson, Senior Specialist, Ministry of the Environment; Kaisa Mäkelä, Senior Ministerial Adviser, Ministry of the Environment

Contributors: Juha Kostiainen, Executive Vice President, Urban Development, YIT Corporation; Riikka Karjalainen, Senior Planning Officer, Housing, City of Helsinki

Indicators

43 Percentage of government expenditure dedicated to housing and community amenities



Percentage of government expenditure dedicated to housing and community amenities (%, ratio to GDP) in 2019: 0,3%. Housing and community amenities include 'housing development', 'community development', 'water supply', 'street lighting', and 'R&D housing and community amenities'.

Data source: Statistics Finland https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__jul__jmete/statfin_jmete_pxt_12a6.px

13 Proportion of urban population living in slums, informal settlements or inadequate housing

Proportion of urban population living in slums, informal settlements or inadequate housing: no data available according to the NUA specification. Indicator compatible with SDG 11.1.1. and based on the Statistics Finland's National SDG Indicator database, no data available. Source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

Possible alternative data available: Data on homelessness is collected by ARA (The Housing Finance and Development Centre of Finland) once a year based on a separate study. Data available from Finland since 1987. At the end of 2020, there were 4,341 single homeless people in Finland. There were 201 homeless families and couples. There were 1,054 long-term homeless people. There were 854 homeless people under the age of 25.
Data source: https://www.ara.fi/fi-FI/Tietopankki/Tilastot_ja_selvitykset/Asunnottomuus

2.2.3 Inclusion of culture as a priority component of urban planning

Urban planning is governed by the Land Use and Building Act, which entered into force in 2000. The act requires that special attention be paid to preserving the landscape and cultural heritage at all levels of planning. For this reason, reports are prepared for planning purposes on the cultural values of the environment. In Finland, the general concept in this context is cultural environment.

The urban image and the building heritage of urban areas are mainly protected by planning regulations, in which case the municipality decides on the protection. The protection objectives are set at the general plan level, and the final protection is implemented at the detailed plan level. The municipality decides on its planning programme independently. Detailed planning is initiated primarily due to a need for land use other than protection, in which case an individual building heritage site may have to wait for a protection solution. However, in some municipalities, detailed plans have been launched specifically for implementing protection objectives. In exceptional situations, the state's regional environmental authority may also decide on the protection of building heritage in urban areas, for example if the site has national significance. However, during the review period 2016–2021, the power of state authorities in matters related to the use of municipal areas has generally been narrowed.

Under the Land Use and Building Act, a national urban park can be established to preserve and manage a large entity of rich cultural and natural value in urban environments. The Ministry of the Environment decides on the establishment at the request of the city. In addition to the current ten national urban parks, studies are ongoing in a number of cities on the establishment of urban parks. Urban strategies also support sustainable development in terms of cultural values[158].

Under the Land Use and Building Act, the government may decide on national land use targets that must be taken into account in the planning of land use. According to the latest government decision that entered into force at the beginning of 2018, land use must ensure the safeguarding of the values of nationally valuable cultural environments and natural heritage. In order to identify such values, country-wide inventories are drawn up by state expert authorities. Important projects during the 2016–2021 review period have been updates of inventories of landscape areas and archaeological sites of national value. In addition, the 2009 inventory of nationally significant built cultural environments is in force.

The majority of Finland's building stock is from the period after the Second World War. However, studies of the cultural values of the built environment emphasise building stock older than this, in which case the values of modern building heritage may not be recognised when renovating buildings and modifying them for new uses. An example of good practice is the inventory of modern building heritage carried out as a joint project of municipalities in the province of Central Finland, which has been utilised in the regional plan completed in 2017 and can be utilised in more detailed plans for municipalities.

In practice, preserving a valuable site is not always possible if it is located in an area of declining demographics or if it does not meet the changed needs. Such sites include factory environments, hospitals and schools. Buildings are also demolished and rebuilt due to indoor air problems. However, the aim in infill areas is to bring the current urban culture to urban spaces that are left out of their original use. Other topical issues in Finland thus far include minor high-rising construction and the role of businesses in

[158] For example, the objective of the Helsinki Maritime Strategy 2018–2030 is to "implement the planning and use of beaches and archipelago on the terms of sensitive archipelago nature, unique Baltic Sea and multi-layer cultural heritage".

planning. According to case law, significant changes can be made in nationally valuable environments when it comes to the coordination of different land use targets.

The government decision on the national land use targets also states that it is important to ensure the conditions for developing the Sámi culture and Sámi livelihoods and the preservation of the areas that are important for them, so that the Sámi as an indigenous people have the right to maintain and develop their own culture. The promotion of the rights of the Sámi people are studied in several ongoing legislative projects. This also applies to the reform of the Land Use and Building Act, which is due to enter into force in 2023.

In 2004, the government drafted the first *national strategy for the cultural environment*, whose implementation period continued until 2020. According to the strategy, a managed and vibrant cultural environment increases people's wellbeing and plays an important role in developing livelihoods and creating a pleasant living environment. It is expected that during the strategy period, appreciation of the cultural environment and awareness of its significance in urban planning have increased. On the other hand, shortcomings in areas such as economic incentives and the inclusion of businesses have still been identified.

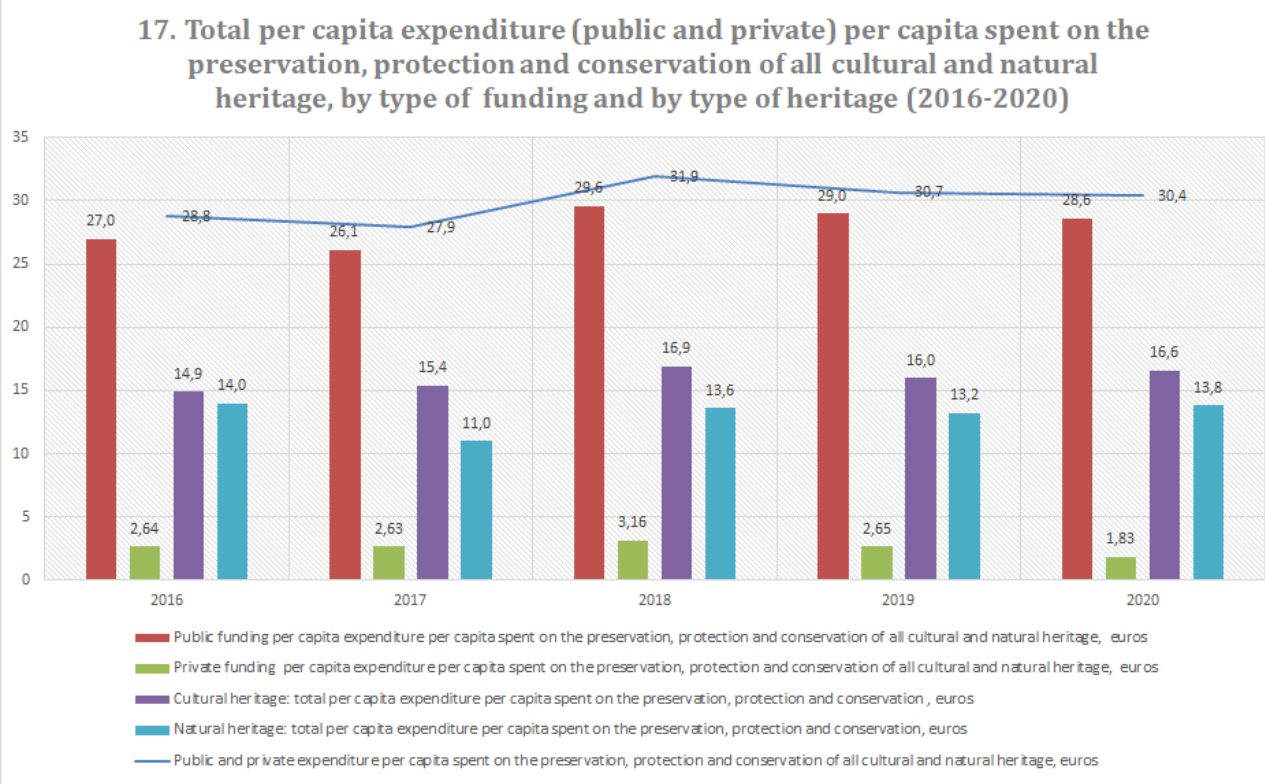
The next national steering measures under the 2019 government programme include the *implementation of the Architectural Policy Programme* prepared in 2020 and the preparation of a comprehensive *national cultural heritage strategy*. Increasing research data on the significance of cultural heritage has also been identified as important. For example, a citizens' survey prepared for the first time in 2017, the *cultural heritage barometer*, will be repeated every four years.

Author: Matleena Haapala, Senior Specialist, Legal Affairs, Local Environment and Housing, Department of the Built Environment, Ministry of the Environment

Contributors: Heli-Maija Voutilainen, Director of Jyväskylä Museums; Nina Ahola, Planner, Finnish Environment Institute

Indicators

17 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage, level of government, type of expenditure and type of private funding



Total per capita expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage in 2020: 30,4 €.

- Public funding in 2020: 28,6 €
- Private funding in 2020: 1,83 €
- All cultural heritage in 2020: 16,6 €
- All natural heritage in 2020: 13,8 €

No disaggregated data available by level of government, type of expenditure or type of private funding. Data available since 2016. Compatible with SDG 11.4.1. Data source: Statistics Finland, National SDG Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

2.2.4 Planned urban extensions and infill, urban renewal and regeneration of urban areas

The Ministry of the Environment promotes sustainable urban planning by reforming legislation and through projects and programmes, such as the *Sustainable City programme* (2019–2023) and *Perspectives for Land Use in Finland* (2021–), as well as agreements between the state and the seven largest urban regions on land use, housing and transport (MAL). In addition, the Finnish Environment Institute has completed the *Best Practices Promoting Sustainable Urban Form* (2019–2021), and the *Mixed use indices and urban fabrics supporting urban development* project (2020–2021), which are a continuation of the *Urban Zones Applied in Planning* project that ended in 2018.

The key tools of the land use planning system pursuant to the Land Use and Building Act include national land use guidelines, regional plan, local master plan and local detailed plan. According to national land use

guidelines, the integrity of urban structure is strengthened with large urban areas. In addition, the content requirements of the regional, local master and local detailed plans specified in the act are intended to promote sustainable urban planning. For example, according to the content requirements of the local master plan, the use of the existing community structure must be taken into account. In the ongoing reform of the Land Use and Building Act, the urban sub-region plan has been proposed as a new part of the spatial planning system, the aim of which is, among other things, to promote sustainability in urban areas.

The development of fragmentation of communities in Finland declined in the 2010s, and the physical structure of urban areas became more dense thanks to infill, especially in the largest cities. However, the area required by sparsely built fringe localities and dispersed settlements without a local detailed plan continued to expand[159].

The sustainable urban development of Finland's largest cities has been supported by active planning and sufficient implementation resources. In the seven largest cities, the focus of construction during the last five years has been on the infill construction of the existing urban structure. The acceptability of urban structure infill is a major challenge. For example, 47% of the residential floor area of local detailed plans approved in the municipalities of the Helsinki urban region in 2020 is included in plans that have been appealed to an administrative court.

In Helsinki, 45% of housing production is located in existing residential areas in 2016–2020. Other construction has mainly taken place in urban areas that have already been built by reforming them for new uses. There are dozens of kilometres of new light rail under construction and planned, adjacent to which new construction has been planned. The challenge is the planning of an urban structure that supports climate objectives.

In recent years, Espoo has built especially along the metro corridor and the urban railway. The *City of Espoo's Sustainable Energy and Climate Action Plan (SECAP)* contains as key projects *Kera* along the urban railway and *Finnoo* and *Kiviruukki* along the metro line. Challenges include the slow nature of infill and the definition of sustainability: depending on the perspective, the projects may even have opposing effects.

Construction carried out in Tampere over the past five years is mainly located in the existing urban structure, and only one fifth of the floor area of construction is located in areas that expand the urban structure. Sustainable growth has been successful, for example, by offering for new construction coastal areas removed from the industrial reserve, close to the city centre services. The tramway currently under construction between the city centre and the largest workplace concentrations offers new opportunities for housing. Based on the assessment of the climate impacts of the urban structure, the growth in Tampere's central urban area will be sustainable as a whole.

In Vantaa, 2/3 of new housing production is supplementary construction of areas close to train stations. Approximately 20% of housing production has been located in the new *Kivistö station area*, which has been made possible by the *Ring Rail Line*. In other respects, the growth takes place in the current structures. The key projects include the construction of a public transport city and the development of Kivistö, Tikkurila and other centres. During 2016–2021, the planning of a new tramway has been launched and a local master plan covering the entire city has been prepared. The basic principle of the plan is to guide growth inward, preserving natural values and the growth direction of the future. The challenge of urban development is nature issues, the importance of which has increased.

[159] https://helda.helsinki.fi/bitstream/handle/10138/236327/SYKEra_13_2018.pdf?sequence=1

In Oulu, sustainable urban development is guided by an *environmental programme* that implements the urban strategy. In 2016–2020, the proportion of infill construction in housing production has been 55%–65%. The key project in circular economy is the former Tahkokangas service centre area, where approximately 2,500 flats have been designated in the local detailed plan and several buildings are proposed for demolition. The use of demolition masses and surplus land has been recorded in the plan regulations.

In Turku, construction is mainly located in the existing urban structure, compacting and supplementing it. The residential floor area of the local detailed plans approved in 2016–2019 is mainly located in the compacting sustainable urban structure zone. The most significant urban development sites are located in the immediate vicinity of Turku city centre. A total of 15,000 new inhabitants and 7,000 new jobs are coming to *Linnankaupunki*, which expands the city centre of Turku. There will be 20,000 new inhabitants and 10,000 new jobs in the *Itäharju area*, located 2.5 kilometres from the city centre. The *Turku Science Park* area will be developed as an internationally significant centre of expertise. Residents may feel that the development of urban structures weakens their living environment, resulting in resistance. In addition, fragmented land ownership is a challenge for urban development in many places.

