NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES

Climate City Contract

2030 Climate Neutrality Commitments of Malmö

Version 2 (2026)

City of Malmö

NetZeroCities has received funding from the H2020 Research and Innovation Programme under the grant agreement n°101036519.

Disclaimer

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Introduction

Introduction

Just like the European Commission, the City of Malmö (hereafter "Malmö") appreciate that current targets are challenging and ambitious, but we need to go further and faster. Cities play a key role in the mobilisation of citizens, businesses, civil society actors and academics in the creation of a just and equitable climate transition and together we *can* go further and faster.

Malmö is fully committed to addressing the climate crisis while at the same time tackling our significant socio-economic challenges. Although we have been awarded Sweden's Best Environmental Larger City 2025, and more than four times previously in the last decade, we still have much to do both from an environmental and socio-economic development perspective. Malmö has made many of the easier emissions reductions and is now grappling with more complex issues. Malmö has diversified its economy, but its unemployment rate is higher than the national average. It is therefore essential for us to further integrate climate and socio-economic transitions to ensure that climate investments contribute to new employments and improved lives for all in Malmö.

Malmö is an early leader in sustainable urban development, as Malmö has worked actively with climate-related development issues for more than 30 years. Even though emissions have decreased while the population has significantly increased, we acknowledge that the rate of progress has been too slow. We are also acutely aware that collaboration, shared learning, and mobilisation with a shared direction, are key aspects of innovation and acceleration. They are also essential for the upscaling of actions internationally to meet our shared climate challenge and ultimately reduce climate impacts at the local level. Joining forces with other ambitious cities across Europe, to commit to a challenging mission in collaboration with the EU, is therefore a logical step for the City of Malmö to strengthen measures locally and contribute to shared leadership.

Malmö has also taken a leading role together with ICLEI to launch the Malmö Commitments on Inclusive and Equitable Communities at the ICLEI World Congress in 2022. According to the Malmö Commitments, there is an opportunity to let the climate transition and adaption go hand in hand to improve the lives of the most vulnerable members of society.

Today's rapidly changing world means that organisations need to react and adapt quickly, and find new ways to communicate and work with each other. This can be solved only by creating sustained organisational adaptability. Creativity is a collaborative endeavour. Innovation is a team effort. Malmö is building on over 30 years of experience working on partnerships and investing at both a macro and micro level, with testbeds and learning processes. We are now using this accumulated knowledge and inter-organisational capacity to deal with the complexities of a just and equitable climate transition. To address the climate neutral by 2030 mission, Malmö has reinvented its way of working. A horizontal Climate Transition Malmö process management office is established to build bridges and maximise synergies between organisational silos and with other stakeholders. Key takeaways from Malmö's analyses show that Malmö can become climate positive by 2030 if, and only if, stakeholders at local, regional, national, and European levels are engaged and work together on accelerating the transformation of the society.

Malmö was one of the founding members of Viable Cities, where 48 cities in Sweden have come together under the commitment to become - *Climate neutral cities 2030.* As a part of the announcement Viable Cities has launched Climate Contract 2030, an agreement between cities, national authorities, and Viable Cities where all parties agree to undertake concrete measures to speed up their climate

transitions. The contracts consist of the actor's intention to raise the ambition within sustainable city development and climate transition. Malmö signed the initiative in December 2020. Since 2025, joint commitments have also been included in the contract, in which participating cities work together to strengthen individual capacity and ability, but also to jointly learn and drive the transition forward as a collective.

In similar fashion Malmö is engaged in the European mission for 100 climate neutral and smart cities by 2030. Malmö has been selected to be one of the pilot cities within the mission and is looking forward to supporting the EU mission onwards.

Goal: Climate neutrality by 2030

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The climate neutrality 2030 goal is enshrined in the City of Malmö's Environment Programme, adopted by the city council. The targets are supported by key stakeholders in the business community, many of whom have equivalent targets that they are working on meeting for their entire business operations, or for their operations in Malmö.

Malmö has the ambition to become climate-neutral by 2030 in respect to scope 1 and 2 emissions according to the GHG-protocol and ensuring a just and equitable climate transition.

Climate neutrality for Malmö by 2030 requires a combination of emission reductions and compensating measures.

According to Malmö's Environmental Programme (2021-2030) the goal for 2030 is at least 70 % reduction of territorial emissions compared to 1990. From 2024, the overarching objectives for the City's budget include a goal of Malmö becoming climate neutral by 2030.

Analysis of the potential of compensating measures and the potential of mitigation of emissions on the larger emission categories are part of the ongoing process of Climate Transition Malmö. The four largest emission categories, energy, transport, industry and working machines, make up around 90 % of the total emissions. As for compensation measures, the planned CCS/BECCS on the waste incineration plant in the city will account for the majority of the compensation.

The EU Commission's mission option to exclude parts of the emissions has not been applied in Malmö so far. Therefore, the following emissions are included when aiming for climate neutrality 2030: the high-way traffic passing by the city (equal to 17% of the total emissions (2023), the harbour with its freight, all emissions from the production of heat and electricity from the waste incineration plants (even though the district heating network also supplies the neighbouring municipality).

Malmö's goals for consumption-based emissions in 2030 are outlined in the Environmental Programme. In 2050 the global emissions need to be capped at 1 ton CO_2 per person per year to reach the 1.5 ºC-target of the Paris Agreement. Malmö's consumption-based goal is to reach a 50% emission reduction by 2030 with a goal value of 3.1 ton CO_2 emission per person per year.

Malmö's climate goals in the Environmental Programme also include a goal to become a net zero organisation. The goal includes Scope 1-3 emissions for the entire city organisation with its around 28 000 employees.

Malmö launched its Climate Contract for business in 2021 to mobilise partners in the private sector to commit to the shared 2030 target with the city, and from 2024 the contract is also open for non-profit associations and academia to sign. So far around 100 local actors have signed the contract, some of them are umbrella organisations representing up to 350 NGOs or over 200 industry actors. In addition to these network organizations, a number of intermediaries and enabling actors have also signed the contract and are currently contributing to lead and facilitate the local transition.

The City of Malmö has also been working with a number of different processes to support citizen participation and engagement in the development and delivery of climate action. One major action related to citizen participation entailed organising a local climate assembly. In 2024, 40 citizens were recruited through an open call and selected in a way as to ensure diverse representation across various parameters. The participants then met for a number of educational and interactive workshops, which resulted in a list of proposals and recommendations to the City in terms of policy or direct actions. The process involved members of staff as well as elected officials from the City and was led by the independent organisation Klimatriksdagen (The Climate Parliament). The list of proposals was integrated into the City's decision-making processes.

Malmö's analyses show that there are strong co-benefits to working with climate transition for the city. Especially the transition connected to transportation includes many benefits on public health, such as air quality, sound pollution and a shift towards more active mobility. The development of green jobs and sustainable economic development through climate transition is one such key co-benefit that the city is actively developing.

Key priorities and strategic interventions

Key priorities and strategic interventions

Climate Transition Malmö has identified seven transition areas; six of which are thematic and covers the entire city, and one that focuses on the municipal organisation. Each thematic area has its own roadmap, which describes significant challenges and key focus areas to meet the 2030 target. At the time of the first version of the City's climate contract, all roadmaps had not yet been adopted. They have now, and most of them have also been revised once or even twice.

These are:

1. Circular economy – key focus areas: general circular economy; resource-efficient textile usage; sustainable food production and consumption; and minimizing plastic.
2. Climate-neutral construction – key focus areas: organizational learning, knowledge and competence; planning and exploitation; circular and resource efficient construction and management; and methodology development (examination and analysis).
3. Electricity supply – key focus areas: effective and flexible electricity usage; electricity production; energy in city planning; and lobbying for increased infrastructure capacity.
4. Heating – key focus areas: decrease incineration of plastic; effective heating systems; CCS; and CCU.
5. Low-carbon consumption – key focus areas: food and drinks; leisure, sports and culture; air travel; communication, knowledge and cooperation; and other consumption.
6. Mobility – key focus areas: active mobility, public transport, shared mobility, regulations, charging infrastructure and renewable fuels, and city logistics and shared cargo transports.
7. Net zero organisation – key focus areas: general actions; climate compensation; construction; consumables; property not owned by the city; IT; furniture; mobility and transports; food; and energy.

All roadmaps are currently being implemented. Prioritized actions for each key focus have been identified, and responsible actors have been mobilised and are working towards delivering solutions needed to meet the goals of each roadmap.

The roadmaps are revaluated and updated regularly to ensure that they are progressing as intended towards the city's 2030 target. The latest revaluation and updating period took place in December 2025.

Principles and process

Principles and process

The underlying tenet of Climate Transition Malmö is that a science-based approach and a broad mobilisation are needed to drive changes in the most critical areas to reach the 2030 climate target. In addition, the climate transition process should be designed to deliver a just and equitable transition, improve the lives of local people, and support economic development.

To meet the challenges ahead the climate strategy works at four different levels:

1. *Accelerating* existing planned initiatives to reach further and faster (e.g., new public transport and phasing out plastics at waste-to-heat plant).
2. *Testing* new methods and solutions
3. *Mobilising* to increase cross-sectoral activity (e.g., climate contracts); and,
4. *Systematic* learning, scaling and mainstreaming.

Malmö's strategy is designed to meet the 1.5-degree target of the Paris Agreement and a just and equitable transition. Malmö's approach is simple, robust and science-based. It is built on a shared commitment with the business community and other local actors to reach climate neutrality 2030. Malmö has carried out comprehensive analyses of the current status of transition and challenges ahead, including initial financial aspects. There is also a clear understanding of the measures needed to reach climate neutrality 2030.

The analyses done in Malmö highlight the importance of systems level change and enabling infrastructure to drive emissions reduction work. The largest share of the remaining emissions reduction needs investment in physical assets, as 75% of emissions is generated from transport and energy infrastructure. Behavioural change is in part enabled by infrastructure investment and makes up a smaller share of the overall potential emissions reduction.

The broad mobilisation is present across city departments and disciplines, engages major infrastructure owners and businesses with a major climate impact and includes other businesses, community organisations, academia, and the community.

The City of Malmö has been working actively with a selected number of stakeholders in the early stages of Climate Transition Malmö and has explored different approaches to work with the business community who are critical to the climate transition. A number of businesses have been involved from the start in developing baseline analyses and roadmaps in informal collaborative processes. In 2021, the city launched Climate Contract Malmö. A selected number of businesses were invited to pledge their support and commit to actions to reach the climate neutrality 2030 goal. In 2023 this has been rolled out so that any business in the city can sign a climate contract with the city, and from 2024 the contract is also open for non-profit associations and academia.

In the meantime, the work with roadmaps has proceeded. Several of the six thematic roadmaps have a close relationship with a small number of businesses, and some have a more significant network. For example, Climate neutral construction is working both internally with stakeholders in the city and with the business driven LFM30 Climate Neutral Building and Construction Partnership, which mobilises

over 200 businesses in Malmö, including 50 property developers who have committed that all of their construction, renovation and operations in Malmö will be climate-neutral by 2030.

The approach of working with the business community is under constant development based on the needs of the roadmap process, the capacity of the climate transition team and the potential for clear measures that can support transition and business development. The City is developing processes to further co-create the climate transition with the business community.

Malmö is also a partner along with other Net Zero Cities in the region in the initiative Open academy with Lund University to bring cutting-edge research into delivery and open up the transition process for researchers to follow and help learn from the transition process.

To better understand the drivers and barriers of the remaining steps of the transition, an analysis of the economic impact and financial demands has been undertaken. This identifies where investments need to be made, who will benefit directly and indirectly from those investments, and which innovations in business models need to be made to enable important strategic investments that do not follow conventional ROI models. Dialogue with national government and financial institutions are key parts of this enabling approach.

Local, regional, and European partnerships are a key part of this enabling capacity. Malmö engages on many levels to explore policy, financial and technical challenges in the climate transition. The regional cross-sectoral innovation council is one area in which research and development can be refined around the real-world needs of the local climate transition. Shared analyses of financial models and policy barriers through national partnerships such as Viable Cities provides an important forum at a national level. Work with the other mission cities within Net Zero Cities programme and other European programs such as Horizon Europe and Interreg strengthens this perspective of innovation at the forefront of current policy and practice at an EU level.

Monitoring progress is essential, both in terms of quantitative results and qualitative processes. Learning loops are integrated to accelerate processes and share experiences with others. Simple learning processes are integrated into the transition process and are a key element to identify challenges, opportunities and scaling potential which feeds into the iterative development process. Organisational structure is in place to review the roadmaps based on evaluation and learning loops on at least an annual basis.

Signatories

In 2021, Malmö launched Sweden's first local climate contract to align our leadership on the mutual ambition to keep global climate change contained in line with the Paris Agreement and the 1.5-degree goal. Below are local signatories at the time of this iteration of Malmö's CCC.

Legal form	Name
Non-profit association	**ABF Malmö**
Private Sector	**Accus**
Private Sector	**Altitude meetings**
Private Sector	**Angry Camel**
Non-profit association	**Ariana FC**
Private Sector	**BE Group Sverige**
Non-profit association	**Botildenborg**
Non-profit association	**Bulltofta SIF**
Private Sector	**Businessgarden**
Private Sector	**Byggnadsfirman Otto Magnusson**
Private Sector	**Carl F**
Private Sector	**Ceres Consulting**
Private Sector	**Cirkulär Interiör Öresund**
Limited liability part-owned by City of Malmö	**CMP**
Private Sector	**Cohabit**
Non-profit association	**Coompanion**
Private Sector	**Cuebid Syd**
Private Sector	**Edge of Civil Design**
Private Sector	**Edge of Landscape**

Private Sector	**Edgy Veggie**
Private Sector	**Elis Textilservice**
Private Sector	**Eminent Reklambyrå**
Private Sector	**Emission Twin**
Private Sector	**Emporia köpcentrum**
Private Sector	**Enjay**
Private Sector	**Enkla i Malmö/ Hejdi**
Private Sector	**Enskild näringsverksamhet**
Private Sector	**EON**
Private Sector	**FAB Collective**
Private Sector	**Folkets Hus i Malmö**
Non-profit association	**Fryshuset Malmö**
Non-profit association	**Glokala folkbildningsNon-profit associationen**
Private Sector	**Granitor**
Private Sector	**Green Karma Management**
Private Sector	**Hammerglass**
Private Sector	**HAVI**
Private Sector	**Helgrose / The Cloth Lab**
State-owned company	**Hemsö**
Non-profit association	**HSB Malmö**
Private Sector	**HUB PARK**
Non-profit association	**HUT Skåne**
Non-profit association	**Hållbar utveckling Skåne**
Non-profit association	**Hållpunkt: Malmö för klimaträttvisa**
Private Sector	**Industrinätverket Sverige**
Private Sector	**inFrame Sweden**

Private Sector	**Inimini**
Private Sector	**Kundpartner Syd**
Private Sector	**Larsson & Lange Green**
Non-profit association	**LFM30**
Private Sector	**Limeq**
Non-profit association	**Livsmedelsakademin**
Private Sector	**Lupinta**
Private Sector	**MacMeckarna**
Non-profit association	**Malmö FF**
Non-profit association	**Malmö Food Council**
Non-profit association	**Malmö Ideella**
Private Sector	**Malmö Lastbilcentral**
University	**Malmö universitet**
Non-profit association	**Malmö Works**
Non-profit association	**MalmökurdNon-profit association**
Private Sector	**Martin & Servera**
Private Sector	**Milepost**
Private Sector	**MiljöMatematik Malmö**
Limited company owned by the City of Malmö	**MKB**
Private Sector	**MoveByBike**
Private Sector	**Mylla Matmarknad**
Private Sector	**NewSeed IT Solutions**
Non-profit association	**NVB Syd**
Private Sector	**Optimal Advice**
Limited company owned by the City of Malmö	**Parkering Malmö**
Private Sector	**Paxxo**

Private Sector	**Ram Silwal Adventures**
Private Sector	**Rekomo**
Private Sector	**Relove & More**
Limited company owned by the Swedish state	**RISE**
Private Sector	**Robert & Blad**
Private Sector	**Roi Rekrytering**
Limited company partly owned by the City of Malmö	**Rosengård Fastigheter**
Private Sector	**Scandinavian Water Technology**
Private Sector	**Schenker**
Private Sector	**Segers mat**
Private Sector	**Siegel Group**
Private Sector	**Skanska**
Non-profit association	**Skåne stadsmission**
Private Sector	**Skånemejerier**
Private Sector	**Softhouse Sydväst**
Private Sector	**Sparbanken Syd**
Private Sector	**Stena fastigheter**
Private Sector	**Stena recycling**
Non-profit association	**Studieförbundet Bilda Sydväst**
Non-profit association	**Studieförbundet Syd**
Private Sector	**Sveriges Yrkeshögskola**
Private Sector	**Swedish Logistic Property**
Private Sector	**SWOPkonsulten Sverige**
Limited company owned by 17 municipalities	**Sydvatten**
Limited company owned by 14 municipalities	**Sysav**

Private Sector	**TechSeed**
Private Sector	**Tecomatic**
Private Sector	**Thecar Sverige**
Private Sector	**Tillskärarakademin i Malmö**
Private Sector	**Treano**
Private Sector	**Typotopia**
Private Sector	**Uniper Sydkraft**
Municipal association	**Vasyd**
Private Sector	**Veritabel Vin**
Non-profit association	**Vision Malmöavdelning**
Private Sector	**Välfärden - kök & kaffe**
Private Sector	**Wihlborgs**
Private Sector	**Xvii**
Non-profit association	**Ödet**

Contract with signatures

On behalf of the City of Malmö, the undersigned, hereby commits to help make the City of Malmö climate neutral by 2030. We agree on the joint ambition and commitments, as formulated in the City Malmö's Climate City Contract as specified above.

For Malmö, Europe, and the planet.

13 september 2023

Katrin Stjernfeldt Jammeh

Mayor, City of Malmö

Appendix: Standard Climate Contract

See attached supporting document named: Appendix: Standard Climate Contract Malmö.

This standard version is tailored to each signatory on a case-by-case basis.

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Disclaimer

The content of this document reflects only the author's view. The European Commission is not responsible for any use that may be made of the information it contains.

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Summary

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This document is a description of the current position of Climate Transition Malmö. It describes some of the analytical work carried out to understand the current state of affairs and scenario analyses to consider possible pathways towards net zero 2030. It provides baseline data and some assessments of the potential impacts of measures towards the climate neutrality target as well as the city's goals for consumption-based emissions and a net zero organisation. The document considers the policy framework within which the work towards climate neutrality is taking place and examines the relationships with stakeholders at a local, national and European level with a potential to influence development.

The Action Plan describes activity in Malmö based on the seven cross-sectoral thematic transition areas of Climate Transition Malmö. Work in these thematic areas varies significantly in complexity. Heating for example engages a small number of partners with a strong mandate and a clear path with technical investment focus towards climate neutrality. This is a major source of emissions, but also one of the work streams that is most advanced. Work with the Circular economy, however, is extremely complex with no single partners with a significant mandate and impact spread across society. Here development is more challenging to analyse as a large number of stakeholders are engaged and data is not easily available. The complexity of the process also crosses between thematic areas. Climate-neutral construction is also a complex area of work with many stakeholders, but here 200 businesses in the city are committed to transition all of their construction, renovation, operations and maintenance to being climate neutral by 2030. In doing so they impact demand for heating and circular products, as well as linking these areas and other thematic areas together.

39 key actions are presented and briefly described in this second version of Malmö's Climate City Contract. Some of these are planned, financed and under implementation. Others are in the earlier planning stages, with detailed costs and impacts yet to be finalised or difficult to describe since they are part of larger activities. Some of the actions presented here are also overarching actions containing a larger number of sub-activities. The actions presented have been selected to provide an overview of the current state of affairs rather than a comprehensive list of all activity in Climate Transition Malmö.

The transition process is an iterative one. The document describes the move from a high level of uncertainty and low level of implementation, towards a low level of uncertainty and a high level of implementation at a later stage in the process to 2030. The transition is under constant review with formal annual reviews of the national climate contract with Viable city, to Malmö's annual review of the roadmaps for the selected transition areas etc. Since the last version of the CCC, all the transition areas now have roadmaps that have been reviewed at least twice and the process has entered more of an implementation phase, focusing on the activities which need to be completed by 2030.

The Action Plan goes on to describe how this process works in a wider governance model that manages processes within the city organisation with a cross-departmental high level strategic management group, and how the partnerships with the business community are working through the local Climate Contracts. The plan also presents current work to engage civil society, and work more informally with citizen engagement and neigbourhood-based dialogs. Here, the city's focus is to make the transition into low-carbon lifestyles possible and desirable for all.

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List of figures

The list of figures **identifies the titles and locations** (page numbers) of **all visual elements:** figures, drawings, photos, maps, etc. used in the Action Plan.

List of tables

The list of tables **identifies the titles and locations** (page numbers) of **all tables** used in the Action Plan.

Introduction

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Introduction to the CCC Action- plan for Climate transition Malmö

The climate neutrality 2030 goal is enshrined in the City of Malmö's Environment Programme, adopted by the city council. The targets are supported by key stakeholders in the business community, many of whom have equivalent targets that they are working on meeting for their entire business operations, or for their operations in Malmö.

The City of Malmö has the ambition to become climate-neutral by 2030 in respect to scope 1 and 2 emissions according to the GHG-protocol and ensuring a just and equitable climate transition. Climate neutrality for Malmö by 2030 requires a combination of emission reductions and compensating measures.

According to Malmö's Environmental Programme (2021-2030) the goal for 2030 is at least 70 % reduction of territorial emissions compared to 1990. From 2024 the overarching budget goals for Malmö include a goal of Malmö becoming climate neutral by 2030. The goal includes the entire territory of Malmö, both land and ocean territory.

Analysis of the potential of compensating measures and the potential of mitigation of emissions on the larger emission categories are part of the ongoing process of Climate Transition Malmö. The four largest emission categories, energy, transport, industry and working machines, stand for around 90 % of the total emissions. This includes both a few stakeholders connected to the energy sector with a large portion of the emissions in Malmö as well as a large number of stakeholders and everyone traveling in anyway within Malmö connected to the transport sector. For the compensation measures the planned CCS/BECCS on the waste incineration plant in the city will stand for the majority of the measures, natural sources of carbon sinks are still in the process of being confirmed and calculated. The latest analysis on paths towards climate neutrality in Malmö deems 80% reduction and 20% compensation as the most likely scenario.

The EU Commission's mission option to exclude parts of the emissions has not been applied in Malmö so far. Therefore, the following emissions are included when aiming for climate neutrality 2030: the high-way traffic passing by the city (equal to 17% of the total emissions, number from 2023), the harbour with its freight, all emissions from the production of heat and electricity from the waste incineration plants (even though the district heating network also supplies the neighbouring municipality).

Malmö's goals for consumption-based emissions in 2030 are outlined in the Environmental Programme. The 2050 global emissions need to be capped at 1 ton CO_2 per person per year to reach the 1.5 ºC-target of the Paris Agreement. Malmö's consumption-based goal is to reach a 50% emission reduction by 2030 with a goal value of 3.1 ton CO_2 emission per person per year.

Malmö's climate goals in the Environmental Programme also include a goal to become a net zero organisation. The goal includes Scope 1-3 emissions for the entire city organisation of around 28 000 employees.

Climate transition and work on sustainable development have for a long time been a core of how the city of Malmö operates. The goals, structures and strategies are already incorporated in the organization. The role of the CCC is therefore complementary to the existing system and contributes with connecting the EU mission to the local climate goals and giving them further acceleration and the strength of viewing them in the broader perspective of the mission of 100 climate neutral cities in EU.

Climate challenge as a driving force for sustainable urban development

The climate challenge is the decisive issue of our time, one which on the one hand poses an existential threat to our society, economic system and ecosystems, and on the other hand offers an opportunity to create a sustainable and resilient society with an economic development that contributes to solving our existential needs. Meeting these challenges and embracing these opportunities requires extraordinary efforts, leadership, and innovation across organisational boundaries. It requires a mobilisation of actors, creators and resources. In the city's budget and environmental program, Malmö's political leadership has set ambitious goals for climate mitigation and adaptation. To meet these goals, Malmö has created a cross-administrative organisation, a mission-based approach and a cross-sectoral partnership to use climate work as one of its driving forces for an equal and inclusive city.

The climate transition requires a paradigm shift and a change process at system level with application of proven and new technology, development of new business models, development of new instruments and incentives, management of goal conflicts, transition to new behavioural patterns and sustainability culture among the public as well as within the municipal organisation. At the same time, the climate transition offers opportunities for business development, increased quality of life and a step forward in societal development.

As a city, Malmö has been an early innovator in climate work and one of the founders of the national platform Viable Cities, where now 48 municipalities and 6 authorities collaborate to achieve the goal of becoming climate neutral by 2030. The Mayor of Malmö, Katrin Stjernfeldt Jammeh, has signed the national climate contract together with counterparts in the other municipalities.

The Viable Cities initiative has in turn inspired the European Mission for 100 Climate Neutral Cities through the Net Zero Cities program. This mission is one of the EU's pioneering missions and an important tool in the implementation of EU's climate policy. Malmö was one of the 100 selected municipalities, mission cities, in the EU that are working together to achieve climate neutrality by 2030. Malmö is also one of the program's selected Net Zero Pilot cities and is currently also part of the Enabling City Transformation Programme.

Malmö has also been a pioneer in climate adaptation work, not least in terms of urban stormwater management and nature-based solutions for heavy rainfall management. The city's density and vulnerable location at the mouth of the coast a few meters above sea level mean that climate adaptation is a priority area in its development. At the same time, Malmö has also begun to work on additional climate resilience issues such as heat waves, water supply and justice. As an important part of the European Strategy for Climate Change Adaptation, Malmö, together with the City of Copenhagen, is situated in a selected pioneering region in the EU's mission for climate adaptation.

An explicit goal of the Malmö's climate work is to ensure that it contributes to equal and fair development in the city. The city's climate work is guided by scientific analyses that are based on technical challenges and solutions, but also considers business development, collaboration with companies and civil society and citizens, and climate justice issues. Conscious efforts to minimise risks and maximise benefits from a socio-economic development perspective are thus an important dimension in Malmö's roadmaps for achieving its climate goals in 2030.

This action plan is based on the current status and design of Climate Transition Malmö, which is the City's dedicated process to oversee its work on climate transition. Before the first version of this action plan, a comprehensive analysis was carried out to clarify the most important thematic transition areas for Malmö's climate work. Since then, the work has progressed within each thematic area: roadmaps have been adopted, further analyses have been carried out where needed, and cooperation has been continued and expanded with key stakeholders within the municipality, the municipal companies, the local business community, academia and civil society.

Local work in a global context

Malmö was the first municipality to adopt the UN's Sustainable Development Goals (SDGs) as its strategic goals. The SDGs' management of all aspects of sustainable development is now integrated into the city's budget and contributes to more cross-sectoral work in the city's everyday life.

The UN's climate work also lays the foundation for Malmö's goals for climate change. The starting point for Malmö's work is to contribute to achieving the Paris Agreement's 1.5-degree goal for global development. Malmö has been active in the COP processes through direct participation at the political level at several COP meetings. Malmö has also been an active member of the global network of local governments ICLEI, which has long represented municipalities' interest in the COP process as an official actor. Malmö has been highlighted several times in the COP context to manifest the importance of municipalities and local governments in active actions for climate mitigation and adaptation. Katrin Stjernfeldt Jammeh, chairman of the municipal executive board in Malmö, was elected president of ICLEI in 2022 and was one of the initiators of the global Malmö Commitments for an inclusive and equitable climate transition.

Alignment at EU level

The EU's climate target plan, developed in 2021, sets out a legislative program to reach the goal of climate neutrality by 2050 and reduce emissions by at least 55% by 2030. The EU's EIT Climate-KIC has been an important driving force in the climate work, and the City of Malmö has been represented on the board since 2016. Net Zero Cities is part of the Horizon Europe-programme coordinated by EIT Climate-KIC and is one of the Commission's tools to promote innovation and climate action. Malmö is one of 100 municipalities from the EU that have been selected as forerunners in Net Zero Cities to accelerate the transition at the local level and show the way for other municipalities. In 2023, Net Zero Cities appointed Malmö as a pilot municipality for the transition.

