Viable Cities

Linköping
Där idéer blir verklighet

Climate City Contract 2030

Between Linköping Municipality and the government agencies the Swedish Energy Agency, Vinnova, Formas, the Swedish Agency for Economic and Regional Growth, the Swedish Transport Administration, the Swedish Environmental Protection Agency and Viable Cities.

VERSION 2022

Energimyndigheten VINNOVA FORMAS tillväxtverket TRAFIKVERKET NATURVÅRDSVERKET

Contents

1. Purpose of the Climate City Contract 2030

The purpose of this Climate City Contract is to accelerate the pace of the climate transition in cities within the framework of the 2030 Agenda, while contributing to the recovery of the Swedish economy in the wake of the coronavirus pandemic. The Climate City Contract expresses the partners' intention to raise the level of ambition in sustainable urban development and climate transition. The Climate City Contract also provides Sweden and Swedish cities with a good foundation to be international role models for climate transition in cities. This will be achieved through mutual, long-term commitment to efforts on the part of the undersigned government agencies, the Viable Cities innovation programme, and the city/municipal authority as set out below.

2. Parties

Parties in the Climate City Contract 2030 are:

- Linköping Municipality.
- The government agencies: The Swedish Energy Agency, Vinnova, Formas, the Swedish Agency for Economic and Regional Growth, the Swedish Transport Administration and the Swedish Environmental Protection Agency.
- The Viable Cities strategic innovation programme.[1]

3. Municipal commitments

3.1. Municipal climate goals

As early as 2012, Linköping Municipality set the ambitious climate goal to become carbon neutral by 2025. In the newly adopted Climate and Energy Programme (2022–2030), this remains as an interim goal, and the long-term climate goal is for **Linköping Municipality to contribute to the municipal geography achieving net zero greenhouse gas (GHG) emissions by 2045**. The goal therefore expresses Linköping's ambition to take even greater responsibility and ramp up local climate efforts. By taking part in Viable Cities Climate Neutral Cities 2030, Linköping along with 22 other cities will also serve as a pioneer in creating climate-neutral cities with *a good life for all within planetary boundaries by 2030.

[1] Viable Cities is a strategic innovation programme funded jointly by the Swedish Energy Agency, Vinnova and Formas. The programme runs 2017–2030 and has approximately 130 members. The host organization is KTH Royal Institute of Technology.

The long-term goal shall be achieved by reducing GHG emissions by at least 85% compared to 1990 levels, and through supplementary measures equating to 15% of 1990 emissions levels. Two interim goals serve as control stations on the path to the long-term goal of net zero GHG emissions by 2045. As well as carbon neutrality by 2025, by 2030 Linköping will have reduced total GHG emissions by 70% compared to 1990 levels.

To enable a ramping-up of climate efforts that include all GHGs, Linköping is mustering forces in the following areas:

- Energy- and climate-efficient homes, premises, businesses and other operations.
- Climate-efficient construction and civil engineering.
- Sustainable mobility and resource-efficient transport.
- Proactive efforts for negative emissions.
- Production and distribution of renewable, robust electricity, heat and cooling.

Efforts are being managed internally and in cooperation with other players. In order to succeed, and with knowledge support from Viable Cities, Linköping is developing a mission-oriented approach firmly aiming towards the climate goals.

The Climate and Energy Programme also contains a number of positions of principle, for example that the municipal group shall work for a transition to a circular economy and sharing economy, which encompasses Linköping Municipality both as an organization and as a geographical location. Linköping shall also – within its own operations and beyond the municipal organization – contribute to reduced consumption-based emissions.

3.2. Strategy

Linköping is in an exciting development phase, with many positive factors contributing to growth and a sense of faith in the future. There are many major urban development projects under way, and new social and business models are under development. All to ensure the city is as resource-smart and life-friendly as possible. Municipal authority over the activities and investments needed to ensure Linköping's climate goals are achieved is an important, yet limited, factor. Engagement and participation from business, civil society and citizens are, however, crucial if the climate goals as a whole are to be achieved.

The municipal group shall act as a good example, by showing the way and providing inspiration. The Municipality shall also, based on its authority, use all available tools to promote and make it possible for inhabitants and the business sector to make climate-conscious choices. Regional conditions, and national and international means of control, also have an important part to play in the rate of climate transition.

During 2022, Linköping Municipality is mobilizing groups among the local business community, civil society and citizens in the process of producing an Action Plan for the Climate and Energy Programme, with activities that will help to achieve the climate goals. The aim is partly to establish buy-in and understanding for the climate goals and the transition that has to take place. It is also about capturing ideas and identifying who should do what to ensure the necessary activities are carried out, *and that they genuinely contribute to the desired results. In this process, we are incorporating clear dimensions related to digitalization,

systems innovation and climate investment needs. The selection and formulation of activities incorporate distinct justice perspectives, for instance relating to children, equality and gender equality. The differing circumstances relating to climate transition, for instance between urban and rural areas, are also considered. Correctly done, climate transition in Linköping will have a positive impact on the inhabitants' quality of life, and lead to a good business climate.

3.3. Organization and management

Both the goal of a carbon-neutral Linköping by 2025 and the long-term goal of net zero by 2045 have been adopted under broad political consensus in the Municipal Council.

The Municipal Executive Board is responsible for coordinating and developing strategic climate transition efforts, and for following up the goals within Linköping Municipality. All municipal enterprises, committees and administrations are responsible for incorporating climate issues in decisions, processes and operational planning.

Some of the Municipality's operations are managed in limited company form, and like the Municipality's other operations, these shall work for Linköping Municipality's core values, political programmes and goals. The shared and individual ownership directives for each subsidiary, alongside other governing documents, are a powerful tool in governing these operations, particularly those related to the mission for a carbon-neutral Linköping and the more long-term climate goals.

For overall strategic coordination efforts, there is the Sustainability Unit at the Municipal Management Administration. The Environment and Urban Planning Administration has a Climate Unit, which works with operational and project-driven implementation of strategic climate transition efforts, primarily in energy efficiency and sustainable mobility.

Within the Municipality and the municipal group there are transition functions and clusters at civil servant level, which have the mandate and the opportunity for collaboration and advocacy linked to Linköping's climate transition efforts. These include:

- The Forum for Social Sustainability and the Forum for Ecological Sustainability within the Municipality, in which administration representatives with mandates from their management groups are convened by the Sustainability Unit. Municipally-owned enterprises take part sporadically.
- The Sustainability Forum for sustainability managers and sustainability coordinators within
  the Municipality and municipally owned enterprises.
- The Procurement Unit and Procurement network within the Municipality/group, which is supported by the Sustainability Unit with regard to enviropnment/climate and social requirements.
- The Linköping Group – a group-wide financial collaboration forum for developing instruments that make it possible to steer capital towards climate- and environmentally friendly investments, such as green bonds.