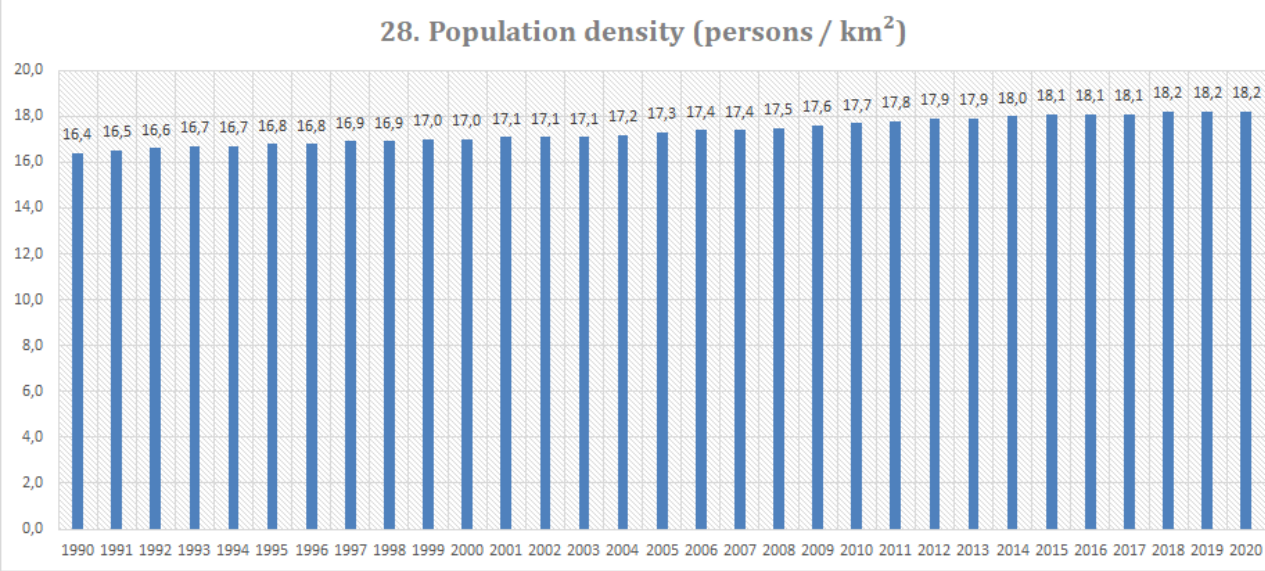
In 2010–2019, 88% of housing production in Jyväskylä was targeted at the zones for infill and sustainable mobility indicated in the local master plan. The compacting of the urban structure has set challenges for securing nearby recreational areas and the well-being of residents.

Author: Juha Nurmi, Senior Specialist, Ministry of the Environment

Contributors: Heikki Salmikivi, Team Manager, City of Helsinki; Kristiina Rinkinen, Planning Manager, City of Espoo; Pia Hastio, Head of Master Planning, City of Tampere; Mari Siivola, Head of Masterplanning, City of Vantaa; Paula Paajanen, Master Plan Manager, City of Oulu; Andrei Panschin, Master plan engineer, City of Turku; Mervi Vallinkoski, Head of Master Planning, City of Jyväskylä; Tommy Lindgren, Architect/Lecturer, Aalto University; Emma Hannula, CEO, Finngroup Consultants

Indicators

28 Population Density



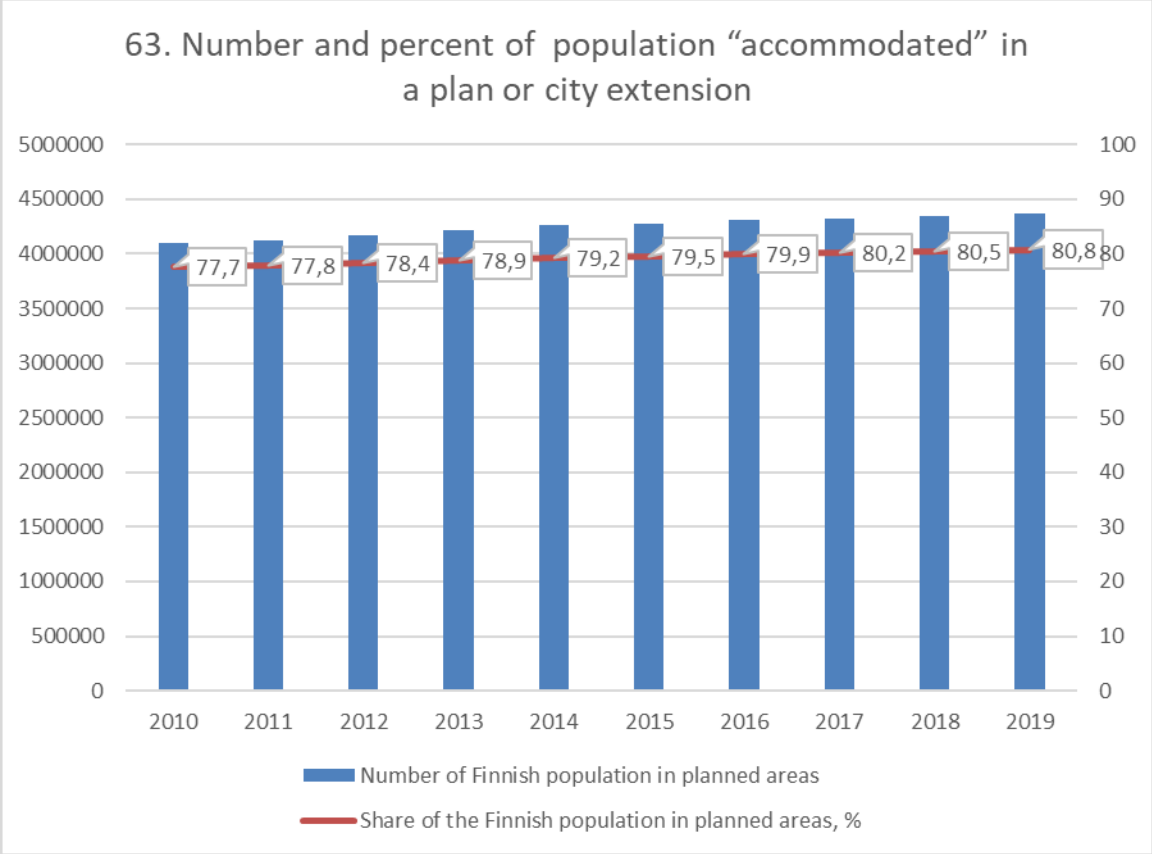
Population density in 2020: 18,2 persons / km².

Data source: Statistics Finland, Population structure https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__vrm__vaerak/statfin_vaerak_pxt_11ra.px/

29 Land-use mix

No data available according to the NUA specification, but data can be gathered through supplementary data collection.

63 Number and percent of new population "accommodated" in a plan or city extension



Number of Finnish population in planned areas in 2019: 4 373 646
Share of the Finnish population in planned areas, % in 2019: 80,8 %

The indicator focuses on the number and share of the new population in planned zoning areas or in city extension or infill. As national data, the number and share of Finnish population in planned areas (e.g. areas that have zoning plans) is presented here as indicator data. Data is available from 2010-2019. Determining the share of new population on these areas requires separate calculations. NOTE: national data do not explicate whether examined planning areas are city extensions or infill in nature. Data source: Living Environment Information service Liiteri (23.4.2021): Population Information System / Digital and Population Information Agency, ELY-centers, Finnish Environment Institute

2.2.5 Improved capacity for urban planning and design, and training for urban planners at all levels of government

Most of the key challenges of contemporary societies are encountered and addressed in cities. Despite the fact that policy documents and news are permeated by concerns about urbanization or even climate change, efforts to plan urban development have not really changed since the 1960s and 1970s, when the roles of varying planning professions were established. The magnitude of present-day challenges implies that discrete fields of research or professions cannot tackle them alone: the planning, designing or training of professionals to guide urban development requires an integrated approach.

In Finland higher education related to urban planning and design are organized in various disciplines and universities. Typically, those disciplines are architecture, landscape architecture, urban design, geography, engineering in varying fields of the built environment, social sciences, environmental sciences etc. Finland has not had the same kind of planning profession, education and degree than several other countries in Europe and the U.S. have.

At the same time, multiplicity can naturally also be seen in the problems and challenges that urban planning tries to answer. Cities are places of social conflicts and segregation as well as environmental and health problems, but they also provide enormous economic, technical, and cultural opportunities. Hence, urban challenges could be solved with various scientific backgrounds. It is beneficial if the experts involved in urban planning and design have varying academic backgrounds and have the capability to communicate across the professional and disciplinary boundaries.[160]

Existing roles are rooted deep in institutionalized structures. To be a qualified formal planner one needs to have the appropriate training for the planning and design task and the sufficient work experience required by the complexity of the task[161]. The qualification of the planner in Finland is based on the *Land Use and Construction Act* and the *Land Use and Construction Regulation* supplementing it. Training requirements depend on the degree completed and the amount of study credits in the basics of community planning as well as detailed and general community planning. In addition, experience in community planning is required as work experience. The minimum work experience requirement depends on the degree completed and the amount of community planning studies completed. Institutionalized silos and the differentiation of expertise in urban planning and management have reasoned grounds too, but also work effectively as fortresses of their own.

Universities and the education basis are parts of the recognized problem and to a large extent possibly only strengthen the established boundaries. This was recognized 10 years ago, and this development has progressed in gradual steps. In 2012 the University of Helsinki, Aalto University and the City of Helsinki established a network called the *Urban Academy*. From the beginning of the collaboration, it has provided teaching of urban research in a joint minor programme of two universities. In 2017 the universities established a joint master's programme in *Urban Studies and Planning (USP)*[162] to strengthen the multiple angles and frameworks when solving urban challenges by educating future professionals. In 2019 the collaboration was extended to cover an entire metropolitan agglomeration when the two neighbouring cities Espoo and Vantaa joined in the collaboration[163].

The USP Master's Programme aims to prepare students to excel as professionals capable of understanding and addressing complex urban development challenges. The USP Master's Programme is an example how multidisciplinarity and joint efforts help future professionals with broad understanding and varying study backgrounds to participate in urban planning and design. The programme integrates seven different degrees from six different faculties around the same curriculum. Some of the students in the USP Master's Programme study courses and degrees that give them the qualifications to work as a planner. And some of the students graduate as experts, scholars and professionals that can work in other planning or expert roles.

The challenge of the teaching is, however, two-fold and does not fit well in the common division of generalists and specialists. On the one hand all students need to gain knowledge and competence to work as a qualified member of a team of specialists. On the other hand, students need to recognize the fuzzy

[160] https://journal.fi/tt/article/view/76487/37764
[161] https://fise.fi/en/
[162] https://www2.helsinki.fi/en/admissions/degree-programmes/urban-studies-and-planning-masters-programme
[163] In Finland cities are independent municipal entities and as such comparatively large administrative units with strong decision-making power. In 2021 Helsinki has 656.000, Espoo 290.000 and Vantaa 238.033 inhabitants.

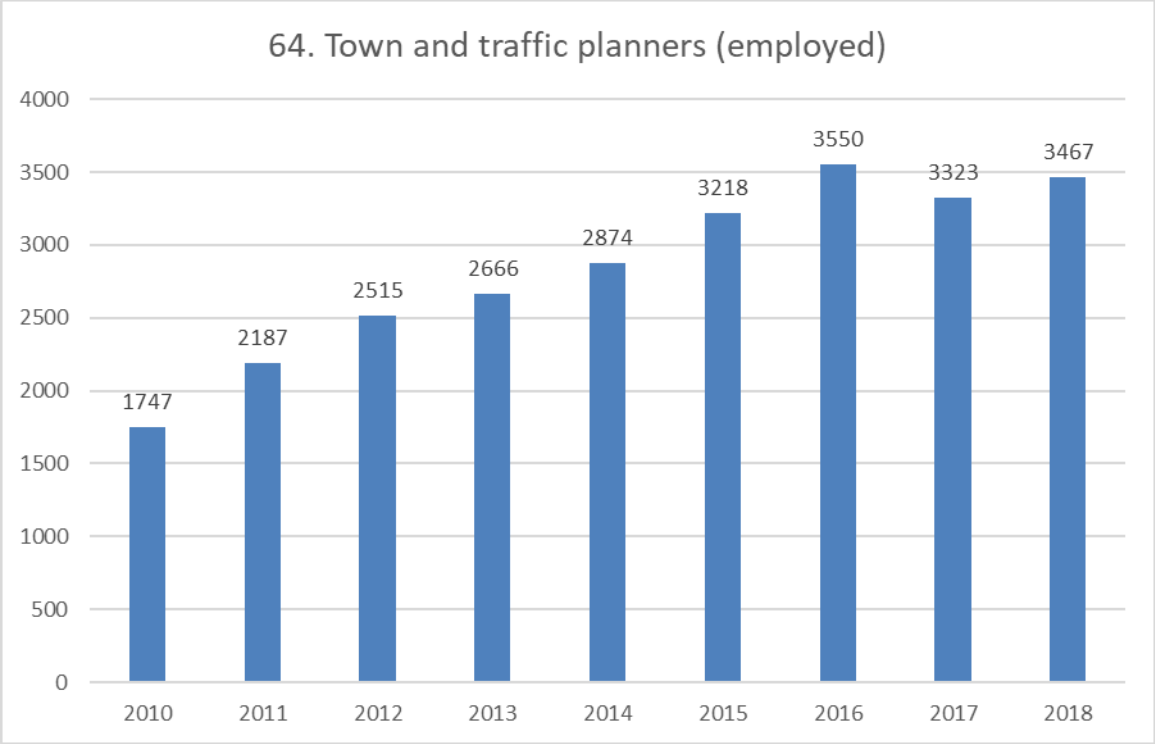
boundary of professional activities, where the weak assumptions of one's own discipline can possibly be seen more clearly from the outside. The task is not easy and sometimes frustrating, so it is important to expose students to these challenges already during their studies. So far, looking at the expertise and employment of the new graduates allows the continuing of the work.