The EU has also joined forces with a Climate Change Adaptation Mission to support development towards the goal of the EU being climate-resilient by 2050. Malmö and Copenhagen have jointly signed a cooperation agreement and joined a cross-border collaboration within the EU's Mission for Climate Adaptation. The EU's new Biodiversity Strategy for 2030 also focuses on resilience, climate adaptation and the need to protect valuable nature. It also calls for work with nature-based solutions that can both create new or strengthen existing biotopes with the aim of reducing climate-related risks such as torrential rains, sea level rise or heat waves.

Malmö's climate work also contributes to the EU's Baltic Sea Strategy by, for example, working with climate adaptation, clean freight transport, climate-smart infrastructure across national borders, reliable energy supply and improved global competitiveness.

Sweden's climate policy and policy for sustainable development

In 2017, Sweden adopted a climate policy framework with climate laws, climate goals and climate policy advice. The national target is to achieve net zero emissions by 2045 and then move on to negative emissions. The framework is based on the country's commitment to the Paris Agreement to cap warming at 1.5 degree. The climate target also has interim targets where Sweden's emissions should have decreased by 63% by 2030 compared to 1990. For domestic transport, there is a very ambitious interim target of a 70% reduction in emissions by 2030 from 2010 levels.

The Climate Policy Council's report 2025 points out that Sweden needs to significantly increase its efforts to reduce emissions in order to achieve the goals in 2045, and the interim goals in 2030. This means that the local policy goals of climate neutrality cannot count on enough support from positive national development, but that municipalities need to further escalate their efforts to achieve their goals.

Regional innovation strategy and policy for sustainable development

Skåne's (Scania) Innovation Strategy for Sustainable Growth constitutes the regional Smart Specialisation Strategy and is a central part of Skåne's regional development strategy. It identifies priority areas for regional development and has been developed in broad collaboration between the management of the region, municipalities, academia and industry. The innovation strategy identifies five areas for broad business promotion initiatives, one of which is Green Transition.

Region Skåne is also a key player of the public transport system, they play a crucial role in the development of a climate-neutral mobility system at local and regional levels. Region Skåne is a member of Skåne's Energy Commission, which plays an important role in electricity supply and increased production of renewable energy. Region Skåne also has a significant presence in and

climate impact on Malmö through the hospital area and other healthcare institutions in the city and is thus an important partner and stakeholder in Malmö's climate work. There are also other important regional collaborations, such as Lund University's fund for open-source software which brings together research expertise, and the three mission cities in the region to support climate change.

The City of Malmö's policy for sustainable development

The Environmental Program for Malmö 2021-2030 sets a number of important goals to reduce climate impact by 2030 and prepare the city for a changed climate. The program comprises 12 goals grouped under three overall goals, the first of which is *A Malmö with the least possible climate impact*. Six of the 12 sub-goals have a direct bearing on reduced climate impact, another five sub-goals have a direct bearing on increased resilience in a changing climate.

The Environmental Program forms the basis for Malmö's climate work. It is also supported by several other key documents such as Malmö's Comprehensive plan, energy strategy, stormwater plan and SUMP. Climate Transition Malmö brings together the administrations to synchronise the work in accordance with these plans, programmes and strategies to optimise synergies and achieve the goals of the Environmental Program.

Over the past 30 years, Malmö has experienced an extensive process of change and transition from an industrial society and large-scale entrepreneurship to a more diverse society of small businesses and skills. Sustainable urban development has been an important component of this transformation with investments in the city's physical infrastructure from the Öresund Bridge to the Western Harbour, the University and the Eco-City Augustenborg, the development of bicycle and public transport infrastructure and the urban environment, as well as many other important initiatives. Together, this diversity of solutions has also contributed to innovation efforts that have created new market solutions, new companies and attracted existing companies to establish themselves in the city. Malmö's work with climate change and the ambitious goal of becoming climate neutral by 2030 mark an acceleration of an already established work.

In the same way as before, new investments must contribute to reducing the city's climate and environmental impact and improving the living situation of the residents of Malmö as well as contributing to the city's economic development. Changes in the operating environment such as the Fehrman Belt Link put pressure on existing infrastructure and strengthen the conditions for sustainable freight and passenger transport in a broader economic region. The plans for a metro link between Malmö and Copenhagen support these and contribute to regional development with extensive potential for business and the labour market.

The European Regional Development Fund (ERDF) was considered to be an important tool for supporting the implementation of Malmö's climate transition until 2030. Malmö therefore developed a Strategy for Sustainable Urban Development – Climate Work Malmö, which was prioritized by the Swedish Agency for Economic and Regional Growth for long-term support through the European Development Fund. The priority areas of action in the strategy are: Smart growth (Research and innovation, Digitalization and Sustainable business), Green transition (Energy efficiency, Climate adaptation and Circular economy) and Sustainable mobility. The strategy strengthens the local development and plays a crucial role for Malmö to achieve its ambitious climate goals, contributes to an equal and just transition, and promotes business development with a focus on new solutions to solve the climate crisis.

Work Process

Work Process

The City of Malmö has created a cross-administrative organisation to meet the City's ambitious climate goals. Climate transition Malmö has initially focused on climate neutrality in 2030. A twin process focuses on climate adaptation and synergies between the two are integrated into everyday work. Climate Transition Malmö is based on the Malmö's Environmental Program and the City's commitment in the national climate contracts through Viable Cities, and the EU's mission for 100 climate-neutral cities. Nowadays, Malmö and Copenhagen are also part of the EU's mission for climate resilience.

The Climate Transition in Malmö is based on factual data and current situation analyses that have identified priority areas, the largest sources of emissions, risks, challenges and needs. Based on the analysis of the current situation, key actors are invited to work together for achieving the climate goals. The roadmap work also identifies obstacles and needs for new business models, financial and legal aspects, stakeholder involvement and an overall sensemaking of how the focus of the roadmap work is connected to other aspects of developing the city and achieving the climate goals in a just and inclusive way.

These processes are based on a wide range of technical and socio-economic studies that have been carried out over a number of years, some with the support of EIT Climate-KIC. These studies have engaged leading experts to provide a strong scientific base on which to build the development work. Studies have ranged from the energy system, the role of plastics and options to remove them, the potential for hydrogen generation and use, to consumption footprint and citizen engagement. One of the latest larger studies, 2025, is a scenario analysis on paths towards a climate neutral Malmö 2030 and socioeconomical aspects of the different scenarios.

Climate Transition Malmö has also developed a number of support functions. It has launched Climate Contract Malmö for companies, civil society organisation and academia, developed concepts for citizen dialogue and collaboration, and developed models for learning processes to streamline climate work. Learning processes are of particular importance in the agile process that characterises the climate transition, where rapid switching and dissemination of successful working methods is an important prerequisite for taking on the mission.

The transition process is under constant review and reassessed on at least an annual basis, individual roadmaps have an annual iterations process to keep them up to date.

Close dialogues with the city's business development functions, researchers at Malmö University with a focus on equality issues, and the Swedish national research programme FAIRTRANS also contribute to knowledge development about the potentials and risks associated with entrepreneurship, jobs, gender equality and integration. These perspectives become important components in the design of solutions that maximises socio-economic impact. They also feed in to The Malmö Commitment on Inclusive and Equitable Communities within ICLEI.

Malmö is also investigating the conditions for a district-based approach that mobilises local actors and citizens in concrete local development and transition work, where socio-economic effects, collaborative design, citizen engagement and stakeholder collaboration become important components. In 2025 the city launched a new organisation for local development to further strengthen the district approach. In Climate Transition Malmö the district-based approach is e.g. manifested both in the data on consumption-based emissions on district level and through a new take where development of the energy system is analysed on a district level.

Climate Transition Malmö is driven in seven thematic transition areas, each with its appertaining roadmap. The roadmaps (in Swedish) can be found as attachments to our climate contract. See a summary of each transition area below.

Circular economy
Increasing utilization of recycled textiles, improving recycling of plastics and decreasing food waste. Reduce emissions - Focus on emission reduction activities together with the local industry in this sector, by introducing industrial and urban symbiosis. Engaging actors - Identify key leverage points for the continued circular transition and engage multiple actors within the city organization as well as businesses and other stakeholders. Extend public procurements and circular economy criteria, especially in construction and infrastructure development. Secondary raw materials remain more expensive than virgin raw materials. The underlying reason for this is that the negative externalities connected to extraction and end of life are not reflected in prices.

Climate-neutral construction
Includes new construction, renovation, operation, after-use, construction of infrastructure and earthworks. Focus is both on the emissions from the Malmö's own organisation and overall construction on the territory of Malmö. The construction and real estate sector is responsible for about 20% of Sweden's emissions, and half of this is from new construction. The focus area has a strong collaboration with the industry initiative LFM30, which mobilises more than 200 companies and businesses to transform their operations in Malmö by 2030.
Principles for Climate-neutral construction

1. Extend lifespan of construction
2. Use existing resources
3. Reuse
4. Build new with low climate impact, long lifespan and high quality.
5. Abolish construction, after recycling.

Electricity supply
Includes handling the acute situation with electricity capacity in Malmö that hampers business development in the city. Development of collaborations and initiatives to promote the installation of renewable energy and energy storage capacity in the region to ensure electricity supply without having to use fossil-fired power plants to cope with energy peaks. The work is currently mainly run by the municipality and involves the energy companies, national and regional authorities and industrial customers in Malmö. The work has mainly focused on

1. Effective and flexible electricity usage
2. Electricity production
3. Energy in city planning
4. Lobbying for increased infrastructure capacity

Heating
Covers district heating and other heat sources in Malmö and handles challenges such as handling of recyclable materials in the incineration plant, separation of fossil-based plastics, carbon capture and storage (CCS) etc. The main stakeholder in the work is SYSAV. SYSAV's emissions related to district heating account for 28% of Malmö's emissions, and the work is led by the City of Malmö and SYSAV together. Key areas are,

1. Decrease incineration of plastic
2. Effective heating systems
3. CCS
4. CCU

Low-carbon consumption
Includes work to reduce emissions from the consumption of goods and services used by residents. The goal is to halve consumption-based emissions by 2030. About 25% of the total consumption emissions of the residents of Malmö come from food and about 15% is related to air travel. There are extensive challenges in finding ways to create the conditions for the residents of Malmö to reduce their consumption emissions by 50%. In addition, there is an equality and justice perspective where income and emissions correlate to a large extent. The challenge is to be able to improve the life situation of the least well-off without increasing their emissions, and to drastically reduce emissions in others without them experiencing a deterioration in the quality of life. The work has mainly focused on

1. Food and drinks
2. Leisure, sports and culture
3. Air travel
4. Communication
5. Knowledge and cooperation
6. Other consumption

Mobility
Includes passenger transport in Malmö and the regional commute, freight transport in the city. There are positive trends in Malmö with an increase in bicycle use and public transportation, and electrification of the public transport system until 2027. The work has mainly focused on

1. Active mobility
2. Public transport
3. Shared mobility
4. Regulations
5. Charging infrastructure and renewable fuels
6. City logistics and shared cargo transports

Net zero organisation
Includes work with the City of Malmö's own emissions that arise as a result of the municipal operations. 98% of the City’s climate impact is linked to the purchase of goods and services. Malmö has long worked with sustainable procurements such as transition to a fossil-free vehicle fleet and investments in organic food that have had a very positive effect. There is also a need for knowledge-raising activities to promote climate-smart choices and behaviours in municipal operations. The work has mainly focused on

1. General actions.
2. Climate compensation
3. Construction
4. Consumables
5. Property not owned by the city
6. IT
7. Furniture
8. Mobility and transports
9. Food
10. Energy

Part A – Current State of Climate Action

Part A “Current State of Climate Action” describes the point of departure of the city towards climate neutrality, including commitments and strategies of key local businesses, and informs the subsequent modules and the outlined pathways to accelerated climate action.

Module A-1 Greenhouse Gas Emissions Baseline Inventory

The data requested in tables A-1.1, A-1.2 an A-1.4 are based on the CDP format and is what Malmö reports in different international contexts. These emissions data are approximate, since imprecise energy data and approximate national emissions data must be used for calculations.

In our day-to-day work, another format is used. Our emissions goal and climate neutrality goal refers to all fossil greenhouse gases emitted within the geography of Malmö. These emissions are followed up based on a combination of national data and our own local database with point- and line emission sources. These data are more exact than what they can be on the CDP format. Also, the sub sectors used are more detailed than on the CDP format, as they correspond to the sub sectors used in our national emissions database. These data are the starting point for following up our climate goals and for defining actions.

This is the explanation to why emissions data on the CDP format (A-1.4) differs from scope 1 data presented in A-1.5, both in sub sectors and quantitatively. We present both, because the CDP format is requested, and A-1.5 is our starting point for defining actions.

We have chosen to present our latest data available (2024) rather than the climate goal baseline (1990), since 2024 year’s data better describes the current state of Malmö’s climate action.

Further description and assessment of GHG baseline inventory:

A-1.1-A-1.4: The GHG baseline inventory was done as a part of the CDP Cities Report for 2025. The data reported are based on energy consumption and emissions from 2024. The calculations were done in the City Inventory Reporting and Information System (CIRIS), using the GPC method (BASIC, all GHGs). The activity data is from official Swedish authorities.

A-1.5: emissions data are from Malmö’s Environmental Barometer, which can be found on the City of Malmö's website[1]. The data is updated annually and produced based on local and national data, with emphasis on local data.

[1] The state of the environment in Malmö - Miljöbarometern - City of Malmö (miljobarometern.se)

A-1.1: Final energy use by source sectors

A-1.1: Final energy use by source sectors				
2024				
Unit	MWh/year			
	Scope 1	Scope 2	Scope 3	Total
Stationary energy*	370 519	4 474 440	No data	4 844 959
(Fuel type/ energy used)	domestic heating oil, wood/wood waste, district heating, tall oil	Electricity, biogas, natural gas, district heating		
Transport	We only have kilometer data	We only have kilometer data	No data	
(Fuel type/ energy used)	Petrol, diesel, electricity, ethanol	Electricity (Railway traffic. Electricity used for other traffic is included in Buildings)		
Waste	No data	No data	No data	
(Fuel type/ energy used)				
Industrial Process and Product Use (IPPU)	No local or national data for energy use, only for emissions			
(Fuel type/ energy used)				
Agricultural, Forestry and Land Use (AFOLU)	No local or national data for energy use, only for emissions			
(Fuel type/ energy used)				

* The template called for Buildings, but they only make up a part of the Stationary energy sector we report in CDP

Scope 1 Stationary emissions are lower than in the 2022 Action plan – this is because of improved calculation methods. Another difference is that locally produced district heating is now reported in scope 2, previously in scope 1.

A-1.2: Emission factors applied

A-1.2 a: Emission factors applied						
(please specify for primary energy type and GHG emission factor according to methodology used)						
For calculation in t or MWh of primary energy						
GPC						
Primary energy/ energy source	Carbon Dioxide (CO_2) **CO_2e**	Methane (CH_4)	Nitrous Oxide (N_2O)	F-gases (hydrofluoro-carbons and perfluoro-carbons)	Sulphur hexafluoride (SF_6)	Nitrogen trifluoride (NF_3)
Natural gas	205,7 kg/MWh	0,0036 kg/MWh	0,0004 kg/MWh			
Domestic heating oil	267,3 kg/MWh	0,0072 kg/MWh	0,0006 kg/MWh			
District heating	96,94 kg/MWh*					
Wood or wood waste		0,31 kg/MWh				
Electricity	90,4 kg/MWh*					
Crude tall oil and tall oil pitch	273,6 kg/MWh*					
Other biogas	334,8 kg/MWh	0,0036 g/kWh	0,0004 g/kWh			
Motorbike, petrol	0,12 kg/km*					
Personal car, diesel	0,12 kg/km*					
Personal car, petrol	0,16 kg/km*					
Personal car, Hybrid	0,152 kg/km*					
Personal car, Plug in hybrid	0,09 kg/km*					
Light trucks, Diesel	0,14 kg/km*					

Heavy truck without trailer, Diesel	0,4 kg/km*					
Heavy truck with trailer, Diesel	0,63 kg/km*					
Personal car, ethanol	0,19 kg/km*					
Personal car, gas	0,025 kg/km*					
Personal car, electric	0 kg/km*					

*refers to CO2e - for some fuels/activities we don't have data separated by component gases

A-1.2 b: Sources for emission factors	
Natural gas	Swedish Greenhouse Gas inventories for 1990-2023 years' emissions to the UNFCCC
Domestic heating oil	Swedish Greenhouse Gas inventories for 1990-2023 years' emissions to the UNFCCC
District heating	EON Environmental performance metrics for district heating 2024
Wood or wood waste	Swedish Greenhouse Gas inventories for 1990-2023 years' emissions to the UNFCCC
Electricity	Electricity - Nordic electricity mix
Crude tall oil and tall oil pitch	Swedish Greenhouse Gas inventories for 1990-2023 years' emissions to the UNFCCC
Other biogas	Swedish Greenhouse Gas inventories for 1990-2023 years' emissions to the UNFCCC
Transport	Emission calculation modell HBEFA (Handbook of Emission Factors for Road Transport), Swedish Transport Administration

A-1.3: Activity by source sectors

A-1.3: Activity by source sectors		
2024		
MWh		
	Scope 1	Scope 2
Stationary energy		
Residential Buildings	12 909	1 844 401
Commercial & Institutional Buildings and Facilities	228 310	1 836 000
Manufacturing Industries and Construction	6 165	770 606
Energy Industries	115 854	8 190
Agriculture, Forestry and Fishing	7 281	15 218
Transport		
On-road Transportation	We only have kilometer data	We only have kilometer data (however electricity for cars is included in buildings data)
Railways	No data	No data
Waterbourne navigation	No data	No data
Off-road Transportation	No data	No data
Waste	No data	No data
Solid waste disposal	No data	No data
Biological Treatment of Waste	No data	No data
Industrial Process and Product Use (IPPU)	No local or national data for energy use, only for emissions	No local or national data for energy use, only for emissions
Agricultural, Forestry and Land Use (AFOLU)	No local or national data for energy use, only for emissions	No local or national data for energy use, only for emissions
Offroad vehicles and machinery	No local or national data for energy use, only for emissions	No local or national data for energy use, only for emissions

*Scope 3 has been left out as there either is a lack of data or not is applicable.

A-1.4: GHG emissions by source sectors

A-1.4: GHG emissions by source sectors				
Base year	2024			
Unit	Metric tonnes CO2equivalent/year			
	Scope 1	Scope 2	Scope 3	Total
Stationary energy	74 620	428 027	No data	502 647
Transport	309 797	No data	No data	309 797
Waste	15 434	No data	No data	15 434
Industrial Process and Product Use (IPPU)	30 969	No data	No data	30 969
Agricultural, Forestry and Land Use (AFOLU)	6 465	No data	No data	6 465
Total	437 285	428 027		865 312

A-1.5: Graphics and charts

A-1.5: Graphics and charts

What do emissions look like today and how have they decreased so far?

To significantly reduce territorial greenhouse gas emissions, the current state of greenhouse gas emissions in Malmö needs to be understood with regards volume and priority sectors for focused action. Firstly, scope 1 emissions for the geography of Malmö are presented. Note that these emissions do not include scope 2 emissions. This is because Malmö's emissions data comes from our own database combined with data from the national emission database, and these do not include scope 2. Also, this is preferable in Malmö, since our emissions goal in our environmental programme refers to scope 1 emissions only. However, calculated scope 2 emissions (electricity import in our case) are presented separately, last in A-1.5.

Historical emissions

Figure 1 shows the development of Malmö's territorial greenhouse gas emissions, from 1990 to 2024. The large increase in emissions from the energy sector in 2010 can be attributed to the Öresund CHP plant, which was commissioned that year and run on natural gas.

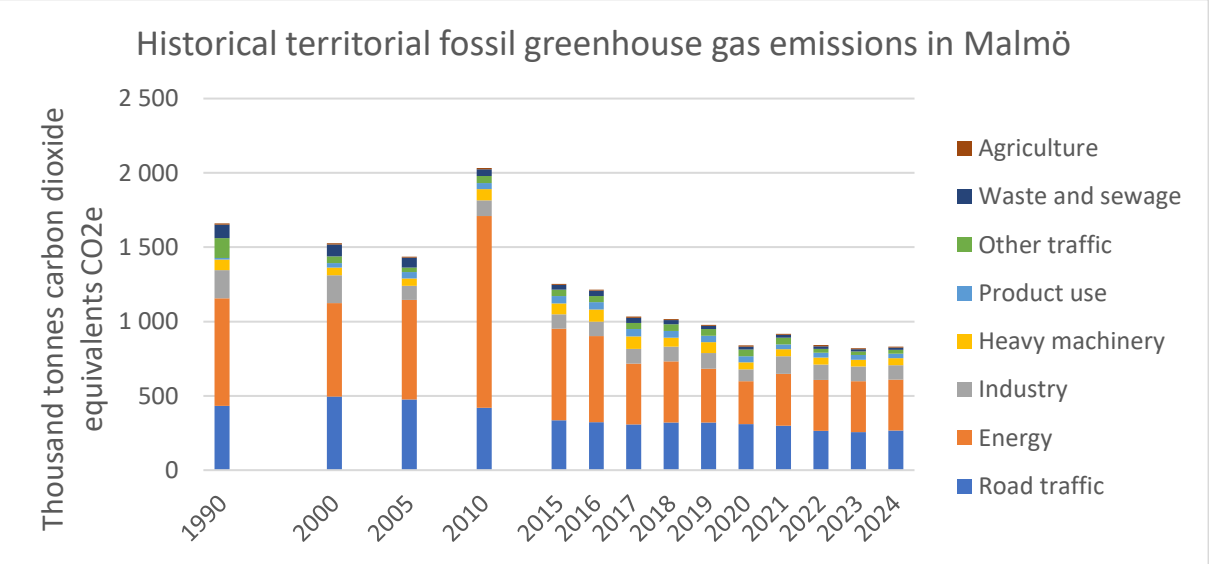


Figure 1. Malmö's territorial greenhouse gas emissions from 1990 to 2024.Source: City of Malmö's Environmental Barometer.

According to the goals in Malmö's Environmental Programme, territorial fossil emissions should be reduced by 70 % between 1990 and 2030. This corresponds to a target value of 500 thousand tonnes. Note that this target refers to scope 1 emissions of fossil carbon dioxide equivalents within Malmö's geographical borders. Between 1990 and 2024, emissions decreased by 50 %. In order to reach the 2030 target value of 500 thousand tonnes, the emissions need to decrease by a further 40 percentage points.

Malmö's territorial greenhouse gas emissions 2024

Malmö follows up its territorial emissions in the Environmental Barometer, which can be found on the City's website[2]. The data is updated annually and produced based on local and national data, with emphasis on local data. Figure 2 shows the territorial emissions in 2024 broken down by sector as presented in Malmö's Environmental Barometer. In 2024, these emissions were 831 thousand tonnes

[2] The state of the environment in Malmö - Miljöbarometern - City of Malmö (miljobarometern.se)

of carbon dioxide equivalents. The sectors with the highest greenhouse gas emissions were Energy and Road traffic, followed by Industry. Together these three sectors made up 85 % of the total emissions.

The distribution of emissions between sectors will change over time. Reducing emissions from the traffic sector is more complex than for the heating sector, which consists of fewer players. As a result, the traffic sector's share of emissions is predicted to increase over time, even if the actual amount of emissions decreases.

Note that the Waste and sewage sector encompasses emissions from landfill and sewage treatment – waste incineration is included in the Energy sector.

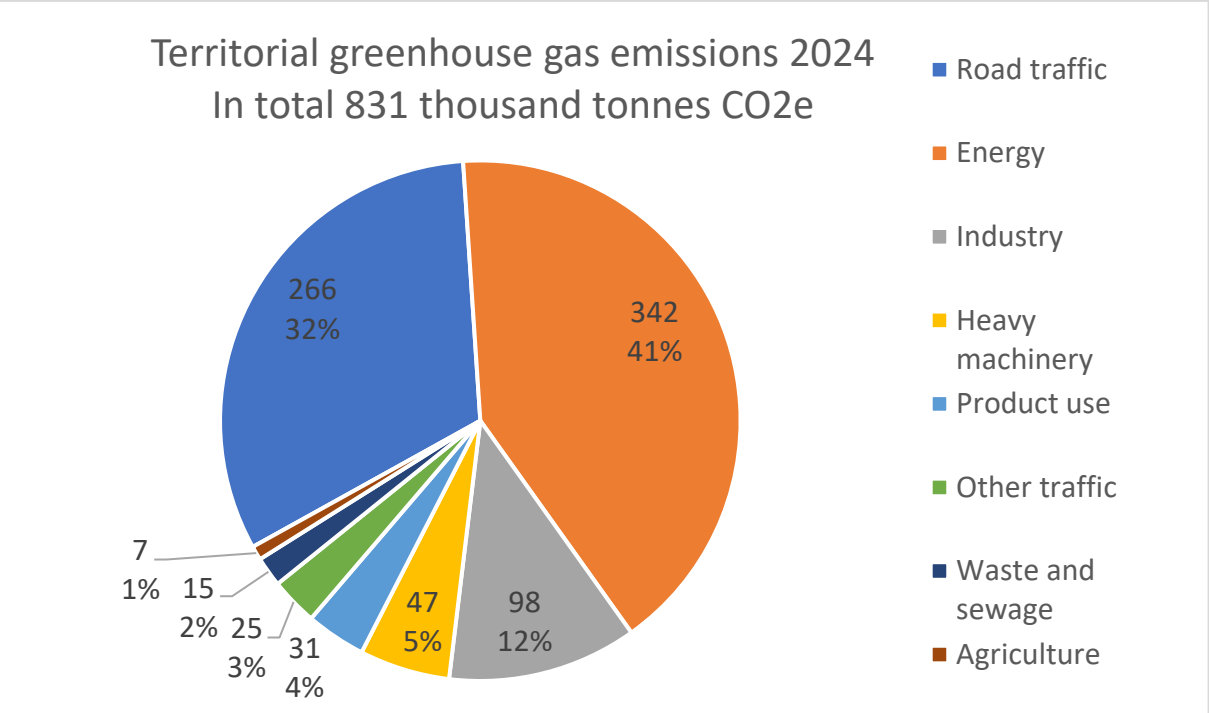


Figure 2. Overview of Malmö's territorial greenhouse gas emissions and their sources. The energy category includes electricity and heating produced in Malmö. Source: City of Malmö's Environmental Barometer.

Energy – electricity and heating

The energy sector includes electricity and heat produced locally in Malmö. This is mainly produced in a waste-to-energy combined heat and power plant. Heat is also produced in districts heating plants (primarily run on biofuels) and with waste heat (industrial waste heat and sewage heat pumps). During the coldest hours of the year, reserve/peak load production is started and this currently uses fossil fuels.

The energy sector is the largest emitter of fossil greenhouse gases in Malmö. This is largely due to heating and electricity produced in Sysav's waste-to-energy combined heat and power plant. More specifically, it is due to the plastic content in the residual waste that is incinerated. Sysav's waste CHP plant makes up 32% of total territorial emissions in Malmö and is included in EU ETS. The fossil peak load heat production and small scale heating also contributes to emissions in the Energy sector. Small scale heating consists of properties connected to the city gas grid in Malmö, as well as a few oil boilers. See emissions distribution in Figure 3.