Within the Municipality, a Climate Group has been started during the year to better link processes, such as development of the Climate and Energy Programme's Action Plan, the Linköping Initiative, and the commitments within Viable Cities.

Linköping Municipality is one of few municipalities in Sweden that has instituted a Climate Council (2019–2022) comprising members of the Municipal Executive Board's Strategic Committee and four external members from Linköping University (LiU), the Swedish Meteorological and Hydrological Institute (SMHI) and the Swedish National Road and Transport Research Institute (VTI). The council has dealt with strategic issues related to climate and the environment, and the external members are there to provide expertise, market intelligence, and advice linked to the Municipality's goals and efforts in relevant areas. The Climate Council has also served as a referral body in the preparation of Linköping's Climate and Energy Programme, and the upcoming Action Plan. Starting in 2023, themed Municipal Executive Board meetings will be held, with opportunities for more in-depth dialogue about ecological sustainability.

During the year, Linköping Municipality has been able to ramp up its climate transition efforts through Viable Cities, Climate Neutral Cities 2030, and the support and exchange this has entailed. Local project parties are Linköping University, RISE, Linköping Science Park, Sankt Kors Fastigheter AB, and Campushallen/LSIF. The parties have jointly formed a Transition Team, whose task it is for instance to facilitate and accelerate the transition, and establish broad participation and engagement around Linköping's climate transition efforts with a focus on citizens, civil society, the business community and academia.

Linköping Municipality intends to:

- Based on existing forums, further develop the structure and processes for transition functions internally within the Municipality, and between the Municipality and

citizens, civil society and the business community. The aim is to systematically implement learnings and working methods that promote increased systems innovation for an accelerated climate transition. This entails for example developing a Climate Investment Plan starting from the Municipality's Climate Action Plan and budget process. It also involves further incorporating climate transition and adaptation issues into the physical planning process.

3.4. Collaboration with business, academia and citizens

Linköping is a place where ideas become reality, and where collaboration and co-creation are considered key to a successful climate transition. The region and Linköping itself boast many innovation and development environments and well-established support systems, which pick up on citizens' ideas and turn them into reality in the form of new companies, operations, projects and working methods. Businesses collaborate with other businesses, and academia, the business sector, civil society and the political sphere cooperate for the best interests of the city and the people in it.

Collaboration with business and academia

Many world-leading innovations were developed in Linköping, and the city has a long history as a place where business and knowledge go hand in hand. There is well-established, successful ongoing collaboration between the Municipality, the region, Linköping university and business – a distinct advantage as Linköping musters forces and ramps up the pace of climate transition.

Ideas and possibilities are born, grow and develop where people come together. Several different business environments, knowledge clusters and collaboration arenas with a clear link to climate and energy transition promote the spirit of innovation and contribute to future growth and impact in Östergötland province and Linköping, such as:

- The many knowledge-intensive tech companies targeted by Linköping Science Park and the incubator, LEAD.
- The Linköping Initiative – a climate network in which 19 of the biggest local energy-consuming companies and organizations, both private and public, work together to achieve Linköping's goal of carbon neutrality.
- Vreta Kluster – an expertise and development arena for green industries.
- Cleantech Östergötland – an arena for solving society's environmental challenges through knowledge and environmental engineering.
- ÖBKN (Östergötland Builds Climate-Neutral) – brings together some 40 stakeholders in the construction and real estate sector in Östergötland, the aim being to accelerate transition in the industry.

- CEGIS (Circular Economy through Industrial Collaboration) – a collaboration project that promotes greater resource efficiency while also generating business gains for the local commercial sector.
- Logistikia, the Östergötland Logistics Cluster – for transition to climate-smart transport, in collaboration between the private and public sectors.
- Biogas Solutions Research Center – a national centre of excellence for research into and development of biogas solutions.

When businesses in Linköping do well, the Municipality does well. Linköping's business programme is a strategic tool that looks to the future and highlights the focus areas with a need and an opportunity to develop. One such area is Sustainability & Resource Efficiency.

Linköping Municipality's Enterprise Council is an arena for discussion between the Municipality's political management, the administrations that have the greatest impact on the business climate, and representatives from Linköping's business community.

For many years, Linköping Municipality and Linköping University have enjoyed far-reaching collaboration and knowledge sharing. With a new collaboration agreement signed in 2021, the parties intend to strengthen and develop their strong, long-term relations and clarify the organization and collaboration forms; this in turn will promote the start-up of new collaboration projects in the following selected areas: sustainable urban development, sustainable growth, and sustainable welfare.

Linköping University has joined the Climate Framework for Higher Education Institutions in Sweden, with a focus on emissions from the institutions' own activities, and to some degree also indirect climate impact. LiU is also one of nine higher education institutions in Sweden to be granted funding to develop a Massive Open Online Course (MOOC) to support society's climate transition and the move towards a circular economy. This is part of the government's scheme called *Klimatkompetenslyftet*, which aims to boost climate expertise in Sweden.

Collaboration with civil society and citizens

Ensuring that more people make climate-smart choices in their everyday lives is crucial to achieving sustainable development. The climate transition may feel difficult, and it can be hard to understand what needs to be done. The transition therefore needs to be designed in an inclusive way, which provides the knowledge and the opportunity to act. Climate transition is an opportunity that can contribute to quality of life and resource-efficient development for everyone who lives and works in Linköping today and for future generations. Dialogues and meetings with citizens and civil society have been extended, not only as part of preparing the Climate Action Plan, but also in an exploratory endeavour, based on the Viable Cities call to create

a transition arena – a platform and framework where local stakeholders can work together.

Through clubs and societies, citizens can take initiatives for and carry out joint projects that contribute to greater democracy and social, ecological and economic progress. A society where people's voluntary and ideas-oriented engagement is fostered is the foundation of a strong democracy, and a fundamental condition for climate transition. The Municipality has a high ambition to promote the work of civil society in different ways, and has an important part to play in the climate transition, both as a collaboration partner and as a financier. An official agreement for cooperation between civil society and the Municipality has been in place since 2012, the aim being to strengthen collaboration between the Municipality and organizations in the ideas industry for democratic establishment and vitalization. This will be done by facilitating local development in city districts and parts of the municipality, bolstering the organizations' independence and opportunities to voice and lead opinions for their interests, and developing opportunities for ideas industry organizations to play an important role in welfare development.