Authors: Anssi Joutsiniemi, Director of the Urban Studies and Planning Master's programme, Aalto University and Petteri Muukkonen, Director of the Urban Studies and Planning Master's programme, University of Helsinki

Contributors: Mari Vaattovaara, Professor of Urban Geography, Director of the Institute of Urban and Regional Studies, University of Helsinki

Indicators

64 Number of urban planners per 100,000 persons



Number of employed traffic and town planners in Finland in 2018: 3467 employed

NUA-indicator is presented to monitor the number of planners registered in a country per 100 000 persons. No data available according to NUA specification. Here is presented instead number of employed traffic and town planners in Finland 2010-2018. Data can't be disaggregated based on public/private sector employed planners. Data source: Employment, Statistics
Finland, https://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin/StatFin__vrm__tyokay/statfin_tyokay_pxt_115q.px/

2.2.6 Strengthening the role of small and intermediate cities and towns

Urbanisation is progressing in Finland, the national regional structure is segregating and development is polarised. More than 70% of Finns already live in urban areas. In recent decades, urbanisation has increasingly become the growth of the largest cities (Helsinki, Tampere, Turku, Oulu). Medium-size centres have maintained their position in development, but many smaller centres have gradually become regions of a declining population. The declining trend is threatening particularly to the periphery of rural areas, which are far from the largest centres. According to population forecast, an increasingly large share of population growth is directed to a few large urban regions; more than 80% of the future growth in urban areas takes place in the four largest regions.

Decisions of the government's national land use guidelines and on regional development emphasise the regional structure based on multiple centres and networking and good transport connections. This enables sustainable economy and the use of existing infrastructure and building stock.

The government has established development programmes of cities of different sizes to promote urban policy. The smallest cities, so-called *regional cities*, are typically the second cities of a regional centre. The government established a *regional urban programme*[164] to develop regional cities.

Many regional cities are small industrial cities with significant export industry but where the economic structure is one-sided and sensitive to structural changes. The migration of young people to the largest growth centres creates a shortage of skilled workforce for regional cities. In fact, the regional urban programme has been emphasising the provision of education and a network of universities of applied sciences, as well as the connection to universities.

The regional urban programme was reformed by the government in 2021, and its implementation was intensified. From the perspective of regional development, the intensification of digitalisation and having multiple localities are a particularly important development tool for regional cities. Having multiple locations is also seen as a means of combating the polarisation of the regional structure. In accordance with the government programme, this will be promoted through various measures, for example by enhancing the regional presence of central government activities, by means of digitalisation and multi-location.

The Association of Finnish Municipalities acts as the guardian of the interests of regional cities, for example through the *regional urban network*.[165] The regional urban network supports the development of the services, research and business activities of the network's cities. The regional urban network also provides the network's cities with solutions for developing and deploying smart and sustainable solutions that support regional and urban policy.

Author: Mika Ristimäki, Senior Specialist, Ministry of the Environment

Contributors: Emma Hannula, CEO, Finngroup Consultants

[164] https://julkaisut.valtioneuvosto.fi/handle/10024/162342
[165] https://www.kuntaliitto.fi/yhdyskunnat-ja-ymparisto/kaupunkipolitiikka/kaupunkipolitiikka/seutukaupungit-ja-seutukaupunkiverkosto

Indicators

20 Does your country have a National Urban Policy or Regional Development Plan that (a) responds to population dynamics, (b) ensures balanced territorial development, and (c) increase in local fiscal space.

See: 1.2.2.3 Strengthen urban-rural linkages to maximize productivity

2.2.7 Promote sustainable multimodal public transport systems including non-motorized options

In recent years, the increasing servicisation of transport, including MaaS, and walking and cycling in Finland have often been promoted through policy and legislative measures. The Act on Transport Services has been a broad regulatory reform with the aim of enabling digitalisation and innovations to progress in the sector and thus integrating public transport and other services into a sustainable service package. Among other things, the *Programme for the promotion of walking and cycling* was drawn up in Finland in 2018[166] and, most recently, the *Roadmap for fossil-free transport*, was drawn up in spring 2021 for the reduction of greenhouse gas emissions from domestic transport, covering a wide range of instruments[167]. For the first time, a *12-year national transport system plan*[168,] has been drawn up for the long-term development of the entire transport system. One of its objectives is to improve people's opportunities to choose more sustainable modes of transport, especially in urban areas. Cities have included transport targets and actions, especially in their low-carbon and circular economy strategies.

The promotion of sustainable and multimodal services is seen as requiring systemic change and various measures from infrastructure to tax incentives. Cooperation and coordination between the state and urban regions and the promotion of public–private cooperation have been seen as a key factor. This is supported, among other things, by MAL agreements (land use, housing and transport) concluded between the state and the seven largest urban areas and by various cooperation groups and programmes.

In Finland, MaaS thinking and the operating model of the *Whim application*, used in the Helsinki metropolitan area and Turku, are based on the fact that public transport serves as the backbone of services and combines multimodal services, including walking and cycling as well as shared-use cars and micro-mobility, whose service provision has increased in recent years[169]. The challenges for the progress of services are still the rules of commercial cooperation and the integration of services into a genuinely attractive entity, which requires, for example, closer cooperation between different actors and contract models. There is also a need to improve the recognition of the services and to support their spread, for example, by means of tax incentives.

Finland's largest urban regions have invested significantly in the development of local public transport, and positive growth in passenger numbers was seen in 2014–2019. In the Helsinki region, the latest extensive mobility survey was carried out in 2018, when 22% of the journeys were made using public transport, and 60% with sustainable modes of transport. In order to increase the use of public transport, urban regions have focused both on developing the tag-based nature of ticket and payment systems and on customer-oriented development of services intended for passengers, such as route guidance and ticket applications.

---

[166] https://julkaisut.valtioneuvosto.fi/handle/10024/160720
[167] https://valtioneuvosto.fi/hanke?tunnus=LVM050:00/2019
[168] https://valtioneuvosto.fi/hanke?tunnus=LVM018:00/2019
[169] A report published in 2019 has provided indications that MaaS encourages multimodal mobility and, for example, the use of city bikes: https://ramboll.com/-/media/files/rfi/publications/Ramboll_whimpact-2019.pdf

In addition, commuter payments and the integration of tickets into broader service packages, such as theatre tickets, have been developed.

With urbanisation and climate targets, walking and cycling have become an important part of the transport system. According to a national passenger transport survey, walking accounted for 22% of all journeys made in 2016 and cycling for 8%. The proportion of cycling among modes of transport varies by municipality, from a few percent to just under 20%. Investments in pedestrian and bicycle infrastructure have been increasing, albeit still minor in international comparisons. In the 2010s, government funding for the construction and management of pedestrian and cycling infrastructure was on average around €30 million/year. Of the individual cities, Oulu in particular has managed to increase cycling through systematic work.

A new trend in Finland is the proliferation of *city bike systems*[170]. In 2019, there were already eighteen urban bicycle systems in Finland, while in 2018 there were eight. Integration with public transport services is the most important success factor in the urban cycle system. City bikes have replaced walking, tram and bus trips in Helsinki and Espoo, and up to 17% of car trips[171]. The COVID-19 pandemic has further boosted the popularity of cycling and, in particular, electric bicycles.

Author: Laura Eiro, Ohjelmajohtaja, ITS Finland

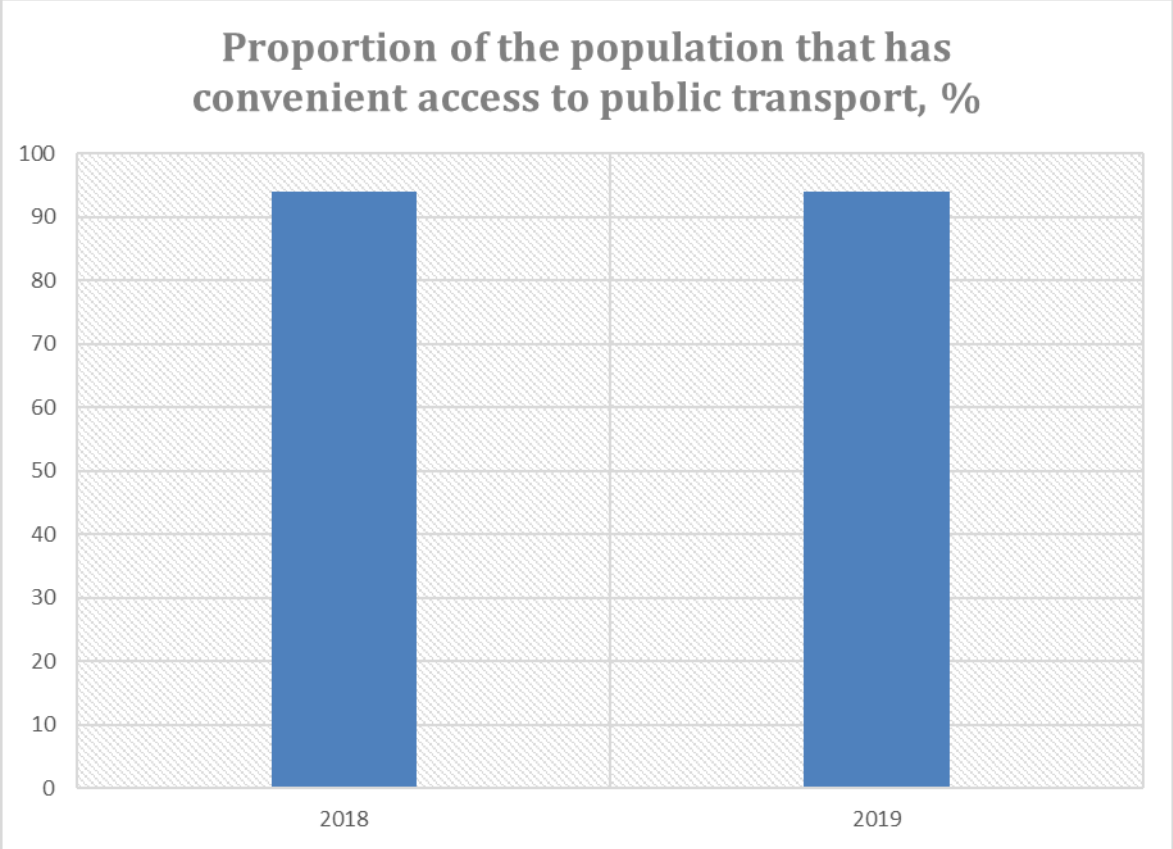
Contributors: Hanna Perälä, Senior Ministerial Adviser, Ministry of Transport and Communications; Asta Tuominen, Deputy Director-General, Efficient Transport for the Future, Traficom; Ida Schauman, Policy Lead, MaaS Global

Indicators

14 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

[170] The city bike system is a system managed by the city or by a private party, the purpose of which is to lend or rent shared-use bicycles to their users.

[171] https://www.traficom.fi/sites/default/files/media/publication/Liikennej%C3%A4rjestelm%C3%A4n%20nykytila%20ja%20toimintaymp%C3%A4rist%C3%B6n%20muutokset.pdf



Proportion of the population that has convenient access to public transport in 2019: 94%.

No disaggregated data available from the whole country by age group, sex, and persons with disabilities. Data available since 2018. In addition, data from Helsinki is available aggregated by the proportions of men, women and by age group. Indicator compatible with SDG 11.2.1.
Data source: Statistics Finland, National SDG
Indicators, https://pxnet2.stat.fi/PXWeb/pxweb/en/SDG/SDG__SDG/sdg.px/

35 Percentage of road length that has dedicated bike lanes (excluding motorways).
See: 1.1.1.4. Ensure access to public spaces including streets, sidewalks and cycling lanes

36 Percentage of road length that has dedicated sidewalks (excluding motorways).
See: 1.1.1.4. Ensure access to public spaces including streets, sidewalks and cycling lanes

2.3 Means of Implementation

2.3.1 Mobilization of Financial Resources

2.3.1.1 Develop financing frameworks for implementing the NUA at all levels of government

The Sustainable City programme implementing the goals of the New Urban Agenda in Finland

Following Habitat III, as part of the Agenda 2030 Implementation Plan, Finland put in place a *National Action Plan for Sustainable Urban Development*. This action plan – called *the Sustainable City programme*[172] – is a partnership-based approach aiming to catalyse and support the activities of cities and communities - while also taking onboard the business sector, academia, and civil society. The programme aims to implement the goals of the New Urban Agenda (NUA), the Sustainable Development Goals (Agenda 2030) and the Urban Agenda of the EU in Finland.

The programme is coordinated by the Ministry of the Environment and the cooperation partners include other ministries, municipalities, and other relevant parties such as the Association of Finnish Municipalities and the Finnish Environment Institute. The 5-year programme (2019-2023) is implemented with a budget of approximately 6 M€. The Ministry of the Environment's programme funding accounts for approximately 4,4 M€. Additionally, partnering organisations' joint funding for different projects under the programme accounts for approximately 1,6M€. The programme funds experiments and pilots related to sustainable urban development with calls that are open for municipalities and associations and companies working in partnership with municipalities. Additionally, the programme funds urban development related analysis and provides non-monetary support.

The Sustainable City programme accelerates the sustainable urban development of Finnish cities and municipalities. The programme focuses especially on solutions that integrate the four main sustainability themes in the programme: carbon reduction, smart solutions, social sustainability, and a healthy living environment. The primary objectives include both practical solutions for sustainable urban development and incorporating sustainability into the cities' strategies and operational processes. Actions include solving shared sustainability challenges, strengthening strategic management of sustainability in municipalities, developing new solutions through practical experiments and pilots, disseminating and scaling up good practices and strengthening international connections in urban development**.** The programme increases cooperation between the government and cities and supports cities' own work towards sustainable urban development.