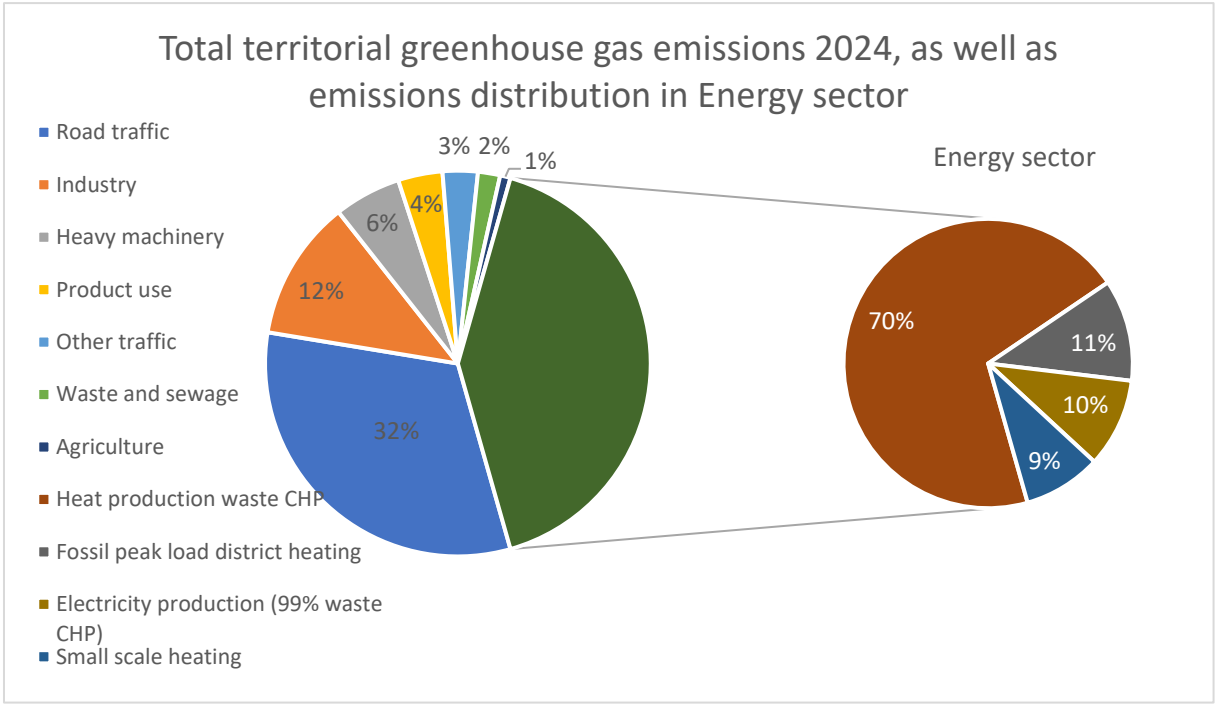


Figure 3. In the local energy sector, 81% of carbon dioxide emissions are generated by district heating production. Locally produced electricity and smaller-scale heating account for 19%. Source: City of Malmö's Environmental Barometer and Malmö's database ENVIMAN.

Road traffic and Other traffic

The road traffic sector has become the second largest source of emissions in Malmö, emitting 266 thousand tonnes of greenhouse gases in 2024. Passenger car transport is by far the largest emitting vehicle type. Some of this is due to commuters to and from the city and cars passing through. Malmö also has high emissions from trucks, some of which is caused by the city being a thoroughfare for transporting imported goods to other parts of the country.

The sector Other traffic (25 thousand tonne greenhouse gases 2024) consist of transport by different types of vehicles on rail and at sea. Figure 4 shows the distribution of greenhouse gas emissions per vehicle type in the Road traffic and Other traffic sector. It shows that light vehicles contribute to 64% of the transport sector's greenhouse gas emissions. Passenger cars make up the largest share of light vehicles. Emissions from Skånetrafiken's buses are very low as they have been fossil-free since 2015. Emissions from shipping include leisure shipping, all shipping that calls at and departs from Malmö and shipping that passes in the fairway outside Malmö but within Malmö municipality's border. Air craft is not included since no airport is located within the geography of Malmö.

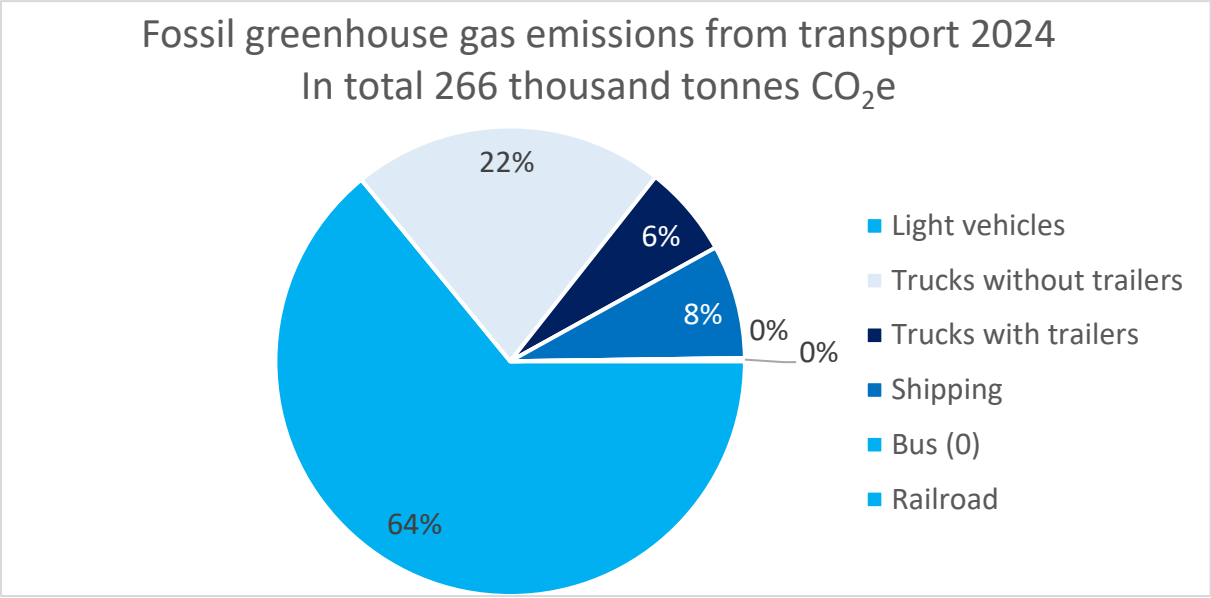


Figure 4. Greenhouse gas emissions from the transport sector in Malmö 2024 distributed by vehicle type. Of the light vehicles, 88% are passenger cars, 2% motorcycles/mopeds and 10% light trucks under 3.5 tonnes. Source: City of Malmö's Environmental Barometer.

Industry

In 2024, the Industry sector was the third largest source of greenhouse gas emissions in Malmö. 93% of the emissions in the industry sector came from one industry, producing carbon black by use of fossil oil and natural gas. Emissions from industrial heating are recorded in the Energy sector.

Other emissions

This category accounts for the remaining 12 % of Malmö's territorial greenhouse gas emissions 2024, see in Table 1 below.

Heavy machinery: These emissions are mainly caused by internal combustion engines of machinery in the industrial and construction sectors.
Waste and sewage: Emissions from waste and sewage originate from discharges from landfills, wastewater and biological treatment of waste such as composting and anaerobic digestion plants. Discharges from wastewater consist of emissions from municipal treatment plants and individual sewers.
Product use: The largest source of emissions in the sector is leakage of fluorinated gases (F-gases), which accounted for 69% of the sector's emissions in 2019. Emissions of F-gases come from leaks in refrigeration systems and air conditioners. In addition to this, carbon dioxide emissions from the use of lubricants, solvents and paraffin, fireworks, tobacco and nitrous oxide are included.
Agriculture: Includes emissions of methane from animal digestion, methane and nitrous oxide from manure handling, and nitrous oxide and carbon dioxide from agricultural land. Emissions from agricultural machinery are recorded in the main sector Machinery.

CATEGORY	GHG EMISSIONS BY CATEGORY	PERCENTAGE OF MALMÖ'S TOTAL TERRITORIAL GREENHOUSE GAS EMISSIONS 2024
Heavy machinery	47 thousand tonnes of CO2-eq	5 %
Product use	31 thousand tonnes of CO2-eq	4 %
Waste and sewage	15 thousand tonnes of CO2-eq	2 %
Agriculture	7 thousand tonnes of CO2-eq	1%
Total	20.9 thousand tonnes of CO2-eq	12 %

Table 1. The share of other emissions in Malmö's territorial greenhouse gas emissions. Source: City of Malmö's Environmental Barometer.

Malmö's largest point source emissions

Malmö's largest point source emissions, i.e. direct emissions from a chimney for example, are found in the energy sector. Vehicle tailpipes are not defined as point source emissions. Figure 5 shows the three plants that together in 2024 accounted for 95% of point source emissions, corresponding to 392 thousand tonnes of carbon dioxide equivalents. This corresponds to 47 % of the city's greenhouse gas emissions from territorial sources (831 thousand tonnes of carbon dioxide equivalents).

The residual waste incinerated by Sysav in the waste CHP plant originates from 14 municipalities in Skåne and is also imported from abroad. The high greenhouse gas emissions are due to the plastic content in the residual waste that is incinerated. This plastic either cannot be recycled, or can be recycled, but is in the residual waste because it was not sorted properly by Sysav's customers.

Norcarb Engineered Carbons is an industry that produces carbon black from heavy fractions of oil products. Waste energy from the plant is recovered for use in the district heating system.

Utklippan district heating plant use biogas and fossil oil to produce district heating during the coldest hours of the year and as a reserve plant.

The other 14 point source emissions include E.ON's district heating plant and gas turbines, as well as industry.

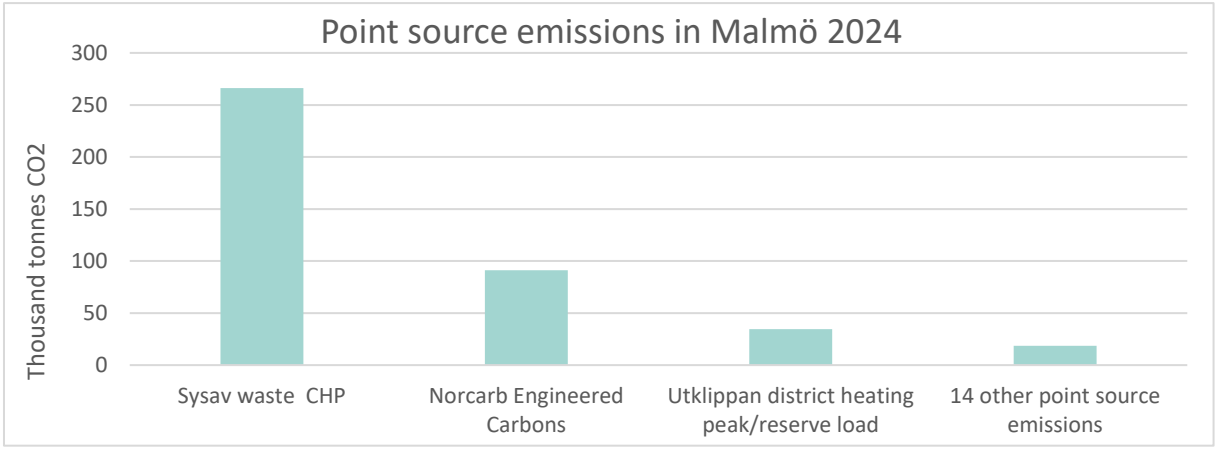


Figure 5. An overview of Malmö's 17 largest point source emissions. Three plants account for 95% of Malmö's point source emissions. The remaining emissions are from 14 plants. Source: Malmö's database ENVIMAN, based on environmental reports.

Malmö's non-territorial emissions

The territorial emissions do not include all emissions that can be attributed to Malmö's residents. Non-territorial emissions include
- consumption-based emissions that occur outside of the municipal border,
- emissions related to electricity imported to Malmö, and
- emissions related to the city organisation that occur outside of Malmö.

These emissions are not included in the graphs above, but are presented below to give an understanding of how Malmö contributes to emissions outside of its geographical area. Note that a smaller part of the consumption-based emissions and emissions from the city's organisation overlap with the territorial ones.

Consumption-based emissions

Malmö's residents and businesses do not only contribute to emissions within Malmö's municipal border. In many cases, consumption of goods and services has emissions that take place outside the municipal border.

In Malmö's Environmental Program[3] , goal 3 states that consumption-based emissions in 2030 should be well on their way to a sustainable level - 1 tonne per person per year by 2050 according to the Paris Agreement. A reduction by 50% is the goal by 2030, with a goal value of 3.1 ton CO2e.

There are not as many data sets for Malmö's consumption-based emissions as for Malmö's territorial emissions. Despite difficulties in calculating greenhouse gas emissions, Swedish Environmental Research Institute (SEI) have developed a tool to calculate consumption-based emissions on a local level, see Table 2. In total, the consumption-based emissions are estimated to 5,7 tonnes of CO_2 equivalents per person in 2022. This equals 2 050 thousand tonnes for all Malmö households. Note that some of the consumption-based emissions presented overlap with the territorial ones.

[3] Environmental programme for the City of Malmö 2021–2030 - City of Malmö (malmo.se)

CATEGORY	HOUSEHOLD		PUBLIC SECTOR	INVESTMENTS (PRIVATE AND PUBLIC)	SUM
Distribution	Food and drink	24 %	-	-	-
	Housing	18 %	-	-	-
	Local transport	16 %	-	-	-
	Air travel	15 %	-	-	-
	Culture, sport and leisure	7 %	-	-	-
	Other	20 %	-	-	-
Per person in 2022 [tonnes CO2e/person]	5,7		0,9	2,5	9.1
Total Malmö in 2022 [thousand tonnes CO2e]	**2 050**		**300**	**910**	**3 260**

Table 2. Consumption-based greenhouse gas emissions for Malmö. Some of these overlap with territorial emissions.

Emissions from electricity use

70 % of Malmö's electricity consumption is met by electricity production outside of the municipal border. The amount of greenhouse gas emissions generated by imported electricity depends on the production mix. In Sweden, the electricity mix consists mainly of hydropower, nuclear power and wind power, which means that it has a low emission factor (8 g/kWh 2022) in contrast to the Nordic electricity mix (59 g/kWh) which has a higher proportion of fossil electricity production. Unlike the Nordic electricity mix, the Swedish electricity mix does not make visible that the electricity grids are interconnected. Although Sweden is generally a net exporter of electricity over the year, it also imports electricity during certain periods. The Nordic electricity mix for all electricity imports overestimates emissions but constitutes an upper limit.

Given the increased electrification of society that is predicted in the transport and industrial sectors, it is increasingly important that electricity production is renewable or fossil-free. Final consumption of electricity in Malmö amounted to 2.2 TWh in 2022. Depending on whether the Swedish or Nordic electricity mix is chosen for calculating greenhouse gas emissions from electricity imports, the emissions from the imported electricity amount to between 15 and 100 thousand tonnes of CO2 equivalents per year.

Emissions from the City of Malmö's own organisation

We measure Malmö's organisational greenhouse gas emissions using a data foundation that largely follows the structure and principles of the GHG Protocol, covering annual emissions across Scope 1, Scope 2 and upstream Scope 3. The main dataset comes from an environmental spend analysis, most recently carried out using 2019 annual data. This method links municipal purchases to emissions factors and provides an overview of climate impact across all operational areas.

Annual emissions baseline (2019)
Total annual emissions: 208,000 tonnes CO_2e
Distribution by category:
- Construction and civil engineering: 37%
- Food: 14%
- Consumables: 12%
- Leased premises: 12%
- IT equipment: 10%
- Mobility: 5%
- Furniture: 2%
- Other / uncertain data: remaining share

Emissions vary between departments depending on their operational responsibilities.
The spend analysis is complemented with more detailed annual datasets such as fuel use, business travel and high-resolution food procurement data. Malmö is currently updating the analysis to produce results up to annual data for 2025. Looking ahead, there is a need to move toward more precise and action-sensitive data methods to better understand the effects of measures and to strengthen ongoing follow-up.

Potential Analysis – Purpose and Scenario Results

Malmö has also carried out a potential analysis to understand how far the organisation can reduce its annual emissions toward 2030 and in the longer term. The purpose of the analysis is to:

- identify feasible measures within the municipal organisation,
- estimate emission reduction potential for 2030, 2040 and 2050, and
- illustrate how different ambition levels relate to Malmö's four-step model.

Scenario results (relative to the 2019 baseline):

- BAU scenario: approx. –15% by 2030, around 24 % by 2050.
- Ambitious scenario: approx. –23% by 2030, around –34% by 2050.
- Best possible scenario: approx. –45% by 2030, around –67% by 2050.

These results provide an overall indication of the organisational emission-reduction potential under different ambition levels and support the continued development of the Net-zero organisation pathway.

Module A-2 Current Policies and Strategies Assessment

A-2.1: List of relevant policies, strategies & regulations

A-2.1. List of relevant policies, strategies and regulations			
Level	**Title**	**Description**	**Relevance**
Local	Malmö City's budget 2021-26	Investment och operational plan for Malmö	Main strategic document. Sets out Climate Transition as one of three overarching priorities for Malmö's political leadership
Local	Malmö's Comprehensive plan (2023)	A strategic document showing the municipality's long-term planning of land, water and the built environment. Consists of strategies, maps with planning guidelines, and environmental impact assessments.	The plan establishes the municipality's vision for the future and lays out a guideline for planning policies, but it is not legally binding.
National	Digital strategy for climate-neutral cities	Strategy for digitisation and digital tools for the transition to climate neutral cities, written by Viable Cities and Ramböll. Includes three strategic alignments: - Focus digitization on priority areas - Strengthen the organisation for digitisation - Enable support in data management and infrastructure	Provide a basis for the continued development work with Climate contract 2030 within Viable Cities.
Local	Det digitala Malmö	Programme for digitalisation in the City of Malmö. Includes four main targets: - Digitalisation with care - Create value in new ways - Human needs in focus Collaboration across borders	
Local	Energy strategy for Malmö	Malmö's municipal energy plan that aims to meet the legal requirements as set out in the Local Government Planning Act (SFS 1977:439). Contains four focus areas: - Secure and reliable electricity system - Local, resource-efficient and renewable energy supply. - Energy and resource efficient society - Sustainable energy and transport	Aimed at those working in the City organisation and city-owned businesses working with energy issues, the governing politicians of the city, partner organisations and local energy producers

Local	Malmö Environmental Programme 2021 – 2030	The Programme consists of twelve goals with associated indicators and measurements, divided into three main target areas: A Malmö with the lowest possible climate impact, A Malmö with a good urban environment, and A Malmö with rich biodiversity and healthy ecosystems. A Malmö with the lowest possible climate impact directly connects to climate (goal 1-14) and two goals support the climate transition (7 & 12).	A steering document for the City of Malmö's municipal boards, committees and companies, and it also aims to provide support and inspiration to the citizens of Malmö and other actors in the private and public sectors.
Local	Malmö's Sustainable urban mobility plan (2016)	Describes how a holistic planning approach can achieve improved quality of life for more of Malmö's residents, visitors and other stakeholders. The plan grasps on planning and clarifies how the work should progress towards a more functionally mixed, dense, green and short distance city.	The purpose of the plan is to establish strategies for sustainable urban development that gather, develop, clarify and concretise the traffic related aims of the Comprehensive Plan and other strategic documents.
Local	Waste and Eco-cycle plan (combined)	The plan is Malmö's roadmap towards climate-neutral and resource-efficient waste management, without a negative environmental impact on Burlöv (nbh municipality) and Malmö. The waste and eco-cycle plan covers four different goal areas: Waste prevention, effective recycling, reduced loss and trust and collaboration.	The plan governs the municipality's departments and companies and will also involve and inspire private actors and residents.
Local	Strategy for sustainable urban development - Climate action Malmö	A strategy based on the process for climate transition Mamö, with extra focus on the thematical areas identified as directly relevant for the ERDF funding programme.	This strategy makes Malmö eligible for certain ERDF funding.
Local	Strategy for implementing Agenda 2030	Strategy to increase the city's ability to implement the UN's 17 global goals in the city's local development work.	The strategy is based on five development processes that support Malmö's transition: 1. Control and management systems 2. Sustainable development through business development 3. Planned communication and participation for learning and anchoring 4. Increased knowledge for informed decisions 5. Innovative partnerships that make a difference

Regional	A Climate-neutral and fossil-free Skåne: Climate and energy strategy for Skåne (Ett klimatneutralt och fossilbränslefritt Skåne: Klimat- och energistrategi för Skåne)	Regional strategy with climate goals concerning energy, transport, construction industry, agriculture,	Supports development targets in Malmö, and provides framework for increased regional co-operation
Regional	Skåne's Innovation Strategy	Identifies sustainable urban development and climate change as key areas for innovation and economic development	Links climate transition into regional economic development
Regional	Regional transportation infrastructure for Skåne 2022-2033 (Regional Transportinfrastruktur för Skåne 2022-2033)	Regional transport planning document for major infrastructure investment	Important strategic document for development of a coherent regional public transport and cycling infrastructure and to address road transport challenges
National	Environmental objectives (Regeringens 16 nationella miljökvalitetsmål)	The environmental objectives describe the quality of the environment that Sweden wishes to achieve. There are 16 objectives from unpolluted air and lakes free from eutrophication and acidification, to functioning forest and farmland ecosystems. For each objective there are a number of 'specifications', clarifying the state of the environment to be attained.	Supports development targets in Malmö, and provides framework for increased national co-operation
National	National circular economy strategi	National strategy for a transition towards a circular economy considering design, consumption, reuse and recycling and economic development	Supports development targets in Malmö, and provides framework for increased national co-operation
National	The Environmental Code (Miljöbalken)	The purpose of the Environmental Code is to promote sustainable development. Detailed provisions on the financial situation. Several laws are linked to the Environmental Code, for example the Forest Protection Act, the Aviation Act and the Road Act. The connection means that the law refers to provisions in the Environmental Code, which must be applied in tests and assessments according to the law.	Supports development targets in Malmö, and provides framework for increased national co-operation
National	Planning and Building Act (PBL)	Regulations covering planning and construction in which climate neutrality targets need a stronger representation	Need to increase relevance to climate transition

EU	Circular economy action plan (2020)	Focus on sustainable products, empowering consumers, construction product regulation, strategy on sustainable textiles.	Supports development targets in Malmö, and provides framework for increased national co-operation
EU	Eco-design directive	Regulations governing energy use and energy-related products	Supports development targets in Malmö, and provides framework for increased national co-operation
EU	Fit for 55	The European legislative programme with rules on climate, energy and transport and the regulations that are included in the package.	

A-2.2: Description & assessment of policies

A-2.2: Description & assessment of policies

We are aware that there are a lot of different strategies, policies and plans on different levels, and that they do not always align with Malmö's vision. The harmonisation of policies and strategies is always an on-going process as they are amended and introduced at different times. At a local level the City's annual budget is therefore of particular importance to highlight priorities over a plethora of sometimes complimentary, sometimes competing issues. The work on climate mitigation and adaptation is annually recurring priorities.

Malmö's policies establish clear and ambitious climate targets, linking climate transition to broader societal transformation through the global Sustainable Development Goals. This approach provides a distinct focus on climate issues where the city itself has significant influence, such as reducing the organization's own emissions and promoting a shift towards more active modes of transport. At the same time, it sets a direction for other stakeholders in the city regarding the Malmö's ambitions. However, local policy alone is not enough for climate neutrality, for example, has limited impact on reducing plastic waste, where the city can only implement end-of-pipe solutions. In contrast, the EU, through design directives, can work to prevent plastic from entering the system.

Other challenges cross levels of governance and add significant complexity. One example is transportation, where there is a need for policies and legislation to work together at local, regional and national level. As mobility patterns are between cities and regions, a comprehensive approach to active mobility falls outside the mandate of individual municipalities. A systems approach at regional and national level is essential to provide user-friendly and competitive solutions.

On a local level, emissions from road traffic can decrease if the necessary behavioural changes and electrification of the vehicle fleet are implemented, and the reduction obligation is maintained. There are particular challenges with heavy traffic, where the vehicle fleet is predicted to have a slower rate of electrification. In the longer term, the EU decision on 90% fossil-free cars by 2035 plays a big role, but the rate of exchange means that the effects will be delayed by 10-15 years.

Decisions on a national level on lowered reduction obligation is an obstacle and has had a big negative impact on Malmö's prospect to reach the emission reductions target in the emission category transportation. Calculations show that the lowered reduction obligation will increase emissions in Malmö with 100 000 tonnes CO2/year in 2030.

A-2.3: Emissions gap

Table A2.1											
	(1) **Baseline emissions**	**(2)** **Emissions Reduction Target 2030**		**(3)** **Emission reduction through other Action Plans**		**4)** **Emissions Gap**		**(5)** **Emissions reduction through the CCC Action Plan to address the Gap**		**(6)** **Residual emissions**	
						(4) =(2)-(3)				(6) = (1)-(2)	
	(absolute) thousand tonnes CO2e, year **2024**	(absolute) thousand tonnes CO2e year **2030**	(%)	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)
Energy	342			16				250			
Road transport	266			35				170			
Industry	98			10							
Heavy machinery	47							30			
Other	78			20							
Total	831	531	64% between 2024-2030 (corresponds to just over 80% 1990-2030)	81		450		450		300	36% of 2024 emissions (just under 20% of 1990 values)
Comments	- (1) It is stated that baseline should be after 2018, and that emission reduction target should refer to this baseline. However, for our climate neutrality our baseline is 1990. Therefore, in (2) we have calculated the reduction required from today (2024, latest emissions data) to reach the target. '-(4), 34 kton comes from a calculation based on the Swedish Tranport Aministration's prognosis of emission factors for road transport. 15 kton equals an expected decrease in small scale fossil heating due to trends in phasing out fossil fuels and energy efficiency. 10 kton represents that a small decrease in industry emissions is expected. 20 kton represents the expected emission decrease from product use, other traffic, waste and sewage and agriculture, based on the trend for the last 10 years.										

Module A-3 Systemic Barriers and Opportunities to 2030 Climate Neutrality

A-3.1: Systems & stakeholder mapping

A-3.1: Systems & stakeholder mapping				
System description	Stakeholders involved	Network	Description	Interest
Infrastructure	23 different sectors such as agriculture, aviation, construction and civil engineering, electricity, heating, recycling etc.	Fossilfritt Sverige (Fossil free Sweden)	Initiative by the Swedish Government to increase the pace of climate transition. The goal is to build a strong industrial sector and to create more jobs and export opportunities by going fossil-free. 23 different industries have produced their own roadmaps to show how they can enhance their competitiveness.	Accelerate the climate transition
Infrastructure	Trafikverket (The Swedish Transport Administration)		Responsible for long-term planning of the transport system for all types of traffic, as well as for building, operating and maintaining public roads and railways.	Collaboration on public transport development and financing.
Capacities	48 Swedish municipalities, 6 government agencies	Viable cities	A so-called strategic innovation programme supported in a joint initiative by Vinnova, the Swedish Energy Agency and Formas with the mission Climate Neutral Cities 2030 with a good life for all within planetary boundaries.	A catalyst for new forms of cooperation between cities, industry, academia, research institutes and civil society. To mobilise change in line with national, environmental and climate goals as well as international commitments linked to the Global

				Sustainability Goals and the Paris Agreement.
	National authorities	Rådet för hållbara städer (The Council for Sustainable Cities)	The Council for Sustainable Cities is a collaboration forum with 13 members who work to strengthen municipalities' conditions for developing living and sustainable cities	Strategic role to address urban sustainability issues across government agencies, streamline policy and support local delivery
	Region Skåne	Regional authority	Collaboration on public transport development and financing. Strategic partner in economic development. Hospital and health care service with significant presence and impact in Malmö	Strategic and operational delivery
	Länsstyrelsen i Skåne (The county administrative board in Skåne)	Regional arm of the national government, chairs strategic environmental network	Important body for streamlined approach in areas with policy and legislative conflicts eg permitting for wind power	Close partnership approach and conflict resolution needed
	55 municipalities and two regions	Klimatkommunerna (The Climate Municipalities)	Klimatkommunerna is an association of cities and regions in Sweden. Their members are frontrunners in the transition towards a fossil free future with a good quality of life for their inhabitants.	Communicating inspiring examples of effective local climate action with positive synergies. Highlight gaps in national climate policy and ideas for improvement.
	Universities and research organisations	Lund University, Malmö University, SLU Alnarp, RISE, IVL; Stockholm Environment Institute (SEI),	Create new solutions in sustainable urban development, evaluate ongoing initiatives.	To develop and implement sustainability solutions in Malmö and the region. Participate in development and research projects.

