

Climate City Contract

2030 Climate Neutrality Commitments

Climate Neutrality Commitments of the City of Gothenburg



City of
Gothenburg

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1 Introduction

This opening section explains the city's motivation to join the EU Mission "100 climate-neutral and smart cities by 2030" and highlights the city's present commitments to climate action.

Introduction

Gothenburg is dedicated to taking a lead in the climate transition of cities. The City's vision, "sustainable city - open to the world", reflects this mission. Gothenburg is already a leader in green industrial transition. The city is a hub for advanced industry, cutting-edge knowledge, innovation and logistics in terms of new emerging industries, large infrastructural transformations and intensified efforts in finding solutions to sustainability challenges such as those related to climate change.

The climate transition in the City of Gothenburg is about creating a city that is attractive to, and supportive of, its current and future citizens. This includes the creation of more liveable and attractive neighbourhoods, but also more jobs and efficient public transportation. To achieve these and other ambitions the climate transition of Gothenburg is about tackling multiple challenges simultaneously, using the power of societal transformation to also address issues of inequality and strengthening citizen's equal opportunities to improved life, health and participation in society.

Central to the City's climate ambition is the Environment and Climate Program for the City of Gothenburg 2021-2030¹ adopted by the City Council in 2021. The program is the main governing document for the environmental dimension of sustainable development, and includes goals on biodiversity, climate and healthy living environments. The City's climate goal is clearly quantified in the program: By 2030, Gothenburg's climate footprint is to be close to zero. To achieve this Gothenburg's climate footprint must be reduced annually with the aim of reaching a zero-climate footprint as soon as possible.

To strengthen the City's efforts in reaching the climate goal, and to both support and learn from other cities with the same ambition, the City applied for and was accepted as one of the cities in the EU Mission "100 climate-neutral and smart cities by 2030". The City was also one of the first cities in Sweden to join the national Viable Cities platform with the same ambition. Through both these platforms the City expands its toolbox for building a stronger mandate, mobilising more actors and co-creating portfolios of action.

Other platforms are also crucial for the City's climate ambitions. Through its science parks the City provides opportunities for, and is active in, experimentation and innovation to test, develop and scale up climate neutral and smart solutions. The City is also an active member in several international, national and regional networks focusing on climate mitigation. In close collaboration with the two universities in Gothenburg, and also other universities and institutes, the City is a partner in a number of research and development projects, including being a lead partner in EU projects focusing on climate transition issues. Several of these projects focus on the development of governance to support a fair climate transition, such as the Just Transitions graduate school. Projects also focus on enhanced citizen participation in climate transition, such as the Viable Cities project Climate Neutral Gothenburg 2.0, where Gothenburg is the first municipality in Sweden to test the citizen assembly method in the spring of 2024.

Cooperation and co-creation is essential in order to succeed in the climate transition. Together with its key partners in all sectors, The City of Gothenburg in this Climate City Contract outlines the path

¹ [Environment and Climate Programme for the City of Gothenburg 2021-2030 \(goteborg.se\)](https://goteborg.se/en/Environment-and-Climate-Programme-for-the-City-of-Gothenburg-2021-2030)



to near-zero emissions by 2030, with the confidence and humility this endeavour requires, whilst also being aware of the great challenges that lie ahead, and the large investments required.

2 Goal: Climate neutrality by 2030

Goal

An ambitious goal with robust support

The climate goal of Gothenburg aims for a near-zero carbon footprint by 2030. This goal is an integral part of the Environment and Climate Program for the City of Gothenburg 2021-2030, which was adopted by a large political majority in the City Council in 2021. The objective encompasses all administrations and City-owned companies, addressing both territorial and consumption-based emissions. Under this objective, territorial greenhouse gas (GHG) emissions are targeted to decrease from 4.3 to 1.2 metric tons of CO₂ equivalent per inhabitant annually, while consumption-based GHG emissions are targeted to decline from 9.25 to 3.3 metric tons (based on 2018 and 2019 year baselines respectively). Many stakeholders in academia, industry, and civil society in Gothenburg embrace the vision of pioneering climate transition and seek collaboration to achieve the target.