During the first two years, the program has launched approximately 40 urban development projects involving 80 municipalities and 50 other actors. The results include for example guides and workbooks on sustainability management and cross-sectoral sustainability work, new practical solutions for sustainable urban development, as well as expert support and peer learning for cities and municipalities. The program has also set up a virtual platform[173] for knowledge exchange and for creating interaction between experts. According to the mid-term evaluation carried out in spring 2021, the program has been successful in its holistic approach to urban sustainability.

The National Urban Strategy 2020–2030 taking into account the goals of the New Urban Agenda

The National Urban Strategy 2020–2030 vision "*Stronger together - Cities and central government creating a sustainable future"* defines the need for cities and the central government to work together. It seeks to create a shared mindset and give direction to the practical as well as the decision-making side of urban development. The strategy expands on *the national urban policy* and responds to the opportunities and challenges of urbanisation, taking into account the goals of the New Urban Agenda (NUA).

[172] https://www.kestavakaupunki.fi/en-US

173 Virtuaalikortteli, account requests https://www.kestavakaupunki.fi/en-US/CONTACT_US

The National Urban Strategy holds a shared vision of the government and cities. The drafting of the strategy was carried out in co-operation between cities and the central government. The preparation involved representatives from 36 cities and eight ministries. The priority areas of the strategy are a vibrant city, a climate-smart city, wellbeing for everyone, and well-functioning connections. The strategy was handed to three Ministers in September 2020 and its implementation progress is closely followed by *The Urban Policy Committee* and *The Political Management Group for Public Administration Reform*. The strategy's implementation relies on continued cooperation in the planning and implementation of urban development programmes, agreements and legislative projects across government sectors. Funding for such programmes and initiatives relies on predetermined government allocations but also joint funding and additional contributions are possible, such as through *the recovery and resilience instrument*.

Both the Sustainable City programme and the National Urban Strategy are tools of the Government's urban policy and included in Prime Minister Sanna Marin's Government Programme. Both programmes respond to the need to further increase the collaboration and partnership between cities and the central government.

Author: Virve Hokkanen, Programme Manager, Sustainable City Programme, the Ministry of the Environment

Contributors: Iina Heikkilä, Specialist, Sustainable City Programme, the Ministry of the Environment; Emma Hannula, CEO, Finngroup Consultants, Emma Terämä, Chief Specialist, Ministry of Finance

Indicators

65 Existence of national structure or office or committee for implementing the New Urban Agenda
Yes, has been implemented.

2.3.1.2 Mobilize endogenous (internal) sources of finance and expand the revenue base of subnational and local governments

The public sector in Finland consists of the state government, local government and social security funds. In Finland, municipal and local administration and finance are based mainly on municipal taxation (50% of income) and broad autonomy. On average, some 20% of revenues come from state grants, and the rest from sales of goods and services (25%), borrowing, and other sources. However, this structure varies quite a bit from municipality to municipality e.g. the level of state grants was between 188 €/inhabitant and 6368 €/inhabitant in 2020. The broad autonomy of local government is prescribed in the constitution. The most important factor here is the right to freely annually decide the level of municipal income tax and real estate tax in a stipulated range. Local governments also receive a share of corporate income tax revenue (% share).

The basic framework for local finance has been the same for decades; however, some parts of it have been modified over the years, especially concerning:

- the level of state grants, depending on the financing potential of the central government
- the criteria of the state grant system and the need for reforms

- the tasks of local authorities; the pressure on municipalities to take on more responsibility for welfare services
- the cost division in welfare services between the central government and the local level; currently, this is 70% for municipalities, 30% for the central government
- the basis of local tax reductions and the negative effect on tax revenue, but compensated for by the central government

The principles of the state grant system were renewed in 1993, when the direct connection between the grants and the real costs of services in a municipality was cut. The several latest national governments have made the decision of using the so-called "financing principle" which means that completely new obligatory tasks or obligatory expansions of old tasks regulated by the central government should also be fully financed by the central government.

Author: Vesa Lappalainen, Ministerial Adviser, Ministry of Finance

Contributors: Ilari Soosalu, Director, Municipal finances, Association of Finnish Local and Regional Authorities; Lasse Oulasvirta, Professor, Tampere University

Indicators

58 Percentage of the total budget that the local / sub-national government have discretion over to decide on priorities (financial autonomy)
See: 2.1.1 Decentralization to enable subnational and local governments undertake their assigned responsibilities

59 Percentage of the local / sub-national government's financial resources generated from endogenous (internal) sources of revenue
See: 2.1.1 Decentralization to enable subnational and local governments undertake their assigned responsibilities

2.3.1.3 Promote sound systems of financial transfers from national to subnational and local governments based on needs, priorities and functions

The state participates in the funding of the tasks and activities of municipalities through *government aid*, which consists of *central government transfers* and *discretionary government transfers*. Central government transfers are funding of a general nature, which means that municipalities can decide on how to allocate them themselves within the framework of the legislation on tasks. Discretionary government transfers, on the other hand, constitute earmarked funding for certain activities or projects. In 2021, government transfers and grants to local government totalled around €14 billion. The computational central government transfers totalled approximately €8.8 billion and other government transfers and grants approximately €2.9 billion. Of the computational central government transfers, central government transfers for basic services amount to €7.7 billion. On average, central government transfers account for approximately 20 percent of the municipality's income, but the share varies from municipality to municipality. For large cities, the importance of their own tax revenue is emphasised as a source of funding, whereas small municipalities that lose their population are often dependent on central government transfers.

Administratively, the central government transfers system consists of two parts: *central government transfers to basic municipal services administered by the Ministry of Finance* and *central government transfers from the Ministry of Education and Culture*, in which the central government participates in the funding of secondary education (general upper secondary schools and vocational schools). The tasks funded by central government transfers for basic services include social welfare and healthcare, early childhood education and care, pre-primary and basic education, library services, general cultural services and basic education in the arts. Since 2015, the central government transfers for new and expanding tasks is 100%. In other words, the state will allocate full funding for them.

The central government transfer for basic services consists of compensations for differences in costs and the municipalities' income base. Central government transfers are determined on a computational basis. The equalisation of the cost base takes account of the age structure and morbidity of the residents of the municipality as well as factors describing the municipality's conditions, such as population density and prevalence of foreign languages. The equalisation of income base differences is based on municipal tax revenue.

In 2020, during the coronavirus pandemic, the state provided extensive support to municipalities in order to secure basic services and the operating conditions of municipalities. The support was mainly allocated as increased central government transfers, but also as targeted discretionary government transfers. In 2021, municipalities are allocated less coronavirus subsidies than in the previous year, and the subsidy will mainly be allocated as discretionary government transfers.

The government is preparing to transfer the responsibility for organising social welfare and healthcare services and rescue services from municipalities to regional *welfare areas* that are to be established. The reform is expected to enter into force in 2023, with a reduction of 70% in central government transfers. While the structure of the central government transfers system would remain the same for the basic municipalities, changes would be made to the determining factors and the parameters of income base equalisation. After the reform, the most important tasks of central government transfers would be early childhood education and care, basic education and secondary education. However, the duties of the municipalities may be changing, as preparations for transferring employment services from the state to municipalities were launched in spring 2021. The aim is that the transfer could be implemented during 2024.

The welfare areas do not have a taxation right, and their funding is almost entirely based on central government funding. Central government funding is computational and comprehensive. The majority of funding is determined on the basis of the needs factor for social welfare and healthcare service, and also takes into account bilingualism, the prevalence of foreign-language speakers and population density.

Author: Tanja Rantanen, Senior Ministerial Adviser, Ministry of Finance

Contributors: Lasse Oulasvirta, Professor in public sector accounting, Tampere University

Indicators

66 Stable existence of "transfer formula" in the last 5 years, without major changes, meaning reductions of more than 10%.

Yes, 100 %. Central government transfers in the last 5 years have been stable.

Data sources:

- https://www.kuntaliitto.fi/talous/valtionosuudet/valtionosuuslaskelmat/valtionosuudet-2021
- https://www.kuntaliitto.fi/sites/default/files/media/file/vosaikasarja%202010-18_1.xlsx

2.3.1.4 Mobilize and establish financial intermediaries (multilateral institutions, regional development banks, subnational and local development funds; pooled financing mechanisms etc.) for urban financing

MuniFin (Municipality Finance Plc)

There are two prominent financial intermediaries in Finland when it comes to urban financing: *MuniFin (Municipality Finance Plc)* and the *European Regional Development Fund (ERDF)*.

MuniFin is the only financial institution in Finland specialised in the financing of the municipal sector and non-profit sector. MuniFin is one of Finland's largest credit institutions: the company's balance sheet totals EUR 44 billion (Dec 2020). The company is owned by Finnish municipalities, the public sector pension fund Keva and the Republic of Finland. MuniFin's customers are Finnish municipalities, joint municipal authorities, municipally controlled entities and non-profit housing organisations, and MuniFin's lending is exclusively offered to these instances. MuniFin grants financing for environmentally and socially responsible investment targets such as public transportation, sustainable buildings, hospitals and healthcare centres, schools and day care centres, and homes for people with special needs. MuniFin's service offering includes loans and leasing, risk management, analysis and reporting solutions and financial advisory services.

MuniFin's customers are domestic, but the company operates in a completely global business environment. It is one of the most active Finnish bond issuers in international capital markets and the first Finnish green and social bond issuer. MuniFin's credit ratings are directly linked to those of the sovereign of Finland. MuniFin is committed to support the UN Sustainable Development Goals (SDGs) in its everyday work.[174]

The European Regional Development Fund (ERDF)

The European Regional Development Fund (ERDF) was established in 2013. The ERDF is intended to help to redress the main regional imbalances in the European Union. The ERDF has two main goals for the 2014-2020 period, namely 1) *Investment for growth and jobs — aiming to strengthen the labour market and 2) regional economies* and *European Territorial Cooperation — aiming to strengthen cross-border, transnational and interregional cooperation within the European Union*.

The ERDF also supports sustainable urban development. At least 5% of the ERDF allocation for each Member State has to be earmarked for integrated actions for sustainable urban development that will tackle the economic, environmental, climate, demographic and social challenges affecting urban areas. As the ERDF contributes to the Europe 2020 Strategy for smart, sustainable and inclusive growth, it has to focus on the priorities specified in this strategy. The main priorities are research and innovation,

[174] https://www.munifin.fi/about-us/

information and communication technologies, small and medium-sized enterprises (SMEs) and the promotion of a low-carbon economy.

The European Union contributed approximately EUR 1.3 billion to the funding of *'Sustainable growth and jobs 2014 - 2020 - Finland's structural funds programme'*. With an equal amount of national public co-funding, the total volume of the programming was EUR 2.6 billion. The state accounted for 75 per cent and municipalities and other parties for 25 per cent of the public funding.

When the technical assistance (three per cent or about EUR 39 million) and funding allocated for national activities (10% of the ERDF contribution and 25% of the ESF contribution, which total about EUR 171 million) were deducted for the above-mentioned EU-funding (EUR 1.3 billion), the remaining amount was funding coming under regional decision-making.

Of this EU contribution coming under regional decision-making (about EUR 1.089 billion), two thirds were ERDF funding (EUR 716 million) and about one third was *ESF (Employment and labour mobility) funding* (EUR 373 million).

Eastern and Northern Finland accounted for 70.9 per cent and Southern and Western Finland for 29.1 per cent of the regional funding.[175]

Author: Emma Hannula, CEO, Finngroup Consultants

Indicators

67 Existence of at least one finance or infrastructure fund available for local / sub-national governments.

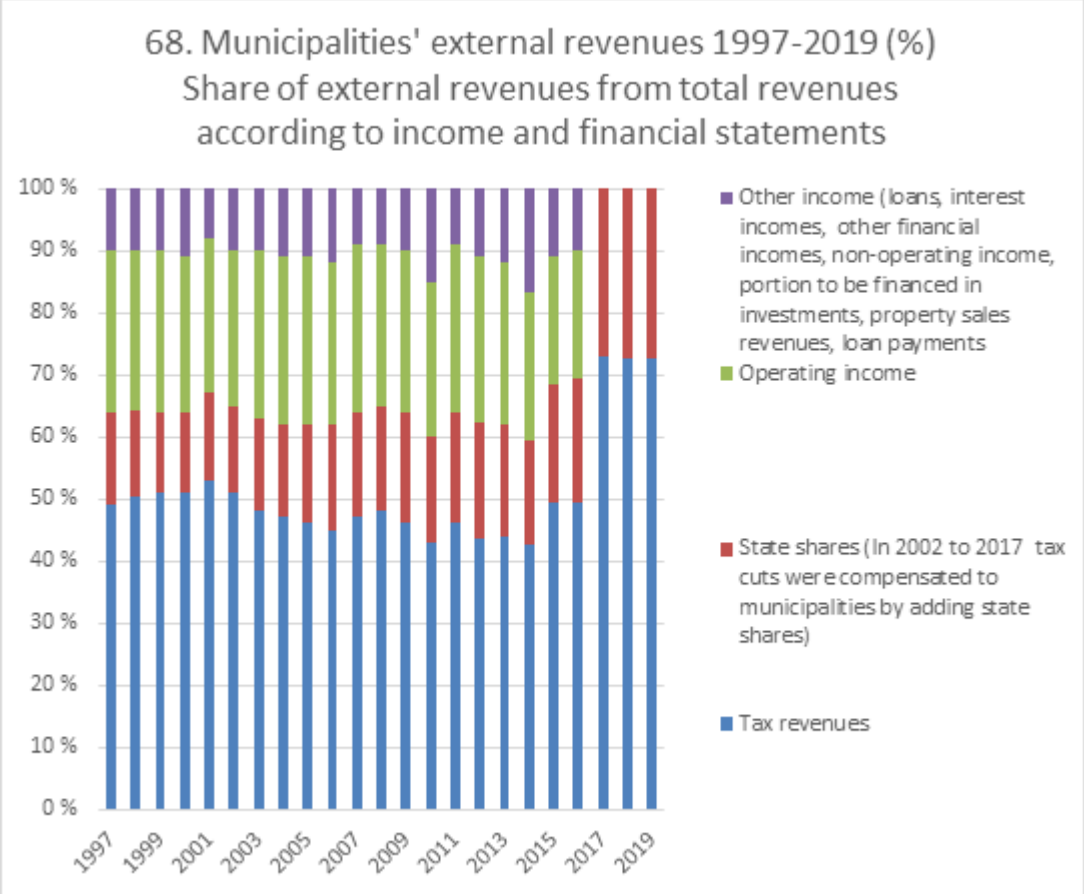
Is there at least one municipal finance or infrastructure fund available for local governments?
Yes.