	Academia, public and private sector	Mötesplats Social Innovation (Meeting place for social innovation)	Innovation hub with focus on social inclusion based at Malmö University but with national remit	Knowledge centre and strategic partner in equitable climate transition
	Universities and mission cities	Öppen akademi (Open academy)	Collaboration and support platform for mission cities Malmö, Helsingborg and Lund within the region Skåne.	Strengthen knowledge-based, transformative and coordinated processes for a transition to climate-neutral cities in 2030.
	Nine cities and Lund University within region Skåne	Learning Hub Syd	Capacity building within local climate governance, with a potentially regional outreach.	Accelerate the climate transition through collaborative governance
	Digital innovation hub	DigIT Hub Sweden	European Digital Innovation Hub in south Sweden.	Helps the city increase its digital capacity. Special focus on contributing to lower energy consumption and low carbon dioxide emissions.
Alliances	Local building and construction companies, over 200 businesses	LFM30 (Local roadmap for a climate-neutral construction and civil engineering sector in Malmö 2030)	Collaboration to learn how it is possible to become a climate-neutral construction sector.	Develop methods in calculating and complete climate-neutral construction projects and the organisations' own climate transition.
	80 local companies	Climate contract companies	Local businesses that pledge their support and commit to actions to reach climate neutrality 2030 goal	Accelerate climate transition
	Local start-ups, companies, researchers and public institutions	Malmö Generate District, MINC	Innovative start-ups and other companies which can contribute to the transition with creative solutions and innovations.	Accelerate climate transition

	Civic society organisations, 1000 in Malmö	Malmö ideella	Voluntary / non-profit sector umbrella organisation in the city supporting civil society	Engagement of local civil society in dialogue and co-creation processes
	European cities	EIT Climate-KIC Deep Demo cities	Collaboration and innovation at the forefront of current policy and practice at an EU level	Accelerate climate transition.
Funds	National funds such as Vinnova, Energimyndigheten, Formas EU-funding such as ERDF, Climate-KIC etc.		Financial support	Accelerate and financing climate transition.

A-3.2: Description of systemic barriers and opportunities

A-3.2: Description of systemic barriers and opportunities

Electricity supply

Malmö is a rapidly growing city expected to surpass 500,000 inhabitants by 2050. This growth requires a substantial expansion of public services, housing, workplaces, and industry, as well as a major transformation of the city's infrastructure. At the same time, climate impact must be reduced in line with Malmö's climate targets. The changing security situation in Europe has also made energy and infrastructure central components of societal security and preparedness. Energy infrastructure is now a key pillar of both Sweden's and Europe's strategic autonomy.

The Malmö region holds significant potential for more than **40 TWh of new offshore wind power**, alongside opportunities for repowering existing parks. This could enable southern Sweden to shift from being a net importer to a **net exporter of electricity on an annual basis**, strengthening both regional resilience and Europe's energy security.

Sweden continues to face major challenges in electricity distribution, where investments in local and regional grids have not kept pace with urbanisation, economic development, and population growth. Most of Sweden's electricity is produced in the north, and transmission to the south is constrained by bottlenecks in the national grid.

The electricity system is also deeply interconnected with the European market. While this integration brings benefits, it also exposes southern Sweden to continental price dynamics. As a result, Malmö and other southern cities face **higher and more volatile electricity prices**, aligned more closely with European than Swedish levels. Slow infrastructure investment, insufficient strategic planning, lengthy permitting processes, and delays in developing offshore wind potential continue to hamper progress. These uncertainties have already led some businesses to relocate from Malmö.

Important progress since 2020
Despite these challenges, several significant developments since 2020 have strengthened Malmö's and Skåne's energy position:

- **The national transmission grid now offers sufficient electricity and capacity to meet Malmö's and Skåne's needs until 2035**, reducing the immediate risk of supply shortages.
- **The restart of the Öresundsverket power plant enables Malmö to restart the electricity grid and operate in so-called "island mode"**, significantly improving local resilience and emergency preparedness.
- **The pausing of the Hansa PowerBridge project** has reduced the risk of further price increases and export-driven pressure on the southern Swedish electricity system.

These developments create a more stable foundation for Malmö's long-term energy transition, but they do not eliminate the structural challenges that remain.

Most important current issues
Malmö's energy transition is shaped by a set of urgent and interlinked challenges. The most important issues currently affecting households, businesses, and the city's long-term competitiveness are:

- Electricity prices, including grid tariffs
- District heating prices
- CCUS and the development of a regional CO_2 hub
- The local grid's ability to connect new production and consumption rapidly
- Capacity-based tariffs
- Malmö's energy port and its strategic role
- Electrification of heavy vehicles and construction machinery
- Energy communities and local energy sharing
- Wind and solar power deployment
- Energy storage and flexibility solutions
- Grid capacity constraints, including limitations in the national transmission grid that restrict new industrial and commercial connections
- Lengthy permitting processes, especially for wind power and grid infrastructure, which delay necessary investments and repowering
- Insufficient long-term energy storage, beyond hydropower, limiting the ability to balance an increasingly intermittent energy system

These issues collectively influence Malmö's ability to maintain competitiveness, reduce emissions, and ensure a secure and resilient energy supply.

Opportunities in a changing national and European policy landscape

The rapidly evolving national and European energy policy landscape presents significant opportunities for Malmö. Sweden's accelerated electrification agenda, the EU's Green Deal Industrial Plan, the Net-Zero Industry Act, and strengthened frameworks for renewable energy, flexibility markets, CCUS and hydrogen all create new conditions for cities that can act quickly and strategically. Malmö is well-positioned to benefit from these shifts.

The establishment of **Malmö's new municipal energy company** represents a major strategic opportunity to capture local and regional value in the energy transition. The company will enable Malmö to take a more proactive and coordinated role in:

- **Local electricity production**, including wind, solar and repowering opportunities
- **Flexibility services**, supporting both local grid stability and participation in emerging flexibility markets
- **Energy storage**, including batteries, thermal storage and future long-duration solutions
- **Energy communities and local energy sharing**, empowering residents, housing companies and businesses
- **Low-temperature energy grids**, enabling large-scale integration of waste heat, industrial heat, data centre heat and ambient energy sources

- **Electrification of heavy transport and machinery**, including charging hubs and grid-integrated logistics solutions
- **Development of Malmö's energy port**, strengthening its role as a regional hub for offshore wind, hydrogen, e-fuels and CCUS logistics

These opportunities align closely with EU priorities for resilience, decarbonisation and strategic autonomy. Malmö's ability to combine local action with regional and European collaboration — particularly around offshore wind, CCUS and energy system flexibility — positions the city as a potential frontrunner in the Nordic energy transition.

Heating

Process/ infrastructure
On a national level, only 10% of plastic waste is recycled to become new plastics and 90% of the plastic waste ends up in energy production (waste CHP plants) or as fuel in industry. The climate impact of plastic incineration is allocated to waste management and district heating actors. This presents too little incentive and responsibility in the production and usage stages to decrease plastic incineration and increase material recycling.

Fossil feedstock for plastic production is inexpensive compared to recycled plastic. There is also limited demand for sorted plastic, particularly plastic that is not packaging, such as bulky plastic from recycling centres. Also, potentially limited disposal for sorted plastics can lead to the investment in a material sorting facility not being made.

Increased competition for biofuels and an economic downturn in the construction sector create uncertainties and may affect district heating prices for households and businesses.

Business models
CCS is still an expensive technology. There are challenges to cover costs for capturing negative emissions and an uncertainty regarding that grants cannot be guaranteed.

Policies
National policy instruments disfavour CCS/BECCS at facilities that burn waste.

Opportunities

- To put a price on the introduction of fossil carbon in plastic products, as suggested by the Swedish national energy agency, could increase incentives for plastic producers to work towards a more circular system where less plastic waste is incinerated
- Plastic products need to be recyclable to a higher degree. Goods consisting of several materials need to be designed so that they can be disassembled.
- Low-temperature district heating in combination with a higher share of excess heat would result in a more efficient heat supply. In Malmö, the temperature in the district heating grid has gradually decreased. There is potential to lower temperatures further, especially in newer areas.

Mobility

Behaviour
Change in mode of transport from car to public transport, bicycle and walking is too slow. There is no joint regional approach to support whole journey systems addressing the first and the last mile (i.e. mobility as a service). Lifestyles are dependent on flexibility and rapid mobility to meet family needs such as shopping, picking up children, commuting, caring. Viable alternatives to support active transport need further development.

Infrastructure
Investments in new bus lines and bicycle paths takes time to implement and are costly.

Electrification and biofuels
For the transport sector, electrification, biofuels and hydrogen are possible alternatives that entail different challenges. Here the infrastructure investments need to be aligned with the alternatives chosen by industry and policy.

The major barrier for the rate of electrification is still the high cost of the vehicle. As for charging infrastructure, the prevalence of this has increased but needs to increase further. The responsibility for this could be clarified.

The transition to fossil-free fuels for heavy transport has its challenges. The vehicle manufacturers of heavy transport see both biofuels and electricity as the future. For heavy transport, fast charging stations along the national roads has increased during the past few years, and continues to expand..

National regulations
An earlier proposal to introduce a mode-neutral travel deduction never materialised. Instead, the Swedish government decided to increase compensation for travel to and from work with private cars. Compensation for travel with electric benefit cars, on the other hand, remained unchanged. This is a decision that counteracts the transition to public transport and fossil-free transport.

A tax relief for the benefit of travel by public transport was proposed, however was never included in the national budget proposition. This type of economic incentive would potentially have an impact on how people chose to commute to and from work.

Opportunities

- A re-introduction of economic incentives for the purchase of electric vehicles could accelerate the uptake of electric vehicles
- The introduction of ETS2 within the EU (from 2028) is expected to increase fossil fuel prices and thereby affect transport behaviour and related GHG emissions
- Biogas can play a major role in the future, such as liquefied biogas (LBG) for heavier vehicles. Renewable hydrogen is also seen as a way to achieve fossil-free vehicles.

Circular economy

The transition to a circular economy will require a new resource focus, new design and new production methods to break the current consumption patterns, change the norm regarding ownership and increase sharing of products.

Alliances
Businesses and organisations must work together to take advantage of material and energy resources at all stages.

Policies and jurisdiction
A municipality's ability to directly decide on these issues is limited as this area is governed both by legislation and by market interests. There is a need to address these challenges at a national level to incentivise repair, reuse and recycling.

The Circular Economy Act (EU-level) is developed during 2026. Malmö Environment Committee provided input during the open consultation period in 2025. The legislation of collecting textile waste which came into force in 2025 created a shock wave through the system since there is no market for second hand textile materials. Also, since 2024 there are EU-rules stipulating that restaurants serving more than 75 portions a day should offer reusable take-away food boxes, but these rules are not adhered to. The restaurant sector is asking for a common system throughout the city.

Limited incentives to support circular business models
Current consumption patterns and regulations are an obstacle to using existing resources more efficiently. Market-adapted policy instruments are needed that give all actors the same incentives and opportunities to act on the market.

Market conditions, financial instruments and responsibility issues need to be developed so that all actors in the entire value chain both get and can take responsibility for acting circularly. Strong market-based control instruments and incentives can contribute to the development of new circular services and recycling solutions, new business models and collaborations across established industry boundaries.

Ownership
Municipal waste monopolies limit the opportunities for companies that want to drive circular development by reusing or recycling the waste as a resource higher up in the waste hierarchy.

International barriers
Today there are obstacles and rules that govern the cross-border trade in waste or raw materials extracted from waste. These obstacles must be minimised so that the right actors in the right countries can take care of, recycle and refine the resources that the market demands.

Opportunities
- More jobs by enabling business activities to be created when products and residual resources are used in an innovative way.
- More robust and price-stable supply chains to make the supply of raw materials becomes less sensitive to disruptions due to pandemics and wars.
- Malmö has worked to promote industrial and urban symbiosis since 2012 in a number of different projects
- Development of Malmö Resource hub (www.malmo.se/resurshubben), resource coaching for more resource efficient SME:s and support to circular businesses. Local textile agenda with second hand actors. Plastic focus together with Heating.
- Working for promoting a city wide multiple use packaging system for take-away portions.

Climate-neutral construction

Responsibility
Lack of joint approach between government and industry. Politicians and authorities like to see market players themselves take responsibility for the issue while market players want clear and long-term incentives to drive climate change. Contractors and consultants want clients to request construction with a low climate impact, while clients want contractors and consultants to present solutions with a low climate impact, etc.

Business models and procurement
Emissions of greenhouse gases, and the societal costs that a changing climate entail, have traditionally not been valued by the market. At the same time, it costs money to develop and manufacture methods and products with low climate impact. As a result, this makes it difficult to calculate the cost of new products. This can be seen as a failure for the market economy because the market prices have not been able to fully reflect society's cost of production and consumption.

Innovation, processes and new materials
The construction sector is characterised by being fragmented with long and complicated value chains. This makes it difficult for any individual actor to have an overall strategy for research and development. The construction and facilities sector has extensive regulation, which is important from a quality perspective, but there is a risk that new solutions are not developed because the actors are not prepared to take risks related to trying new methods and materials.

Regulations and legislations
Currently there is no legal requirement to declare and regulate the climate impact of buildings and infrastructure from a life cycle perspective. The market-based incentives to limit emissions from a life cycle perspective have so far been limited. There is a need to introduce legislation on the declaration of the climate impact of buildings and infrastructure. Here, Sweden could also learn from Finland, which has a legal requirement to report businesses' waste products.

Knowledge and leadership
Actors in the building and construction sector need to strengthen their basic knowledge of what can be done at what stage to reduce climate impact from a life cycle perspective. Procuring entities need to increase their knowledge of how buildings and infrastructure with a low climate impact can be ordered. Designers and contractors need increased knowledge of how the climate impact in construction or civil engineering projects can be mapped in order to be able to propose measures with a lower climate impact. The tools that are now being developed to estimate the climate impact need to be developed and disseminated continuously.

Opportunities

- More recycling could result in more local jobs in the building sector.
- Renovations and climate-neutral buildings lead to energy efficiency in the building sector and can also have benefits on indoor climate.
- Working close with the building sector in LFM30 and together striving for higher goals for climate neutrality together can give the local companies advantages once the national legislation on climate neutral buildings is defined.

Low-carbon consumption

The work on climate-smart consumption in Malmö is based on the understanding that consumption-based emissions are the result of a complex interaction between everyday life, societal structures, markets and policy frameworks at local, national and global levels.

Spread and realization of climate-smart lifestyles across society depend on how the city is planned, how infrastructure and services are developed, how goods and resources are made available and priced, and by policy frameworks — including policy instruments, regulatory frameworks, economic incentives and the distribution of responsibilities. The municipality's (strategiska funktionen istället för hela kommun) mandate is therefore largely indirect and involves integrating the consumption perspective into the entire climate transition and into other transition areas, so that measures and investments also are coherent with the goal of reducing the climate impact of consumption.

Consumption-based emissions vary significantly between different parts of Malmö and largely follow socio-economic patterns. This underlines the need to reduce overall emissions while ensuring a fair and equitable distribution of emission space. Households with higher incomes often have the greatest climate impact and therefore the greatest potential to reduce their emissions, while households with lower incomes in many cases already have relatively low emissions but limited action space. A key challenge is therefore to lower emissions among high-income households while improving living standards for low-income households without increasing their consumption-based emissions.

The potential analysis shows that current developments and measures are not sufficient to reach the target of halving consumption-based emissions. To move towards the target levels, integrated transformation is required that encompass lifestyle, infrastructure, urban planning, market development and technological development. Climate-smart consumption therefore cannot be treated as a separate policy area but needs to be integrated into the city's broader transition work on mobility, construction, energy, circular economy, local business development and place-based development.

An important barrier is that consumption patterns are largely shaped by factors outside the municipality's direct control, such as national and international policy instruments, market dynamics

and cultural norms. At the same time, individuals' opportunities to make climate-smart choices are influenced by structural conditions — access to sustainable alternatives, functioning sharing solutions, local services, transport infrastructure and economic circumstances. The prevailing economic model, based on consumption-driven growth, also lacks a coherent transition towards sustainability across governance levels and within the business sector, which creates uncertainty regarding responsibilities, incentives and pace of change.

Developments in the wider context present both challenges and opportunities. Geopolitical tensions and economic uncertainty risk shifting attention away from climate issues, while EU regulations, circular business models and increasing demand for sustainable solutions create new drivers for change in both markets and governance. At the national level, developments are characterised by tensions between short-term relief measures and the need for long-term policy instruments. At the same time, neither EU nor national climate policy currently includes explicit targets for consumption-based emissions, which makes it more difficult to work systematically with the issue at local level and to align responsibilities, policy instruments and follow-up across governance levels.

Opportunities
At the same time, there are significant opportunities. In recent years, Malmö has built a stronger knowledge base and ways of working around consumption-based emissions through the roadmap, the use of Consumption Compass data, the potential analysis and collaboration with other municipalities, research actors, businesses and civil society.

Opportunities lie in coordinated and targeted measures that combine system-level change with individual behaviour, incentives for market development and technological development. Actions such as promoting sharing solutions, improving access to public transport, supporting climate-smart food choices and developing shared urban spaces can reduce emissions while delivering social, health and equity co-benefits. Malmö can act as a key enabler by using urban planning, investments, partnerships and norm-setting to support a just and sustainable transition.

Climate-smart consumption is therefore both a distinct target area and a perspective that needs to permeate the entire climate transition. Integrating this into the city's ways of working, investments and partnerships is a key prerequisite for Malmö to reach the target of halving climate impact from consumption.

Net zero organisation

Within the Net-zero organisation transformation area, several systemic barriers influence Malmö's ability to reduce emissions from its own operations.

A central challenge is that upstream Scope 3 emissions make up the majority of the organisation's climate impact. These emissions originate in the production of goods, food, IT equipment, construction materials and services purchased by the municipal organisation. Because suppliers and sectors differ significantly in their climate maturity, it can be difficult to set climate requirements that are both ambitious and feasible across all categories.

While the City of Malmö has strong influence over what is purchased and how resources are used, the organisation has limited influence over how products are produced. This gap makes it challenging to ensure actual emission reductions upstream. Access to product-level climate data is also limited in many categories, making it difficult to compare alternatives, verify supplier performance or assess the effect of climate-related measures. Existing methods for calculating organisational emissions provide useful overviews but are not sufficiently detailed for action-level evaluations.

There are also internal barriers. Purchasing and implementation responsibilities are distributed across many departments, which can lead to variation in how climate criteria are understood and applied. In some cases, higher climate ambition or stricter requirements can result in increased costs, which may need to be balanced against other essential municipal services. Limited internal time and resources

for follow-up and verification of supplier data can further restrict the scope of climate requirements in procurement.

Additional external factors also influence progress. Variations in supplier readiness, especially among smaller suppliers, can affect the feasibility of certain requirements. Long contract cycles can make it slower to introduce updated climate criteria. In several product categories there is a lack of harmonised national or EU-level standards for climate requirements, which complicates comparison and follow-up. Finally, the availability of low-emission alternatives varies across markets, which may limit options in some categories.

Opportunities

Despite the systemic barriers, there are several opportunities that can enable and accelerate emission reductions within the Net zero organisation transformation area. As a large public organisation and purchaser, Malmö has substantial potential to influence markets through procurement. By aligning climate requirements with other major public buyers, Malmö can help create clearer expectations for suppliers and strengthen the demand for low-emission products and services. Joint or harmonised requirements can contribute to more consistent supplier practices and support the development of climate-aligned markets.

There are also significant opportunities to inspire other organisations, including private sector actors and civil society, by demonstrating how climate considerations can be integrated into everyday operations.

Improving and expanding internal governance, data systems and support functions can further create opportunities for more coherent follow-up and better decision-making. As more product-level and supplier-level climate data becomes available over time, Malmö will be able to make more informed choices, compare climate performance and strengthen the follow-up of climate requirements in procurement.

There is also growing potential to benefit from developments at national and EU level, including clearer climate criteria, emerging standards, and expanding availability of environmental product declarations and digital product passports. These developments can support more accurate data collection, improve comparability and make it easier to set and follow up climate requirements across categories.

Finally, continued collaboration, both internally across departments and externally with other municipalities, suppliers, research actors and industry networks, creates opportunities for innovation, learning and scaling of effective solutions across the City’s operations.

A-3.3: Description or visualisation of participatory model

A-3.3: Description or visualisation of participatory model for the city climate neutrality

The city has a number of on-going fora and processes to engage local communities, and work is going on to develop climate-related work in existing arenas, and to develop new approaches.

There has been significant interest from civil society organisations in the city in the local Climate Contract model and in 2024 a specific contract for civil society based on the climate contracts with business was introduced. One of the signatories of the new contract is Malmö Ideella: an umbrella organisation for civil society actors in Malmö with over 350 member organisations. Another example is the MFF football club (one of the first business climate contract signatories) with amateur football and sports clubs across the city that engage thousands of people in the community.

The city is also in the process of renewing its neighbourhood-based development work, and the climate transition team have been at the forefront of developing ideas of a joint approach in targeted community programmes in partnership with local businesses, NGOs and community. The climate team works from a perspective of understanding local needs, challenges and opportunities in Malmö's climate transition and seek to support local climate actions at a neighbourhood level. Local climate dialogues have been carried out at neighbourhood level. These programmes link into a strand of work which focuses on the disparity in lifestyle impacts across the city where there is a clear correlation between high income and high emissions.

The city has several exploratory projects working for example with Malmö University to explore further ways of addressing and engaging the inhabitants of Malmö in the climate transition. One example is a local climate assembly which took place in 2024. The climate assembly was co-hosted by the Malmö and Klimatriksdagen (the Climate Parliament Association). Klimatriksdagen is a non-partisan, non-profit association, and Malmö is one of three Swedish cities piloting the climate assembly model with them. Forty citizens participated in a local climate assembly to speed up the city's climate transition. During a weekend, the participants developed 26 proposals across six thematic areas, which they later officially handed over to the City. This climate assembly (Klimatrådslaget) was carried out within the Speak Up project, aimed at giving more citizens a voice in shaping Malmö's climate agenda

Continuously including the participatory approach based on community needs, aspirations and ideas enriches the top-down approach based on Climate Transition Malmö's climate impacts and technical roadmaps. A neighbourhood approach can start identifying solutions that increase acceptance and uptake of, for example, active mobility solutions, and can help design solutions that are relevant to other similar communities elsewhere in the city. There is therefore a strong potential for an approach in which local experiments co-design solutions that can be scaled, but also adapted in accordance to varying needs and aspirations across the city. Working in a large number of geographies in the city also helps to create a critical mass of people from different socio-economic backgrounds and urban districts who are actively engaging in the transition process.

Part B - Pathways towards Climate Neutrality by 2030

Part B represents the core of the Action Plan, shaped by local authorities, local businesses and stakeholders, comprising of the most essential elements: scenarios, strategic objectives, impacts, action portfolios and indicators for monitoring, evaluation and learning.

Module B-1 Climate Neutrality Scenarios and Impact Pathways

B-1.1: Impact Pathways

Transition area: Electricity supply	Systemic levers	Early changes (1–2 years)	Late outcomes (3–4 years)	Direct impacts (emission reductions)	Indirect impacts (co-benefits)
	Technology & infrastructure	Faster initiation of renewable energy projects. Shortened permitting processes for new wind and solar projects	Increased local renewable electricity production	Contribution to reduced emissions through clean energy	Improved energy balance and reduced dependence on imported electricity
	Technology & infrastructure	Identification of suitable areas for solar and wind power. Clear spatial planning framework	Accelerated deployment of renewable energy	Increased share of renewable electricity	More stable electricity prices and strengthened local resilience
	Technology & infrastructure	Local generation capacity expands. Investment in municipal solar energy begins	Reduced need for externally purchased electricity	Lower carbon footprint from municipal operations	Freed-up grid capacity for new industries and strengthened local job creation
	Technology & infrastructure	Strategic grid capacity planning. Improved understanding of future needs	Sufficient transmission capacity to enable industrial electrification	Reduced emissions from electrified industry	Increased attractiveness for new business establishments
	Technology & infrastructure	Testing of integrated renewable and recycled energy solutions	Greater predictability and security of supply for industry	Lower industrial emissions	More resilient and competitive industrial production
	Technology & infrastructure	Strategy for energy storage adopted	Deployment of storage solutions	Reduced curtailment and better	A more balanced and flexible

				integration of renewables	electricity system
	Technology & infrastructure	Demonstrated local flexibility. Pilot micro-storage solutions	Scaled-up storage and flexibility solutions	Reduced peak-load emissions	Increased local resilience and citizen participation
	Technology & infrastructure	Evaluation of flexible electricity system demos (e.g., Sege Park). Lessons integrated into citywide planning	Scaled implementation of flexibility solutions	Reduced emissions through demand-side management	Lower energy system costs and faster development cycles
	Technology & infrastructure	Broader testing of innovative solutions. Additional system demonstrators in operation	Increased adoption of smart grid technologies	Reduced emissions through system optimisation	Enhanced innovation capacity and partnerships
	Technology & infrastructure	Increased investments in energy-efficient solutions and solar power. Broader uptake among citizens and businesses	Widespread adoption of energy-efficient technologies	Lower emissions from buildings and operations	Economic benefits for households and businesses

Transition area: Heating	**Systemic levers**	**Early changes (1-2 years)**	**Late outcomes (3-4 years)**	**Direct impacts (Emission reductions**	**Indirect impacts (co-benefits)**
	Technology and infrastructure	Project planning for carbon capture on Sysav's waste CHP plant. City of Malmö supports Sysav.	Carbon capture from Sysav's waste CHP plant in operation 2030, and permanent storage of fossil and biogenic CO2	200 KT emission reduction *(note: partial overlap with some of the actions below)* 250 KT carbon sink	Combined with intermediate CO2 storage in the harbor, Malmö can become a regional CO2 hub
	Technology and infrastructure	Development of a solution for facility at Sysav for post-sorting of plastic from residual waste	Project planning for a facility at Sysav for post-sorting of plastic from residual waste	50 KT emissions reduction, depending on what waste is replaced with	More recyclable plastic made available, increased circularity, job opportunities

	Technology and infrastructure	Work by Sysav, VA Syd and City of Malmö to promote sorting of waste: communicatio n, price incentives, practical issues	Increased sorting of waste at households, businesses and construction sites, less plastic incinerated	50 KT, depending on what plastic waste is replaced with	More recyclable plastic made available, increased circularity
	Technology and infrastructure	Installation of accumulator tank for district heating, by Eon	Accumulator tank in operation, makes fossil peak load for district heating redundant	20-40 KT	Reduced electricity need during power shortages, improved supply security and more stable heat production
Transition area: Mobility	**Systemic lever**	**Early changes (1-2 years)**	**Late outcomes (3-4 years)**	**Direct impacts (Emission reductions**	**Indirect impacts (co-benefits)**
	Technology and infrastructure	In 2027 95% of city busses in Malmö are electrified	Malmö Expressen busses will be fully electrified and will replace non-electric city busses as the lines are introduced	7 KT CO2e 0,6 g CO2-ekv/MJ	Less noise, possibility to drive busses in other areas than today due to the decrease of noise, less operational costs, higher efficiency
	Technology and infrastructure	1 Malmö Express Line in traffic	3 Malmö Express Lines in service	Reduced carbon dioxide emissions from transport	Increased accessibility to public transport
	Technology and infrastructure	10 km bike lanes completed	20 km bike lanes completed	Reduced carbon dioxide emissions from transport	Improved public health
	Technology and infrastructure	5 km cycle highways completed	10 km cycle highways completed	Reduced carbon dioxide emissions from transport	Improved public health

	Technology and infrastructure	Plan for implementing large-scale system for shared mobility	Introduction of MaaS system	Reduced carbon dioxide emissions from transport	Improved public health
	Technology and infrastructure	Initial phases of scaling (of pilot projects)	Mobility services available at all major mobility nodes	Reduced carbon dioxide emissions from transport	Improved public health
	Technology and infrastructure	Reducing emissions by shifting from fossil fuels to electrified trucks, as well as optimization of logistics and load factors	City logistics primarily electrified	Reduced carbon dioxide emissions from transport	Improved air quality, less noise, cost savings
	Technology and infrastructure	Purchase emission free work machines for the City of Malmö	60% electric work machines 2027	Reduced carbon dioxide emissions from work machines, 30 KT less per year in 2030	Improved air quality, less noise, cost savings
	Technology and infrastructure	Purchase emission free vehicles for the City of Malmö	65% electric vehicles in 2027	Reduced carbon dioxide emissions	Improved air quality
	Governance & policy, Learning & capabilities	Designed concept for public awareness raising work to support behavioural change	Increased take-up and use of new bus routes, cycleways etc	Supports wider measures	Improved public health, improved air quality, savings in fuel costs for citizens
Transition area: Climate-neutral constructio n	**Systemic levers**	**Early changes (1-2 years)**	**Late outcomes (3-4 years)**	**Direct impacts (Emission eductions**	**Indirect impacts (co-benefits)**
	Governance & policy, Finance & funding	Process for analysis of potential for repurposing existing buildings.	Shared use contracts trialed and scaled	Documentati on of reduced CO2 emissions with target of 50% reduction in 2030	New jobs created locally and regionally