Territorial reductions and remaining gap for Gothenburg

Gothenburg's near-zero goal differs in scope and target value from the Mission's "climate neutrality." The Mission's definition of "climate neutrality" entails achieving net-zero GHG emissions, incorporating Scope 1 and Scope 2 emissions from territorial operations, with Scope 3 emissions not presently mandated. In contrast, the system boundary for Gothenburg's goal is broader, encompassing Scope 1 emissions from all industries within the territory, including traded emissions, as well as Scope 1, 2, and 3 emissions from all goods and services consumed, from a consumption-based perspective. Thus, the two targets vary in their scope.

As presented in the Climate Action Plan, Gothenburg is anticipated to achieve a 77 % reduction in territorial emissions, slightly below the recommended 80 % for climate neutrality in the Mission. However, it's noteworthy that Gothenburg will be effecting emission reductions from an already relatively low starting point compared to other European cities. This is primarily due to the comparatively low emissions from the energy system, particularly electricity production. To illustrate, the average EU-27 territorial per capita emissions were 8.4 metric tons of CO₂ equivalents in 2018 (EUROSTAT), compared to Gothenburg's 4.3 metric tons. An 80% reduction in emissions would therefore leave 1.68 metric tons per capita for an average European city, whereas Gothenburg's pathway towards a 77% reduction suggests 0.98 metric tons by 2030, predicted population change included.

The remaining GHG emissions in 2030 constitute the city's residual emissions. Strategies to address these emissions will form a significant part of future iterations of the Climate City Contract.

Synergies and conflicts of interest

The city's climate transition efforts reveal several sectoral connections, conflicts of interest, and potential synergies. Conflicts must be identified and managed with care, ideally transformed into opportunities, thus maximizing the benefits of change. One notable example is the intersection of climate transition and equity, where climate action can facilitate social progress if approached with both perspectives in mind. A just transition is an area currently being explored by the City through initiatives such as the Just Transition Graduate School and cross-cutting efforts to integrate social



and environmental sustainability work. Common co-benefits identified by the City include improved public health, enhanced air quality, reduced noise pollution, increased biodiversity, and the creation of more livable and attractive neighbourhoods, alongside job creation and bolstered city resilience. The green transition also presents significant opportunities for many companies in Gothenburg, leveraging competitive advantages, particularly in the realms of electrification and the establishment of emerging green industries.

3 Strategic priorities

Strategic priorities

Systemic interventions based on system understanding

The strategic priorities to reach climate-neutrality in Gothenburg need to be based on a solid understanding of the emission impact domains and the different systems to address, for the City and its involved stakeholders, the most efficient measures to be prioritised.

Industrial emissions constitute the largest share (55 %) of greenhouse gas emissions in Gothenburg, whereof the lion share is from the refineries. However, it is also closely intertwined with the City's energy system. These two systems therefore need to be addressed together. Changes in the energy system are key for climate transition. As mentioned in the previous section the electricity sector already has low emissions. The energy system and the industry sector are in addition closely connected to the transport sector, waste management and the built environment. The reason for this is the district heating system uses the waste heat from industry and the waste incineration plant (about 75 % of the energy source), as well as heat produced from the City energy company's own plants (about 25 %). Additionally, electrification is featured as an important means to reduce climate impact from both the industry and the transport sector, which increases the demand for electricity within the geographical area of Gothenburg. Finally, the building sector also affects the energy sector in terms of its energy demand (heating, electricity and cooling). Circular economy is key for reducing material and energy use and indirectly emissions. Hence, circular economy is linked particularly to the energy system and the built environment.