Data sources:

- https://www.munifin.fi/

68 Percentage of the local / sub-national government's financial resources generated from financial intermediaries such as multilateral institutions, regional development banks, subnational and local development funds, or pooled financing mechanisms.

[175] https://www.rakennerahastot.fi/web/en/funding-of-the-programme



No indicator data according to the NUA-specification but alternative data provided. Share (%) of municipalities external revenues from total revenues according to income and financial statements in 2019 was

- Tax revenues: 48 %
- State shares: 18 %
- Operating income: 20 %
- Other income: 14 %

Not relevant in Finnish context if collected according to NUA-metadata.

2.3.2 Capacity Development

2.3.2.1 Expand opportunities for city-to-city cooperation and fostering exchanges of urban solutions and mutual learning

In Finland, a large number of urban networks and national development programmes have emerged to support sustainable urban development. In the networks and programmes, cities receive up-to-date information and expert support, learn from each other, participate in concrete cooperation and gain visibility into the city's sustainable development work. Development programmes are typically coordinated by ministries and support both urban development and concrete cooperation between the state and municipalities. Urban networks are often built around a content theme or as a networker of municipalities

in the same position. Some urban networks also strive to promote the common objectives of their member municipalities in relation to national or international decision-making.

The Sustainable City programme[176], coordinated by the Ministry of the Environment, is a partnership-based approach targeted at cities and communities, taking onboard the business sector, the academia and civil society. The four main themes of the programme are low-carbon, smart, socially inclusive and healthy cities. The programme e.g. develops new solutions through pilots and has launched a virtual platform called *Virtuaalikortteli* for knowledge exchange. During its first two years the program has launched approximately 40 projects involving 80 municipalities. The programme aims to implement the goals of the UN's New Urban Agenda, the UN's Sustainable Development Goals (Agenda 2030) and the Urban Agenda for the EU.

The Finnish national Land use, Housing and Sustainable Transportation Network (LHT)[177] supports the cooperation of urban policy between the central government and city-regions. The network has implemented projects related to future urban planning, sustainable mobility services, development of station areas and anticipation[178] of the development of urban structure, and developed, for example, indicators for the well-being of the built environment. The core of the network is 18 cities and city-regions, several ministries, and the Association of Finnish Local and Regional Authorities. The network is coordinated by the Joint Authority of Tampere Central Region.

Most of the Finnish city networks focus on environmental sustainability. *Hinku*[179] is a network of Finnish municipalities committed to achieving an 80% reduction in their greenhouse gas emissions during 2007-2030. Hinku includes 70 municipalities and it has reduced partnering municipalities' emissions by 3,1 %. Hinku has also succeeded in legitimizing local level climate action.[180]

The activities of the municipalities of the *Fisu network*[181], which is a pioneer in resource-smartness, are guided by the municipal roadmaps of resource-smartness up to 2050. Among other things, the network has identified models for climate cooperation between municipalities and companies, developed monitoring and measuring of resource-smartness, and accelerated the linking of climate issues to the annual planning of municipal finances. The network comprises 11 municipalities.

The *Luontokunnat network* promotes the safeguarding and sustainable use of biodiversity in municipalities through, for example, training and the development of municipal indicators.

Municipal energy efficiency measures are supported by *KETS, the Energy Efficiency Agreement for the Municipal Sector*. The results of activities involving, among other things, networking, information sharing and cooperation are reflected in the efficiency of energy use, cost savings and CO2 emissions reduction. In the period 2017–2025, 107 municipalities and 11 joint municipal authorities have committed to the KETS activities launched in 1997.

The Competence center for Sustainable and Innovative public procurement in Finland, *KEINO*, provides collaboration platforms for both the management of municipal procurement and for thematic joint

[176] https://www.kestavakaupunki.fi/en-US
[177] https://mal-verkosto.fi/finnish-national-land-use-housing-and-sustainable-transportation-network/
[178] https://bemine.fi/in-english/
[179] https://www.hiilineutraalisuomi.fi/en-US/Hinku)
[180] https://www.sciencedirect.com/science/article/pii/S0959378021000042
[181] https://www.fisunetwork.fi/en-US

development of procurement challenges (low-carbon, social sustainability, transport, construction, digitalisation).

The activities of the *Municipal Democracy Network and the Healthy Municipality Network*[182] focus on social sustainability. Established already in 1996, the Healthy Municipality network included 33 municipalities and 2 joint municipal authorities at the beginning of 2021. The network is part of the WHO National Healthy Cities network.

6aika-verkosto[183] supports urban development of the six largest cities in Finland. It was originally a joint urban development strategy of the six largest cities in Finland: Helsinki, Espoo, Vantaa, Tampere, Turku, and Oulu. The strategy was a part of the implementation of Finland's structural fund programme for sustainable growth and jobs in 2014-2020. Since 2014, dozens of projects have been launched and nearly 4,000 businesses have participated in the network, testing products and services in urban environments. The six largest cities have also been networked, for example, in terms of climate and environmental work and in order to achieve the UN SDG goals.

Cities of the same type have networks focusing on joint lobbying. The *C21 network* of large cities strengthens the urban policy debate and joint lobbying of the largest cities in Finland. Of the networks coordinated by the Association of Finnish Municipalities, the *Outlying Municipalities Network* acts as the guardian of the interests of municipalities surrounding large cities, while the *regional municipality network* protects the interests of small central towns.

Cooperation between cities is also supported by the *VILI network* that promotes smart mobility solutions, the *Canemure* carbon neutrality project supported by EU LIFE funding, and the circular economy project *CircWaste*, as well as the *Climate Cities activities of the Association of Finnish Municipalities*. A new peer group is emerging from cities reporting to the UN on their work to achieve the SDG objectives of Agenda 2030 (*Voluntary Local Review*).

The largest Finnish cities in particular have also been active in international networks, such as *ICLEI, the Covenant of Mayors, the Union of the Baltic Cities* and *the Eurocities network*. The Lahti European Green Capital year and Lappeenranta Green Leaf in 2021 have further strengthened the international network of sustainability work in Finnish cities.

Author: Virve Hokkanen, Programme Manager, Sustainable City Programme, the Ministry of the Environment

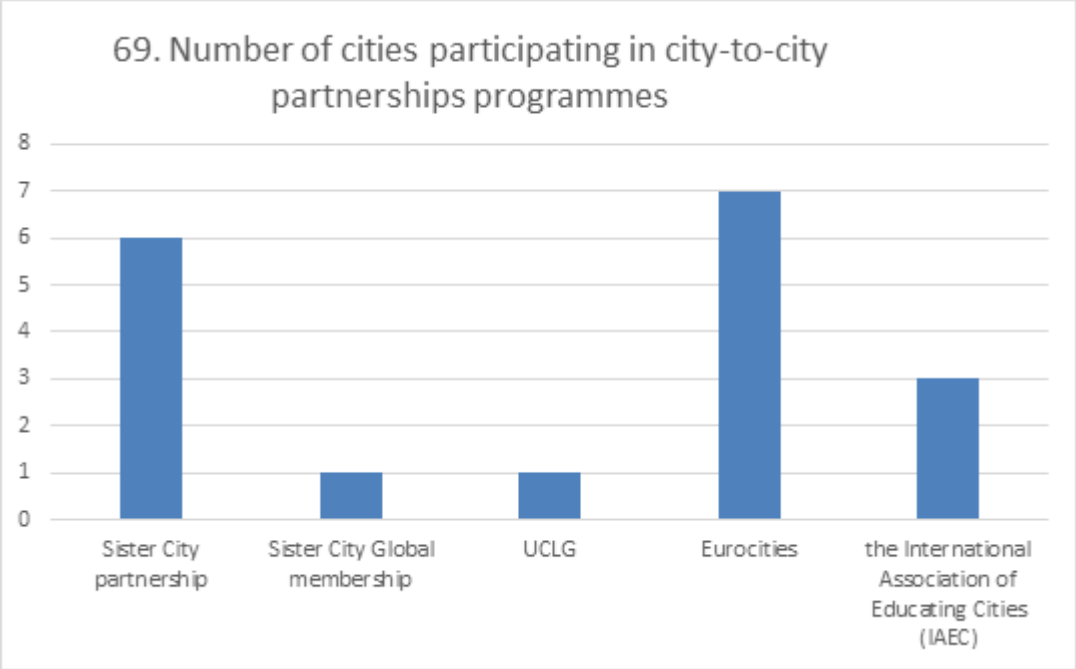
Contributors: Kati-Jasmin Kosonen, Expert planner, Tero Piippo, project manager and Aada Vihanta, project manager, Tampere City Region; Laura Saikku, Senior research scientist and Riku Lumiaro, Biodiversity and communication expert, Finnish Environmental Institute SYKE; Okariina Rauta, Senior expert, Motiva Ltd; Pia Hakamäki, Development manager, Finnish Institute for Health and Welfare; Minna Torppa, Forum Virium Helsinki; Sanna-Mari Huikuri, Development manager, City of Tampere; Kaisa Schmidt-Thome, Senior expert, Demos Helsinki; Emma Hannula, CEO, Finngroup Consultants

[182] https://thl.fi/en/web/management-of-health-and-wellbeing-promotion/management-of-wellbeing/actors/finnish-healthy-cities-network
[183] https://6aika.fi/en/what-is-6aika/

Indicators

69 Number of cities participating in city-to-city partnership programmes

Total number of cities participating in city-to city partnership programmes is 15. Some of the cities participate in many programmes. However, many of these programs are typically aimed at bigger cities. The diagram below only shows the partnership programmes where Finnish cities are participating.



Finnish cities do not participate in the following partnership programmes:

- the Euro-Latin American Alliance of Cooperation among Cities (AL-LAs),
- MedCities,
- the World Association of the Major Metropolises (Metropolis),
- C40 Cities Climate Leadership Group (C40) and
- 100 Resilient Cities (100RC)
- International urban cooperation - European Union (IUC)

Unknown:

- Cities Alliance

70 Number of public water and sanitation utilities participating in institutional capacity development programmes

No indicator data available according to NUA-specification. No alternative data provided. There is no nationwide statistics or data on how water and sanitation utilities have participated in trainings and there are many training programmes and organizers. Therefore, it is not possible to say the number or share of public water and sanitation utilities staff that have participated in the above-mentioned trainings.

2.3.2.2 Promote the capacity development as a multifaceted approach to formulate, implement, manage, monitor and evaluate urban development policies

Many Finnish cities have formulated, implemented, and monitored urban development policies that are in line with the New Urban Agenda and the Sustainable Development Goals. Cities have promoted the implementation and monitoring of sustainable urban policies e.g. through different programmes and strategies. For example, the city of Helsinki has prepared several strategies and action plans e.g. *the Carbon-neutral Helsinki 2035 Action Plan*[184] and *the roadmap for circular and sharing economy*.[185] City and government-funded research and capacity building programmes have supported the scale up and uptake of sustainable urban development policies.

A research project called *KESTO* was funded by the Prime Minister's Office (2019-2020) on sustainable development leadership in Finnish municipalities. It addressed the possibilities of localizing the Agenda2030 goals at the municipal level. This means that the global goals were interpreted from the perspective of local circumstances and relevance. The KESTO project, coordinated by Demos Helsinki, was carried out as action research with 12 municipalities, with the aim of embedding sustainability in their cross-sectoral setting. The project developed three leadership models that can accelerate local level sustainability transition and scrutinized the key substance areas for Finnish municipalities to leap forward in sustainability.

In terms of substance areas, the project identified eight themes where municipalities can play a role in accelerating transition. The most important and challenging topics include reducing our carbon footprints, decreasing inequalities and enabling meaningful and good living for all. The topics are broad and highly cross-sectoral, covering most municipalities´ functions.

The three models of sustainability leadership, proposed by the project, shall be understood as collections of key features and preconditions rather than strict guidelines that a certain municipality could simply execute. They are meant to support self-reflection and comparison across the very diverse field of Finnish municipalities. In the first model, *Guiding Stars,* a municipality implements sustainability goals in a very straightforward manner. Sustainability leadership is well-resourced, operated by a dedicated sustainability team, aligned rather top-down. The second model, *Power of Networks*, portrays a shared ownership of sustainable development work. The municipality is a matrix of empowered experts collaborating for sustainability, with a certain degree of self-organization. In the third model – *Active individuals* – sustainable development work may not be formally organized, but it can still include a number of ambitious sustainability activities. These can be individual initiatives by the local council, local entrepreneurs or civil society.

Author: Kaisa Schmidt-Thomé, Senior Expert, Demos Helsinki

Conributors: Emma Hannula, CEO, Finngroup Consultants

Indicators

71 Percentage of cities and subnational governments with staff trained in formulation, implementation, managing, monitoring and evaluation of urban development policies.