Every year, Linköping Municipal Council awards an environment and nature conservation grant to a private individual, non-profit association, company or organization that has made an outstanding contribution to nature and the environment in Linköping.

Preparation of the Climate and Energy Plan and its accompanying Action Plan has involved a great many dialogues on different themes with citizens and civil society, including commuters in Linköping's Green Travel Plan areas, high school students, and local clubs and societies. An open digital survey was initially used to invite Linköping residents to more in-depth focus group discussions. In order to reach clubs, societies and individuals in rural areas, a digital dialogue was held during the pandemic specifically to deal with rural perspectives linked to energy and climate issues.

Linköping Municipality intends to:

- Explore approaches for establishing a local transition arena – a platform and framework for local stakeholders to work together and develop shared missions and activities, with the aim of achieving Linköping's climate goals. The focus is to formulate solutions to the climate challenges together, and boost the power of the initiatives taken, whether by citizens, civil society, business, academia or the municipal organization. The transition arena is the responsibility of the Transition Team in the Climate Neutral Linköping initiative through Viable Cities.
- Build the Municipality's expertise regarding test beds, and create environments or open its operations to the development and testing of innovations. Genuine needs owners and swift interactions with citizens are something both the academic and the business sectors are looking for.

- Offer Test Bed Checks, the aim being to stimulate small and medium-sized companies operating in climate and energy to test their products ands services, primarily in Vallastaden and Ebbepark. The pilot tests will take place and be reported as part of the Climate Neutral Linköping 2030 project.

3.5. Climate Investment Plan

Linköping is an expansive municipality, and the municipal enterprises that are part of the group will continue to invest at a rapid rate. The focus is on sustainable investments for the future. In 2017 Linköping Municipality, Linköpings Stadshus, Tekniska verken i Linköping, Stångåstaden and Lejonfastigheter started the 'Linköping Group' to increase collaboration and create new financial solutions.

The Linköping Group has developed a joint MTN (Medium Term Note) programme, whereby the companies borrow on standardized terms, although in their own name, with municipal guarantees as collateral. By creating a joint framework for green bonds, the companies can borrow under the joint programme, but with a green focus for their investments.

Achieving Linköping's climate goals requires knowledge and greater understanding of the investment requirement, and the socioeconomic value and gains the climate transition can bring, for example for health, private finances and public finances.

Conducting cost and effect assessments of climate actions makes it possible for all stakeholders to prioritize the actions that have the greatest climate impact for the economic investment, and to assess the social and commercial benefits. The Linköping Initiative climate network, the most energy-intensive private, public and regional companies, have been identified as key players, and will be made active participants in this work.

Linköping Municipality intends to:

- Begin working with an iterative learning process regarding climate investment plans within the municipal group, and alongside the Linköping Initiative (business) link the process to Linköping's climate goals and upcoming Action Plan.

3.6. Digital support for implementation

One of Linköping Municipality's strategic development areas is to harness the potential offered by digitalization. The combination of digital transformation and new technology, how operations are conducted and the willingness for transition all create opportunities to tackle the climate challenges in brand new ways.

Linköping Municipality's efforts to boost digital maturity start from a politically adopted governing document entitled *Program för digital transformation/ Programme for digital transformation*. Systematic efforts are under way to develop

skills and build a transition-oriented culture, and to measure, monitor and evaluate the efforts internally within the municipal group, within the framework of digital transformation.

Linköping Municipality has a prominent position regionally and nationally, partly through leading or participating in national projects such as DigInfra, City as a Platform, and a digital comprehensive plan. Linköping Municipality has the ongoing ambition of being a leader in harnessing the potential of digital transformation. To take one example, the Environment and Urban Planning Administration plans to implement a new operational platform, which in the longer term will secure a digital process for the built environment.

Linköping views digital transformation as a pivotal tool in achieving the Municipality's climate goals and ambitions, but also in creating benefits for the public, business and stakeholders that need to be engaged and become even more involved. One prerequisite for this digital transformation and the development of digital services is standardized, quality-assured data management, where the various operations in the Municipality have the ability to collect data and share it with each other in a controlled manner. Linked to climate transition, which is a very complex area, it is also important to be able to collect and visualize climate data in a user-friendly way. In this way it is a tool for consensus and understanding about what needs to be done if the goals are to be achieved.

Linköping Municipality intends to:

- Develop capabilities and conditions for increasing the collection and availability of climate- and energy-related data (both static and streaming data); and share this as open or shared data. This presupposes long-term systematic efforts within the municipal group to develop both the hard and the soft digital infrastructure from a technical, commercial and organizational perspective. The objective is to establish interoperability between systems and organizations. Guiding principles in this development are the use of established standards and frameworks for ensuring modularity and exchangeability, and reducing vendor lock-ins.
- Take control of its data and data-driven solutions by systematically assessing needs and striving for right of ownership or use of data in future procurements.
- Visualize climate data as a tool for assuring better engagement, participation and consensus around the current situation and future vision related to Linköping's climate goals.
- Assess the market as regards digital tools that can provide support in understanding effects and in evaluating initiatives for climate transition, in order to use such assessments to make evidence-based decisions.

- Strengthen relations and projects between the people in the municipal group who work with climate and sustainability on the one hand, and digitalization and innovation on the other.

3.7. Innovation hub for climate-neutral municipalities

There is a spirit in Linköping that any idea can be made reality through collaboration and the courage to think along new lines. The city has a long tradition of innovation and strong networks between the university, the public sector, the business community and the rest of society. The region is a dynamic one, and there are many powerful innovation environments and various incubators which help ensure that research results lead to growth and new enterprises. Linköping and the entire region are good at collaborating.

Since its inception in 1984, the municipal enterprise Linköping Science Park has grown into a world-class innovations hotspot. Sustainability is increasingly important as businesses with good growth potential are developed, and Linköping Science Park offers development programmes, networks and meeting places for innovation, research, enterprise and talent.

There is space in Linköping both for innovation development and fresh thinking entrepreneurs who want to assert themselves as part of the transition process. To ease the journey for startups towards growth and profitability, the LEAD incubator offers entrepreneurs with innovative, scalable ideas an efficient process for quickly and reliably developing those ideas into strong, expansive businesses. There are many niche arenas for innovation, such as: Cleantech Östergötland, East Sweden Game, Innovative Materials Arena – IMA, Aerospace Cluster Sweden, IoT World, Visual Sweden and Vreta Kluster.