Road traffic is the second largest source of geographical greenhouse gas emissions in Gothenburg, just below about 20 % of total emissions. As a large city, Gothenburg has a greater potential to increase walking, cycling and public transport, as well as shifting to more efficient freight transport, compared to other parts in Sweden where the population density is lower. The ambitions regarding the decrease in transport emissions are therefore higher compared to the corresponding national goal. The City's ambition is that the climate impact from transportation will be reduced by at least 90 % by 2030, and that the volume of motorized traffic will be reduced by 25 %. Reaching the targets will require a shift from car travel to walking, cycling and public transportation, and freight transport from road to rail and waterborne transport. Furthermore, the use of fossil fuels needs to stop and be replaced by different renewable fuels, electric or hydrogen driven vehicles. Renewable fuels will not be sufficient for the same volume of road traffic as today, nor will they be sufficient for shipping, aviation, work machinery and other sectors. That is why the volume of traffic needs to be reduced as well.

The Port of Gothenburg is Scandinavia's largest port and a central node in Sweden's transport system. This provides the opportunity for the City of Gothenburg to act as a forerunner and become a hub for climate transition of the transport system for Northern Europe.



With Gothenburg being a growing city, emissions derived from the building and construction sector are crucial. Focusing on this sector as an enabler for climate neutrality has large implications on emissions in Gothenburg and elsewhere.

Emissions of greenhouse gases due to food production are important from a consumption-based emission perspective. The City has investigated the potential to reduce these emissions, and connected emissions from the transportation of food, the potential of nature-based solutions and greening of urban areas. In total, this focus has potential to generate reductions in emission with many co-benefits.

Strategic priorities

A large number of different types of actions are necessary to achieve the climate goal, and several different levers need to be used. Most of all, to be successful the City of Gothenburg needs to work in close collaboration with all necessary stakeholders within business, academia, public organisations, civil society and citizens to expand the portfolio and strengthen the alignment.

The City has, during the preparation of this commitment, developed portfolios of action around seven strategic priorities. Each portfolio addresses various levers: technical, financial, organisational, governance, policy, culture, behavioural and social.

The seven strategic priorities are:

1. The intertwined energy and industrial system portfolio

This portfolio includes actions to reduce emissions from the privately owned refineries by switching to renewable energy or implementing carbon capture and storage (CCS), replacement of the natural gas used as fuel at the combined heat and power plant owned by Göteborg Energi (the municipal energy utility), and broad energy efficiency measures and energy advice to citizens and SME:s. The technical shifts needed will be supported by multi-lever measures, for example behavioural change.

2. The Port as a lever for reduced heavy transport emissions

The City, in cooperation with many actors, works for improved conditions and infrastructure for fossil-free freight transport by sea, port and on land. This is achieved through a portfolio of linked activities regarding bottleneck issues of fossil-free logistics to enable shifts from road-bound to rail-bound freight transports, infrastructure for hydrogen, onshore power supply for tankers and fast lanes for electric trucks, to name a few examples.

3. Sustainable and efficient mobility

The City uses a wide toolbox to induce a shift towards a more sustainable and efficient mobility system. This implies efforts to expand and improve infrastructure for walking, cycling, trams, electrified busses and trains micromobility. Additionally, mobility management, city planning, parking regulations, new business models, nudging and infrastructure for electric vehicles are elements of the portfolio. The battery factory of Northvolt and Volvo Cars will act as a local landmark for this shift. The multi-stakeholder collaboration initiatives (Green City Zone, ElectriCity, Public transportation of the Future as well as mobilising for the international conference on electric vehicles) are important enablers.

4. Improvements in the treatment of waste materials

Reductions of the amount of plastic in the waste treated by the incineration plant is needed, as well as reductions of incinerated food waste. Instead of being sources of emissions these resources can be used for recycling (plastic) and for biogas and fertilizer (food waste) and thus replace use of fossil



based raw materials. Apart from enhancing infrastructural capacity, different strategies and combination of instruments are applied, including pricing, investigations on CCS, developed work procedures and behavioural shifts.