[184] https://www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/HNH-2035/Carbon_neutral_Helsinki_Action_Plan_1503019_EN.pdf
[185] https://www.hel.fi/uutiset/en/kaupunginkanslia/circular-and-sharing-economy-to-help-solve-sustainability-challenges

100 %. Municipal strategies are fixed by law and carried out at the beginning of each council term. This requires the knowledge and skills required in the indicator.

Data sources for the Local Government Act, Section 37 – Municipal Strategy:

- https://www.finlex.fi/fi/laki/ajantasa/2015/20150410?search%5Btype%5D=pika&search%5Bpika%5D (in Finnish)
- https://www.finlex.fi/fi/laki/kaannokset/2015/en20150410.pdf (in English)

2.3.2.3 Strengthen the capacity of all levels of government to work with vulnerable groups to participate effectively in decision-making about urban and territorial development

The participation of citizens in the development of their living environment and decision-making in Finland has been strengthened by legislation, for example the new Local Government Act, which entered into force in 2015. Under the act, municipalities must provide residents with opportunities to participate in and influence many key decision-making and strategy processes, including the planning of municipal finances.

At the national level, municipalities have been supported with many different processes in order to achieve the binding objective laid down in the act. Ministries, state research institutes and various expert organisations have provided municipalities and cities with training and funding and supported their participation experiments. Some of these have made particular efforts to strengthen the participation of vulnerable groups. For example, the Association of Finnish Municipalities has promoted, developed and piloted the practices and social sustainability of municipal residents in the *Socially sustainable cities network project*, in cooperation with municipal officials and researchers. The *Lähiöohjelma* programme for suburban areas, coordinated by the Ministry of the Environment, is currently ongoing, in which cities, together with residents and parties operating in the area, strive to strengthen the opportunities for those living in suburban areas to participate in the development of their own residential area and to prevent segregation between residential areas.

The opportunity of vulnerable groups to participate in urban and regional development has also been strengthened through a number of national research projects. The *Urbanising Society (URBAN) research programme* of the Strategic Research Council focused on cities, and its cross-cutting theme was the participation of immigrants. In addition, the study studied the opportunities of those in vulnerable positions to participate in the development of cities from within their own everyday lives and created new ways of participation in cooperation with residents, communities and experts. These themes have also been discussed in other research programmes funded by the Strategic Research Council. Several research projects are also included in the Lähiöohjelma programme.

National programmes and processes have increased cooperation between the state, cities, NGOs and residents. In particular, cooperation within individual cities has strengthened. The key result is that participation in regional and urban development and the diversity of participation methods have diversified between 2016 and 2021.

In some regional development projects, the key starting point has been participation of local actors in development work. This has been done, for example, in old factory areas at the *Tehdas 108 centre* in Nokia and *Hiedanranta* in Tampere. Many grassroots associations have participated in activities such as engaging long-term-unemployed people and mental health rehabilitees as part of employment activities. The significance of welfare services as a facilitator of the participation of vulnerable residents has also been understood more diversely than before. For example, opportunities for residents to participate in small-

scale development of residential areas have been created in connection with housing services for the elderly, and pupils' participation has been enabled in schools.
However, national and local cooperation between different parties remains focused on individual issues and is project-based. In many cases, organising opportunities for participation is also dependent on the activity of the municipal or state office holder. Although networking and cooperation between municipalities promote the participation of citizens, networks and experiments are not systematically linked to urban development or strategic processes. Thus, their results will inevitably be limited. The participation of vulnerable people also involves specific questions and difficulties. The current project-based development work has not succeeded in creating an operating environment where urban policy that enables the participation of vulnerable people would become established or, for example, where social services and their clients would be linked to urban development.

The objectives of municipal strategies for promoting participation will not become concrete, and the participation processes will remain separate from actual decision-making. The implementation of participation requires a lot of resources, which is not sufficiently taken into account. Promoting participation may, for example, be considered a matter for the resident cooperation coordinator, even though it applies to everyone in the municipality. The available resources also vary significantly between municipalities. In addition, attention is often paid to participation organised by the municipality, in which case the opportunities through civic activities for strengthening the voice of the vulnerable may not be identified. Too often participation is not genuinely relevant to the overall process and decisions, which can erode trust. Another challenge is that vulnerable groups of people, despite their participation, may not be able to participate in sustainable urban development. A particular threat is that the price of housing is differentiated between residential areas.

Socio-economic status still affects opportunities for participation in Finland. Well-off residents and communities are able to influence decision-making and regional development in many ways. People in a vulnerable position often have no opportunities to exert influence. The threat in various participation experiments is that they reinforce voices that are already loud rather than the quiet ones. All levels of government need more knowledge, understanding and expertise on the opportunities, obstacles and practical-level methods of engaging vulnerable groups.

Author: Liisa Häikiö, Professor of Social policy, Tampere University

Contributors: Maija Faehnle, Senior researcher, Finnish Environment Institute; Minna Mattila, Senior Planning Officer, Local state authority of Uusimaa, ELY Centre; Emma Hannula, CEO, Finngroup Consultants; Anni Jäntti, Researcher, Tampere University; Antti Wallin, Researcher, Tampere University

Indicators

16 Proportion of cities with a direct participation structure of civil society engagement in urban planning and management, which are regular and democratic.
See: 2.1.5. Promote participatory, age- and gender-responsive approaches to urban policy and planning

2.3.2.4 Support local government associations as promoters and providers of capacity development

Municipalities implement an estimated 2/3 of the SDGs in practice. Due to their broad basic task, the activities of municipalities are linked to almost all of the *Agenda 2030 sustainable development goals*. Large cities have an important signpost role in the implementation of the SDGs at the local level.

In recent years, cities in Finland have taken an exemplary approach to mitigating climate change and promoting the well-being and inclusion of residents. Cities play a special role in promoting, for example, the green transition, circular economy and the creation of new types of centres of expertise and innovation ecosystems. Sustainable development is to a large extent understood as ecological sustainability. The municipalities of Finland have significant implementation potential as multidisciplinary actors. The promotion of the SDGs in municipalities and cities is linked to – and in many respects also dependent on – the promotion of other SDGs.

The systemic strategic management of sustainable development in municipalities and cities is a prerequisite for the simultaneous promotion and implementation of the objectives of sustainable development. The sustainability change is a major challenge for cities in the future, and both municipal decision-makers and staff need understanding and support in the reform of thinking and operating methods and the change in the operating culture of the entire urban organisation. Recently, attention has increasingly been paid to strategic sustainability management, and different management models and concrete management tools are being developed.

There is also a lot to improve in the systematic management of the whole at the state level. Sector-specific steering of the SDGs may lead to the loss of the implementation potential that municipalities would be able to implement as multidisciplinary actors. It is challenging for municipalities to have an overall understanding of how different development needs for sustainable development overlap chronologically and on what basis development goals are selected locally. The legislation, policy measures and funding of the EU and Finland have a direct impact on the activities of municipalities and the kinds of measures that the cities take, such as investments, projects and undertakings. Therefore, the state also plays a very important role in promoting and supporting sustainable urban development measures. Simultaneous promotion of the SDGs in municipalities would also require cross-administrative support from the state.

The *Association of Finnish Municipalities* is a registered association formed by Finnish municipalities, protecting the municipal sector's interests and working as a developer partner and as a provider of expert and information services. The members of the Association of Finnish Municipalities are Finnish municipalities and cities. The Association of Finnish Municipalities is a natural party to coordinate and support the sustainable development of municipalities in Finland. Regional councils, hospital districts, other joint municipal authorities and limited companies with a municipal background are also involved in the activities of the Association of Finnish Municipalities. The Association of Finnish Municipalities supports municipalities and cities in implementing the SDGs, developing good practices and managing sustainability. For example, the promotion of education, care, land use, mobility and transport, community construction, water and waste management, well-being and inclusion as well as the development of democracy are jointly developed by municipalities in the networks and events of the Association of Finnish Municipalities and in development projects. Through network-based activities, municipalities also receive support for climate work, food and nutrition, energy, natural systems and urbanisation. The Association of Finnish Municipalities supports cities in promoting sustainable development in close cooperation with other partners, such as the Sustainable City *programme* of the Ministry of the Environment, through Motiva and through the Finnish UN Federation and research institutes.

Promoting sustainable development also challenges municipal management in many ways, which should be more long-term, policy coherent and cross-administrative. The Association of Finnish Municipalities supports the management of the sustainability of cities by, for example, a *network project for climate management*, a *network project for new-generation organisations and management* and a *network project for sustainable local government finances*. The Association of Finnish Municipalities and the SDG and sustainable development managers of the six largest cities have close cooperation to develop sustainable development management.

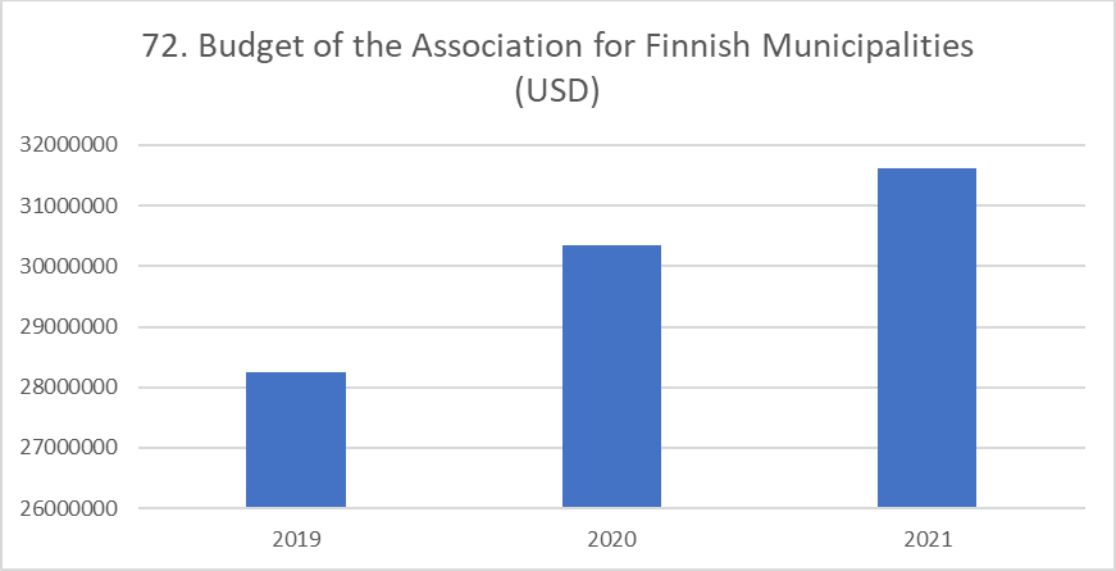
The Association of Finnish Municipalities also trains new municipal decision-makers on sustainable development (new delegates will be selected in June 2021) and supports the preparation processes of new urban strategies to take sustainable development into account in their entirety.

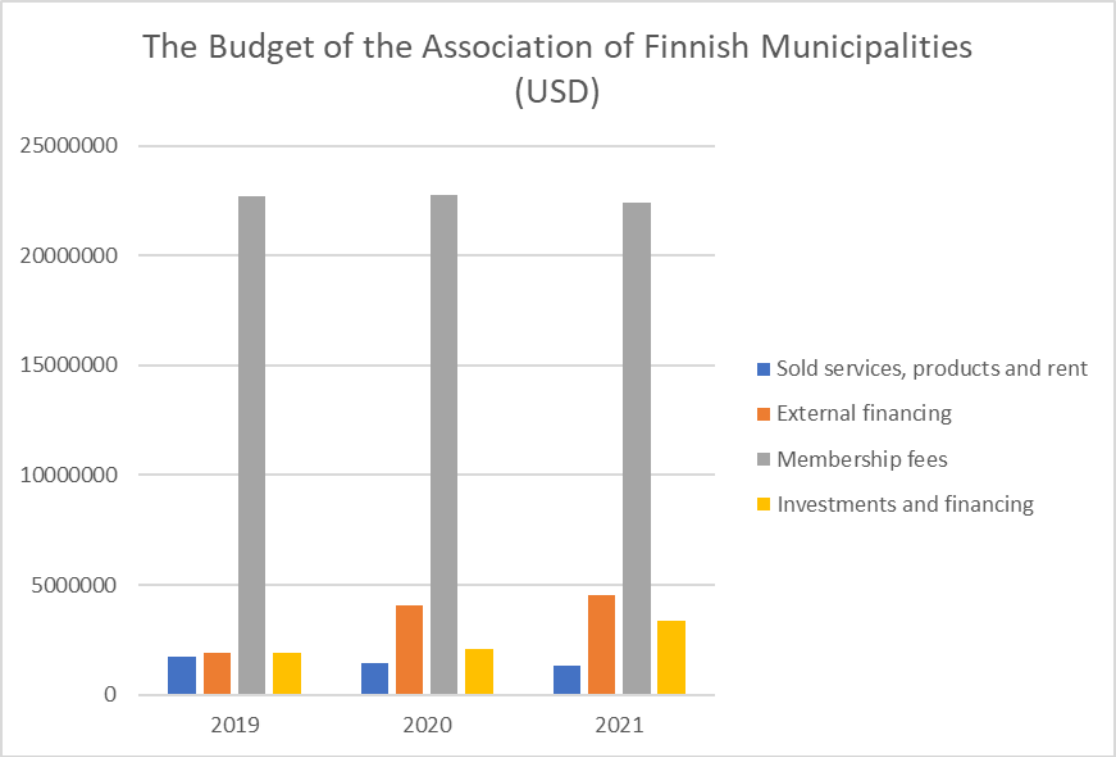
Author: Sini Sallinen, Development manager, Association of Finnish Municipalities

Contributors: Anna Bertoft, Special Advisor, City of Turku; Maija Faehnle, Senior researcher, Finnish Environment Institute; Emma Hannula, CEO, Finngroup Consultants

Indicators

72 Size of budget of local government associations





The sum of the budget of the Association of Finnish Municipalities in 2021 was 31 617 024 USD. (5.5.2021, e=1,20) It included the following:

- Sold services, products and rents: educational and support services, medals, rental revenues
- External finances: government grants, project funding, received subsidies, own contributions
- Investments and finances: dividends from affiliated undertaking and other investments, market profits and stocks,
- Membership fees: both municipalities and cooperative membership fees

2.3.2.5 Promote capacity development programmes on the use of legal land-based revenue and financing tools

Indicators

73 Number of people who have been trained in the use of land-based revenue and financing tools by UN-Habitat or other institutions

No indicator data according to the NUA-specification. Not relevant for Finnish context. Taxes are collected precisely and in a just manner.