Linköping is the hub in a strongly growing region. Five areas of strength with the potential for growth have been identified in the region's strategy for smart specialization: Smart, safe, robust connected products and systems; Efficient logistics; Visualization and simulation; Environmental benefit as a business; and Advanced materials. In each area of strength, successful research and prominent companies can be found here, and roadmaps are now being prepared including goals, delimitations and priorities going forward.

East Sweden Business Region is a collaboration between all public, regional players that work with growth in some way, i.e. Region Östergötland, the municipalities and business organizations. Within East Sweden Business Region there is also a smaller group: Innovationskraftsgruppen, which brings together innovation environments, the LEAD incubator, Almi, along with all the regional areas of strength and clusters.

Linköping Municipality is involved in regional, national and international networks such as ICLEI, Klimatkommunerna, Fossilfritt 2030, Rena Resan and others. Sharing our own and seeing others' good examples lay the foundation to achieve the climate goals more quickly. By offering the city's infrastructure and operations as a test bed, the Municipality contributes to the development of new and innovative solutions in energy technology, Internet of Things (IoT), and transport and mobility.

Linköping Municipality intends to:

- Through Viable Cities, continue to build knowledge about mission-driven working methods and innovation leadership. Working systematically and methodically with co-creating partnerships helps the Municipality to hone its ability to mobilize and build structures for greater systems innovation and a higher rate of transition.
- Equip the municipal group to begin working systematically with test beds and living labs, good reference examples being Test Bed Ebbepark and Vallastaden.

3.8. Climate adaptation

Climate change is now a fact, and this means altered conditions for everyone on Earth. Whether or not we manage to reduce our emissions now, we will have to live with the consequences of earlier climate change going forward. Concerted effort is needed to genuinely ensure that Linköping transitions towards climate safety. This means that the focus needs to shift from problems to solutions, and from planning to execution. As important as it is to take climate responsibility to reduce climate impact, it is equally important to adapt society to a new, constantly changing climate. These two aspects are interdependent, and should be coordinated to the greatest extent possible. This will ensure a secure, sustainable municipality also in the future.

The new climate means that Linköping will probably become warmer and experience more precipitation than before. Higher temperatures, more extreme weather events and flooding lie ahead for Linköping. The more vulnerable groups in society are often the ones most affected by heat weaves and weather disasters. It is therefore vital that the Municipality transitions in time and adapts the city and its operations to a new climate. The Municipality needs to take measures linked to infrastructure and water supply, and equip care homes, for instance, to cope with higher temperatures.

Linköping's Climate Adaptation Programme serves the purpose of enabling the Municipality's administrations and enterprises to conduct the operations their remit commits them to, also in a changing climate. It also aims to help the city to adapt. The aim of the document is to establish a coherent idea of risks linked to ongoing and upcoming climate change. Another aim is to highlight long-term roadmaps and strategies, including prioritization of special development initiatives to adapt the Municipality's operations to deal with these risks. The programme is concretized

in an Action Plan, which forms the basis of climate adaptation efforts in the Municipality's administrations and enterprises.

Linköping Municipality is involved in several research projects with LiU, including BRIGHT which aims to assist effective climate adaptation through new knowledge, optimized methods, improved tools, and user-friendly data that can help Swedish municipalities to better adapt their built environment to future heat waves.

Linköping Municipality intends to:

- Conduct a Climate and Vulnerability Analysis for Linköping Municipality. A consultant will be brought in for the assignment and will hold workshops with administrations and enterprises. The aim is to build an objective idea of how far the Municipality has come in its climate adaptation efforts, and ensure that actions are prioritized based on risk.
- Update the Climate Adaptation Action Plan and the Municipality's Climate Adaptation Programme based on the Climate and Vulnerability Analysis.
- Explore opportunities and methods for citizen science alongside Linköping University and others, to see how this can contribute to greater knowledge and participation related to climate transition and adaptation.
- Conduct a workshop alongside SMHI to produce 'future scenarios', as a tool for climate adaptation work in the municipality.

3.9. Climate-smart mobility

The Municipality's Comprehensive Plan and Transport Strategy show the road ahead for urban and transport planning. Important aspects are building the city taller and more densely, and creating a more intensive and attractive city life. To achieve this, the Municipality has established that road traffic cannot continue to grow as it does today; more journeys need to be undertaken using more resource-efficient modes of transport. Tools for accomplishing this include lower speed limits on the roads, working with parking as a means of control, as well as major initiatives focusing on the cycling and public transport networks.

The transport system is being transformed at a fast pace, driven by electrification, digitalization and the climate. Driverless vehicles, digitally communicated lift sharing, fixed and fluid car- and bicycle-sharing schemes, and mobility services such as MaaS (Mobility-as-a-Service) are some examples. Linköping Municipality sees itself as an enabler for the transition towards a new, more sustainable, more resource-efficient passenger transport system, focusing on walking, cycling and public transport, combined with access to cars and shared mobility services. Based on an explorative, conscious approach, several projects have been initiated by or together with Linköping Municipality as an involved party, including Ride the Future, whereby Linköping is

serving as a test bed for Swedish National Road and Transport Research Institute (VTI) autonomous buses, Linköping MaaS, and mobility hubs.

A roadmap for smart mobility in Linköping has been produced, and an interdisciplinary group for smart mobility has been formed. The aim is to establish broader dialogue with mobility stakeholders operating in the city, and thus identify common needs, and coordinate and bolster joint innovation and development projects in the field.

About 40,000 people in Linköping's largest workplace areas are currently encompassed by ongoing, Municipality-initiated efforts around 'Green Travel Plans', the aim being that collaboration between businesses, property owners and mobility stakeholders should increase the percentage of climate-smart commuting and travel services to, from and at work.

For decades, Linköping has invested in infrastructure expansion, operation and behaviour-oriented advocacy to increase cycling. Cycle 'super paths' have been conceptualized and developed in Linköping in recent years. This Cykellänken or 'Cycle Link' network intends to make it more attractive to choose cycling rather than driving for commutes within the city. And the investment has paid off: in recent years Linköping has placed high in rankings carried out by Cykelfrämjandet, Sweden's national cycling advocacy organization, both in terms of municipality initiatives for cycling and when the cyclists themselves assess their city for cycling. In the latter ranking, Linköping achieved first place among large municipalities in Sweden in 2022.