5. Climate-neutral construction

The City uses public construction projects as an engine in the transformation to a climate-neutral construction sector in Gothenburg. This involves working with requirements in public procurements of buildings and construction as well as using living labs for long term co-creation and innovation processes, together with stakeholders of the construction sector, such as The Platform for Climate-neutral Construction and The Handshake. Changing norms to optimise the use of existing building stocks is also part of this portfolio.

6. Capacity for circular economy

The City of Gothenburg is one of Sweden's largest procurers, driving the market towards circularity. City administrations and companies are joining forces to build capacity for action on a circular economy and by mobilizing key actors, as well as to nudge behavioural change, involving various stakeholders in the city. Building the infrastructure for the shared and circular economy together with civil society organisations is also a key component.

7. Urban farming, green infrastructure and nature-based solutions

In collaboration with entrepreneurs, business sector, academia and civil society actors, the City supports the increase of urban farming through land allocation, procurement, by running collaboration platforms and supporting innovation. Closely linked to this is urban planning measures to enable food production, nature-based solutions as well as green infrastructure for enhanced ecosystem services.

4 Process and principles

Process and principles

Governing the climate transition of Gothenburg

Gothenburg has a long tradition of working with environmental and climate issues, integrated across the City's organisation and in collaboration with other stakeholders. During the last years, the City has worked progressively with developing strategies, goals and indicators to form the pathway towards 2030. Successful platforms have been developed with the business sector, academia, the civil society and other public authorities to foster systemic change in areas where no single actor has the tools or mandate to solve problems on their own.

Nevertheless, the challenges ahead demand further development of the City's work and procedures to support systemic transition. Key priorities for the City of Gothenburg are:

- **Governance within the City:** additional governance innovation interventions that support systemic, mission-oriented and co-designed portfolios of actions that accelerate learning and transition within the City organization.



- **Multi-level governance:** Multi-level innovation interventions that aim to mobilise opportunities and overcome barriers connected to governance structures on local, regional, national and international levels.
- **Multi-actor governance:** Multi-actor innovation interventions that aim to strengthen collaboration with business, academia, public authorities, civil society and citizens to widen the systemic, mission-oriented and co-designed portfolio of actions and accelerate learning.
- **Social innovation:** Social innovation interventions which aim to unleash the potential of collaboration, citizen inclusion, co-benefits and a bottom-up human-centred approach.

Developing governance within the City

The City of Gothenburg, much like other municipalities, operates with distinct administrations and companies, each tasked with specific functions. Management is also highly decentralised, with the administrations and companies each having their own mandate and governance. While this setup facilitates efficient day-to-day management, it lacks in its ability to address systemic challenges like climate transition. For this reason the governance system needs to be enhanced with instruments such as the *Climate Action Plan*, *Climate Investment Plan*, and the forthcoming *Climate Transition Strategy* that will describe possible strategic pathways, based on advanced scenario- and risk analyses.

These three instruments will add to the following governance tools that are already in use:

- The *Climate Transition Function* that organizes the development of the Climate Transition Strategy.
- The *Climate Budget* which contributes to raising awareness of the city's carbon footprint and describe necessary actions for achieving climate targets and serves as a follow-up and planning instrument for implementing the right measures.
- The *seven cross-cutting strategies* in the Environment and Climate Program for the City of Gothenburg 2021-2030 that deal with key priority areas which require a high degree of collaboration and cross-cutting solutions.
- *Strategic work on underlying enablers* such as financing, leadership and skills, communication, influence and collaboration capacities.
- The *Climate Council* which contributes with independent academic expertise to support the city's transition with proposals of feasible and specific measures.
- The *Testbed Gothenburg* which is a tool to further address the systemic barriers of fragmented innovation and involve more actors to enable upscaling.
- The *Knowledge Arena* which aims on developing internal capabilities of the City to foster innovation and digitalisation.
- *Virtual Gothenburg* which creates new opportunities to better describe, understand, plan and manage the city. It also enables better basis for decision-making and understanding of the challenges and solutions related to the net-zero mission.

