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- Vice-President of the EU Committee of the Regions (Former President)
- President of the Helsinki-Uusimaa Region

Europe Needs Systemic Transformation for Climate Neutrality

Systemic challenges

- 1. Transformation to carbon neutrality
- 2. Platform economy & productivity leap
- 3. Societal resilience & societal innovations

Technological challenges

- 4. Digital systems & quantum computers & Al
- 5. Bioeconomy & super-performing materials
- 6. Electrification & energy transition



Regions and Cities
Green Deal 2.0

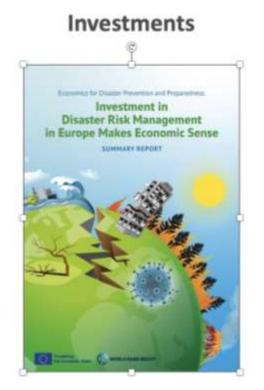
Climate Neutrality and Resilience are Imperative not only for the Nature of the EU and the World, but ...

- The CoR emphasises the fundamental principle that achieving climate neutrality and resilience is imperative not just for the nature of the European Union and the world but also for the EU's industry, competitiveness, self-sufficiency, security, well-being, health, employment, and urban and rural policies.
- 2. The ambitious and obligatory climate targets will not be reached without a Europe-wide systemic transformation.
- 3. The CoR fully supports the European Commission's proposal to establish a 90% net emissions reduction target by 2040, aligning with its COP28 and COP29 policies.
- 4. The CoR highlights, following the Letta and Draghi reports, the importance of adopting a mindset geared toward renewal, increased RDI, and effective use of digitalisation.
- 5. Why this? Failure to systematically act on climate mitigation and adaptation will lead to significant financial losses. According to the EEA's EUCRA findings, without further policy action, economic damages from coastal floods alone could exceed EUR one trillion per year in the EU by the end of the century.

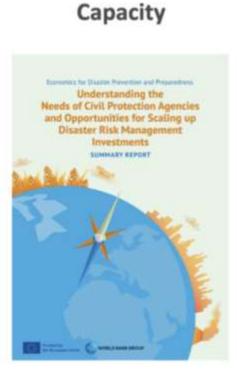




Multilevel on the EU Scale: Cities & Regions at the Forefront







An extensive amount of EU information and support exists: We need to use it more than so far

EU &Local during Recent Decades (the Espoo concept): Systemic Transformation Phasis in Using SDGs in Cities/Regions

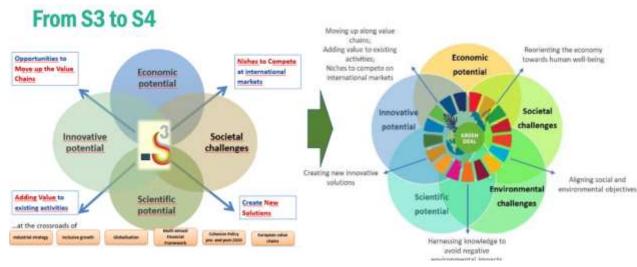
PHASE 1: 1990's – 2020 **Smart Specialisation**

PHASE 2: 2015-2024

Focus more on SDGs & Climate Change

PHASE 3: 2025-2030 **SDGs as the Strategic Frame**







Cities need to a mindset transformation from only economical industry level innovations to holistic societal innovations encompassing all levels of participation. This requires moving from S3 to S4 thinking and more dialogue-driven holistic approach. This requires changes in city governance: Bringing SDGs to be the core of city strategies. SDGs provide the required mindset change, applicable metrics and planetary lingua – and values that citizens can relate to. All the pieces are ready, it is time for collaborative implementation.

JRC / The Concept to a Place-Based Regional Innovation Ecosystem: Changing the Mindset to Be Based on Innovation



- Smart sustainable city is **a physical and virtual place** where technologies and humans co-evolve.
- Innovation ecosystem is a partnership of complimentary players who share the same vision and are willing to contribute to joint actions in order to achieve the individual and joint goals.
- Smart sustainable city is **by-default resilien**t. It predicts, identifies and responses to opportunities and risks.
- The new role of cities is to empower communities, collaboration and citizens to pursue ideas, to innovate and to take action.