	Technology and infrastructure, Governance & policy	Concept development for scaling of building materials recycling	Implementation of building materials recycling centre		New jobs created
	Technology and infrastructure, Governance & policy	Concept for sector circularity database developed	Pilot of sector circularity database evaluated		New jobs created
	Learning & capabilities	Climate neutrality integrated into urban development practice on trial basis	Climate neutrality fully integrated into local policy and influencing national policy		
	Technology and infrastructure, Governance & policy	Strategy for carbon sinks and compensation strategies– prioritised carbon sinks, legal aspects, pilot projects on purchase of negative emissions	Systematic methodology for compensation measures with public private collaboration	Work in progress,	
	Technology and infrastructure, Governance & policy	7 climate neutral projects completed	Streamlined governance to facilitate climate-neutral construction		
	Learning & capabilities	Training programme for increased competence and learning within the transition area developed and trialed. Collaboration between the City of Malmö and LFM30	Training programme fully developed and mainstreamed		

Transition area: Circular economy	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions	Indirect impacts (co-benefits)
	Governance & policy, Finance & funding	1 Pilot local hub in operation www.malmo.se/resurshubben	Local Resource Hub with developed organization and business model in place or decided not to go forward		Employment and new business opportunities
	Governance and policy	Collaboration with Viable Cities partners, Circular Cities Frontrunner Group (ICLEI) and Centre for Industrial symbiosis (Rise)	International and national action to support circular economy development at scale		
	Governance and policy	Contribution to EU's Circular Economy Act	International action to support circular economy development at scale		
	Technology and infrastructure / Governance and policy	Textiles removed from incineration (except very damaged socks and underwear), due to textile collection being legislated	Local textile agenda in place to maximize the use of collected textiles locally		Employment and new business opportunities
	Technology and infrastructure	Mapping of various material flows focusing on plastic, textile and food carried out	Overview of resource and waste flows in the city		Employment and new business opportunities
	Technology and infrastructure / Governance and policy	Development of post-consumer waste separation for plastics (see Heating)	Full scale plastics separation for recycling (see Heating)		

	Technology and infrastructure / Governance and policy		Oil-based plastics removed from energy system and used for materials recovery		
Transition area: Low-carbon consumption	**Systemic levers**	**Early changes (1-2 years)**	**Late outcomes (3-4 years)**	**Direct impacts (Emission reductions**	**Indirect impacts (co-benefits)**
	Governance and policy	Consumption Compass integrated into planning, monitoring and decision-making processes	Cross-departmental coordination on consumption-based emissions established Data-driven prioritisation guiding policies, investments and implementation	Increased effectiveness of emission reduction efforts across sectors	Stronger governance and policy coherence
	Democracy/participation	Place-based implementation and local partnerships addressing consumption-based emissions	Expansion of place-based approaches related to climate transition including consumption emissions	Increased availability of low-carbon consuming services and alternatives (mobility, food, sharing solutions) Reduced consumption-based emissions	Mobilising partners and communities Social cohesion and community engagement Increased accessibility and inclusion Improved quality of life at neighbourhood level
	Governance & policy, Technology & infrastructure	Strengthened support for sharing initiatives, reuse and repair services	Increased share of reuse, repair and sharing in everyday consumption More stable local infrastructure and market conditions for	Reduced consumption of newly produced goods Increased circular consumption of textiles, lowering emissions	Local economic development and innovation Resource efficiency and waste reduction

			circular services		
	Governance & policy, Technology & infrastructure	Local circular textile agenda piloted	More stable local infrastructure and market conditions for circular services	Increased circular consumption of textiles, lowering emissions	Local economic development and innovation Resource efficiency and waste reduction
	Democracy and participation	Climate dialogues, citizen engagement initiatives Increased awareness of consumption-based emissions and available alternatives	Climate-smart lifestyles and sufficiency-oriented practices more widely adopted	Transition towards less emission-intensive consumption patterns	Empowerment and social mobilisation Behavioural change supported by social norms
Transition area: Net zero organisation	**Systemic levers**	**Early changes (1-2 years)**	**Late outcomes (3-4 years)**	**Direct impacts (Emission reductions**	**Indirect impacts (co-benefits)**
	Governance & policy, Learning & capabilities	Net zero integrated into internal processes and steering documents Basic monitoring system established Departments supported to map emissions and reduction opportunities	Net zero consistently considered in decisions, budgets and follow-up Clear roles and coordination across the organisation	Emission reductions enabled through better decisions and prioritisation	More efficient organisation, improved clarity and alignment
	Governance & policy	Climate criteria used more widely in procurement Increased access to reused, repaired and circular products	Large share of purchases climate-optimised or circular Reduced demand for new products and materials	Lower upstream scope 3 emissions from goods and services	Lower costs, less waste, stronger circular economy

		Climate information integrated into procurement processes			
	Learning & capabilities	Internal support for departments strengthened Collaboration with external experts expanded	Higher organisational capacity to plan and implement climate measures New solutions scaled across the organisation	Indirect reductions through better implementation and uptake of solutions	Increased innovation, learning and efficiency
	Technology & infrastructure	Assessment of feasible removal options	Verified compensation measures implemented Remaining emissions neutralised towards 2030	Neutralisation of residual emissions	Enhanced biodiversity and greener environments (when nature-based solutions are used) Local carbon removal activities (e.g., biogenic sinks or nature-based solutions) leading to reduced net emissions within Malmö

* The Swedish electricity mix is close to 98% fossil-free. The main purpose of the roadmap for electricity supply is to ensure that there is enough electricity to meet the needs of the climate transition.

B-1.2: Description of impact pathways

B-1.2: Description of impact pathways

Since the first version of the Climate City Contract for Malmö in 2023 we can see both a clear progress from where we were, development tracks that took other turns and new possibilities that have emerged.

The roadmaps for the seven transition areas are now complete, we have begun evaluating and calculating Malmö's path towards climate neutrality 2030, and there is extensive knowledge about the transition. Malmö has consistently worked on both knowledge-building and implementation in parallel. Over the past year, however, the focus has shifted even more toward implementation, as the level of knowledge has significantly increased.

Many of the stakeholders for the transition were already identified in 2023. Some changes that can be mentioned is that Malmö now has a new municipally owned energy company, in heating the cooperation with the large emitter SYSAV concerns the same focus but has shifted from calculating emission reductions—such as those from plastic sorting—to developing viable business models for implementation of actions. New groups of stakeholders have formed for example in circular economy and consumption-based emissions where local actors in the textile field have, with help from the City of Malmö, formed a group to tackle challenges and opportunities with new legislation on textile waste.

Capabilities Malmö is now working on and will develop further over the coming years is better data and estimates of mitigation paths along with increased dialog and support for climate transition with others. From 2023 we begun this development by different cooperations with consultants and hosts for this type of data and have done so for a couple of years, now we are incorporating this knowledge into our own organization for faster updates and connection to the local knowledge of the transition. For dialog there is an increase in both dialog with citizens, the city organization and stakeholders for a mutual understanding of the transition and how a strengthened connection between climate transition, democracy and co-benefits can feed into to other ongoing transitions of the city.

Transition area: Electricity supply

- By 2030, the goal is that, all energy used in Malmö will come from renewable and recycled energy
- The need for electricity is increasing sharply. This is partly due to the electrification that is necessary for the climate transition, for example, electric cars replacing gasoline-powered cars. But it is also because Malmö is growing and that more and more people and companies need electricity in Malmö.
- Almost all electricity used in Malmö is transmitted from other parts of Sweden – only about a tenth of our electricity needs are produced locally.
- The possibility of transmitting electricity through Sweden is limited. The bottlenecks in the grid are being expanded, but that takes a long time.
- More renewable electricity production is needed in Skåne to meet the increasing electricity demand and to bring down electricity prices in southern Sweden in order to achieve Malmö's environmental goals.
- Malmö is planning a significant expansion of solar energy production in the city.
- The combination of electricity efficiency and electricity flexibility will lower the cost of electricity.

Transition area: Heating

- SYSAV's waste CHP plant currently accounts for about 30% of territorial fossil GHG-emissions in Malmö, and about 75 % of the emissions in the heating sector. That makes the plant the single largest source of fossil emissions in the city. The main reason is the combustion of plastics, both plastics that cannot be recycled, and plastics that could have been recycled if they had been sorted properly by waste disposers.
- To reach climate neutrality, less plastic need to be incinerated, and emissions from plastic that is still incinerated, need to be managed with carbon capture and storage. There needs to be better sorting by households and business in the entire catchment area of the waste CHP plant (14 municipalities). This requires information, economical incentives and reduction of practical barriers. There is also large potential for a post-sorting facility at SYSAV, that sorts out recyclable plastic (and potentially other waste streams). These actions have a potentially significant climate impact, depending on if/what fuel the plastic is replaced with in the CHP plant
- Even if sorting is improved, there will still be incineration of fossil waste. To reach climate neutrality, there is a need for carbon capture at SYSAV, followed by permanent storage. SYSAV is preparing for an investment decision. Since both fossil and biogenic carbon is emitted, a CCS plant would create both emission reductions and carbon sinks.
- Fossil GHG emissions also stem from peak load district heating production, based on fossil oil. By installing another accumulator tank in the district heating system, the need for fossil fuels during peak load hours can be reduced or eliminated.
- Also, some fossil emissions stem from small scale heating (gas and oil boilers). These only exist to a small degree (over 90% of Malmö households are covered by the district heating network). The use of fossil boilers is expected to decrease for economical reasons and also many gas customers choose biogas via green gas certificates. As a result, small scale heating is not a prioritised area of action in the action plan.

Note that cooling and individual heat pumps is not included in the impact pathways above. Cooling is not a standard feature in Swedish buildings. In Malmö, there is a very limited district cooling network, and also chillers running on electricity are used to an unknown extent. In Sweden, electricity has a low climate impact. However, cooling is increasingly important from a health perspective and electricity supply is a priority, which might make cooling relevant to include in the future. Small scale heat pumps do have a role to play, but have not been priotitised in the action plan as reduction potential is lower than other actions in the energy sector. Individual heat pumps could replace small scale fossil heating – however small-scale fossil heating only makes up 4% of Malmö's total emissions and a decrease is expected regardless due to increasing costs of natural gas and oil, in combination with goals for more biogas in the gas network. District heating covers 90% of Malmö's heating need, but production that emitts most fossil CO2 (waste CHP) is first in merit order and would not be replaced by heat pumps. Also district heating has systemic advantages.

Transition area: Mobility

- Today, road transport is the second largest source of emissions in Malmö.
- Emissions from road traffic and other traffic have decreased in Malmö historically, but even greater emission reductions will be required in the future if the emission targets set by Malmö and Sweden for the transport sector are to be achieved.
- Traveling together or cycling is more energy- and space-efficient than driving a car. When we travel more climate-friendly, we get a lot of other good things in the bargain: better air and health, less noise, less congestion, more free spaces to use for more fun things than parking.

- The proportion of cyclists in Malmö increased from 23% to 27% between 2008 and 202318. The share of those using public transport increased from 14% to 31% during the same period.
- Men and women have different travel habits in Malmö. In the latest travel habit survey (2023), women chose the car for 26% of their trips. The corresponding figure for men in the municipality was 34%.

In Malmö, road traffic accounts for 32% of all greenhouse gas emissions and is the second largest emission source that contributes to climate change. Passenger car traffic accounts for 80% of the traffic work and 70% of the emissions from road traffic. Heavy transport makes up 20% of traffic work and accounts for 30% of emissions. Traffic also contributes to other environmental effects: acidification and depletion of biological diversity, eutrophication of land and sea, formation of ground-level ozone that is harmful to people, animals and nature.

Road traffic accounts for the largest part of pollution in Sweden's urban areas. The air pollutants that mainly affect our health are nitrogen dioxide, ozone and particles. The health effects are many: damage to the lungs, respiratory infections, allergies, inflammations, asthma, cancer, effects on genetics and the nervous system. The traffic also causes increased noise levels in the city with significant health effects for the population - especially with long-term exposure - and can damage sleep and rest, cause stress and difficulty in concentrating. High noise levels also affect people's desire to be outdoors and enjoy the city's various rooms. In addition to negative effects on air quality and noise, traffic leads to traffic accidents every year.

Transition area: Circular economy

- The Swedish economy is currently 3.4% circular, according to the Circularity Gap Report (2022) and has a yearly value loss of 600 billion SEK in the linear economy according to Sweden's Value Gap Report (2025).
- Malmö's inhabitants cause about 370 kg of municipal waste per person every year (2024), which is less than the EU average (511 kg per person in 2023.
- SYSAV's combined heat and power plant for the incineration of waste-to-energy is one of the largest in the country and in Europe. Here, almost 590 kiloton of waste is handled every year from households, municipalities, commercial operators, and industries. SYSAV was pioneering textile recycling by building the world's first large-scale textile waste sorting facility. However, the market for recycled textiles is not yet developed and thus not enough buyers could be found. Hence, SYSAV has decided to close down and sell the facility, which affects Malmö's ambitions in this field of action.
- The most resource needing sectors in Malmö's geographical area are building and construction (1 Mtonnes 2024), production (1,2 Mtonnes 2024) and food industries (700 ktonnes 2024). Ten percent of the purchased resources are recycled – high in comparison to other cities and regions – and the recycled resources are dominated by minerals (86 percent).
- Malmö's average climate impact is around 9 tonnes of CO2 equivalents per year when calculated from a consumption-based perspective. In comparison with many countries in the world, this is very high - if everyone lived as a Malmö citizen, it would take about four globes.

Transition area: Climate-neutral construction

- Today, about a fifth of Sweden's GHG-emissions come from construction and maintenance of properties.
- Of those emissions, construction itself accounts for just under 50%.
- Today, as much is being built in Sweden as in the 1970s when the million programs were built.
- Malmö continues to grow. Over the next 10-15 years, approximately 28 500 new homes are planned to be built.
- The overall goal in Malmö is to have "A climate-neutral construction and civil engineering sector in Malmö by 2030".

Malmö is growing, and it will need new housing, premises, roads and squares. The City of Malmö collaborates with developers to learn more about how it is possible to build with as little climate impact as possible. The industry has developed a plan for how it will succeed. The initiative is called LFM30 (Local roadmap for a climate-neutral construction and civil engineering sector in Malmö 2030). Every developer who has signed LFM30 must start at least one climate-neutral construction project in Malmö by 2025. By 2023 almost 200 organisations have signed up for climate-neutral construction – developers, contractors, consulting companies, material suppliers as well as universities and research institutes.

Transition area: Low-carbon consumption

- The goal is that 2030 Malmö's consumptions-based GHG emissions are well on their way to a sustainable level* The goal is to halve consumption-based emissions by 2030, from 6.2 in year 2019 to 3.1 tonnes of CO_2 equivalent per person.
- Consumption-based emissions include emissions from goods and services used in Malmö, regardless of where the emissions occur.
- The average Malmö resident causes less GHG emissions from driving than the average Swede.
- Food and beverages are the largest emissions category in Malmö and account for 24% of total emissions. To reduce consumption-based GHG emissions, a combination of many measures is needed, such as infrastructure investments (such as the expansion of public transport, cycling infrastructure, and digital services), support for behavioural change (such as dialogue and information initiatives), and measures that strengthen social inclusion.

Description of impact pathways – comparison, reflections and forward outlook
Compared to the previous CCC submission, the impact pathways for low-carbon consumption have been further clarified and strengthened. The current version reflects a more mature understanding of how consumption-based emissions can be addressed within Malmö's broader climate transition, and places stronger emphasis on integration with other transition areas, improved data, stakeholder mobilisation and place-based implementation.

In the earlier version, the pathways focused primarily on awareness-raising, partnerships and exploratory actions. In this updated version, these are complemented by a clearer connection to structural change and scenario-based analysis. Several shifts explain this development. For example, the availability of improved data through the Consumption Compass and the completed potential analysis has strengthened the understanding of where emissions occur and what is required to reach the target. Furthermore, collaboration with other cities, research actors and stakeholders has increased collective learning.

Looking backwards
The integration of climate-smart consumption as an area of strategic action in Malmö has been strongly associated with lifestyle change. Much of the development within the transition area has been built on this understanding, including initiatives such as climate actions for citizens, lifestyle-based

communication, sufficiency dialogues and tools aimed at increasing awareness and engagement. This focus has played an important role in putting consumption-based emissions on the agenda, building legitimacy for the topic and creating initial engagement among both residents and stakeholders.

At the same time, this framing has contributed to a somewhat narrow perception of the transition area within the city organization, where climate-smart consumption has primarily been seen as an issue at the individual level. However, transformative work with climate-smart consumption must also take on a systemic perspective and address infrastructure, services, technologies, circular solutions and supportive market conditions as key factors.

The learning process has therefore gradually shifted from seeing lifestyle change primarily as a starting point for the transition, towards recognizing it as a central dimension that needs to be interlinked with structural change.

Looking ahead

The updated impact pathways are informed by the potential analysis, which provides a clearer basis for prioritisation and implementation. The analysis shows that no single type of measure is sufficient; progress depends on combining lifestyle-oriented measures, infrastructure investments and technological development across all major consumption areas over time.

Going forward, this implies a stronger integration of behavioral change focus into the ongoing and planned structural interventions — such as mobility systems, housing and energy solutions, or food environments. The municipality's role is therefore to integrate consumption perspectives into ongoing investments, planning processes and sectoral transition work.

The potential analysis also highlights the need for differentiated approaches across Malmö's geographies. Consumption patterns, socio-economic conditions and opportunities to act vary significantly between neighbourhoods, which means that measures need to be adapted accordingly. In some areas, the priority may be to reduce high-emission consumption patterns, while in others the focus may be on enabling access to sustainable alternatives, services and infrastructure. Place-based work, local partnerships and geographically targeted initiatives therefore remain central.

Key enabling factors include continued development of data and scenario tools, integration of consumption perspectives into other transition areas, and closer alignment between behavioural initiatives, infrastructure planning and market development, as well as strengthened collaboration between various stakeholders.

Transition area: Net zero organisation

Description of pathways

The City of Malmö's organisational climate transition covers all municipal operations, including schools, preschools, elderly care, administrative functions, public facilities, food provision, IT systems, and the construction and maintenance of municipal buildings, streets and parks. These activities generate emissions across Scope 1, Scope 2 and upstream Scope 3, including materials, consumables, food, IT equipment, services and construction inputs. The overall aim is to reduce emissions as much as possible within the organisation and compensate locally for the remaining emissions by 2030.

A central guiding principle for this transition is Malmö's four-step resource and emissions hierarchy, which applies across all departments:

1) Think first – assess real needs, avoid unnecessary purchases, extend the lifetime of existing products and adapt needs to what is already available.
2) Reuse & share – prioritise reused materials and shared solutions within the organisation.
3) Make smart purchases – set climate requirements, choose low-carbon, durable and repairable products and avoid single-use items.
4) Compensate – address remaining climate impact in line with the City's compensation strategy.

Looking backwards: development of the transition work

The work to align Malmö's organisation with the net-zero target has progressed gradually. A key development has been increased use of climate requirements in procurement processes, and in construction and infrastructure contracts. Several departments have begun incorporating more resource-efficient approaches in their internal planning and decision-making. Because the municipal organisation covers many types of services, the climate impact arises from a wide range of material and service needs. Large emission sources include construction and civil works, consumables, IT equipment and food procurement, all of which are integral to delivering municipal services.

The understanding of these emissions has improved over time, particularly as more departments have developed emissions profiles and gained insight into their own upstream Scope 3 footprints. This has supported a clearer alignment between operational needs and the City's climate objectives. Stakeholder interactions—both internally between departments and externally with suppliers—have evolved as climate requirements have become more common. Collaboration across central support functions has also strengthened, which has helped build shared approaches and routines.

Today, Malmö has established the initial structures for organisational climate transition. Climate criteria are used in several procurement categories, and resource-efficiency principles are increasingly recognised as part of the City's operational approach. Support functions have been strengthened, and work is ongoing to improve coordination and follow-up related to the net-zero goal. At the same time, further integration is needed to ensure that climate considerations are applied and the four-step modelled followed consistently across the entire organisation.

Looking ahead: priorities and enabling factors

The insights gained so far shape the next phase of the transition. Key focus areas include:

- continuing to integrate climate considerations into governance and operational decision-making,
- strengthening organisational capacity to work with climate requirements,
- further developing coordinated procurement processes,
- supporting departments in applying resource-efficient practices,
- expanding the use of innovation procurement and testbeds where relevant, and
- finalising and implementing Malmö's strategy for local climate compensation

These developments will support the implementation of the City's broader climate policies and ensure that emission reductions are achieved across all operational areas. By combining the four-step model with the overarching impact pathways, Malmö aims to reach net zero organisational emissions by 2030 in a structured and coherent manner.

Module B-2 Climate Neutrality Portfolio Design

B-2.1: Description of action portfolios

B-2.1: Description of action portfolios		
Fields of action	Portfolio description	
	List of actions	Descriptions
Electricity supply	Support energy efficiency measures for public and private sector and residents	Further develop the energy advisory service for residents and businesses, with focus on efficient energy solutions.
	Increase solar and wind production	1) Speed up permitting process for new wind and solar projects 2) Identify suitable areas for solar and wind power production 3) Set a clear overall target in GWh of how much solar power production the City of Malmö should install 4) Set an overall target in GWh of how much solar power production is to be installed in the Malmö area. 5) Increase solar energy production from the City of Malmö
	Increase capacity in electricity distribution system	1) Participation in consultations via Energy Commission Skåne regarding network development plans 2) close dialogue with E.ON regarding population growth, business etc. to ensure that the city's development plans are taken into account when planning local and regional networks. 3) Influence how the revenue framework for the network companies works in order to indirectly control network investments/design of the local network.

	Develop resilient energy system in Northern Harbour	1) Ongoing mission-oriented system demonstrator with local stakeholders, regarding solutions for increased energy resilience for Malmö's industry that also contribute to the energy system 2) Experience and conclusions on what a resilient industry and energy system can look like in the harbour area, how it can be upscaled in Malmö and how the city organisation can contribute
Heating	Carbon Capture on waste-to-energy plant	Implementation of carbon capture on waste to energy plant, followed by permanent storage of fossil and biogenic carbon dioxide, by Sysav
	Contribute to de-risking CCS project	Develop an existing agreement with Sysav to buy CDR certificates from their CCS of biogenic CO2, to support the financial case. Also policy and regulatory engagement to promote better conditions for sustainable solutions for plastic, waste and captured CO2.
	Separation of plastics to remove fossil oil-based plastic from energy recovery system	Mechanical separation technology for plastics removal from residual waste at Sysav's waste to energy plant
	Increased sorting by waste generators	Primarily by communication and economical incentices
	Accumulator tank in district heating system	Eon is to build an accumulator tank that can make fossil peak load for district heating redundant, as well as improving supply security, reducing electricity need during power shortage and stabilising heat production
Mobility	Electrification of bus fleet	Replacement of existing biogas powered bus fleet with electric buses enabling increased biogas availability for, e.g., HGV use.
	Construction and completion of 4 new Malmö Express routes	Fully electrified, prioritised rapid bus transport system for higher capacity city bus lines.

	Construction of 27 km of dedicated bike lanes	A total of 14 projects. The cycle paths will connect the parts of the city where there are a lot of people living with large workplaces, stations and the centre. Here it should be extra safe, secure, and fast cycling.
	Establishment of regional network of cycle highways, “superbike paths”	Improvements of existing routes, appr. 15 km within and/or connected to Malmö.
	Electrification and co-ordination of freight and logistics	Reducing emissions by shifting from fossil fuels to electrified trucks, as well as optimisation of logistics and load factors.
	Large-scale system for shared mobility	A MaaS concept will provide the citizens with shared vehicles such as carpool cars, bicycles, electric scooters etc.
	Transform multi-storey car parks to mobility nodes	Develop parking services that, in addition to car parking, have room for and offers mobility services such as a carpool, bike pool, bike parking, bike workshop, charging for electric cars and more.
	Innovative approaches to support behavioural changes resulting from infrastructure investment	Public awareness-raising work, innovative business models and incentives to promote cycling, walking and public transport in support of infrastructure investment.
	Purchase emission free work machines for the City of Malmö	Purchase emission free work machines for the municipality’s vehicle fleet
	Purchase emission free vehicles for the City of Malmö	Purchase emission free vehicles for the municipality’s vehicle flee t
Climate-neutral construction	Method development	Synchronising, applying and evaluation of climate calculation models
	Repurpose existing buildings and create shared use concepts for efficient property use	1) Increase knowledge on preservation of existing buildings through interdisciplinary co-operation, 2) Increase the authority to make trade-offs between different interests and 3) Increase shared use of premises and develop premises supply process.

	Circular and resource efficient building	1) Establish an internal recycling operation in the city, 2) Create open database for recycled materials in the construction sector. 3) Develop a mass management strategy, 4) Improve client competence in the city for procurement of alternative materials and products, 5) Streamline land use and increase joint use of premises
	Carbon capture and compensation	1) Participate in developing and implementing compensation strategy 2) Establish more carbon sinks and increase the proportion of green areas 3) Identify areas for carbon sinks and preserve existing carbon sinks
	Enabling urban development process	1) Standardise and apply climate calculations at detailed plan level 2) Develop and apply requirements for climate neutrality in land transactions 3) Introduce requirements for re-use inventory before demolition permit 4) Establish forum for handling policy conflicts and enforcement
	Organisational learning & competence	Develop a plan for competence provision and Increase competence and learning within the transition area throughout the organisation, exchange knowledge with other municipalities and regions.
Circular economy	Develop a local resource hub	Resource Hub Malmö formed together with RISE and MINC, www.malmo.se/resurshubben
	Developing innovative procurement processes to support circular business	See Net zero organisation below

	Influence international and national development of incentives	Includes cooperation with Viable Cities partners, Circular Cities Frontrunner Group (ICLEI) and Centre for Industrial symbiosis (RISE).
	Implement full scale plastics separation for recycling	See details under Heating
	Resource mapping of material flows	Resource mapping of Malmö's geographical area focusing on sectors plus three thematic areas; textile, food and plastics.
Low-carbon consumption	Design of support systems and services for low carbon lifestyles	1) Development of lifestyle tool for raising knowledge and inspiration for behavioural change, implementation partnerships on thematic areas such as food, fashion, travel.
	Potential analysis	Development of scenario analysis and modelling to inform priorities, roles and processes related to the goal
	Development and application of the Consumption Compass	Collaboration with SEI and partner cities to develop and apply data and analytical tools for consumption-based emissions.
	Sharing economy and circular everyday solutions	Development and dissemination of Smarta Kartan, collaboration with civil society and businesses, initiatives in Sege Park and similar environments.
	Circular textile agenda	Collaboration with local circular businesses and partners to strengthen circular textile consumption, reuse and repair.

Net zero organisation	Climate-aligned Procurement, Requirements and Follow-up	1) Scale up climate requirements across major procurement categories 2) Strengthen routines for needs assessment, requirements setting, contract management and supplier follow-up, including clearer data requirements. 3) Develop requirement levels for specific categories (e.g., construction) and continuously integrate new climate criteria into renewed and new agreements. 4) Ensure that all procuring units systematically include climate considerations; increase resources to allow sufficient monitoring and verification of supplier compliance.
	Internal Climate Support, Governance and Coordination	1) Strengthen central support functions (Environment Department) that guide departments in emissions mapping, planning and operational decisions. 2) Support internal climate/sustainability roles in departments to ensure integration of climate objectives in everyday operations. 3) Develop governance structures, routines and decision support tools aligned with the net zero target across the organisation. 4) Expand cross departmental coordination, shared processes and follow up routines. 5) Strengthen internal training, guidance materials and advisory support; increase resources to provide consistent support and maintain effective follow up.

Cross-cutting management	Climate Transition Roadmap co-ordination	Central management function for roadmap in Climate Transition Malmö.
	Cross-cutting development and management	Develop and co-ordinate activity with key partners and city departments.