During the year, the Swedish Transport Agency has assessed where the East Link Project will enter and leave central Linköping, providing a clear path forward for urban development in Linköping; the city is now facing its most comprehensive changes ever.

Linköping Municipality intends to:

- Further develop interdisciplinary groups in the field of mobility with different areas of focus, such as cycling and smart mobility. This will include participants from different units within the Environment and Urban Planning Administration, as well as external stakeholders with an interest in and the potential to influence developments.
- Extend the transition dialogue with property owners, business and citizens via strategic work on Green Travel Plans, and look into the possibility of instituting a special forum for dialogue on cycling.
- Develop the methods for understanding and visualizing traffic flows in the municipality, where the data can be aggregated and made available as shared or open data. This is partly an aspect of the Environment and Urban Planning Administration's development of a new operations platform.

3.10. Reporting and follow-up

The Municipal Executive Board in Linköping Municipality is responsible for following up the goals defined in the Climate and Energy Programme. The goals will be monitored in connection with follow-up of the Action Plan currently under development, or as and when the need arises.

4. Viable Cities' commitments

The innovation programme Viable Cities is implemented in a broad collaboration in order to contribute to the transition to climate-neutral cities by 2030 as part of Sweden's commitment to meet the Sustainable Development Goals (SDGs) of the 2030 Agenda and the aims of the Paris Agreement. This includes being international role models for climate transition in cities.

Viable Cities works with a wide range of stakeholders across disciplinary boundaries, industries and societal sectors. The programme connects centres of research excellence with large, small and medium-sized enterprises in a range of industries, as well as with public sector and civil society organizations.

Within the framework of Viable Cities' strategic innovation role, the programme shall strive to achieve the following:

4.1. Better regulation

Viable Cities intends to create competence support with policy labs to provide the municipality with a better overview of current and proposed Swedish and European legislation, regulation and standards of relevance to the cities' climate transition. This includes process support for changing regulations and standards to facilitate *the climate transition in practice. In the initial phase, this will be linked to work to develop system demonstrators (see Section 6).

4.2. Innovation

In order to make it easier for the municipality to implement innovations that can accelerate the pace of climate transition, Viable Cities will provide a competence network and process support, including by engaging other strategic innovation programmes in the ongoing development of Climate City Contract 2030, particularly in the areas of mobility, energy, built environment, the circular economy, health and digitalization. Based on the collaboration agreement on climate-smart mobility signed with the strategic innovation programme Drive Sweden, this area of collaboration will be further developed with both cities and government agencies, not least the Swedish Transport Administration.

4.3. Coordinated funding

Viable Cities will work in the following ways to support the municipality's funding needs for the climate transition and to promote collaboration and synergies between government agencies and other stakeholders that fund climate transition and sustainable urban development.

- Viable Cities shall continue to work with Climate City Contract 2030 with the 23 cities and five government agencies involved in the programme.
- Through the Council for Sustainable Cities, Viable Cities has launched a collaboration to create synergies between urban climate transition grants from government agencies and Climate City Contract 2030. The agencies are currently working to coordinate the various initiatives under way in the field of sustainable urban development, see Section 5.3 Coordinated funding.
- Viable Cities collaborates with Kommuninvest and the European Investment Bank (EIB) among others in order to develop forms for strengthening the long-term funding of municipal climate investment plans.

Viable Cities continues to develop forms for climate investment plans for cities, the aim being to support all cities in their efforts towards climate neutrality by 2030.

4.4. Cooperation with the EU Cities Mission

Viable Cities cooperates closely with the support structures built up around the EU's Cities Mission – including the NetZeroCities platform (an EU mission platform), CapaCITIES (a network of national nodes), and the Driving Urban Transitions (DUT) Partnership programme.

5. Commitments by the government agencies

The government agencies commit to collaborating within the strategic innovation programme Viable Cities. The agencies thereby contribute to the purpose of the mission-led work to transition to climate-neutral cities by 2030 with a good life for all within planetary boundaries.

Climate City Contract 2030 means that new working methods need to be developed, both between different actors and organizations, and between different levels of governance.

During 2023, the agencies will continue to develop work in the interagency innovation team. Continued dialogue with cities and regions is important in order to capture

needs and contribute to systems transition. This work entails active participation in the Transition Lab Forum facilitated by Viable Cities, in which joint workshops, reflective discussions and teaching seminars are important aspects. New working methods may also entail that government agencies initiate experiments and pilot projects.

The agencies undertake to continue joint efforts to support the municipalities' climate transition in the following areas in 2023:

5.1. A learning approach in policy development

The government agencies work together to create the conditions for proactive dialogue and learning regarding policy development, and existing and proposed regulations on sustainable urban development and climate transition.

During 2023, the agencies will explore and test forms, such as policy labs, for identifying obstacles and challenges in policy and regulations for sustainable urban development and climate transition.

The agencies will continue to contribute to activities that promote the development of climate investment plans, digitalization and data sharing, system demonstrators and collaboration processes that relate to multi-level governance.

During Sweden's EU Presidency in the first half of 2023, the government agencies will be involved in several of the 150 or so EU meetings to be held in Sweden. The meetings are forums for learning and policy development, and cities and regions are important participants. Planned discussions include the EU's urban agenda on sustainable urban development and a conference on Green Cities.

5.2. Funding for research, innovation and development

The government agencies fund initiatives for research, innovation, development and systems innovation that support accelerated climate transition.

The agencies' funding focuses on different types of research, innovation, application and demonstration, and to some extent investment support. Funding is provided through open calls and other forms, such as client networks, needs-owner networks and innovation procurement.

As part of the transition process, the agencies[2] and Viable Cities have launched an initiative on urban system demonstrators. During autumn 2022, an initial 'design phase' was carried out as part of the initiative. A follow-up call will be made in 2023. The purpose of the effort is to create a form of initiative that takes a clearer systems perspective to the transition process.

[2] Vinnova

5.3. Coordinated funding

To create better foresight and centralized information, the government agencies continuously develop coordination of the various efforts under way in the field of sustainable urban development and climate transition. Development takes place within the framework of several of the agencies' existing tasks and assignments, such as the Council for Sustainable Cities, strategic innovation programmes, the national research programmes for climate and sustainable community building, as well as the European Regional Development Fund.

During 2022, the agencies have begun initial tests with some of the cities, in order to develop, in dialogue, a method for portfolio analysis of the agencies' collective funding for cities. The innovation work is planned to continue in 2023. The long-term goal is for the work to contribute to work on cities' climate investment plans.