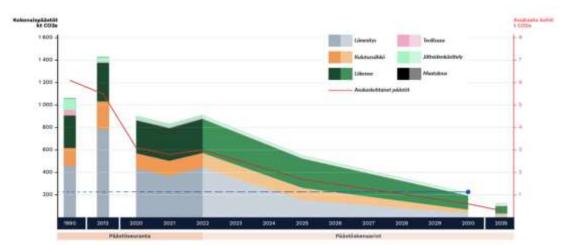
The EU Joint Research Centre JRC made in 2017 an analytical study of Espoo Innovation Garden to be a forerunner model for the other cities.

Espoo City Council Approved the Climate Neutrality 2030 Roadmap

https://www.espoo.fi/en/sustainable-development/espoos-climate-goals







Espoo's goal is to reach carbon neutrality by 2030. Compared to the reference year of 1990, the amount of emissions produced in Espoo has already decreased by 30 per cent, while the city's population has grown rapidly. The per capita emissions have decreased by 62 per cent since 1990.

The Espoo Concept shares knowledge and co-creates innovation in improving governance with other cities

CSG network

- Lead Partner: Espoo, Finland City population 305 200
- · Partners:
 - · Tallin, Estonia

City population 438 341

- Jablonec, Czech Republic City population 44 365
- Kosice, Slovakia
- City population 228 070
 Mannheim, Germany
- City population 309 370
- Gabrovo, Bulgaria
 City population 62 763
- Agios Dimitrios,
- Greece

City population 71 747

- Valencia, Spain
- City population 801 545
- Braga, Portugal
 City population 182 679



















Climate Neutral Espoo 2030 Roadmap

The City Council approved in May 2024 the Climate Neutral Espoo 2030 roadmap for combating climate change, which describes the City of Espoo's activities and

cooperation with partners and residents to achieve carbon neutrality.

Espoo Story – our strategy = City as a community

Espoo Story is based on a holistic understanding of sustainable development and outlines climate neutrality by 2030 as one of the city's main targets.

Emission reductions – Main focus areas

Land use, energy, transport, build environment, circual economy and sustainable lifestyle.

Decreasing footprint – Increasing handprint

Espoo is co-operating with universities, research organisations, innovation actors, businesses, and citizens to produce innovative solutions that cut down emissions in Espoo and have a positive carbon handprint solving global climate change.

Espoo - one of the

100 Climate-Neutral and
Smart Cities in the EU
Mission

All climate actions are included in an open Climate Watch

Climate Budget

was included first time in the city budget for 2024

The climate change adaptation roadmap deals with preparing for and adapting to the effects of climate change.



































Reaching the Carbon Mneutrality by 2030 in collaboration with industry: Espoo Espoo district heating transformation 2014-2029 Clean Illustrative Heat Share of carbon neutral production, % CO2 emissions compared to the 2014 level, % 100 Suomenoja gas units to Suomenoja last 90 remain in the security coal unit SO1 closes of supply capacity Kivenlahti Suomenoja pellet 80 Additional heat pump conversion Kivenlahti heat storages starts bio-heating facility starts and 70 Suomenoja S03 1st waste heat coal unit closes Suomenoja 3rd sources Vermo heat pump unit bio-oil Two-way starts 60 plant district heating Electric Additional boiler plant in electric boilers Demand side Suomenoja 50 response starts (smart streering of district 40 heating) Air-to-water heat pump pilot (AWHP) 30 Vermo air-to-water heat Heat storage pump plant starts Heat offtake from Microsoft's data centre 20 sites begins 10 0000 Powered by: 2015 2016 2017 2018 2020 2021 2022 2023 2026 2027 2028 2029 2030 2014 2019 2024 2025





Following the Progress on the Climate Neutral Espoo 2030 Target

Espoo has defined as its climate neutrality goal an 80% emission reduction from the 1990 level by the year 2030. The remaining 20% share can be absorbed in carbon sinks or compensated by other means.

Emissions development from 2021 to 2025:

- Climate emissions in the Espoo region have decreased significantly despite strong population growth.
- Climate emissions per capita in 2023 were the lowest in the metropolitan area for the eighth consecutive year.