Developing multi-level governance

The City needs to continue building on its multi-level collaboration with regional, national and international levels in order to be successful in the climate transition. The work ahead will evolve through the platforms of Viable Cities, NetZeroCities and the regional mobilisation efforts in western Sweden in particular. Additionally, there will be a focus on ways of orchestrating the various collaborations the City is engaged in, to utilise this for accelerating climate transition.



Developing multi-actor governance

It is a key priority to include actors from different sectors of society. To widen the systemic, mission-oriented and co-created portfolios of action and accelerated learning in order to reach beyond the City organisation there is a need to develop multi-actor collaboration. The strategy is to build on already ongoing initiatives.

Concerning innovation and technology development some of the most prominent platforms are:

- Climate-neutral construction
- Circular construction (see MoU in appendix)
- Emission free transportation zones
- Electrified transportation and heavy machinery
- Public transportation innovation
- Emission reductions from the port and logistics sector
- Climate-leading process industry
- Sustainable fashion industry
- Sustainable food system
- Sustainable destination

The City is also engaged in several specific City-academia partnerships. One of these is the focus area “A fossil-free Gothenburg” that includes research initiatives and in-depth collaboration with Chalmers University of Technology and the University of Gothenburg.

Urban Futures – Centre for Sustainable Urban Development is an important platform for developing knowledge, networks and transdisciplinary methodology to address sustainability challenges, not least concerning governance for a just climate transition. The platform is regional and includes the City of Gothenburg, Chalmers University of Technology, the University of Gothenburg, RISE Research Institutes of Sweden, IVL – Swedish Environmental Research Institute, GR – the Gothenburg Region, VGR – Region Västra Götaland, and the West Sweden County Administrative Board.

Wexus (West Sweden Nexus for Sustainable Development) is a new platform under development. It is a collaborative arena run jointly by Chalmers University of Technology, the University of Gothenburg and University West. The platform connects all sectors of society and build relationships to strengthen the ability to implement a sustainable transition based on research-based knowledge.

Other examples of broad collaborations throughout sectors of society are the mobilised efforts around the establishment of a new battery factory for electric vehicles in Gothenburg (see MoU in appendix). Mobilisation around the development of electric vehicles is also shown through the engagement of various actors to arrange an international conference on EV development in Gothenburg 2025 (see MoU in appendix).

Developing citizen inclusion and social innovation

Citizen inclusion and collaboration with civil society is an integrated part of the multi-actor collaborations around specific challenges described above. However, citizen inclusion needs a separate focus as well. This is due to its profound importance and to the differing conditions of citizen engagement compared to involvement of other stakeholders of business, academia and the public sector.

An important starting point is that the administrations and the companies in the City are obliged by the City Council to involve citizens in their field of operation, and for this purpose use the



infrastructure for democratic action and participation. There is a separate committee and administration responsible for maintaining and developing this infrastructure.

"The Accord" (Överenskommelsen) which is an overarching agreement between the City and the umbrella organisations of Gothenburg civil society, will provide a framework for the collaboration and mutual interests of the City and the civil society.

Collaboration with civil society and citizen inclusion will be an integrated part of the Climate City Contract and be further developed through the following initiatives:

- The City's infrastructure for democratic action and participation
- The test of a citizen assembly in the spring of 2024
- A civil society platform under development
- Three different concepts for dialogue and co-creation – The Futurable City, The Transition City and The Frihamnen Days, which are different public setups with a shared ambition
- Virtual Gothenburg – a digital twin to provide tools for citizen involvement and shared understanding

Another key area to enable systemic transformation is social innovation interventions that can unleash the potential of collaboration, citizen inclusion, co-benefits and a bottom-up human-centred approach. The capacity to enable social innovation will be developed within the City by building on:

- Strategic work on creating conditions for sustainable living
- User-centred innovation capacity building
- The Just Transitions Graduate School

Other concrete focus areas within the social innovation dimension that the City will utilise to mobilise action are:

- Develop an urban infrastructure for a circular and sharing economy
- The Smart Map – a social innovation for circular economy initiatives
- Single-use free city – elimination of single-use containers
- Private consumption and consumption-based emission tools
- Sustainable destination and climate smart events
- Gothenburg Green City Zone – developing social innovation tools
- Reallocate – living labs to catalyse change in mobility practices
- The urban and peri-urban food production stimulant

Monitoring and accelerating learning

The governance innovation interventions that the City of Gothenburg has developed, and will continue to develop, will contribute to the collective learning and shared knowledge that is necessary for dealing with the uncertainty that comes with climate transition.