Hallbarstad.se is the Council for Sustainable Cities central website. Development work on the website will continue in 2023, partly to publicize upcoming funding opportunities, and partly to make it clearer and more user-friendly.

5.4. Participation in European initiatives for sustainable cities

The government agencies are involved in and work with several different European initiatives to support the development of sustainable cities and communities.

Work to support Swedish participation in the Horizon Europe 2021–2027 research programme includes contributing to the design of calls and activities, and informing and advising actors planning to take part in applications for different European efforts. The government agencies also collaborate in the execution of the EU's Regional Development Fund 2021–2027 with efforts for sustainable urban development.

The agencies will continue to collaborate in the Driving Urban Transitions to a Sustainable Future Partnership[3], where there will be calls and other activities in the field of sustainable urban development in the years to come, as well as the European Commission's New European Bauhaus[4] initiative, the European Urban Initiative (EUI)[5] and URBACT[6].

[3] The Swedish Energy Agency, Formas and Vinnova

[4] New European Bauhaus highlights the significance of aesthetic, social and cultural values in the green transition.

[5] The European Urban Initiative is a hub for sustainable urban development on an EU level. The EUI will offer funding for cities to improve and increase their capacity in designing strategies, policies and projects for sustainable urban development (urban-initiative.eu).

[6] URBACT is a European collaboration programme for exchange and learning in sustainable urban development, Swedish Agency for Economic and Regional Growth,

The agencies will also contribute to develop support functions for the cities selected to participate in the Cities Mission. One example is the CapaCITIES[7] programme. Through CapaCITIES, national change processes are initiated and strengthened to establish national networks and governance structures.

6. Strategic development projects 2023

The following strategic development projects will be conducted during 2023 within the framework of Viable Cities Transition Lab in collaboration with other municipalities, with the aim of further developing the content of the Climate City Contract 2030 during its upcoming revision.

6.1. System demonstrations

In collaboration with the involved government agencies, Viable Cities is developing a new form of initiative to drive systems innovation for transformation in line with the Cities Mission. A system demonstrator will be conducted to demonstrate the transition of entire social systems in a real-life environment. An important part of this kind of approach is a portfolio of efforts where new solutions, models, initiatives and experiments are linked to a greater whole. Many actors from different sectors are being mobilized in order to learn how to scale up The system demonstrators start from central areas in the Climate City Contract 2030 and are intended to contribute to revisions of the contract based on insights arising from the work.

During 2022, Vinnova and Viable Cities have jointly begun a design phase to explore how system demonstrators can be a powerful tool in the transition to climate-neutral cities. In collaboration with a number of cities, six consortiums began the design phase in autumn 2022. A call is planned during 2023 for the establishment phase, with the ambition of enabling a number of system demonstrators in Sweden. In tandem, four system demonstrators are being planned Bogotá (Colombia), Bristol (UK), Curitiba (Brazil) and Makindye Ssabgabo (Uganda) within the Climate Smart Cities Challenge alongside UN-Habitat. The aim is to strengthen the exchange of experiences between system demonstrators both nationally and internationally in 2023.

6.2. Competitiveness and funding

One of the foundations of mission-oriented innovation is that the state and public organizations at different levels of society play an active role in co-creating and redesigning markets in collaboration with business and other players in society, such as academia and civil society. Concerted mobilization for the transition to climate neutrality can lay the foundation for companies in Sweden to develop new business strategies that enhance competitiveness by driving a transition to a sustainable,

[7] the Swedish Energy Agency and Viable Cities are taking part.

climate-neutral society. This is crucial to Sweden's ambition of being the world's first fossil-free welfare nation, and to our climate policy framework. During 2023, Viable Cities will further strengthen its collaboration with business in order to muster forces for transition. This will take place on several levels, particularly through collaboration in initiatives such as Fossil Free Sweden and The Green Transition Leap. In addition, there will be development to strengthen the local mobilization of companies in the Climate City Contract 2030.

A central aspect of the Climate City Contract 2030 is to create a Climate Investment Plan with a broad perspective on what investments need to be made to achieve climate transition in a city by 2030 (with broad referring to a wide range of stakeholders such as citizens, civil society, companies, academia and public organizations). The municipality is believed to have control over about 15% of the required investments on average. One crucial task is to bring together the right actors from business (including the financial sector), public bodies and civil society to bring about the *necessary investment and redirect financial flows to transition to climate neutrality, while also securing auxiliary benefits from the climate transition such as jobs, improved health, inclusivity and attractive living environments. Procurement is also a pivotal issue here. Viable Cities' work will continue in 2023 in order to secure the mobilization of investments and develop methods for climate investment plans.

6.3. Citizen engagement

Various societal challenges currently exist, adding further crises to the climate crisis. For example the pandemic, the war in Ukraine, crises relating to energy, food, raw materials and critical minerals, biodiversity and demographics. This also presents a demographic challenge where a growing percentage of the population feels excluded.

This increases the need for efforts aiming at inclusivity, and at putting citizens front and centre for the transition to climate neutrality and a sustainable society, for instance through new forms for citizen involvement (e.g. citizens' councils) and the development of attractive living environments (e.g. New European Bauhaus). During 2023, Viable Cities will further develop collaboration with cities, government agencies and other actors in order to create conditions for citizen engagement in the climate transition. This will be done primarily by developing new forms for citizen involvement in local climate city contracts and collaboration with European efforts in the area.

6.4. International Cities Mission 2030

In October 2021, the EU launched five missions as a new and innovative approach to working together to improve the lives of people in Europe and beyond. The five missions are intended to tackle major societal challenges such as health, climate and the environment and to formulate ambitious goals and deliver solutions by 2030.

One of these missions is 100 Climate-Neutral and Smart Cities by 2030 – by and for the citizens (known as the Cities Mission), an important element of the delivery of the European Green Deal and a climate-neutral continent by 2050. This will considerably strengthen Swedish efforts to achieve climate-neutral cities by 2030 and to utilize the Climate City Contract 2030 as a tool to do so.

During 2023, work will be done to further strengthen links between Swedish and joint European efforts to achieve climate-neutral cities by 2030. This will take place within a range of initiatives involving cities, government agencies and the Viable Cities programme; for example, NetZeroCities (a platform for the implementation of the Cities Mission which will be developing e.g. an EU Climate City Contract and climate investment plans), the Driving Urban Transition Partnership, CapaCITIES, New European Bauhaus and others. Launched by the European Commission in January 2021, the New European Bauhaus initiative connects the European Green Deal to our built environment. In the implementation plan for the Cities Mission, the European Commission highlights that the EU Climate City Contract will also enable participating cities to integrate and promote the values and the principles of the New European Bauhaus initiative in their plans for climate neutrality. The Swedish National Board of Housing, Building and Planning (through the Council for Sustainable Cities) has been tasked by the Government with coordinating Swedish participation in New European Bauhaus.