Main climate actions that have reduced emissions:

- Heating: phase-out of coal in district heating in April 2024, investment decisions by Microsoft and Fortum on waste heat recovery from the Hepokorpi data centre.
- Consumer electricity: clean-up of national electricity generation, increase of local renewable energy and improvement of energy efficiency.
- Transport: electrification of the vehicle fleet ahead of the rest of the country, significant investment in rail infrastructure and promotion of sustainable transport modes. The share of public transport, cycling and walking increased from 53% to 59% in 2019-2023.
- Land use and construction: directing urban growth to rail connections, sustainable construction and renovation.

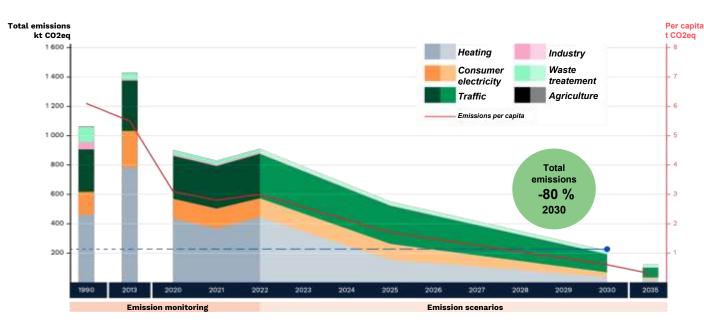
From 1990 to 2023:

Regional emissions
-30 %

From 1990 to 2023:
Emissions per capita
-62 %



To achieve the climate neutrality target, significant emission reductions will need to continue in the coming years.



Source: Greenhouse gas emissions in the Helsinki Metropolitan Area HSY 2023 and Climate Neutral Espoo 2030 roadmap scenario work, Sitowise 2022 and 2023





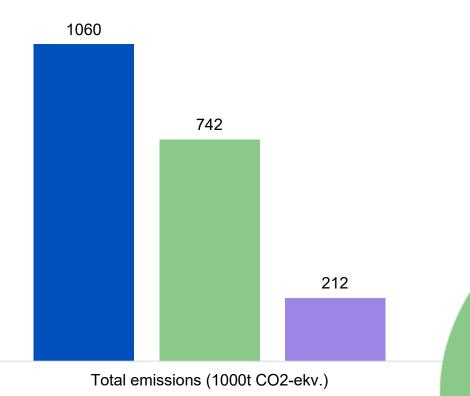
Decreasing Total Emissions and Emissions per Capita



Espoo has defined as its climate neutrality goal an 80% emission reduction from the 1990 level by the year 2030. The remaining 20% share can be absorbed in carbon sinks or compensated by other means.

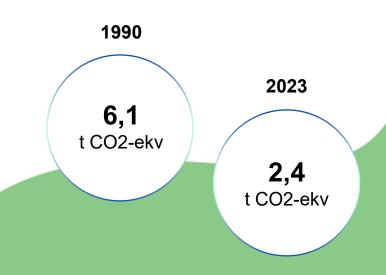
Espoo's total emissions in 2023 have decreased by 30% since the year 1990

■ 1990 ■ 2023 ■ Climate Neutral Espoo 2030 target



Espoo's emissions per capita

Espoo's emissions per capita have decreased by 62% since 1990.



Sources: Greenhouse gas emissions in the Helsinki Metropolitan Area HSY 2023 and Climate Neutral Espoo 2030 roadmap scenario work, Sitowise 2022 and 2023









61% of the City of Espoo's Investments in 2025 Contribute to the Climate Goal

In the 2025 budget, the City of Espoo's climate-related investments amount to EUR 216.5 million and other operating expenditure to EUR 247.9 million. Relative to the city's budget as a whole, 61% of investments and 14% of operating expenditure contribute to the climate target. This share has increased since 2024.



In 2025

14% of the City of Espoo's operating expenditure 248 million €

61% of the City of Espoo's investments 216.5 million €

... will be allocated to climate change mitigation and adaptation measures.

Figures include revisions since the publication of the budget.



Read more: Espoo's Climate Budget











Climate Neutral Espoo 2030 Roadmap Guides towards the Climate Goal

Climate Neutral Espoo 2030 Roadmap compiles City of Espoo's own work with cooperation with partners and residents and concrete measures to achieve the climate neutrality target.

Since 2024, the **climate budget** in the city budget integrates climate work into the financial planning.