2.3.2.6 Promote capacity development programmes of subnational and local governments in financial planning and management

Steering of municipalities

In Finland, government steering of municipalities mainly takes place in three ways: 1) norm guidance, which includes binding guidance based on law, a decree, regulation or official decision; 2) financial guidance , which includes government transfers and tax base equalisation, government budget and public finances plan; and 3) information guidance, for example through strategies, guidelines and recommendations.

The public finances plan was fully implemented as of the beginning of the 2015 parliamentary term. The plan sets so-called financial position targets for public finances and its sub-sectors as well as the spending limit for local government finances. The state's measures are dimensioned so that the financial position targets can be achieved. The achievement of the target is evaluated annually.

The medium-term financial balance objective is a comprehensive and simple rule that, if implemented, guarantees the stability of the entire public finances. However, the achievement of the target can only be assessed afterwards when the statistics are completed. In the case of individual municipalities, there is a risk that the commitment to the balance and the political responsibility for its implementation will remain weak.

The spending limit is based on the central government spending limits, which are based on a political commitment and have curbed the increase in the state's expenditures. On the other hand, it has been observed that municipalities have been assigned new duties or their duties have been expanded, the funding for which later proves to be under-allocated when the aim has been to maintain a strict spending limit. At the same time, the economic balance problems of public finances have been postponed.

The decision-making data related to the public finance plan is openly available on the website of the Ministry of Finance.[186] The aim of the availability and visualisation of the data is to ensure that all decision-makers, municipalities, the state and citizens (voters) have access to uniform information on the outlook for public finances.

Reforms

The steering of local government finances was reformed in the 2010s. The new Local Government Act of 2015, which steers the activities of municipalities, introduced the *programme for local government finances*, while at the same time tightening the financial regulations of municipalities. The reform of government transfers was carried out in the same year, which brought 100% government transfers to municipalities for new or expanding tasks and obligations.

The programme for local government finances is prepared twice a year, and its purpose is to assess the state of local government finances and the possibilities for municipalities to cope with the provision of basic services through funding and decided measures in accordance with the state budget proposal. The programme for local government finances is prepared by a secretariat appointed by the Ministry of Finance. The secretariat includes all central ministries preparing the local government task legislation and state measures affecting local government finances as well as the Association of Finnish Municipalities. The negotiations between the state and municipalities have been conducted in the advisory board on local government finances and administration and in the financial division that is responsible for preparatory work for the board.

The programme for local government finances has been found to be an effective way of examining the development of municipalities in the near future in terms of state measures and the development of the

[186] https://vm.fi/en/frontpage

national economy, even for individual municipalities. The preparation of the programme in a broad cooperation group highlights the impacts of the economic outlook and various measures and provides a common view of the development of local government finances.

The *local government data programme* developed the contents and operating model for automatic financial reporting and provided for the operating method of automatic financial reporting in the Local Government Act. A new tool for this is the State Treasury's *reporting service for local government finances* and *Tutkikuntia.fi*, the financial information of municipalities and joint municipal authorities: The State Treasury created a service compliant with the regulations, through which all financial information reported automatically by municipalities is available. In addition, the joint project of the Ministry of Finance and the State Treasury on real-time economy (*RTE = automatic financial administration*) is progressing as a measure that supports the financial administration of municipalities.

New financial management and monitoring tools and research data in the field are needed to assess both the development achieved and planned reforms. The most obvious example of this is the social welfare and healthcare reform, which, if implemented, will lead to the reformation of public sector structures and its funding and expenditure at different levels.

Authors: Vesa Lappalainen, Ministerial Adviser, Ministry of Finance; Jani Heikkinen, Senior Ministerial Adviser, Ministry of Finance; Emma Terämä, Chief Specialist, Department for Local Government and Regional Administration, Ministry of Finance

Contributors: Heikki A Loikkanen, Emeritus professor, Urban Economics, University of Helsinki

Indicators

74 Percentage of cities/subnational staff trained in financial planning and management

No indicator data according to the NUA-specification. Municipalities have a legal obligation to budget and have sufficient knowledge for this. Overall, the educational level and recruitment standards are high in Finland.

2.3.3 Information Technology and Innovation

2.3.3.1 Development of user-friendly, participatory data and digital platforms through e-governance and citizen-centric digital governance tools

The fact that Finnish people mostly trust their government is a good starting point even for the development of digital governance – Finland is a high-trust society. The Finnish e-governance structure is also characterized by the existence of 310 municipalities, with very different population bases and resources. In between the state and municipalities there are some actors, but their role is generally not very strong. Finnish e-Government is supported by the fact that almost all Finnish citizens have mobile phones and a bank account with electronic identification services. Physical resources and digital skills make eGovernment services available for almost everyone, excluding just a small minority of non-skilled elderly people, and some other minority groups like illegal immigrants. Several third sector organizations offer free support for digitally incompetent persons.

In general, a citizen can perform almost all transactions they need with authorities through electronic channels.

The most visible achievements in Finland are the basic services everyone needs: taxation and health care. Finnish taxes are collected very efficiently, and all taxpayers have an effective digital user interface at their disposal. On the health and social services side, the Finnish *Kanta* services contain most of the health and social data of a citizen, with health services leading the way in coverage. Each citizen has his/her own service area and access to these services. A success story – among many others – has also been that of joint central digital application to university studies. Applicants have a full choice of options at one place, and the system in its part contributes to the fact that all valuable study places become distributed and used.

While much of statistical data remains behind payment walls, Finland has invested in the availability of basic statistical information for all through the open statistical portal *Findikaattori*. On the other hand, services like public reporting of health care service costs and quality remains underdeveloped in Finland, as compared to many bigger economies.

During COVID-19 times, the difference between normal action and web-based action is blurred. This also touches upon e-Democracy: almost all activities and meetings take place on the Internet. This might become the new normal. Political parties have wide activities including interactive discussion forums on the Internet. Many municipalities also offer interactive discussion-type services for the inhabitants. Arrangements where citizens, or for example children, can really allocate some part of municipal resources to uses they jointly decide are in use and spreading. For example, the City of Espoo has an online service directed at young people through which young people who live in Espoo can suggest initiatives and improvements related to services for young people. The service was established by the city Council. The purpose of the online service is to make it easier for young people to participate in decision making related to decisions concerning themselves. Young people can leave feedback and suggest initiatives and improvements. The city has received feedback and suggestions for initiatives and improvements from young people through the service but the COVID-19 pandemic has made the marketing of the service more challenging.

There are also some innovative projects going on in Finland related to e-governance. The city of Lahti has for example piloted the *CitiCAP application*. CitiCAP gives participating citizens a personal carbon account, develops a model for personal carbon trading on mobility and an application for the citizens that enables real-time tracking and visualization of one's mobility carbon footprint. Lahti is the first city in the world to test personal carbon trading through an application. The application can also be used as data for city planning. The participants' baseline situation was taken into account in the personal carbon budget. The participants considered seeing their own mobility data and learning from it as an important aspect of the project.[187]

Direct informal interaction with ministries and other central authorities might be more difficult for the citizens, but some nice expectations to this rule are anyway available. Unfortunately, Finland is neither totally free from the fact that open interactive channels are used for hate-speech, targeting, radicalization, racism, trolling, and similar dysfunctional purposes.

Some areas still need development. Some documents related to official certificates around family and personal history still have to be ordered from parishes, which do not always offer electronic services.

[187] https://www.lahti.fi/en/housing-and-environment/transportation-and-streets/citicap/

Acquiring basic certificates such as a passport or a driver's license still require a personal visit in some cases. After the complications in the electronic voting trial in 2008, there has not been the courage to take electronic voting back on the e-Government development agenda.

*The Government Programme for the Promotion of Digitalisatio*n supports and encourages public authorities to make their services available digitally to citizens and businesses by 2023. Digital user support will be available throughout the country and will also be developed to serve business operators. The aim of digital support for online service users will be to improve the availability of this support across the country and make it easier to find.

Language-wise Finnish speakers are a small language group, and Finland has a long history of multilingual sites, especially of course including our second national language Swedish. The availability of other languages varies in several services, but in general especially the authorities are sensitive to the needs of non-Finnish-speaking customers and citizens.

Author: Reima Suomi, Professor, Turku School of Economics, University of Turku

Contributors: Marjukka Saarijärvi, Programme Manager, Ministry of Finance; Katariina Eskola, Specialist, City of Espoo; Emma Hannula, CEO, Finngroup Consultants

Indicators

75 Percentage of cities utilizing e-governance and citizen-centric digital governance tools
No indicator data available according to the NUA-specification. The metadata could be defined more precisely. In Finland most of the self-service portals where residents can make payments are provided by national agencies, not cities or municipalities.

Example of one service:

- https://www.suomi.fi/frontpage

2.3.3.2 Use of digital tools, including geospatial information systems to improve urban and territorial planning, land administration and access to urban services

The adoption of digital tools in planning is high in urban and territorial planning

The use of digital tools, including geospatial information systems, is widely adopted, and accepted in Finnish planning organisations. Digital tools are being used at all levels of planning from national scale planning (e.g. conservation planning) to regional scale planning (regional plans by the regional councils) to individual municipalities (from general plans to city plans). Compared to many European countries, the acceptance and trust in digital tools in planning is high. All 309 municipalities (107 calling themselves cities/towns) are responsible for their own planning, and practices vary between the municipalities. In all of these, digital tools are used, and infrastructures are in place to support the exchange of information between the planning organisations on the planning at different levels.

The biggest cities have staff dedicated to the use of digital tools and infrastructures to support planning, while smaller municipalities rely more on outsourced consultancy services. *The Association of Finnish Local and Regional Authorities* provides a platform for exchanging knowledge between municipalities in the use of digital tools. Municipalities (bigger cities in particular), regional councils, and the governmental organisations supporting planning (Finnish Environment Institute in particular) are active in leading or participating in research and innovation, often in collaboration with universities, around the use of digital tools in planning. Examples of this development and innovation activity range from the establishment of *Digital Twins* to testing of new approaches and tools in general planning. Innovation around themes such as public participation (e.g. *PPGIS*), or conservation planning have gained even international scientific recognition.

Data availability

Since the early 2000's Finland has had a widely adopted policy of making (geospatial) data produced with public funding easily accessible and often openly available (see e.g. *Paikkatietoikkuna*[188], *Helsinki Region Infoshare* [189] or data services by Finland's environmental administration[190]). This development was fuelled by the *INSPIRE directive*[191], but also an active open data movement that led to a particularly open interpretation of the directive. As a result, almost all major data themes in Finland, apart from land administration and detailed population data are available with open access. For the latter, the access procedures and technical infrastructures are well in place. Land administration data is produced by the National Land Survey together with municipalities and it covers the entire country with only a small quality variation. On top of the data produced by public authorities, citizens are active in producing data sets that are widely recognised also by planning authorities. Examples include *Open Street Map data* or citizen observations of biodiversity.

Bottlenecks and challenges

While Finland likely is among the most advanced countries in the use of digital tools to support planning, there are still areas of development. Attention is needed at least in:

The use of data recognising the spatial dynamism of population. It has been recognised that user generated data sources, such as dynamic population data produced by mobile phones, would be useful in planning taking into account the dynamic population (daily population pulse, multilocal living, cross-border commuting). These data are collected and owned by private companies and the operational planning implementations are still scarce.

Sporadic biodiversity data that could be used to support biodiversity friendly planning. Many initiatives such as the *Finnish Biodiversity Info Facility*[192] have recently been established to advance data availability.
Planning silos. While the problem of planning in silos is widely recognised, the existing practices sometimes still hinder holistic urban and territorial planning.

Equitable access to digital services. Many public services have recently moved fully to digital. The process has been sped up by the COVID-19 pandemic. While this has improved access to services in many ways,

[188] https://kartta.paikkatietoikkuna.fi/?lang=en
[189] https://hri.fi/en_gb/
[190] https://www.ymparisto.fi/en-US/Maps_and_statistics
[191] https://inspire.ec.europa.eu/
[192] https://laji.fi/en

there is also a risk of growing inequality as some disadvantaged groups lack the proper skills, devices, or literacy to access digital services.

To combat this inequality, the Ministry of Finance has set up an *advisory board for Digitalization in everyday life* as a channel of cooperation and dialogue between NGOs, researchers and different authorities.