Work on achieving climate-neutral cities by 2030 will continue to be developed globally. This will primarily be based on several already ongoing projects, e.g. linked to Sweden's EU Presidency in the first half of 2023, and the continuation of the Climate Smart Cities Challenge in the four cities outside of the EU in association with UN-Habitat.

7. Joint monitoring, evaluation and updating

Viable Cities and the municipality agree to conduct an annual review of the municipality's results within the framework of Climate City Contract 2030. Viable Cities shall prepare documentation for annual follow-up at municipal and national levels

7.1. Most important updates for the municipality

During the year, Linköping Municipality has been able to ramp up its climate transition efforts thanks to the opportunity to work and learn through the Viable Cities, Climate Neutral Cities 2030 initiative. Local project parties are Linköping University, RISE, Linköping Science Park, Sankt Kors Fastigheter AB, and Campushallen/LSIF. Among other things, the parties have established a Transition Team, which drives different work packages, for example on collaborating and managing strategic issues linked

to data management and data sharing, with a focus on data of strategic importance to climate transition efforts. Another area has been to create understanding, participation and engagement around Linköping's climate goals through digital and physical dialogues with citizens, civil society and the business community.

This year's follow-up of the Carbon Neutral Linköping by 2025 goal shows that undertaken actions and initiatives have led to a reduction in CO2 emissions in the municipality of just over 35% per inhabitant (2009 to 2019), while the population has increased by around 18,000 during the same period. For 2019 and 2020, there is a distinct reduction in emissions compared to previous years, and the reductions can primarily be seen in the transport and household sectors respectively. The follow-up shows that the amount of own-produced renewable or resource-efficient electricity has increased, for example by investing in a local solar array and wind farm outside Sunne in Värmland province. Lower emissions combined with higher compensation means that the net value, i.e. the emissions remaining in order to be carbon neutral by 2025, has fallen significantly.

Linköping Municipality and 19 of Linköping's largest energy-consuming companies and organizations have signed up for a further agreement period for the Linköping Initiative. Together, the parties will contribute to achieving the interim goal of a carbon-neutral Linköping by 2025.

Linköping's municipal enterprises have carried out various exciting activities aiming towards climate transition.

A selection follows below:

- Tekniska verken, the municipal energy company, has built a 45-metre-high accumulator tank – a cylindrical steel container that will store heat for district heating. The stored hot water will come in useful in cold snaps when production needs to increase, particularly during the morning hours. Tekniska verken is also developing a pilot facility for climate-smart underground district heating storage in Vallastaden. Innovative heat storage reduces the need to start up backup boilers, while securing the delivery of district heating on cold winter days.
- Lejonfastigheter, which owns and manages municipal buildings, has established a 'reuse hub' for used building materials. The reuse hub is a step towards more circular construction and lower climate impact. An external company was previously used to run the facility, but local people far from the job market are now being employed for this purpose, in association with the Integration and Labour Market Administration.
- Stångåstaden, Linköping's municipal housing company, has developed a model for reduced climate impact in new production projects, which means that bidders must report climate impact during the production phase, and submit between

five and eight suggestions for reducing the project's climate impact. The model has been very positively received by building contractors. Focusing on the climate goals, the ambition is to increase the pace of efforts to test different materials, innovations and flexible solutions, in order to further reduce climate impact from construction.

- Sankt Kors, the Municipality's commercial property company, has built Linköping's first wooden office building. This is part of an effort to increase the proportion of wooden construction, as defined in the Municipality's Wooden Building Policy. The project has provided Sankt Kors as a client, project manager (consultant) and building contractor with valuable knowledge, in everything from the project model to the end result, which can be applied in future wooden building projects with lower climate impact.

7.2. Most urgent experiences to share for the municipality

One success factor for Linköping's climate efforts has been the fact that politicians adopted the clear goal of a Carbon Neutral Linköping by 2025 early on. The goal has been an important signalling value which, without micro-management, has led to municipal enterprises and many of the Municipality's operations working on broad measures to reduce emissions. The goal has also continued between mandate periods, which clearly demonstrates political unity around the goal.

The most important experiences Linköping Municipality would like to share are:

- One strength in the climate efforts are the municipal groups wholly owned companies. These municipal enterprises are pivotal players in operations that involve, for instance, waste management, cogeneration, and the provision of homes and premises. Through ownership directives, there are opportunities to influence the companies' operations. Through the companies, Linköping Municipality can reach and influence Linköping residents in their various roles, for instance as tenants of the municipal housing company.
- Linköping Municipality has a strong culture of research and innovation, particularly through Linköping University and the tech companies, the majority of which are established at Mjärdevi, coordinated by Linköping Science Park. Innovative companies in environmental engineering are also driving development, Cleantech Östergötland and Tekniska verken being two key players. Altogether, collaboration with both the academic and business spheres has a strong influence on the Municipality's climate efforts.
- Linköping Municipality has been early in terms of technological development characterized by circularity and symbiosis, which has for example resulted in the municipal enterprise Tekniska verken being a pioneer in biogas production, and developing collaborations within the framework of CEGIS – *Cirkulär ekonomi genom industriell samverkan/Circular Economy through Industrial Symbiosis*.

- As well as reducing GHG emissions, Linköping Municipality, through Tekniska verken, is working with compensatory measures to balance remaining emissions. This is being done, for example, by investing in renewable electricity with the establishment of a solar array locally and a wind farm in Värmland province. It is also done by producing biogas which is sold beyond municipal boundaries.
- Linköping has Sweden's most satisfied cyclists, according to 2022 rankings carried out by Cykelfrämjandet, Sweden's national cycling advocacy organization. The city's initiatives to improve the cycling infrastructure, such as the Cykellänken 'Cycle Link' network and the development of sweep-salted sections, information campaigns and behavioural advocacy, have paid off. As many as 86% of Linköping's cyclists would recommend cycling in the municipality to others.