The Climate Transition Function is a central tool to orchestrate co-action, but also co-learning. The Climate Transition Function is developing climate transition scenarios, which provide knowledge on how the different City departments and companies need to act, and how the management needs to adapt in relation to the scenarios. Together with the Climate Budget, the City will be better placed to manage emissions data and plan future measures. The interventions to coordinate the work within the City organisation need to be connected to the collaborative work with other actors, other levels and the citizens. From strengthening these connections, the City will have better preconditions to



carry out sensemaking, reflection and synthesis based on a strong knowledge base. This is crucial for being successful when working in a system transforming way.

Conclusions from the accelerated learning is absorbed by the processes of the Environment and Climate Programme, including the City-wide Environment Management System and the seven cross-cutting strategies, where actions of different character, both short-term and long-term, will be incorporated. The Environment and Climate Programme is monitored every second year and is also subject for revision, the next revision taking place 2025. Learnings from the Climate City Contract will be included in the monitoring of the programme. The monitoring process means that there is a constant learning loop within the City, forming preconditions for utilising the accelerated learning.

The Climate City Contract

The Climate City Contract is more than a document. It is a process of assembling all relevant efforts and plans, and for connecting most relevant stakeholders around the City's ambition to reach its climate goal. Continuous revision will ensure that it will be a continuous tool for joint information sharing, collaboration and decision-making. Together with the Climate Transition Strategy and the national Viable Cities climate contract, the Climate City Contract will be much more than a manifestation – it will be one of the City's most important tools for successful climate transition.



5 Signatories

The table below enlists the signatories² who are committing to this CCC, and thereby to help the city achieve its goal to reach climate neutrality by 2030. Specific agreements that articulate the details of the climate action(s) between the municipality and signatories are added to the individual contracts in Appendix 1 (see sample in section 6). The number and relevance of signatories' commitments is likely to increase over time.

Name of the signatory (organisation)	Sector / Domain / Level of operation ³	Legal form	Name of the responsible person	Position of the responsible person
City of Gothenburg	Municipal, All domains	Municipality	Jonas Attenius	Mayor of Gothenburg
HSB Gothenburg	Civil society, Built environment, Local	Housing cooperation, non-governmental organisation	Lizz Wiklund	Head of Sustainability
Gothenburg Region	Municipal, All domains, Regional	Association of local authorities	Maria Sigroth	Head of Department, Environment and Planning
The union of tenants region West of Sweden (Hyresgästföreningen region Västra Sverige)	Civil society, Built environment, Local	Non-governmental organisation	Pedram Kouchakpour	Regional manager
RISE Research Institutes of Sweden AB	Academia and research, All domains, National	State-owned company	Malin Frenning	CEO
Wexus (West Sweden Nexus for Sustainable Development)	Academia and research, All domains, Regional	Academic consortium owned by three universities	Tomas Berglund	Director

² Climate City Contract signatories may be individuals or organisations. They ideally include national and/or regional governments, for example concrete agreements/ commitments made through the multi-level governance engagement processes supported by NetZeroCities, CapaCities, and other emerging national level initiatives.

³ Please mention if the organisation is active at local, regional, national, or international level.



City of
Gothenburg


2030 Climate-Neutrality
Commitments



6 Contract with signature

I, the undersigned, hereby commit to the joint ambition and commitments, as formulated in the City of Gothenburg's Climate City Contract.

2024-03-12



Mayor of City of Gothenburg, Jonas Attenius