The European Commission awarded the EU Mission Label to the Espoo Climate City Contract in spring 2024. The Climate City Contract is part of the EU Mission for **100 climate-neutral and smart cities** and describes the actions and cooperation through which the climate-neutrality objective can be achieved.







The Climate Watch

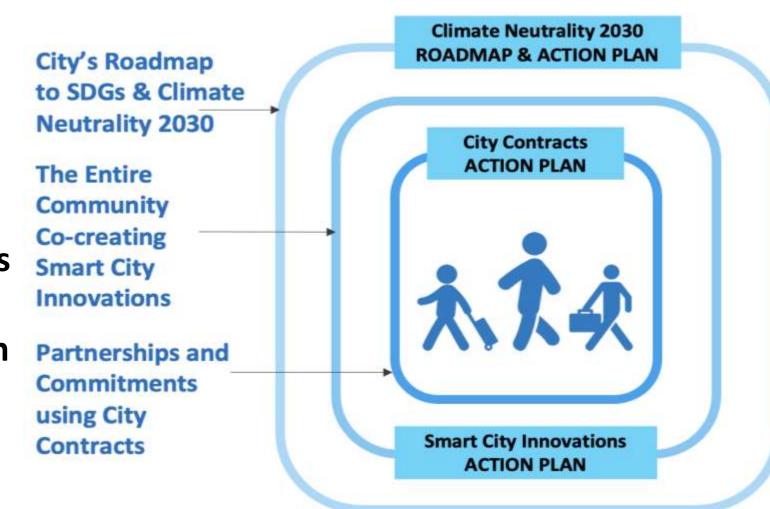
compiles Espoo's climate measures and emission reduction scenarios.



Climate Policy in the EU Missions: Commitment of the Entire City & Collaboration with Industry Using Climate City Contracts

Systemic transformation means that the city/region:

- 1. updates regularly an orchestrated overall roadmap
- 2. operates on all EU Missions and other EU initiatives
- 3. utilises Horizon & Cohesion & other EU funds
- 4. builds local, national and European partnerships



Reaching the ambitious targets in climate neutrality is not only as an environmental imperative but also imperative for the EU's industrial, competitiveness, well-being, and security policies.

- The EU cannot afford to manage its climate policy in a normal way; that approach is too slow.
- We need to implement pioneering climate neutrality policies at the regional level, utilizing the JRC's theoretical and practical support within the second phase of the Partnership for Regional Innovation using the ACTIONbook.



CoR Opinion on the Future of the EU Climate Policy: Aligning Mitigation Targets and Adaptation Challenges

- 1. Focus: Mobilising systemic transformation for climate neutrality
- 2. Imperative: The integration of climate and environmental policies for the EU's well-being, industry, competitiveness and security policies
- 3. Next five years: Real-life practice implementation
- 4. Support from all governance levels: Measures for integrated systemic transformation
- 5. Facts and evidence: An integrated EU climate policy the only option
- 6. Public-private investments: RDI, education and professional development
- 7. EU Missions: Crucial for advancing EU climate policy
- 8. Citizens on board: Essential awareness to implement climate policy
- 9. Unified approach: Integration of climate, biodiversity, soil, waters, health and land-use
- 10.Market-based mechanisms: Accelerating the transformation
- 11. Effective monitoring: Key to climate policy success
- 12. Navigating change: Essential instruments for climate action

The Strong Commitment of Nordic Industry







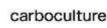




































































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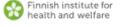
















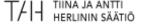












Climate Leadership **Coalition**



Members from Nordic countries employ **1 000 000** people globally.

CLC believes that a profound transition to a sustainable world is economically beneficial, viable and financeable. CLC members, strive to make this happen through leading business solutions.

The Helsinki-Uusimaa Circular Hub: Strategic Ecosystem Pilot



A regional initiative promoting system-level change towards the circular economy.

An ecosystem bringing together projects, local ecosystems, companies, researchers, developers, and municipalities for codevelopment.

A platform and accelerator promoting and supporting new businesses, creating networks, test beds, and pilot areas – aiming at 120 new pilots.

Information point searching, developing and sharing knowledge, knowhow, data, ideas, resources and networks.

Connector and advisor supporting land use planning.

Five focus areas: construction, plastics, textiles, electronic waste, food and biomaterials.