B-2.2: Individual action outlines

B-2.2: Individual action outlines
(fill out one sheet per intervention/project)

Action outline	Action name	**Increase solar and wind production**
	Action type	Technical development
	Action description	Action includes Identify suitable areas for solar and wind power production Set a clear overall target in GWh of how much solar power production the City of Malmö should install Set an overall target in GWh of how much solar power production is to be installed in the Malmö area. Increase solar energy production from municipally owned land and buildings.
Reference to impact pathway	Field of action	Electricity supply
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Increased local renewable electricity production Accelerated deployment of renewable energy Reduced need for externally purchased electricity
Implementation	Responsible bodies/person for implementation	City of Malmö Property Management Department and Streets and Parks Department
	Action scale & addressed entities	Roofs on existing and planned buildings owned by Stadsfastigheter
	Involved stakeholders	E.ON, the County Administrative Board (Länsstyrelsen)
	Comments on implementation	The Service Committee has submitted the application to the municipal council
Impact & cost	Generated renewable energy (if applicable)	Solar energy: up to 300 GWh Wind energy: up to 149 GWh
	Removed/substituted energy, volume or fuel type	50 000 MWh/year

	GHG emissions reduction estimate (total) per emission source sector	-
	Total costs and costs by CO2e unit	232 MSEK for solar energy, batteries and smart control devices on 50% of the roofs owned by Stadsfastigheter.

Action outline	Action name	**Increase capacity in electricity distribution system**
	Action type	Technical development
	Action description	1) Participation in consultations via Energy commission Skåne regarding network development plans 2) close dialogue with E.ON regarding population growth, business etc. to ensure that the city's development plans are taken into account when planning local and regional networks. 3) Influence how the revenue framework for the network companies works in order to indirectly control network investments/design of the local network.
Reference to impact pathway	Field of action	Electricity supply
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Sufficient transmission capacity to enable industrial electrification Greater predictability and security of supply for industry
Implementation	Responsible bodies/person for implementation	City of Malmö Property Management Department and Streets and Parks Department
	Action scale & addressed entities	Both city-wide and inter-regional
	Involved stakeholders	National distribution company, energy producers, Region Skåne, Swedish Energy Agency and others
	Comments on implementation	Process underway through Skånes Energy Commission as co-ordination body
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	Non available
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Develop resilient energy system in Northern Harbour**
	Action type	Technical development
	Action description	1) Ongoing mission-oriented system demonstrator with local stakeholders, regarding solutions for increased energy resilience for Malmö's industry that also contribute to the energy system 2) Conclusions on what a resilient industry and energy system can look like in the harbour area, how it can be upscaled in Malmö and how the city organisation can contribute
Reference to impact pathway	Field of action	Electricity supply
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Scaled-up storage and flexibility solutions Greater predictability and security of supply for industry
Implementation	Responsible bodies/person for implementation	City of Malmö Property Management Department and Streets and Parks Department
	Action scale & addressed entities	Energy-based symbiosis across industrial area of Northern Harbour but supporting wider development in city
	Involved stakeholders	Port authority, E.ON, SYSAV, other energy intensive industries
	Comments on implementation	Work in progress
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Support energy efficiency measures for public and private sector and residents**
	Action type	Technical development
	Action description	Further develop the energy advisory service for residents and businesses, with focus on efficient energy solutions.
Reference to impact pathway	Field of action	Electricity supply
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Widespread adoption of energy-efficient technologies Increased adoption of smart grid technologies

Implementation	Responsible bodies/person for implementation	City of Malmö Property Management Department and Streets and Parks Department
	Action scale & addressed entities	Digital and physical advisory service across city
	Involved stakeholders	Private households, businesses
	Comments on implementation	Service in use, but will be further developed
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Carbon Capture on waste-to-energy plant**
	Action type	Technical development
	Action description	Implementation of carbon capture on waste to energy plant for permanent carbon storage
Reference to impact pathway	Field of action	Heating
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Project planning for carbon capture on Sysav's waste CHP plant Carbon capture from Sysav's waste CHP plant in operation 2030, and permanent storage of fossil and biogenic CO2
Implementation	Responsible bodies/person for implementation	SYSAV
	Action scale & addressed entities	Point emission intervention
	Involved stakeholders	SYSAV, Malmö CO2 Hub, City of Malmö and the other 13 owners (municipalities)
	Comments on implementation	A positive orientation decision was made by 2025. An investment decision is planned for 2027 to be able to put CCS in operation by 2030.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	200 KT (also 250 KT carbon sink)
	Total costs and costs by CO2e unit	1.5–2BSEK in investment costs, operational costs appr 795 MSEK/year

Action outline	Action name	**Contribute to de-risking CCS project**
	Action type	Policy, business development
	Action description	Develop an existing agreement with Sysav to buy CDR certificates from their CCS of biogenic CO2, to support the financial case. Also policy and regulatory engagement to promote better conditions for sustainable solutions for plastic, waste and captured CO2.
Reference to impact pathway	Field of action	Heating
	Systemic lever	Financing and funding, Governance and policy
	Outcome (according to module B-1.1)	Carbon capture from Sysav's waste CHP plant in operation 2030, and permanent storage of fossil and biogenic CO2
Implementation	Responsible bodies/person for implementation	City of Malmö
	Action scale & addressed entities	Local to EU level
	Involved stakeholders	SYSAV, City of Malmö
	Comments on implementation	Agreement to be signed in 2027. Policy related work commenced and continues.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Separation of plastics to remove fossil oil-based plastic from energy recovery system**
	Action type	Technical development
	Action description	Mechanical separation technology for plastics removal from residual waste at Sysav's waste to energy plant
Reference to impact pathway	Field of action	Heating
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Development of a solution for facility at Sysav for post-sorting of plastic from residual waste Project planning for a facility at Sysav for post-sorting of plastic from residual waste
Implementation	Responsible bodies/person for implementation	SYSAV Waste management company
	Action scale & addressed entities	Regional waste management system
	Involved stakeholders	Cities in region, industry, consumers, contractors

	Comments on implementation	Feasibility analysis
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Fossil oil-based plastics removed from waste-to-energy system
	GHG emissions reduction estimate (total) per emission source sector	50 KT
	Total costs and costs by CO2e unit	400–500 MSEK

Action outline	Action name	**Increased sorting by waste generators**
	Action type	Awareness raising
	Action description	Work to promote better sorting of recyclable plastics in households, businesses and construction sites
Reference to impact pathway	Field of action	Heating
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Increased sorting of waste at households, businesses and construction sites
Implementation	Responsible bodies/person for implementation	SYSAV, VA Syd, City of Malmö
	Action scale & addressed entities	Local
	Involved stakeholders	Local households and businesses
	Comments on implementation	Commenced
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	50 KT
	Total costs and costs by CO2e unit	Unknown

Action outline	Action name	**Accumulator tank in district heating system**
	Action type	Technical development
	Action description	Accumulator tank to decrease need for fossil peak load in district heating system
Reference to impact pathway	Field of action	Heating
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Accumulator tank in operation, makes fossil peak load for district heating redundant

Implementation	Responsible bodies/person for implementation	EON
	Action scale & addressed entities	Local
	Involved stakeholders	SYSAV, City of Malmö
	Comments on implementation	Detailed planning for construction start
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Fossil oil for district heating peak load
	GHG emissions reduction estimate (total) per emission source sector	20-40 KT
	Total costs and costs by CO2e unit	Unknown

Action outline	Action name	**Electrification of bus fleet**
	Action type	Technical development
	Action description	Replacement of existing biogas powered bus fleet with electric buses enabling increased biogas availability for, e.g., HGV use
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure, Finance & funding
	Outcome (according to module B-1.1)	*Early outcomes:* In 2027 95% of city buses in Malmö are electrified. *Later outcomes:* Malmö Expressen's buses will be fully electrified and will replace non-electric city buses as the lines are introduced.
Implementation	Responsible bodies/person for implementation	Skånetrafiken, Nobina
	Action scale & addressed entities	City-wide
	Involved stakeholders	City of Malmö, Property and streets department
	Comments on implementation	Ongoing, procurement for busses that is due to be in traffic 2027.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Busses on biogas fuel will be replaced by electric busses
	GHG emissions reduction estimate (total) per emission source sector	7 KT CO2e (0.6 g CO2-ekv/MJ)
	Total costs and costs by CO2e unit	615 MSEK in investments, 24 MSEK/year in operational costs

Action outline	Action name	**Construction and completion of 4 new Malmö Express routes and electric bus routes**
	Action type	Technical development
	Action description	Fully electrified, prioritized rapid bus transport system for higher capacity city bus lines.
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure, Finance & funding
	Outcome (according to module B-1.1)	1 Malmö Express Line in service 3 Malmö Express Lines in service
Implementation	Responsible bodies/person for implementation	City of Malmö, Property and streets department
	Action scale & addressed entities	City wide development of faster and higher capacity bus network in the city.
	Involved stakeholders	Partnership between city, national government, regional public transport company etc
	Comments on implementation	Under delivery, initial phases complete
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Biogas replaced with electricity
	GHG emissions reduction estimate (total) per emission source sector	Contribute to decrease of 32KT C02e from active transport measures
	Total costs and costs by CO2e unit	3410 MSEK

Action outline	Action name	**Construction of 27 km of dedicated bike lanes**
	Action type	Technical development
	Action description	Construction of dedicated cycle infrastructure in 14 projects across the city. The cycle paths will connect the parts of the city where there are a lot of people living with large workplaces, stations and the centre. Here it should be extra safe, secure, and fast cycling.
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	10 km bike lanes completed 20 km bike lanes completed
Implementation	Responsible bodies/person for implementation	City of Malmö, Property and streets department
	Action scale & addressed entities	New network of dedicated cycle routes developed across the city
	Involved stakeholders	Partnership between city and national government
	Comments on implementation	Under implementation – completion 2030

Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	TBD
	GHG emissions reduction estimate (total) per emission source sector	Contribute to decrease of 32KT CO2e from active transport measures
	Total costs and costs by CO2e unit	573 MSEK

Action outline	Action name	**Establishment of regional network of cycle highways, "superbike paths"**
	Action type	Technical development
	Action description	Improvements of existing routes, appr 15 km within and/or connected to the City of Malmö
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	5 km cycle highway completed 10 km cycle highway completed
Implementation	Responsible bodies/person for implementation	City of Malmö, Property and streets department
	Action scale & addressed entities	Improvements of existing network of dedicated cycle routes across the city and in connection with cities and villages in the vicinity.
	Involved stakeholders	Logistics business in the city
	Comments on implementation	Under implementation – some completed before 2027, the rest before 2033
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	TBD
	GHG emissions reduction estimate (total) per emission source sector	Contribute to decrease of 32KT C02e from active transport measures
	Total costs and costs by CO2e unit	180 MSEK regional funding for all routes in Skåne (50% funding from municipalities)

Action outline	Action name	**Electrification and co-ordination of freight and logistics**
	Action type	Technical development
	Action description	Reducing emissions by shifting from fossil fuels to electrified trucks, as well as optimisation of logistics and load factors
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Reducing emissions by shifting from fossil fuels to electrified trucks, as well as optimization of logistics and load factors City logistics primarily electrified

Implementation	Responsible bodies/person for implementation	City of Malmö, Property and streets department
	Action scale & addressed entities	City-wide
	Involved stakeholders	Logistics business in the city
	Comments on implementation	Individual pilots underway
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Diesel replaced
	GHG emissions reduction estimate (total) per emission source sector	Reduced carbon dioxide emissions from transport
	Total costs and costs by CO2e unit	TBD

Action outline	Action name	**Large scale system for shared mobility**
	Action type	Technical development
	Action description	A MaaS-concept will provide the citizens with shared vehicles such as carpool cars, bicycles, electric scooters etc.
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure, Finance & funding
	Outcome (according to module B-1.1)	1 Plan for implementing large scale system for shared mobility Introduction of MaaS-system
Implementation	Responsible bodies/person for implementation	City of Malmö, Property and streets department
	Action scale & addressed entities	City-wide
	Involved stakeholders	Micromobility companies, Public transport company, Parking Malmö
	Comments on implementation	Concept development, including business model, for MaaS-system has to be developed
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Decreased petrol and diesel use
	GHG emissions reduction estimate (total) per emission source sector	Contribute to decrease of 32KT CO2e from active transport measures
	Total costs and costs by CO2e unit	1000 MSEK

Action outline	Action name	**Transform multi-storey car parks to mobility nodes**
	Action type	Technical development
	Action description	Develop parking services that, in addition to car parking, have room for and offers mobility services such as a carpool, bike pool, bike parking, bike workshop, charging for electric cars and more.
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure, Finance & funding
	Outcome (according to module B-1.1)	1 Initial phases of scaling *(of pilot projects)* 1 Mobility services available at all major mobility nodes
Implementation	Responsible bodies/person for implementation	City of Malmö, P-Malmö
	Action scale & addressed entities	Mobility nodes all over the city
	Involved stakeholders	City of Malmö, Property and streets department
	Comments on implementation	Ongoing
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Decreased petrol and diesel
	GHG emissions reduction estimate (total) per emission source sector	Reduced carbon emissions from transport. Scale: TBD
	Total costs and costs by CO2e unit	TBD

Action outline	Action name	**Innovative approaches to support behavioural change resulting from infrastructure investment**
	Action type	Awareness raising
	Action description	Public awareness raising work, innovative business models and incentives to promote cycling, walking and public transport in support of infrastructure investment
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Learning & capabilities
	Outcome (according to module B-1.1)	Designed concept for public awareness raising work to support behavioural change Increased take-up and use of new bus routes, cycleways etc
Implementation	Responsible bodies/person for implementation	City of Malmö, Property and streets department

	Action scale & addressed entities	City wide campaigns, development of business partnership approach, specific campaigns connected to new infrastructure
	Involved stakeholders	Skånetrafiken, business and work places
	Comments on implementation	Ongoing
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Supports wider measures
	GHG emissions reduction estimate (total) per emission source sector	Supports wider measures
	Total costs and costs by CO2e unit	18 MSEK/year

Action outline	Action name	**Purchase emission free work machines**
	Action type	Technical development
	Action description	Purchase emission free work machines for the municipality's vehicle fleet (>3.5 tonnes)
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	60% electric work machines 2027 Reduced carbon emissions from transport.
Implementation	Responsible bodies/person for implementation	Malmö Leasing
	Action scale & addressed entities	Concerning approximately 105 vehicles (heavy trucks, tractors, loading machines etc.)
	Involved stakeholders	
	Comments on implementation	On-going process
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Diesel, fuels for 95 heavy vehicles
	GHG emissions reduction estimate (total) per emission source sector	Reduced carbon emissions from transport. 30 KT less emissions per year in 2030
	Total costs and costs by CO2e unit	105 MSEK in additional costs

Action outline	Action name	**Purchase emission free vehicles for the City of Malmö**
	Action type	Technical development
	Action description	Purchase emission free vehicles for the municipality's vehicle fleet (<3.5 tonnes)
Reference to impact pathway	Field of action	Mobility
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	65% electric vehicles in 2027 Reduced carbon emissions from transport.
Implementation	Responsible bodies/person for implementation	Malmö Leasing
	Action scale & addressed entities	Concerning approximately 1000 vehicles (cars, minibuses, minivans)
	Involved stakeholders	
	Comments on implementation	Vehicles will be replaced within 10 years
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Diesel for 131 vehicles, gas for 884 vehicles
	GHG emissions reduction estimate (total) per emission source sector	Reduced carbon emissions from transport.
	Total costs and costs by CO2e unit	200 MSEK in additional costs

Action outline	Action name	**Method development**
	Action type	Policy, management & governance, digital solution
	Action description	This action includes synchronizing, applying and evaluation of climate calculation models
Reference to impact pathway	Field of action	Climate-neutral construction
	Systemic lever	Technology/infrastructure, Governance & policy
	Outcome (according to module B-1.1)	Streamlined governance to facilitate climate-neutral construction
Implementation	Responsible bodies/person for implementation	City of Malmö technical departments
	Action scale & addressed entities	Internal governance system as base for development
	Involved stakeholders	
	Comments on implementation	Under development
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A

	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Repurpose existing buildings and create shared use concepts for efficient property use**
	Action type	Policy, business development
	Action description	1) Increase knowledge on preservation of existing buildings through interdisciplinary co-operation, 2) Increase the authority to make trade-offs between different interests 3) Increase shared use of premises and develop premises supply process
Reference to impact pathway	Field of action	Climate-neutral construction
	Systemic lever	Governance & policy, Learning & capabilities
	Outcome (according to module B-1.1)	Process for analysis of repurposing potential. Shared use pilot projects initiated Shared use contracts trialed and scaled
Implementation	Responsible bodies/person for implementation	City of Malmö, Service Department
	Action scale & addressed entities	Buildings
	Involved stakeholders	Real estate industry, real estate owners, Boverket (the Swedish National Board of Housing, Building and Planning)
	Comments on implementation	On-going
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	TBD
	GHG emissions reduction estimate (total) per emission source sector	TBD
	Total costs and costs by CO2e unit	TBD

Action outline	Action name	**Circular and resource efficient building**
	Action type	Policy/strategy, business development
	Action description	1) Establish an internal recycling service in the city 2) Establish digital infrastructure for recycled materials in the construction sector. 3) Develop a mass management strategy 4) Improve client competence in the city for procurement of alternative materials and products 5) Improve efficiency of land use and increase joint use of premises
Reference to impact pathway	Field of action	Climate-neutral construction
	Systemic lever	Governance & policy, Finance & funding
	Outcome (according to module B-1.1)	Concept development for scaling of building materials recycling Implementation of building materials recycling centre
Implementation	Responsible bodies/person for implementation	City of Malmö technical departments
	Action scale & addressed entities	Buildings
	Involved stakeholders	LFM30
	Comments on implementation	Actions will be initiated 2023–2024.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Carbon capture and compensation**
	Action type	Technology/infrastructure, policy/strategy
	Action description	1) Participate in developing and implementing compensation strategy 2) Establish more carbon sinks and increase the proportion of green areas 3) Identify areas for carbon sinks and preserve existing carbon sinks
Reference to impact pathway	Field of action	Climate-neutral construction
	Systemic lever	Technology/infrastructure, Finance & funding
	Outcome (according to module B-1.1)	Strategy for carbon sinks and compensation strategies Systematic methodology for compensation measures with public private collaboration

Implementation	Responsible bodies/person for implementation	City of Malmö Property Management Department and Streets and Parks Department, Planning Office and Service department
	Action scale & addressed entities	Green structures/areas
	Involved stakeholders	Property owners and real estate developers banks, municipality, LFM30
	Comments on implementation	Actions will start in 2024
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	1) N/A 2) work in progress, 3) N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Enabling climate integrated urban development process**
	Action type	Policy/strategy, digital solution
	Action description	1) Standardise and apply climate calculations at detailed plan level, 2) Develop and apply requirements for climate neutrality in land transactions, 3) Introduce requirements for re-use inventory before demolition permit 4) Establish forum for handling policy conflicts and enforcement
Reference to impact pathway	Field of action	Climate-neutral construction
	Systemic lever	Technology/infrastructure, Governance & policy
	Outcome (according to module B-1.1)	Streamlined governance to facilitate climate-neutral construction Climate neutrality integrated into urban development practice on trial basis
Implementation	Responsible bodies/person for implementation	City of Malmö's Planning Office, Property Management Department and Streets and Parks Department
	Action scale & addressed entities	City-wide
	Involved stakeholders	Building and construction companies
	Comments on implementation	Survey on climate calculations in detail development plans is ongoing
Impact & cost	Generated renewable energy (if applicable)	N/A

	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A emissions reduction will emerge when recycled material will be used
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Organisational learning & competence From Pilot to Process**
	Action type	Business development, competence development and communication
	Action description	1) Develop a plan for competence provision 2) Increase competence and learning within the transition area throughout the organisation, exchange knowledge with other municipalities and regions
Reference to impact pathway	Field of action	Climate-neutral construction
	Systemic lever	Learning & capabilities
	Outcome (according to module B-1.1)	Training programme for increased competence and learning within the transition area developed and trialed. Training programme fully developed and mainstreamed
Implementation	Responsible bodies/person for implementation	City of Malmö technical departments
	Action scale & addressed entities	Internal processes and collaboration with real estate industry
	Involved stakeholders	City of Malmö departments, other municipalities and regions, real estate industry and initiatives like LFM30 and RISE
	Comments on implementation	Ongoing, a more detailed plan will be ready in 2024.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Develop a local resource hub**
	Action type	Concept development preparing for implementation
	Action description	Identification of local partnerships to support development of local hub as part of national initiative under concept design by RISE
Reference to impact pathway	Field of action	Circular economy
	Systemic lever	Governance & policy, Finance & funding
	Outcome (according to module B-1.1)	Pilot local hub in operation Local Resource Hub with developed organization and business model in place or decided not to go forward
Implementation	Responsible bodies/person for implementation	City of Malmö, Environment Dept, RISE, Minc
	Action scale & addressed entities	Regional part of national system
	Involved stakeholders	City of Malmö, RISE, SME (small and medium-sized enterprises), MINC
	Comments on implementation	Development is ongoing
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	TBD
	GHG emissions reduction estimate (total) per emission source sector	TBD
	Total costs and costs by CO2e unit	TBD. Funds secured from ERDF (2024-2027) and Horizon (2024-2029)

Action outline	Action name	**Developing innovative procurement processes to support circular business**
	Action type	Technical development
	Action description	**See Net zero organisation**
Reference to impact pathway	Field of action	Circular economy
	Systemic lever	Governance & policy
	Outcome (according to module B-1.1)	
Implementation	Responsible bodies/person for implementation	
	Action scale & addressed entities	
	Involved stakeholders	
	Comments on implementation	
Impact & cost	Generated renewable energy (if applicable)	
	Removed/substituted energy, volume or fuel type	

	GHG emissions reduction estimate (total) per emission source sector	
	Total costs and costs by CO2e unit	

Action outline	Action name	**Influence international and national development of incentives**
	Action type	Technical development
	Action description	Includes cooperation with Viable Cities partners, Circular Cities Frontrunner Group (ICLEI) and Centre for Industrial symbiosis Rise).
Reference to impact pathway	Field of action	Circular economy
	Systemic lever	Governance & policy
	Outcome (according to module B-1.1)	International and national action to support circular economy development at scale
Implementation	Responsible bodies/person for implementation	City of Malmö
	Action scale & addressed entities	Lobbying alliances at national and international levels
	Involved stakeholders	Viable cities, ICLEI and Centre for Industrial symbiosis
	Comments on implementation	Ongoing
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	TBD
	GHG emissions reduction estimate (total) per emission source sector	TBD
	Total costs and costs by CO2e unit	TBD

Action outline	Action name	**Implement full scale plastic separation for recycling**
	Action type	Technical development
	Action description	Post-collection mechanised separation of fossil-based plastics for recycling – *see details under Heating*
Reference to impact pathway	Field of action	Circular economy
	Systemic lever	Technology/infrastructure
	Outcome (according to module B-1.1)	Oil-based plastics removed from energy system and used for materials recovery
Implementation	Responsible bodies/person for implementation	SYSAV
	Action scale & addressed entities	Buildings, recycling process

	Involved stakeholders	City of Malmö
	Comments on implementation	Feasibility
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	Fossil-based plastics removed (43% feed by weight for waste-to-energy)
	GHG emissions reduction estimate (total) per emission source sector	104KT C02e
	Total costs and costs by CO2e unit	400-500MSEK

Action outline	Action name	**Resource mapping of material flows**
	Action type	Analysis & calculations
	Action description	Resource mapping of Malmö's geographical area focusing on sectors plus three thematic areas; textile, food and plastics.
Reference to impact pathway	Field of action	Circular economy
	Systemic lever	Governance & policy
	Outcome (according to module B-1.1)	Overview of resource and waste flows in the city Local textile agenda in place to maximize the use of collected textiles locally
Implementation	Responsible bodies/person for implementation	City of Malmö, Environment Dept
	Action scale & addressed entities	City-wide and regional
	Involved stakeholders	Recycling industry, business partners
	Comments on implementation	Completed
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	TBD
	GHG emissions reduction estimate (total) per emission source sector	TBD
	Total costs and costs by CO2e unit	Appr. 1 MSEK plus cost free through national pilot funded by RESource (Swedish Energy Agency)

Action outline	Action name	**Design of support systems and services for low carbon lifestyles**
	Action type	Method development
	Action description	Development of lifestyle tool for raising knowledge and inspiration for behavioural change, implementation partnerships on thematic areas such as food, fashion, travel.
Reference to impact pathway	Field of action	Low-carbon consumption
	Systemic lever	Social innovation, Governance & policy
	Outcome (according to module B-1.1)	Climate-smart lifestyles and sufficiency-oriented practices more widely adopted
Implementation	Responsible bodies/person for implementation	City of Malmö Environment Dept
	Action scale & addressed entities	City-wide
	Involved stakeholders	GoLow, RISE, Drevet, representative group of local climate smart businesses
	Comments on implementation	Concept development, testing through pilots, web-based tool, communication campaigns
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A
Action outline	Action name	**Development and application of the Consumption Compass**
	Action type	Method development
	Action description	Collaboration with SEI and partner cities to develop and apply data and analytical tools for consumption-based emissions.
Reference to impact pathway	Field of action	Low-carbon consumption
	Systemic lever	Governance and policy, Technology/infrastructure
	Outcome (according to module B-1.1)	Consumption Compass integrated into planning, monitoring and decision-making processes

		Data-driven prioritisation guiding policies, investments and implementation Cross-departmental coordination on consumption-based emissions established.
Implementation	Responsible bodies/person for implementation	City of Malmö Environment Dept
	Action scale & addressed entities	City-wide
	Involved stakeholders	City of Malmö Environment Dept
	Comments on implementation	Concept development
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A
Action outline	Action name	**Sharing economy and circular everyday solutions**
	Action type	Method development
	Action description	Development and dissemination of Smarta Kartan, collaboration with civil society and businesses, initiatives in Sege Park and similar environments.
Reference to impact pathway	Field of action	Low-carbon consumption
	Systemic lever	Governance and policy, Technology/infrastructure
	Outcome (according to module B-1.1)	Climate-smart lifestyles and sufficiency-oriented practices more widely adopted Increased share of reuse, repair and sharing in everyday consumption
Implementation	Responsible bodies/person for implementation	City of Malmö Environment Dept
	Action scale & addressed entities	City-wide
	Involved stakeholders	Kollaborativ Ekonomi Sverige, civil society and businesses
	Comments on implementation	Concept development
Impact & cost	Generated renewable energy (if applicable)	N/A

	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Potential analysis**
	Action type	Method development
	Action description	Development of scenario analysis and modelling tool to inform priorities, roles and processes related to the goal of reaching 3,1 ton co2e per person per year until 2030.
Reference to impact pathway	Field of action	Low-carbon consumption
	Systemic lever	Governance and policy, Technology/infrastructure
	Outcome (according to module B-1.1)	Data-driven prioritisation guiding policies, investments and implementation Cross-departmental coordination on consumption-based emissions established
Implementation	Responsible bodies/person for implementation	City of Malmö Environment Dept
	Action scale & addressed entities	City-wide
	Involved stakeholders	RISE
	Comments on implementation	Concept development
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Circular Textile Agenda**
	Action type	Network and platform for collaboration
	Action description	Collaboration with local circular businesses and partners to strengthen circular textile consumption, reuse and repair.
Reference to impact pathway	Field of action	Low-carbon consumption (and circular economy)
	Systemic lever	Infrastructure and service availability
	Outcome (according to module B-1.1)	More stable local infrastructure and market conditions for circular services Climate-smart lifestyles and sufficiency-oriented practices more widely adopted Increased share of reuse, repair and sharing in everyday consumption
Implementation	Responsible bodies/person for implementation	City of Malmö Environment Dept
	Action scale & addressed entities	City-wide
	Involved stakeholders	Local circular textile businesses, reuse and repair actors, NGOs, second-hand organisations, academia and regional partners.
	Comments on implementation	Platform and network development
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	N/A

Action outline	Action name	**Climate-aligned Procurement, Requirements and Follow-up**
	Action type	Policy development
	Action description	Develop and scale climate requirements in procurement across all major categories. Strengthen routines for needs assessment ("Think first"), reuse, climate smart purchasing and systematic contract follow up. Integrate climate data in procurement decisions and establish shared approaches across departments.
Reference to impact pathway	Field of action	Net zero organisation
	Systemic lever	Governance & policy, Learning & capabilities
	Outcome (according to module B-1.1)	Net-zero consistently considered in decisions, budgets and follow-up Large share of purchases climate-optimised or circular Reduced demand for new products and materials
Implementation	Responsible bodies/person for implementation	City of Malmö - Central Procurement functions; all municipal departments as buyers
	Action scale & addressed entities	All purchasing units across the City (schools, preschools, elderly care, facility management, administrative units)
	Involved stakeholders	Suppliers, framework agreement providers, internal procurement coordinators
	Comments on implementation	Implementation is ongoing, with continuous integration of more climate requirements into new and renewed agreements. Requirement levels are being developed for categories such as construction, enabling more ambitious climate performance baselines. Going forward, it is essential that all procuring units actively include climate considerations and robust data requirements in tenders to enable effective follow-up. Additional resources are needed to ensure sufficient capacity for monitoring and verifying suppliers' compliance with climate-related requirements.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	TBD
	GHG emissions reduction estimate (total) per emission source sector	GHG reduction estimate: Significant impact on upstream Scope 3 emissions (food, materials, consumables, IT, construction etc).
	Total costs and costs by CO2e unit	12 MSEK/year in operational costs. Mainly staff time, system improvements, and follow-up capacity. Long-term savings

		expected through reuse and reduced purchasing volumes.