Author: Tuuli Toivonen, Professor of Geoinformatics, University of Helsinki

Contributors: Suvi Savolainen, Ministerial Adviser, Ministry of Finance

Indicators

76 Percentage of cities utilizing geospatial information systems
No indicator data according to the NUA-specification. Alternative data provided.
Percentage of large and medium-sized cities that use the Finnish Environment Institute's Liiteri service or other GIS-datasets in 2021: 100 %

Data sources:

- Finnish Environment Institute
- The websites of municipalities
- Definition for large and medium-sized city regions: https://helda.helsinki.fi/bitstream/handle/10138/236327/SYKEra_13_2018.pdf?sequence=1 (only in Finnish)

2.3.3.3 Strengthen capacities at all levels of government to effectively monitor the implementation of urban development policies

Monitoring at all levels of government

Sustainable urban development is monitored at the state and municipal levels in Finland. The Ministry of the Environment is responsible nationally for land use management, legislation and regulations. The state's environmental administration monitors the state of land use planning, collects information on municipalities and regional councils, and has developed an information system for monitoring land use planning and a monitoring form for local detailed plans.[193] The state and the largest urban regions have drawn up joint agreements on land use, transport and housing development (MAL) since 2012. The Ministry of the Environment carries out regular monitoring reviews of MAL agreements and assesses the effectiveness of MAL agreements and related trends with the help of national indicators.[194] Centres for economic development, transport and the environment also promote municipal planning and ensure that planning, construction and use of space take into account issues of national and regional significance.[195]

The *national urban strategy* adopted in 2020 is the most essential comprehensive policy strategy for urban policy. An action plan has been created to implement it, which will be monitored by a cooperation group

[193] https://ym.fi/en/land-use-planning
[194] https://ym.fi/documents/1410903/38439968/MAL_Seurantakatsaus_2018-FA5CB9B2_7C21_4018_B7DD_51CAA7193FC9-138171.pdf
[195] https://www.ely-keskus.fi/en/web/ely-en/environment

consisting of municipal and state actors, and the cooperation group will also monitor the development of cities nationally. *City indicators* have been developed to support monitoring.

Many Finnish cities are committed to promoting the SDGs. For example, Helsinki was among the first cities to commit to reporting on the local implementation of the UN's Sustainable Development Goals (SDGs). The first report was published in June 2019.[196] Helsinki's report *From Agenda to Action 2021* was published in May 2021. Other cities also report to the UN on their work to achieve the SDGs of Agenda 2030 (*voluntary local review, VLR*). For example, the City of Turku's first local assessment report on sustainable development was published in 2020 as the second one in Finland, simultaneously with Espoo. A uniform VLR reporting and monitoring model and common indicators have not yet been developed for cities. Thus, comparing the results of cities is challenging, and defining the target level for sustainable development in a nationally suitable manner and common monitoring principles would be needed.

Ilmastovahti – real time digital monitoring

Finnish cities have developed innovative monitoring mechanisms, such as online monitoring platforms that comply with the principles of openness. For example, Helsinki's *Ilmastovahti*[197] service monitors the progress of Helsinki's 147 emission reduction measures in real time. The City of Helsinki strategy 2017–2021 states that 80 percent of *Helsinki's carbon neutrality target for 2035* will be achieved through emission reductions and 20 percent of the emissions will be compensated for. Carbon neutrality is achieved this way, i.e., the net emissions of the inspection period 2035 are zero. To achieve this goal, the action plan *Carbon Neutral Helsinki 2035*[198] was created. The City of Helsinki developed the Ilmastovahti monitoring service to support the programme. Ilmastovahti has been developed to serve different purposes and target groups, such as decision-makers, experts and residents interested in climate issues in general.

During the preparation of the Carbon Neutral Helsinki 2035 action plan, the importance of open monitoring of the programme was identified. This was to allow for it not being possible to implement some of the measures in the programme, or that some would be less effective than expected and some could go faster than anticipated. It was considered necessary to utilise open decision-making practices and transparency of information and participation, for example in impact assessments. This approach encourages continuous discussion and feedback among urban organisations, experts and stakeholders. Open decision-making practices promote cooperation with climate work in other cities and facilitate, for example, the use of the expertise of research institutes. In order to achieve the objectives, the commitment not only of the urban organisation but also of the people of Helsinki to the measures was considered important.

Helsinki's Ilmastovahti service contains information on each emission reduction programme measure and its progress. The progress information explains the stage that a measure is at and whether it has progressed according to the target timetable. For measures behind target schedule or measures decided to be implemented later, the reason for this is described. Ilmastovahti shows the magnitude and effectiveness of each measure in achieving carbon neutrality. The service also explains whether the emissions impact applies to direct emissions in the urban area, which are reported annually. The service has also identified indirect emissions impacts, such as procurements or building materials, and estimated their magnitude. Helsinki's climate action can also be searched and examined in the service by theme or by responsible party. In addition to a verbal description of progress, a quantitative indicator of progress has been set for each measure. The measures and their indicators are also presented graphically in accordance with the

[196] https://www.hel.fi/static/helsinki/julkaisut/SDG-VLR-Helsinki-2019-en.pdf
[197] https://ilmastovahti.hel.fi/
[198] https://www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/HNH-2035/Carbon_neutral_Helsinki_Action_Plan_1503019_EN.pdf

causal relationships between different phenomena, and the overall situation of the progress of the measures is also visible. Several cities, such as Lahti, Tampere, Vantaa, Kerava and Järvenpää, later used the foundations, its open source code, of the Ilmastovahti service.

Helsinki's roadmap of circular and sharing economy was one of the key measures of the carbon neutrality programme. The programme was approved in spring 2020. The focus areas of the roadmap are construction, procurement, green waste, sharing economy and new business opportunities of circular economy. Circular economy targets for 2035 have been set for each priority area. A total of 31 concrete measures have been included in the roadmap to achieve these objectives. Their implementation began in autumn 2020, and in December 2020, the *Kiertotalousvahti*[199] online monitoring service for them was published.

Authors: Petteri Huuska, Environmental planner, City of Helsinki; Mia Malin, Project Manager, City of Helsinki; Leona Silberstein, Environmental Inspector, City of Helsinki

Contributors: Johanna Af Hällström, Team Leader, City of Helsinki; Emma Hannula, CEO, Finngroup Consultants; Tommi Laanti, Senior Housing Adviser, Ministry of the Environment; Olli Voutilainen, Senior Specialist, Ministry of Economic Affairs and Employment; Anna Bertoft, Special Advisor, City of Turku

Indicators

71 Percentage of cities and subnational governments with staff trained in formulation and implementation of urban development policies
See: 2.3.2.2 Promote the capacity development as a multifaceted approach to formulate, implement, manage, monitor and evaluate urban development policies

2.3.3.4 Support all levels of governments in the collection, disaggregation, and analysis of data

The most significant compiler of data related to municipalities in Finland is *Statistics Finland*, which, as a national statistics authority, is responsible for collecting and processing data on a broad scale into reliable, objective and comparable statistics. The majority of its data comes from extensive registers maintained by public administration and continuously accumulating information. Information is also collected through surveys and interviews. A more general challenge in the use of different data sources is their standardisation both internationally and nationally, as well as different restrictions related to time series.

Of the ministries, the Ministry of the Environment is responsible for developing the built environment. The State Treasury maintains the *tutkihallintoa.fi*[200] service, in which information on, for example, the economy or population at the municipal and regional level can be examined. Some of the information is also available through an open interface. Many state research institutes collect and analyse data related to municipalities and cities. For example, the Finnish Environment Institute collects material for monitoring urban structure in the *YKR system*. *The Housing Finance and Development Centre of Finland ARA* publishes statistics and reports on housing. Statistics on health and well-being are provided by the National Institute for Health and Welfare's *SOTKANET service*[201]. The Natural Resources Institute Finland produces

[199] https://kiertotalousvahti.hel.fi/
[200] https://www.exploreadministration.fi/
[201] https://sotkanet.fi/sotkanet/en/index

information related particularly to natural resources and rural development. As part of the Ministry of the Environment's Sustainable City[202] programme, information on good practices in municipalities is shared and projects are carried out in which, among other things, sustainable urban development indicators are developed and tested.

To facilitate the use of information describing the built environment, online services have been made, such as the Finnish Environment Institute's information and analysis service *Liiteri*[203]. It brings together location and statistical data related to the built environment from dozens of different actors and provides tools for the examination, research and planning of regional and urban structures.

As a guardian of the interests of municipalities (including cities), the Association of Finnish Municipalities has been a significant collector of information related to sustainable development in Finland. The Association of Finnish Municipalities produces data, analyses, tools and operating models for municipal management and experts, and publishes general information on municipalities. Information is also processed by several commercial operators. For example, the chargeable Mayors Indicators collection offers indicators describing the development of municipalities.

The *city–countryside classification*[204] is an example of a multi-purpose regional outline that is independent of administrative boundaries. Such an approach allows for comparable, phenomenon-based analyses, such as analysis of the increasing urbanisation. Modelled regional and community structure data can be used to replace missing data sets and manage data protection challenges, as well as to create a concept set that enables researchers, designers and authorities to cooperate.

There are numerous networks at the municipal level that promote systematic data collection and use related to sustainability issues, such as the *HINKU network* of over 70 Finnish municipalities, which aims to reduce climate emissions by 80% by 2030 from the 2007 level.[205] The *FISU network*, which aims for environmental sustainability in a wider sense, has 11 pioneering municipalities as participants, aiming at carbon neutrality, waste-free and globally sustainable consumption by 2050.

In order to support municipal climate work, in February 2020 the Finnish Environment Institute published a continuously updated municipal *greenhouse gas emission calculation system*[206], which calculates municipal emissions annually. The calculation system enabling ex post monitoring of emission developments covers more than 80 emission sectors, the results of which are published as open data. The calculation principles are based on international calculation standards, and sector-specific results correspond to the results of the Finnish greenhouse gas inventory.

To support the planning of emission reductions, the Finnish Environment Institute published a *scenario tool for municipal greenhouse gas emissions*[207] in April 2021. With the tool, it is possible to design a comprehensive climate roadmap that takes into account the characteristics and baseline situation of a municipality. The tool comes with a baseline scenario for the years 2020–2050, where emissions development mainly takes place as a result of general market developments and national climate policy. In addition to the development of emissions in accordance with the baseline scenario, municipalities can

[202] https://www.kestavakaupunki.fi/en-US
[203] https://www.ymparisto.fi/liiteri
[204] https://helda.helsinki.fi/handle/10138/315440
[205] https://www.ymparisto.fi/en-US/Climate_and_air/New_research_reveals_municipal_climate_n(59853)
[206] https://paastot.hiilineutraalisuomi.fi/
[207] https://skenaario.hiilineutraalisuomi.fi/

examine the emissions impacts of additional measures that can be used to achieve the emissions reduction targets set.

In addition to emission reductions, the Finnish Environment Institute has cooperated with the National Institute for Health and Welfare and Kausal Oy to assess the other impacts of climate measures, such as air pollution and the health impacts of active mobility. To this end, *a disease burden model*[208] has been developed, which has been assessed, for example, in terms of transport. These models will be combined with the municipal climate monitoring platform and scenario calculation as an open-source system during summer 2021.

Location data is used daily in Finnish cities. For example, in Turku, inequality in residential areas is measured and combated by developing a *regional profile tool*. The results of the National Institute for Health and Welfare's school health survey and quality survey for basic education have been used to improve the well-being of children and young people. Information on the well-being of young people is also collected for pupil welfare.

The development and declining price of sensor and data transfer technologies have made it possible to collect and utilise large and frequent data volumes better than before. For example, data collected from water bodies using automatic meters has enabled the near-real-time modelling of large areas, for example to anticipate urban floods. New sensors attached to the satellites have also enabled the creation of more accurate remote survey materials. *Civil science* is also a cost-effective way of producing information in urban environments that will become more common in the near future.

Authors: Juha Peltomaa, Senior Research Scientist; Jari Lyytimäki, Senior Research Scientist; Nufar Finel, Senior Adviser; Santtu Karhinen, Senior Research Scientist; Kari Oinonen, Head of Unit and Antti Rehunen, Senior Research Scientist, Finnish Environment Institute SYKE

Contributors: Maarit Talvitie, Climate specialist, City of Oulu; Jouni Tuomisto, Chief Science Officer, Kausal Ltd; Samuli Saarinen, Planner, City of Turku; Pekka Vuorinen, Director, Environment & Energy, Confederation of Finnish Construction Industries RT

Indicators

77 Number of countries that have participated in capacity building workshops on New Urban Agenda indicators

Finland has participated in two New Urban Agenda capacity building meetings on national reporting and indicators. Municipal level data could be more useful.

Data source:

- Ministry of the Environment

[208] http://en.opasnet.org/w/Health_impact_assessment

Part 3: Follow-up and Review

The Ministry of the Environment oversees the national reporting of the New Urban Agenda. The production and finalisation of this report was overseen by Ministerial Adviser Jyri Juslén from the Department of the Built Environment. The process started with the recruitment of two contractors: Finngroup Consultants for the qualitative and the Finnish Environment Institute for the quantitative reporting. For the qualitative reporting of the + 50 themes, at least one professional from the state, regional and city level and, depending on the theme, also the academia, labour unions, the civil society, the private sector, financing institutions and media were identified forming +50 groups with authors and contributors. The authors and contributors are stated under each theme.

[i] https://ym.fi/en/strategic-programme-to-promote-a-circular-economy
[ii] https://www.stat.fi/tup/kiertotalous/kiertotalousliiketoiminnan-indikaattorit_en.html
[iii] https://circwaste.fi/en-US/Circwaste
[iv] https://circwaste.fi/en-US/Monitoring/Sharing_economy
[v] https://cicat2025.turkuamk.fi/en/what-is-cicat2025/
[vi] https://kiertotalousamk.turkuamk.fi/circular-economy-competence-uas/
[vii] https://eco3.fi/en/
[viii] https://www.digipolis.fi/en/teollinenkiertotalous
[ix] https://www.hel.fi/static/kanslia/Julkaisut/the-city-of-helsinkis-roadmap-for-circular-and-sharing-economy.pdf
[x] https://www.turku.fi/en/carbon-neutral-turku/circular-turku
[xi] https://smartchemistrypark.turkubusinessregion.com/en/
[xii] https://merikartta.turkuamk.fi/in-english/
[xiii] https://telaketju.turkuamk.fi/en/front-page/
[xiv] https://finix.aalto.fi/
[xv] https://www.sitra.fi/en/publications/world-circular-economy-forum-2018-report/
[xvi] https://sitoumus2050.fi/en/web/sitoumus2050/home#/
[xvii] https://ym.fi/en/climate
18 https://www.ely-keskus.fi/en/web/ely-en