Action outline	Action name	**Internal climate support, governance and cross-departmental coordination towards Net zero organisation**
	Action type	Organisational development / governance
	Action description	Strengthen internal governance, support functions and coordination structures that guide departments in working towards net-zero. This includes developing guidance, routines and decision-support; supporting departments in emissions mapping and planning; coordinating climate-related processes; and ensuring that climate ambitions are integrated into everyday operations across the organisation. Central functions at the Environment Department lead this work, supported by internal roles in other departments.
Reference to impact pathway	Field of action	Net zero organisation
	Systemic lever	Governance & policy, Learning & capabilities
	Outcome (according to module B-1.1)	Net-zero consistently considered in decisions, budgets and follow-up Clear roles and coordination across the organisation Higher organisational capacity to plan and implement climate measures
Implementation	Responsible bodies/person for implementation	City of Malmö - Environment Department (lead); sector departments with internal climate or sustainability roles
	Action scale & addressed entities	All departments
	Involved stakeholders	City of Malmö - Departmental management teams, internal support functions, procurement, finance, project managers
	Comments on implementation	Work is ongoing and expands gradually as new tools, routines and support materials are developed. Central support functions at the Environment Department coordinate and guide the work, but implementation requires active engagement from internal roles in each department. Continued development of governance structures, follow-up processes and internal guidance is needed. Additional resources are required to provide sufficient support, ensure alignment across departments and maintain effective follow-up.

Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	Indirect but essential for enabling systematic emission reductions across Scope 1–3.
	Total costs and costs by CO2e unit	10MSEK/year Primarily staff time, development of governance tools, training and coordination structures.

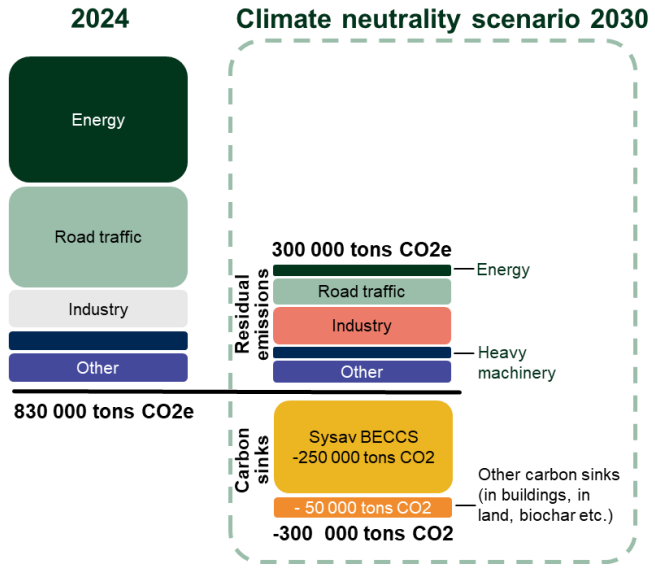
Action outline	Action name	**Cross-cutting development and management**
	Action type	Management
	Action description	Develop and co-ordinate activity with key partners and city departments
Reference to impact pathway	Field of action	Cross-cutting management
	Systemic lever	Governance & policy
	Outcome (according to module B-1.1)	Higher organisational capacity to plan and implement climate measures Clear roles and coordination across the organisation
Implementation	Responsible bodies/person for implementation	City of Malmö
	Action scale & addressed entities	Key internal and external stakeholders in the climate transition
	Involved stakeholders	City of Malmö
	Comments on implementation	Demands action focussed network collaboration to develop dynamic working relationship with light-touch coordination
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	23 MSEK/year for resources in all transition areas and support functions that are directly connected to the process Climate transition Malmö. 2022-2026 the budget for the City of Malmö has also included extra means to accelerate the transition ranging from 10-50 MSEK/year.

Action outline	Action name	**Climate Transition Roadmap co-ordination**
	Action type	Management
	Action description	Central management of the climate transition process, strategic co-ordination within city, reporting to senior management and politicians, co-ordinating transition areas
Reference to impact pathway	Field of action	Cross-cutting management
	Systemic lever	Governance & policy
	Outcome (according to module B-1.1)	Higher organisational capacity to plan and implement climate measures Clear roles and coordination across the organisation
Implementation	Responsible bodies/person for implementation	City of Malmö
	Action scale & addressed entities	Internal operations within the City of Malmö and strategic overview of wider transition process
	Involved stakeholders	City of Malmö
	Comments on implementation	Demanding role that needs strong action focus and ability to break hierarchical and administrative inertia
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	N/A
	Total costs and costs by CO2e unit	14 MSEK/year for all transition areas. Including 7 coordinators for transition areas, 5 people in central process team and around 2 MSEK yearly for consultants and other costs

B-2.3: Summary strategy for residual emissions

B-2.3: Summary strategy for residual emissions

The strategy for residual emission is based on several analyses of the potential of mitigation of emissions on the larger emission categories in Malmö. Since the sectors are different the calculations also differ, in the energy sector the actions are calculated specifically for every measure but for the transport sector the potential has been calculated on an overall impact of a large number of measures. These calculations are updated continuously. At the time of this iteration the mitigation efforts can lead to just over 80% reduction of emissions, from 1990, leaving nearly 20% or 300 000 tons to offset with carbon sinks to become climate neutral by 2030. Analyses show that a larger reduction would require very far-reaching interventions in all sectors, but particularly in the transport sector that make up a large share of total emissions. With the current regional and national societal development, it is not considered feasible to achieve 85% reduction by 2030, especially in the transport sector. It is difficult, within the framework of socially and socioeconomically sustainable development, to influence a large number of people's behavior quickly and simultaneously across many transitions.



CCS and BECCS

The carbon capture facility planned at Sysav's waste-to -energy plant will capture both fossil and biogenic CO2, and store it permanently. When fossil CO2 is stored there is an emission reduction and when biogenic CO2 is stored there is a carbon sink. Sysav estimate that they will capture and store 250 000 tons of biogenic CO2 every year. For the CCS/BECCS to be in place 2030 there is a need for an investment decision 2027. The technical plans are in place, the permit process is underway, as well as plans to develop a carbon hub in the harbor of Malmö for shipping and storage of carbon dioxide. There is also an ongoing work to secure funding for investment and sales of negative emissions.

EON is planning a new district heating plant in Malmö, with the possibility for BECCS to be installed. The plant is still in a planning stage and any BECCS will not be in place until 2030, but if the BECCS plans are realised, EON could contribute to carbon sinks in Malmö beyond 2030, approximately 250 000 tonnes per year. Hence, this potential carbon sink is not included in the startegy for residual emissions by 2030.

Other carbon sinks

The 50 000 tons of residual emissions that remain after the SYSAV CCS/BECCS is in place, needs to be balanced with other sources of carbon sinks.

In 2022 an investigation carried out by the research institute RISE on behalf of the Environment Agency, identified two areas of action that could increase carbon storage in the Malmö by 2030. The greatest opportunity to create negative emissions is by using bio-based materials in new housing construction. Wood or other bio-based materials give rise to carbon sequestration, while at the same time there is regrowth through annual carbon sequestration in sustainable forestry or regrowth of other bio-based material. Within housing construction, there are several components that show great potentials for local carbon storage such as the importance of preserving existing wooden buildings, allowing wooden buildings to form an increasingly large part of new construction, and using renewable materials in extensions and renovations. In addition, reuse and recycling and pyrolysis for biochar is a way to further extend the carbon sink. The calculations of climate sinks in the investigation from 2022 indicated a potential of over 100 000 tons of carbon sinks in Malmö. This is now considered quite optimistic – a rough estimate is that 50 000 tons is a more likely number of carbons sinks from solutions such as wood in buildings, biochar and carbon sequestration in agricultural lands and trees. During 2026 Malmö is developing an overall plan for carbon sinks, excluding the larger technical solutions CCS and BECCS on the power-plants where the estimations are already up to date. The city already has a number of actions connected to carbon sinks but is lacking on an overall estimate on the yearly carbon sinks and storage on the area of the municipality. Malmö will also include how to promote carbon sinks within our geography, protect existing carbon sinks, follow-up and measure etc.

Since Malmö consists of mostly urban area and some very productive land for agriculture (class 9-10) larger forestation programs are not suitable. Instead, the focus is to increase trees and green areas in the city. The city monitors the number of trees planted or cut down every year to follow the total increase of trees owned by the city administration. Investigations of percentage of tree canopy within the city has been carried out in recent years.
The city has been experimenting with biochar in several different municipal applications and has been a partner in the main biochar innovation and development project in the country that is demonstrating a significant potential, but challenges with supplying sufficient volumes at realistic prices.

Net zero organisation

In addition to the goal of becoming climate-neutral by 2030, Malmö has set an objective for the municipal organization to achieve net zero emissions. This target encompasses scopes 1–3. The residual emissions from the city's operations will be addressed through measures such as the city tree-planting program, forests owned by the city in other municipalities, and the purchase of carbon credits from SYSAV's CCS/BECCS facility. Malmö has started developing principles for what carbons sinks to work with based on the QU.A.L.ITY criteria from the EU Carbon Removal Certification Framework. There is a discussion on how to apply these also for offsets for the territorial climate neutrality goal.

Module B-3 Indicators for Monitoring, Evaluation and Learning

B-3.1 Indicators

The indicators have been updated from Malmö's first Climate City Contract. When Malmö finalized the initial version of the CCC in 2023, no specific indicators had been designated for the contract, which meant that the indicators provided at the time were of a more exploratory nature. In the update of the contract, the previous indicators have been removed, and the new list is based on Net Zero Cities comprehensive indicator framework. In addition to the mandatory indicators, we have also included indicators that we already monitor as part of our follow-up system for the environmental objectives of the City of Malmö. The data requested for the indicators are based on the CDP format and is what Malmö reports in different international contexts. These emissions data are approximate, since imprecise energy data and approximate national emissions data must be used for calculations.

In our day-to-day work, another format is used. Our emissions goal and climate neutrality goal refers to all fossil greenhouse gases emitted within the geography of Malmö. These emissions are followed up based on a combination of national data and our own local database with point- and line emission sources. These data are more exact than what they can be on the CDP format. Also, the sub sectors used are more detailed than on the CDP format, as they correspond to the sub sectors used in our national emissions database. These data are the starting point for following up our climate goals and for defining actions.

This is the explanation to why emissions data on the CDP format (A-1.4) differs from scope 1 data presented in A-1.5, both in sub sectors and quantitatively. We present both, because the CDP format is requested, and A-1.5 is our starting point for defining actions.

We have chosen to present our latest data available (2024) rather than the climate goal baseline (1990), since 2024 year's data better describes the current state of Malmö's climate action.

Malmö also has goals for becoming a net zero organization and for consumption-based emissions per capita. In our monitoring system we have indicators also for these goals. Malmö follow many indicators connected to co-benefits for the climate transition in the city's annual report on the Global Sustainability Goals from a Malmö perspective. Co-benefits are also included in all seven transition areas. Monitoring of stakeholder involvement and citizens engagement is frequently done within the frame of specific projects, but not (to date) systematically at a higher level.

B-3.1 Indicators

Outcomes/ impacts addressed	Action	Indicator name	Target values		
			2025	*2027*	*2030*
Changes, outcomes and impacts under transition area Heating and Electricity	All actions listed under transition area Heating, actions regarding renewable energy production under Electricity supply	GHG emission from stationary energy	-	-	180 thousand tonnes CO2e
Changes, outcomes and impacts under transition area Mobility	All actions listed under transition area Mobility	GHG emission from transport	-	-	110 thousand tonnes CO2e
None (emissions from waste incineration are included in indicators regarding stationary energy and grid supplied energy)	No actions targeting sewage and landfills due to low emissions	GHG emission from waste	-	-	5 thousand tonnes CO2e
None	No actions targeting industry, solvents, paint, F-gases	GHG emission from IPPU	-	-	10 thousand tonnes CO2e
None	No actions targeting agriculture and forestry due to low emissions. Carbon sinks followed by other indicators.	GHG emission from AFOLU	-	-	5 thousand tonnes CO2e
Changes, outcomes and impacts under transition area Electricity supply	See actions concerning renewable energy production listed under transition area Electricity supply	Local RES energy production	-	-	100% renewable and recycled energy
Changes, outcomes and impacts under transition area Heating and Electricity supply	All actions listed under transition area Heating and actions regarding renewable energy production under Electricity supply	GHG emission from grid supplied energy	-	-	150 000 tonnes CO2
Capture of fossil and biogenic	Transition area Heating: Carbon Capture on waste-to-energy plant	Amount of permanent sequestration of	-	-	250 000 tonnes CO2

CO2 from waste-to-energy plant		GHG within city boundary			
Off-setting of residual emissions	TBD	Negative emissions through natural sinks	-	-	50 000 tonnes CO2
Changes, outcomes and impacts under transition area Mobility	All actions listed under transition area Mobility	PM2.5 concentration levels	-	-	100 percent of Malmö residents are exposed to PM2.5 levels below the guideline value in 2030.s
Changes, outcomes and impacts under transition area Mobility	All actions listed under transition area Mobility	PM10 concentration levels	-	-	Less than 15 µg/m³ (the annual mean value of PM10) by 2030.
Changes, outcomes and impacts under transition area Mobility	All actions listed under transition area Mobility	NO2 concentration levels	-	-	100 percent of Malmö residents are exposed to nitrogen dioxide levels below the guideline value in 2030.
Transition area Electricity supply: increased energy efficiency	Support energy efficiency measures for public and private sector and residents	Energy consumption per household	46 MWh/ household/ year	46 MWh/household/ year	46 MWh/household and year Malmö's energy strategy states that the total energy consumption in Malmö should not increase to 2030, compared to 2022
Changes, outcomes and impacts under transition area Mobility	All actions listed under transition area Mobility	Modal share of green transport modes and public transport)	-	-	70 % of the Malmö residents travels are by public transport or active mobility
Changes, outcomes and impacts regarding increased sorting under transition area Circular economy and Heating	Transition area Circular economy: actions regarding resource hub and textiles Transition area Heating: Implement full scale plastics separation for recycling	Recycling rate of municipal waste	-	-	Residual waste volumes should decrease by 50 percent by 2030.

B-3.2 Indicator metadata

B-3.2 Indicator metadata	
Indicator Name	**GHG emission from stationary energy**
Indicator Unit	t CO2 equivalent
Definition	Greenhouse gas emissions (mainly CO2 emissions) from stationary energy sources.
Calculation	Amount of fuel consumption per fuel type x GHG emission per fuel type
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Stationary energy scope 1 and 2
Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	The indicator could be used, but would be rough. Progress is better monitored by indicators corresponding to another dataset. The indicator relates to data on the GHG protocol format. For annual follow-up on our climate goals – and therefore as a starting point for climate action – we use another dataset, based on the national emission database and our own emissions database. This uses other emission sectors and is more accurate than what is possible on the GHG protocol format. See A-1.5.
If yes, which NZC impact pathway is it relevant for?	Transition area Heating, Electricity supply, Circular economy, Climate-neutral construction, Low-carbon consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes
Data requirements	
Expected data source	CDP reporting
Expected availability	Good
Suggested collection interval	Annually as part of CDP reporting
References	
Deliverables describing the indicator	Annual GHG emission inventory for CDP reporting
Other indicator systems using this indicator	CDP reporting

Indicator Name	**GHG emission from transport**
Indicator Unit	t CO2 equivalent
Definition	Greenhouse gas emissions from the operations of vehicles.
Calculation	Distance travelled per vehicle type x GHG emission per km
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Transport scope 1
Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	The indicator could be used, but would be rough. Progress is better monitored by indicators corresponding to another dataset. The indicator relates to data on the GHG protocol format. For annual follow-up on our climate goals – and therefore as a starting point for climate action – we use another dataset, based on the national emission database and our own emissions database. This uses other emission sectors and is more accurate than what is possible on the GHG protocol format. See A-1.5.
If yes, which NZC impact pathway is it relevant for?	Transition area Mobility, Low-carbon consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes
Data requirements	
Expected data source	CDP reporting
Expected availability	Good
Suggested collection interval	Annually as part of CDP reporting
References	
Deliverables describing the indicator	Annual GHG emission inventory for CDP reporting
Other indicator systems using this indicator	CDP reporting

Indicator Name	**GHG emission from waste**
Indicator Unit	t CO2 equivalent
Definition	Green house gas emissions from waste treatment, and landfills (waste incineration emissions are allocated to district heating)

Calculation	Quantity of waste per End-of-life (EoL) treatment type x emission factors per EoL treatment
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Waste treatment and landfills, scope 1
Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	In Malmö's CDP reporting Waste only includes emissions from sewage treatment and landfills (waste incineration are included in other categories as its emissions are attributed to district heating). There are no actions in the action plan directly targeting sewage or landfills – therefore the indicator cannot be used to monitor progress.
If yes, which NZC impact pathway is it relevant for?	-
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes
Data requirements	
Expected data source	CDP reporting
Expected availability	Good
Suggested collection interval	Annually as part of CDP reporting
References	
Deliverables describing the indicator	Annual GHG emission inventory for CDP reporting
Other indicator systems using this indicator	CDP reporting

Indicator Name	**GHG emission from IPPU**
Indicator Unit	t CO2 equivalent
Definition	Greenhouse gas emissions from product use within city boundary (industrial processes are included elsewhere, in stationary energy – manufacturing industries)
Calculation	Data source: the Swedish national emission database
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Product use scope 1
Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-

Can the indicator be used for monitoring impact pathways?	There are no actions in the action plan directly targeting industry or product use– therefore the indicator cannot be used to monitor progress.
If yes, which NZC impact pathway is it relevant for?	-
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes
Data requirements	
Expected data source	CDP reporting
Expected availability	Good
Suggested collection interval	Annually as part of CDP reporting
References	
Deliverables describing the indicator	Annual GHG emission inventory for CDP reporting
Other indicator systems using this indicator	CDP reporting

Indicator Name	**GHG emission from AFOLU**
Indicator Unit	t CO2 equivalent
Definition	Emissions from livestock, land, and aggregate sources and non-CO2 emissions sources on land
Calculation	Data source: the Swedish national emission database
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Livestock, land, and aggregate sources and non-CO2 emissions sources on land
Does the indicator measure indirect impacts (i.e. co- benefits)?	
If yes, which co-benefit does it measure?	
Can the indicator be used for monitoring impact pathways?	There are no actions in the action plan directly targeting agriculture or forestry due to low emissions – therefore the indicator cannot be used to monitor progress. Carbon sinks are better monitored by indicator “Negative emissions through natural sinks”
If yes, which NZC impact pathway is it relevant for?	-
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes
Data requirements	
Expected data source	CDP reporting
Expected availability	Good
Suggested collection interval	Annually as part of CDP reporting
References	
Deliverables describing the indicator	Annual GHG emission inventory for CDP reporting
Other indicator systems using this indicator	CDP reporting

Indicator Name	**Local RES energy production**
Indicator Unit	MWh/year
Definition	Total annual energy produced from renewable energy sources within the city boundary
Calculation	Addition of renewable energy production (electricity, heat, biogas)
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	No
If yes, which emission source sectors does it impact?	-
Does the indicator measure indirect impacts (i.e. co- benefits)?	Yes
If yes, which co-benefit does it measure?	Self-sufficiency on electricity
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition area Electricity supply
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Statistics Sweden, Vattenfall (energy utility)
Expected availability	Good
Suggested collection interval	Annual
References	
Deliverables describing the indicator	Annual reporting of the share of renewable and recovered energy in Malmö on web page Miljöbarometern Annual report on status for goals in Malmö's environmental programme
Other indicator systems using this indicator	Partially for follow-up on Malmö's energy strategy, which includes goals for solar production, fuels and climate neutrality

Indicator Name	**GHG emission from grid supplied energy**
Indicator Unit	t CO2 equivalent
Definition	GHG emissions occurring as a consequence of the use of grid-supplied electricity and heat within the city boundary
Calculation	End-use of grid supplied energy (electricity, district heating, natural gas, biogas) x GHG emission per MWh
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes

If yes, which emission source sectors does it impact?	Energy
Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	The indicator relates to data on the GHG protocol format. The indicator could be used, but progress would be better monitored by more exact data, i.e. data from environmental reports.
If yes, which NZC impact pathway is it relevant for?	Transition area Heating, Electricity supply
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes
Data requirements	
Expected data source	Environmental reports for companies producing grid-supplied electricity and heat
Expected availability	Good
Suggested collection interval	Annually, as part of annual follow-up on climate goals
References	
Deliverables describing the indicator	Annual GHG emission inventory for CDP reporting
Other indicator systems using this indicator	Indirectly, as one of the goals in Malmö's energy strategy is about climate neutral energy supply 2030, on territorial level

Indicator Name	**Amount of permanent sequestration of GHG within city boundary**
Indicator Unit	t CO2 equivalent
Definition	Carbon sequestration through technological sinks with permanent sequestration – BECCS in Malmö's case
Calculation	Measured/calculated by Sysav, that are planning for a CCS and BECCS facility on the waste CHP plant
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Energy
Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition area Heating
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Obtained from Sysav

Expected availability	Good
Suggested collection interval	Annually from 2030, as part of annual follow-up on climate goals
References	
Deliverables describing the indicator	Not today. If CCS/BECS is installed by Sysav, they will provide dataset regarding carbon sinks
Other indicator systems using this indicator	No

Indicator Name	**Negative emissions through natural sinks**
Indicator Unit	t CO2 equivalent
Definition	Enlargement or enhancement of natural carbon sinks within the territory
Calculation	TBD
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	All emission sectors, as it offsets fossil greenhouse gas emissions
Does the indicator measure indirect impacts (i.e. co- benefits)?	Yes
If yes, which co-benefit does it measure?	Depending on type of natural sink: soil health, biodiversity, climate adaptation
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Pathway concerning negative emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	TBD
Expected availability	Unknown
Suggested collection interval	Annually from 2030, as part of annual follow-up on climate goals
References	
Deliverables describing the indicator	Not today. Plans for annual calculation of natural carbon sinks in Malmö, for follow-up on climate goals
Other indicator systems using this indicator	No

Indicator Name	**PM2.5 concentration levels**
Indicator Unit	µg/m³ (annual mean value)
Definition	The concentration of particulate matter with an aerodynamic diameter of 2.5 micrometres or less in ambient air
Calculation	Calculated in dispersion model, using measurements in Malmö's system for monitoring of air quality. PM2.5 is measured with palas FIDAS 200.
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	No
If yes, which emission source sectors does it impact?	-
Does the indicator measure indirect impacts (i.e. co- benefits)?	Yes
If yes, which co-benefit does it measure?	Health benefits from lower levels of air pollution Reduced traffic and/or improved transport technologies
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition area Mobility
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Measurements in Malmö's system for monitoring of air quality
Expected availability	Good
Suggested collection interval	Annually
References	
Deliverables describing the indicator	Annual reporting of exposure to PM2.5 in Malmö on public web page Miljöbarometern Annual report on status for goals in Malmö's environmental programme Annual air quality report for Malmö Annual reporting to Swedish Environmental agency
Other indicator systems using this indicator	Used in models and forecasts by EU Environmental Agency

Indicator Name	**PM10 concentration levels**
Indicator Unit	µg/m³ (annual mean value)
Definition	The concentration of particulate matter with an aerodynamic diameter of 10 micrometres or less in ambient air
Calculation	Calculated in dispersion model using measurements in Malmö's system for monitoring of air quality. PM10 is measured with palas FIDAS 200
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	No
If yes, which emission source sectors does it impact?	-
Does the indicator measure indirect impacts (i.e. co- benefits)?	Yes
If yes, which co-benefit does it measure?	Health benefits from lower levels of air pollution Reduced traffic and/or improved transport technologies
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition area Mobility
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Measurements in Malmö's system for monitoring of air quality
Expected availability	Good
Suggested collection interval	Annually
References	
Deliverables describing the indicator	Annual reporting of exposure to PM2.5 in Malmö on public web page Miljöbarometern Annual report on status for goals in Malmö's environmental programme Annual air quality report for Malmö Annual reporting to Swedish Environmental agency
Other indicator systems using this indicator	Used in models and forecasts by EU Environmental Agency

Indicator Name	**NO2 concentration levels**
Indicator Unit	µg/m³ (annual mean value)
Definition	Annual mean concentration of nitrogen dioxide (NO_2) in ambient air
Calculation	Calculated in dispersion model using measurements in Malmö's system for monitoring of air quality NO2 is measured with Ecophysics CLD700AL

Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	No
If yes, which emission source sectors does it impact?	-
Does the indicator measure indirect impacts (i.e. co- benefits)?	Yes
If yes, which co-benefit does it measure?	Health benefits from lower levels of air pollution Reduced traffic and/or improved transport technologies
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition area Mobility
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Measurements in Malmö's system for monitoring of air quality
Expected availability	Good
Suggested collection interval	Annually
References	
Deliverables describing the indicator	Annual reporting of exposure to PM2.5 in Malmö on public web page Miljöbarometern Annual report on status for goals in Malmö's environmental programme Annual air quality report for Malmö Annual reporting to Swedish Environmental agency
Other indicator systems using this indicator	Used in models and forecasts by EU Environmental Agency

Indicator Name	**Energy consumption per household**
Indicator Unit	MWh per household per year
Definition	Total energy consumption per household in Malmö
Calculation	Total energy consumption in Malmö divided by Malmö's inhabitants, multiplied by 2,5 (2,5 is the national average for persons per household)
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	No
If yes, which emission source sectors does it impact?	-
Does the indicator measure indirect impacts (i.e. co- benefits)?	yes
If yes, which co-benefit does it measure?	Increased energy efficiency
Can the indicator be used for monitoring impact pathways?	Yes

If yes, which NZC impact pathway is it relevant for?	Transition area Electricity supply, regarding system optimisation and energy efficient solutions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No – but derived from total energy use
Data requirements	
Expected data source	National statistics on energy use on municipal level
Expected availability	Good
Suggested collection interval	Annually
References	
Deliverables describing the indicator	Miljöbarometern, a web page where Malmö reports environmental status in different sectors. Here, energy use per person is included.
Other indicator systems using this indicator	Related to a goal in Malmö's energy strategy, which includes a goal for total energy use

Indicator Name	**Modal share of green transport modes and public transport)**
Indicator Unit	%
Definition	Share of total travels within Malmö by walking, biking and public transport
Calculation	Travel survey
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	No
If yes, which emission source sectors does it impact?	-
Does the indicator measure indirect impacts (i.e. co- benefits)?	Yes
If yes, which co-benefit does it measure?	Health benefits from active mobility and less traffic noise Improved air quality
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition area Mobility
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Travel survey conducted every 5th year
Expected availability	Reliable
Suggested collection interval	Every 5th year
References	
Deliverables describing the indicator	Malmö's Sustainable urban moblity plan
Other indicator systems using this indicator	Malmö's Sustainable urban moblity plan

Indicator Name	**Recycling rate of municipal waste**
Indicator Unit	%
Definition	Share of recycled municipal waste of the total municipal waste generation
Calculation	Recycled municipal waste divided by total municipal waste
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes (but it depends on if the sorted-out waste is replaced by other fossil waste)
If yes, which emission source sectors does it impact?	Waste incineration
Does the indicator measure indirect impacts (i.e. co- benefits)?	Yes
If yes, which co-benefit does it measure?	Increased resource efficiency and circularity
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition area Circular economy, Heating
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	VA Syd (regional waste and waste water company)
Expected availability	Good
Suggested collection interval	Annually
References	
Deliverables describing the indicator	Follow-up of waste management plan Miljöbarometern, a web page where Malmö reports environmental status in different sectors. Here recycling of waste is included.
Other indicator systems using this indicator	Waste management plan

Part C – Enabling Climate Neutrality by 2030

Part C "Enabling Climate Neutrality by 2030" aims to outline any enabling interventions, i.e. with regard to organizational setting or collaborative governance models, or related to social innovations – designed to support and enable the climate action portfolios described in Module B-2 as well as aiming to achieve co-benefits outlined in the impact pathway (Module B-1).

Module C-1 Organisational and Governance Innovation Interventions

C-1.1: Enabling organisational and governance interventions

C-1.1 Enabling organisational and governance interventions				
Intervention name	**Description**	**Responsible entity/ dept./ person**	**Involved stakeholder(s)**	**Enabling impact**
Climate Transition Malmö organisation	Cross departmental organisation to drive transition across local government departments	Environment Department	City of Malmö technical departments in primary role, other departments and public companies in secondary role	Shared strategic leadership and management to identify issues, prioritise resources and deliver change
Local Climate Contract	Open partnership with business community, civil society and academia to co-operate on reaching climate transition target	Co-ordinated by Environment Department	Open for participation for stakeholders working towards climate neutrality in Malmö 2030	Facilitates a mobilisation and increased collaboration B2B and B2C
Open Academy	Partnership with local universities and other Net Zero Cities in region	University of Lund	Cities of Helsingborg and Lund, Region Skåne, Skånetrafiken, Lund University, Agricultural University, Malmö University	Arena for exchange between research and practice to accelerate transition and learn from experience for the benefit of others
Viable Cities	National collaboration platform between cities, government agencies and academia	Co-ordinated by KTH University, Stockholm	48 cities committed to climate neutrality 2030, 6 national government agencies, other partners	Arena for national mobilisation, exchange and development to meet 2030 target.
Learning Hub Syd	Regional collaboration platform between the cities in the region of Skåne that are members of Viable cities.	Co-ordinated by Lund University	9 municipalities in the region of Skåne	Arena for exchange and cooperative learning around "collaborative governance", aiming to accelerate transition.

NetZeroCities has received funding from the H2020 Research and Innovation Programme under the grant agreement n°101036519.

C-1.2: Description of organisation and governance interventions

C-1.2: Description of organisation and governance interventions

Governance and organisation

Climate Transition Malmö is based on the Environmental Program's politically adopted goals, the municipality's budget goals, commitments in the national climate contract with the Viable Cities platform, and the EU's Missions for sustainable and sustainable cities. The overall goal is for Malmö to be climate neutral by 2030 and more resilient to climate change. Reporting back to the political leadership takes place partly through the respective committee or board of the municipal companies, and partly directly to the political leadership in their different engagements in for example ICLEI or EUROCITIES.

Supervision takes place through a commission group consisting of the directors of the technical departments. The operational work is coordinated by a process management team in the Environmental Department, and a number of people in various municipal departments are responsible for the thematic areas. The transition work is organised into seven thematic areas; climate adaptation work, is included in the Malmö nature and environmental work process that is running in parallel.
A common work process is applied in the thematic areas where an analysis of the current situation is carried out, key actors are identified and invited to collaborate in different ways. These key actors come from various municipal departments, municipal companies, private companies, civil society or other organisations. The roadmaps identify which shifts are required reach the 2030 climate neutrality target.

The roadmaps in the seven thematic areas are revised and updated annually and can be described as a knowledgebase for decision making. Municipal departments are responsible for identifying needs, actions, funding opportunities and business models for the implementation of the shifts. The strong link between the directors of the commissioning group and the political leadership creates an arena for integrated work at management level that connects the city to its partner organisations in a cross-sectoral governance model. Other stakeholders including municipal companies, companies and other actors can also use the roadmaps as a knowledgebase and to understand their role in the climate transition.

The Climate Transition team has an overview of the whole process and the synergies, interdependencies and overlaps between roadmap processes. Challenges and solutions can therefore be escalated at a strategic level to maximise delivery potential within the roadmap processes.

This process is exemplified through the thematic area Climate-neutral construction. Here, Climate Transition Malmö's process and structure are linked with the industry initiative LFM30 to bring about a climate-neutral construction and civil engineering sector in Malmö by 2030. In this, the City of Malmö has a strategic role in relation to LFM30's development, as well as an operational role as an important construction and civil engineering player, public procurer, as well as a landowner. The internal work brings together actors from several municipal administrations who together develop Malmö's internal roadmap for climate-neutral construction, which supports the partnership's overall goals.

In parallel with the roadmap work, initiatives and tools are being developed for broader mobilisation and involvement of other actors in business, civil society, academia and with the residents of Malmö. Climate Contract Malmö has been the first initiative where companies, civil society and universities have been invited to in-depth collaboration with the City of Malmö. Prerequisites are investigated for local development work where thematic issues meet local needs and conditions that vary across the

city. This can create an everyday opportunity for co-creative processes with citizens and an opportunity to gain citizen perspectives that contribute to the design of central solutions that meet both the climate goals and people's everyday needs.

An internal communication network is coordinated by the Environmental Department to ensure clear internal communication within and between the municipal departments. The internal network is established and well-functioning. In parallel with this, work is ongoing to design external communication adapted to target groups within the thematic areas. This is complemented by broader communication efforts to climate contract actors, the business community and residents of Malmö. This is done through existing channels that are relevant to the purpose (for example, many companies can be reached through cooperation with Business Office's network) or developed specifically based on needs. Surveys have been conducted with target groups to clarify, for example, that the correct communication channels are being used.

Sectoral coordination

The logic of change in Climate transition Malmö is based on an iterative process that includes basic analyses and co-creation based on the following parts:

1. A clear and common goal
2. A general analysis and categorisation of Malmö's emissions and adaptation needs
3. Analyses of the current situations in each thematic area with input from key stakeholders
4. Development of roadmaps
5. Engaging and activating stakeholders.
6. Inclusion of investment and co-benefit aspect in the roadmaps
7. Implementation of measures
8. Evaluation, learning and feedback
9. Yearly review of the roadmaps, sometimes twice a year
10. Dissemination of knowledge within and outside Malmö

Together, the roadmaps contain a comprehensive portfolio of shifts and actions owned and operated by various municipal administrations, municipal companies, businesses, as well as civil society and academia. The sum of these measures will ensure that the 2030 climate transition and adaptation goals are achieved, and that the partnership can also continue to work beyond 2030 with a focus on consumption and adaptation issues.

The analysis of the current situation and the roadmap work highlight challenges that need to be addressed. These may be of a e.g. technical, financial or legal nature and need to be addressed to enable implementation. Examples of issues identified include challenges with quality assurance of circular products in the construction industry that hinder their use. Some of these issues are highlighted as special priority initiatives within the Strategy for Sustainable Urban Development – Climate Work Malmö, ERDF, where there may be opportunities to establish collaborative processes between municipalities, market actors and national authorities to investigate solutions that are possible within existing legal frameworks, and what requires clarification or changes in regulations.

The constellation of actors in the climate transition varies between the thematic areas. In some areas, there are a few actors with abundant resources, while in other areas there are many actors with little resources. In the area of heating, for example, most of the emissions originate from SYSAV's operations. In this case, SYSAV and the City of Malmö are working closely together to identify solutions for emissions with a focus on removing fossil-based plastics from combustion and installing CCS (carbon capture). When it comes to consumption issues, on the other hand, there is no single actor with great resourcefulness. Instead, this requires partnership-building work with, for example,

food retailers, retail as well as non-profit associations, as well as communication and dialogue processes with Malmö residents.

An important part of the process is to identify synergies between the thematic areas in order to maximise the overall benefit of the transition process. This is done in collaboration with the key actors in the roadmap process, and through Climate Transition Malmö's process management, which has an important role in linking together the different, and sometimes overlapping thematic areas. There are strong links between, for example, the thematic areas of climate-neutral construction and the circular economy, electricity supply and heating, as well as climate adaptation. The role of the process management is to ensure integrated work between the thematic areas, to maximize synergies and avoid parallel processes.

Work has also begun to identify other social or economic effects and include measures to ensure that desired effects are achieved, and undesirable effects do not occur. For example with support from FORMAS, Malmö and Malmö University have investigated socio-economic effects of local climate work at district level, resulting in a research paper. Dialogue, communication and collaborative design thus become important components of the strategy to contribute to an equal and just transition in accordance with Malmö's political goals.

The Climate Work Malmö strategy also includes measures to maximise the business development potential of the transition. The climate issue is already an active component in several of the city's profile areas, where future food and digitalisation both have strong links to climate work. The strategy will work to promote climate and societal benefits in business development through investments in clusters and innovation environments for SMEs, and prioritises support measures for companies in the city to increase their climate efficiency, minimise waste, develop circular services, etc. The goal is to help companies transform their existing operations by reducing their climate impact, but also to equip them to become part of the solution in tomorrow's climate-neutral market. Climate Contract Malmö is one of the tools already developed for mobilising the business community and Malmö is in the process of developing a citylab district in the district Nyhamnen (new harbour) with climate transition as one of the key focus areas. Another tool in trial is a resource coach for SMEs coaching towards a more circularity.

Monitoring and evaluation

The ambitious climate goals and the short implementation time require an agile and flexible way of working in order to quickly measure and follow the movement through technical follow-up and lessons learned to quickly adapt the work accordingly.

Technical monitoring takes place annually at the city-wide level in connection with environmental status reports. This data is based on reported data, statistics and measurements of greenhouse gas emissions, purchases and other important parameters in Malmö. For some actions, this can provide directly measurable impact even in city-wide greenhouse gas emissions data. Other actions will have a more facilitating function and will be more difficult to clearly show effect relationships through central emission monitoring but can be followed up against the project-specific indicators and goals. This means that a combination of quantitative and qualitative indicators is needed to ensure a clear follow-up.

Since the first CCC Malmö has developed functions in the Climate Transition process to support monitoring, evaluation and learning. For example, there are now experts on strategic analysis, learning, monitoring, stakeholder involvement and citizens engagement connected to the process.
An important function that is integrated into the work is knowledge sharing and dissemination both within Malmö as well as nationally and internationally. Viable Cities and the EU's mission work for

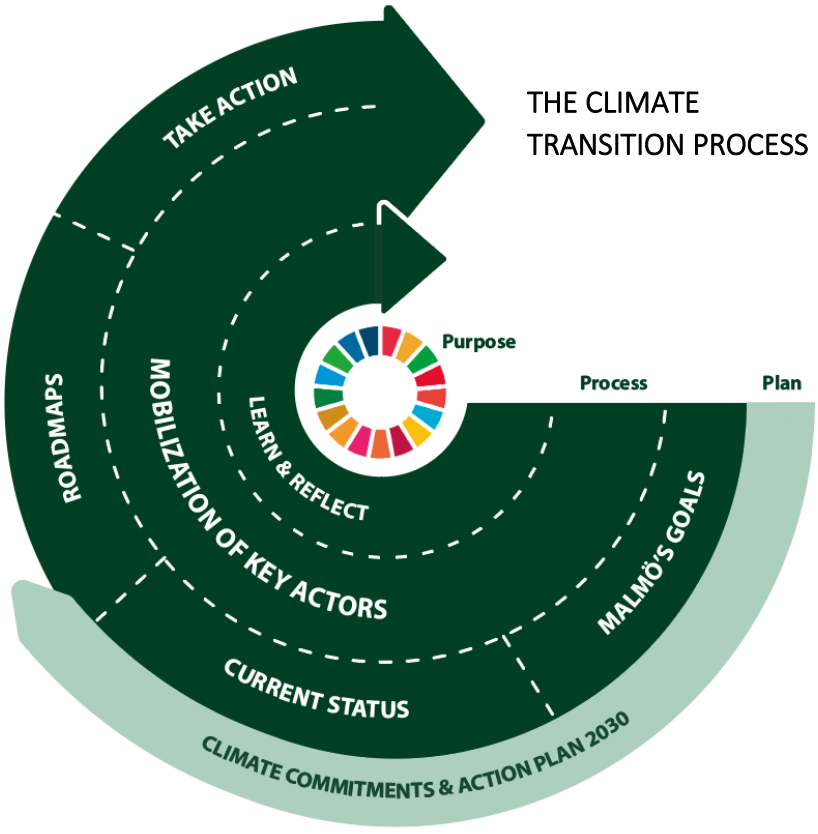
climate adaptation and climate adaptation are strategically important arenas for knowledge exchange and also dissemination of Malmö's experiences. Malmö is also active in several regional, national, European and international network organisations with a focus on sustainability issues. The climate issue is a common global challenge where we share responsibility and need to cooperate to an increasing extent to jointly create the desired transition.

Malmö has previously had positive experiences of working with follow-up research as an integrated part of learning and many projects connected to the climate transition in Malmö has research partners. The city works closely with universities in Skåne and other parts of the country, as well as with government research institutes and knowledge-intensive companies.

Learn more about Malmö's work on "Equitable and inclusive city"
Learn more about Malmö's work on "Sustainable and Resilient City"
Learn more about Malmö's work on "Nature based Neigbourhood"

Iteration

Climate transition Malmö has since 2015 worked in iterative processes. The creation of the process was initiated in 2015 and have since then undergone several revisions. The latest version has been adapted to visually and content-wise align with the Net Zero City process model with some key changes. Most significant is the clarification on the need for continuous learning and reflection (evaluation) of ongoing processes.



The lessons learned from the continual development process are being fed back into the iteration cycle. In order for the iteration cycle to function efficiently, it does not follow a set path but is open to rapid change in response to internal and external changes. Iteration can take place at a sub-activity

level, an action level, a thematic roadmap level or an overarching transition process level. A critical role of the senior management of the transition process is to ensure that relevant decisions are taken by the appropriate partner and at the appropriate level to ensure a dynamic management process. A high level of mutual trust is essential, alongside clear communications for more significant changes to be reported.

It is inevitable then that changes will be made at different times and in different ways. The role of each thematic roadmap co-ordinator is to continuously remain informed of iterative changes underway within their prioritised shifts. Significant iterations are discussed at a thematic level, sometimes together with other stakeholders, and will also involve the transition co-ordination office who can review potential impacts between roadmaps.

This process is on-going and not time bound. However, it needs to also feed into wider planning and budgeting processes. Therefore, it is tied into the city's budget reporting and planning process with tertiary reporting and annual work and budget planning processes. The work planning process normally starts in the spring to consider plans for the following calendar year. These plans are finalised in early autumn for the budgeting process which runs through the autumn. For the city's own activity, this is a critical period, but it also provides a natural cycle for review of overall progress and the impact on the city's own work streams.

Investment plan and financial aspects

Work has included understanding of the socio-economic benefits. Early in the work of Climate transition Malmö a scenario analysis was carried on different paths toward climate neutrality including technical solutions and behavioral change. Socio-economical aspects of the scenarios was included. In 2025 a new larger scenario analysis towards climate neutrality was carried out. The socio-economical part of the new analysis showed that on a larger perspective almost all the suggested actions towards climate neutrality had a positive socioeconomical case. The exception is changing the private car fleet to electrical cars that has few other benefits and with the current fuel price that does not have a strong socioeconomical case. Understanding climate investments and how they impact society on a broader level is crucial to tell and lead the story of climate transition.

For Malmö, some major climate investment work is already underway, not least with regard to cycling and public transport infrastructure which is in a major build-out phase through until 2030. Other climate investments are being incorporated into existing investment. The City is AAA rated with Standard and Poor and therefore has easy access to affordable finance. Malmö launched its Green Bond Framework in 2017 and is currently establishing a Social Bond Framework. The Green bonds have been a way to clearly bundle green investment in the city. Up until 2021 Malmö has been borrowing approximately 1BnSEK per year for green investments of which approximately 80% have been climate-related investments. Of the overall investment volume, 65% has gone to energy-efficient building with additional investment in sustainable mobility, renewable energy and energy efficiency measures.

One of the main workstreams within Climate Transition Malmö is the Net zero organisation roadmap which focuses on ensuring that Malmö reaches its internal climate neutrality target. Over 90% of the climate impact of the city is related to procurement of goods and services. The city has made significant progress over a long period of time with sustainable procurement and has over 20 years of experience in driving market development through procurement of clean fuel vehicles, organic food etc. The city's procurement plan includes criteria related to climate impact, such as circular resource use, sustainable transport and delivery, and energy efficiency. Procurement has included innovative partnership approaches to help the market adapt to delivering the required product at an affordable rate. The city has more recently established a framework contract for re-purposed office furniture which has had a major impact on furniture procurement and supports market development.

Malmö also has a number of regulatory tools, fees and charges that can be actively used to support climate transition and also as influence over other public services delivered by companies wholly or partially owned by the municipality. A simple tool that has been used successfully for many years is parking charges and availability of parking. The city has been slowly increasing the coverage of paid

parking to cover most of Malmö's geography and increasing charge rates. The waste management company SYSAV has carried out an analysis of the business model for recycling plastics, CCS, and the additional charges that need to be levied on household waste collection to cover the long-term financing of these major investments included in the roadmap.

The city is 2026-2027 exploring opportunities to work more closely with other organisations, including NZC, in match-making activities between innovators and financiers which may provide some assistance in this process. Dialog with Capital hub from NZC began in 2025 and has included work with SYSAV and investment plans for the CCS as well as seminars with local stakeholders to understand where support and knowledge is needed.

Module C-2 Social and Other Innovation Interventions

C-2.1: Context and evolution since 2023

When Malmö's first Climate City Contract was developed in 2023, the City was at an early stage of structuring a systematic climate transition process. The Action Plan reflected hypotheses, pilot ideas and anticipated delivery pathways that were appropriate at the time. Since then, the external context, municipal organisation and the City's practical experience of social innovation and citizen engagement have evolved significantly.

Global developments, including economic uncertainty, increased polarisation and disinformation, have reinforced the importance of the municipality as a stable, credible and trusted actor. At the same time, Malmö has undergone organisational changes that affect how local development and citizen engagement are led and coordinated. These changes have altered both the city's presence in neighbourhoods and the formal roles of different departments.

Importantly, the climate transition process has matured. Through experimentation, learning loops and practical delivery, Malmö has refined its understanding of what enables meaningful citizen engagement and social innovation at scale. As a result, while the strategic objectives of community dialogue, participation and local action remain consistent with the 2023 Contract, the operational approaches and governance arrangements have been adapted to better reflect current conditions and learning.

This module is written from the perspective of the Environment Department in its role as a process enabling and knowledge driven actor within Climate transition Malmö. However, delivery relies on collaboration across the entire municipal organisation, in close cooperation with civil society, academia and other partners.

The table below retains the structure and original intent from 2023, while the final column reflects learning, adaptation and current practice.

C-2.1: Enabling social innovation interventions. Summary table updated with 2026 reflections						
Intervention name	**Description**	**Responsible entity**	**Involved stakeholder**	**Enabling impact**	**Co-benefits**	**Commentary and impact 2026**
Civil society Climate Contract	Climate contract for voluntary organisations to commit to supporting the transition process in a way appropriate to their organisation and operations	Co-ordinated by Environment Department	Civil society organisations throughout Malmö	Engages a wide breadth of organisations with significant contact with citizens. Increases potential for co-creation, innovation and development at a grassroots level	Significant potential for co-benefits in empowerment, health and social benefits and potential for new economic development	Civil society organisations have proven to be a key enabling condition for local climate delivery, acting as trusted intermediaries with high citizen reach. The contract supports a portfolio approach by enabling differentiated, capacity-aligned commitments, strengthening local delivery capacity and embedding climate action in existing social infrastructures
Neighbourhood development	Development of innovation programme to work with local communities and partners to understand local needs, how they can be	Led by Environment Department	National innovation Agency and National Research Agency, Malmö University, local businesses and NGOs	Supports action at a local level in close dialogue with local partners. Helps co-design solutions for use across the city, mobilises	Develops increased interest and demand for transition in business and raises expectations of political action	Experience confirms the need for adaptive, place-based governance and experimentation rather than standardised line management. The Environment

	matched with climate targets, and action to make change			public support and delivers local change that can be scaled		Department increasingly acts as an enabling and learning actor, supporting experimentation, learning loops and scalable models across multiple delivery pathways, while balancing equity and high-impact target groups.
Climate Awareness	Digital climate awareness function that provides easy to read climate information and simple measures that local people can implement to decrease personal footprint	Environment Department	Targeted at the wider community	Supports awareness-raising and community activity to decrease personal emissions	Develops increased interest and demand for transition in business and raises expectations of political action	Climate awareness has evolved into a capacity-building and demand-creation enabler rather than an information measure. The intervention strengthens climate literacy, social acceptance and readiness for transformative action, reinforcing the social mandate within the NetZeroCities transition pathway.

C-2.2: Description of social innovation interventions

C-2.2: Description of social innovation interventions

Malmö's approach to social and other innovation interventions is centred on creating enabling conditions for citizen engagement, behavioural change and co-creation, rather than delivering isolated projects. Over time, the city has built a portfolio of methods, partnerships and arenas that support participation across different contexts and target groups.

From pilots to learning-oriented delivery

Since the previous version of the CCC, Malmö has tested multiple forms of citizen dialogue and social innovation, generating practical insights into what works under different conditions. Not all ideas described in the original Action Plan proved viable in practice. For example, some neighbourhood-based pilot structures were not implemented as initially envisaged due to organisational reconfiguration within the city. Rather than scaling predefined models, Malmö has shifted towards adaptive, learning-oriented approaches, where methods are tested, evaluated and refined before being embedded more broadly.

The Environment Department no longer acts as a formal "lead" for local development work. Instead, local development is primarily led through other municipal structures, while the Environment Department contributes with climate expertise, facilitation, method development and learning across initiatives. This role has proven more effective in supporting experimentation and integration of climate perspectives into existing local processes.

Civil society and community dialogue as enabling infrastructure

Experience confirms that civil society organisations play a critical role as intermediaries between the city and residents. Malmö continues to work with civil society through multiple formats, including climate contracts, collaboration forums, neighbourhood presence and joint initiatives. These arrangements strengthen local delivery capacity and embed climate action in trusted, existing social infrastructures.

Citizen engagement has also been strengthened through structured dialogue processes, including Klimatrådslaget (the local climate assembly) conducted in 2024. The assembly brought together a diverse group of residents, supported by independent facilitation, and resulted in concrete recommendations that were integrated into municipal policy and decision-making processes. This experience demonstrated how participatory processes can move beyond consultation and contribute directly to governance and delivery.

In parallel, Malmö has expanded its use of local and popup dialogues, often linked to public events or specific themes such as consumption-based emissions and climate-smart quality of life. These formats lower participation thresholds and reach groups that do not typically engage in formal consultation processes.

Neighbourhoods as arenas for integration and scaling

Neighbourhoods remain a key arena where technical climate measures intersect with everyday life. Rather than implementing a single, standardised neighbourhood climate programme, Malmö now works through multiple delivery pathways, including the new unit for local development, BIDs, property-based collaborations and urban development projects.

Initiatives such as *Arena Sege Park* function as experimental platforms where methods for dialogue, cocreation and cross-sector collaboration are developed and tested outside traditional line management. Learning from these arenas informs future scaling pathways, allowing successful elements to be adapted and replicated in other contexts.

A key lesson has been the need to balance equity-driven engagement with climate effectiveness. While vulnerable groups remain central from a social perspective, climate impact analysis shows that

other target groups – such as high-income households with disproportionate carbon footprints – must also be actively engaged to achieve meaningful emissions reductions.

Capacity building, communication and behavioural change

Malmö has increasingly focused on capacity building as a foundation for behavioural change and social acceptance of the transition. Initiatives such as *Climate Knowledge Malmö*, thematic communication campaigns and climate content on malmo.se aim to provide accessible, reliable and actionable climate information.

Surveys indicate that Malmö residents experience both climate concern and willingness to act. The city's role as a trusted knowledge provider has therefore become more important in a fragmented communication landscape. Climate awareness initiatives function as soft enabling measures, strengthening readiness for more transformative interventions across other modules of the Climate City Contract.

Looking ahead

Going forward, Malmö will continue to:

- build and strengthen partnerships in neighbourhoods through existing local structures,
- develop and refine dialogue and co-creation methods based on accumulated learning,
- integrate outputs from citizen engagement more systematically into policy and decision-making,
- and maintain a portfolio approach to social innovation, prioritising learning, adaptability and scalability.

Rather than fixed models, the city focuses on continuously improving its ability to engage Malmö residents in the climate transition in ways that are inclusive, credible and aligned with NetZeroCities principles.

Outlook and next steps

Plans for next CCC and Action Plan iteration

When the Climate Transition Team was set up there was a clear understanding that it would take 4-5 years before the process could be fully rolled out, all components active and all key stakeholders engaged. While substantial progress has been made in understanding what the Malmö's journey to become climate neutral by 2030 would need to focus on, much work remains to be done.

Listed below are selected key actions that are in the pipeline, with more to be added as our insights into the climate transition deepens.

Continue to develop city-level roadmaps

- The seven roadmaps in the Malmö Climate Transition process are continuously being updated as new analyses are made – including yearly trends in emissions and insights of the climate transition deepens.
- The next phase is to gather all relevant information of the transition in one analysis of the climate transition where potential of different paths towards climate neutrality is updated. These calculations can be seen as an agile portfolio analysis of the route toward climate neutrality in Malmö.
- From roadmaps to decided and implemented measures – continued integration of the transition area roadmaps and climate investment plans into existing governance, policy, urban planning, budget, investment and procurement processes – considering the long-term investment perspective to ensure that climate targets are met.
- Strengthening Malmö's entire organization as regards knowledge and capabilities to work toward climate neutrality and a net zero organization.

Vertical climate policy integration through a European policy lab

- Promote increased understanding, anticipating, and influencing existing and future regulatory frameworks, policies, and ambitions to ensure the pathway to climate neutral by 2030 on local, regional, national, and European levels. Malmö wants to see a European policy lab that can support the creation of a mutual understanding on how far current European policy will take us (think taxonomy, Fit-for-55, RePowerEU), what else can be done to support cities in the EU mission of 100 climate neutral and smart cities by 2030.

Strengthen the financial matchmaking capability between needs and available financial tools

- Further deepen Malmö's understanding of today's large investment flows, household consumption, assets and their potential for the climate transition is needed to be able to redirect investments and consumption in line with the mission to become climate neutral by 2030.
- Exploring methods of evaluating all public investments in Malmö from a sustainability and climate impact.

Enhance Malmö's climate contract for businesses and citizens

- Continue to deploy Climate Contract Malmö with the local and regional stakeholders (industry, civil society, citizens, and academia) as well as the Swedish Climate City Contract 2030.
- Develop cooperation with other facilitators of transition with the aim of increasing the capabilities for sustainability for stakeholders in Malmö. These include academia, network organizations for businesses etc.

- Continue to develop the arenas and supporting structures for stakeholders, for example an annual conference.

Climate Transition Office

- Continue to strengthen and further develop decision-making support tools to ensure that politicians and other relevant stakeholders can make informed decisions, e.g., the digital framework and infrastructure under development on climate action data and calculations of potential in different type of actions for emission mitigation.
- Continue to develop communication on climate transition. In 2026 a new website is launched along with a new concept for social media channels to spread knowledge about climate transition.
- Learning is a generic enabler that empowers Climate Transition Malmö. The goal is to accelerate learning at multiple levels (individual, team, organisation, Malmö) to increase goal fulfilment. Other desired effects include:
  - To contribute organisational learning with an increased ability to learn from previous efforts and to be able to take these lessons and experiences into new efforts
  - Ensure that the learning of individual members och staff benefits the organisation
  - Develop an internal learning culture within the organisation and process
  - Contribute to transformative learning where actors can move from knowledge to action competence, behavioural change and scaling

In 2026 focus is to strengthen Malmö's organisation towards Climate Neutrality. The Climate Transition office will visit the board groups of all 14 departments in the city to strengthen their role in the climate transition and to understand there needs to be able to support their transition. This work will continue in the coming years.

Malmö is also on the brink of better understanding of the citizens consumption emissions, the shifts needed for mitigation and possible roles for the city to take to support the mitigation.

In a few years the Climate transition will also start to look beyond 2030, while still having the 2030 goal in target. Where are the challenges beyond 2030, what new business opportunities can emerge with the ongoing transition etc. To strengthen the work going forward, we intend to revise the CCC throughout 2028, as we move closer to 2030.

Annexes

In 2026 year's iteration, the following annexes have been provided along with the updated CCC:

- The seven roadmaps relevant for Malmö's climate transition process (Swe)
- The standard document for climate contracts with external stakeholders in the city (Swe)
- Malmö's national climate contract from 2023 (Eng)
- Malmö's national climate contract from 2025 (Swe)
- Malmö's Environment Programme 2021-2030 (Eng)