7.3. Most important updates regarding Viable Cities

During 2022, far-reaching efforts have been made to lay a good foundation for all 23 signatory cities to deepen their work on the Cities Mission, as 14 cities were added in October 2021. The platform for faster learning has been evolved through the Viable Cities Transition Lab Forum, City Labs, Climate Breakfasts and a range of other formats for meetings between cities, government agencies and other actors. The collaboration with the signatory government agencies has been enhanced so as to further hone the Climate City Contract 2030 process. Viable Cities has also provided documentation for the government's task relating to local and regional climate transition, which is one of the foundations for the government's upcoming climate policy action plan.

During the year, efforts to develop practical, research-based tools and methods for climate investment plans have intensified. An initial prototype of a calculation tool has been available to all 23 signatory cities since October. Development of the system demonstrator concept also continued during the year, and in the autumn a design phase for a brand new effort was launched in a partnership between Vinnova and Viable Cities, which involves several cities.

During 2022, Viable Cities has had responsibility for a government assignment, Thriving North (support for innovation work for sustainable urban and community development in Norrbotten and Västerbotten). An initial prototype of a regional climate contract has been developed with a working group of representatives from the regions and county administrative boards in Västerbotten and Norrbotten. Moreover, a platform for regional societal transition has been initiated in northern Sweden. The platform is called Thriving North, and is now being carried forward by several players in Sweden's four northern regions.

The EU's work on the Cities Mission has been intensified during the year. September 2021 saw the launch of the Cities Mission, one of five EU missions. Cities across Europe were invited to register their interest in becoming forerunners in the transition

to climate neutrality. As many as 377 cities applied. In June 2022, 112 cities were chosen to be pioneers in the climate transition, 100 in the EU and 12 in associated nations. These 112 include seven of the Swedish cities that are among the 23 signatories of the Climate City Contract 2030.

Over the past year, the European platform NetZeroCities has begun efforts to support implementation of the Cities Mission within the EU, primarily to facilitate the transition in the 112 cities. Viable Cities is also involved in this work. NetZeroCities is currently designing a Climate City Contract for cities throughout the EU as a tool for accelerated climate transition. Climate investments are an important aspect of this.

Two new complementary initiatives were begun during 2022 to support the Cities Mission in the EU. The first is the Driving Urban Transitions Partnership, in which Viable Cities is taking part together with Swedish organizations Vinnova, the Swedish Energy Agency and Formas. The partnership is a collaboration between national bodies from a large number of nations. The focus is on funding international efforts in three sectors that can help accelerate the climate transition: Positive Energy Districts, Circular Urban Economies and 15-minute City. The other is the CapaCITIES initiative. This EU collaboration aims to facilitate the establishment of national structures to enable climate transition in cities similar to Viable Cities in Sweden and CitiES2030 in Spain.

The Climate Smart Cities Challenge, a global innovation competition, has entered a new phase during the year, and teams of companies and organizations are now working in the four cities outside the EU in association with UN-Habitat.

7.4. Most important updates regarding government agencies

Work in the interagency innovation team

During 2022, the government agencies in the Climate City Contract have continued to develop work in their interagency innovation team. For instance, the team has compiled a summary of the government agencies' various forms of funding and financing instruments, and helped in ensuring that calls related to climate transition and sustainable cities are continually published on the hallbarstad.se website.

The innovation team has participated in Viable Cities Transition Labs, as well as workshops and meetings, in order to learn more about cities' climate investment plans and the agencies' role in the process. Alongside some of the cities, the innovation team has tested developing support and forms for analysing the government agencies' joint funding (including various research and innovation (R&I) programmes, city environment contracts) over the past five years. The aim in the longer term is that this work should contribute to commitments regarding coordinated funding and the cities' work on planning climate investments.

The government agencies' ongoing work includes many measures and initiatives that are of significance to the cities' work on climate transition. Compiling and providing information about these are important tasks for the government agencies. Below is a selection that relate to the cities in some way.

Funding for research, innovation and development

During the year, the government agencies have announced several calls aiming to facilitate the transition in cities.

Vinnova has worked with Viable Cities to publish a call for a design phase for urban system demonstrators, for instance. A follow-up call will be published in spring 2023. Other examples from Vinnova include Sustainable accessibility across Sweden, on mobility in sparsely populated areas, in association with Drive Sweden and Viable Cities, Civil society's solutions for climate transition, and Innovations to reduce electricity consumption in cooperation with the Swedish Energy Agency.

The Swedish Agency for Economic and Regional Growth has had calls from the European Regional Development Fund: Produce a local strategy for sustainable urban development and Drive a platform for collaboration and experience exchange. The city as a hub for green and digital transition is an initiative within The Green Transition Leap which is also financed by the Regional Development Fund. The initiative aims to develop practical new working methods for working with system innovation for local green transition.

Formas has published the call Climate-neutral and inclusive municipalities to increase the capacity and ability of municipalities to accelerate transition work towards climate neutrality which is characterized by social inclusion and equal living conditions. Within the national research programme for sustainable community building, Formas has published a call for Research schools for sustainable community building. The aim of the research schools is to bolster skills and knowledge development, and they are all distinctly interdisciplinary, practically oriented and challenge driven. Several municipalities are included in the research schools. Formas also funds many R&I projects every year in the fields of environment, community building and areal industries in many national and international calls.

In the Swedish Transport Administration's calls for City Environment Contracts, municipalities and regions can apply for funding that leads to a higher proportion of passenger transit by public transport or cycling and sustainable freight solutions.

The Swedish Energy Agency has published calls in the following programmes that are relevant to sustainable cities and communities: Humans, Energy Systems and Society (MESAM), Energy efficiency in cultural heritage buildings, Design for Everyday Energy Efficiency, Transport-Efficient Society and E2B2 (energy-efficient building and living), Graduate School in Energy Systems, and Bio+ (biobased society).

For many years, the Energy Agency has funded client groups and networks to create a platform for close collaboration between business operators and the state, with the aim of reducing energy use in buildings. The Energy Agency also finances the municipal and energy/climate advice service intended for households and private players.

Impact Innovation is the name of the next-generation strategic innovation programme. A call for preparatory projects was opened during the year. One of the three focus areas is Attractive, functioning communities, with cities being a particularly important target group.

On an international level, Formas, the Swedish Energy Agency and Vinnova jointly announce funds enabling bodies active in Sweden to take part in international R&I projects tackling urban challenges in the European Driving Urban Transition (DUT) Partnership. The first call includes 27 nations. On a general level, the partnership addresses issues relating to energy, mobility and use of resources in an urban context.

Government agency work and special government assignments

The Swedish Energy Agency has worked alongside the Swedish Agency for Growth Policy Analysis, Transport Analysis and the Uppsala County Administrative Board to draft supporting documentation for the government's next Climate Action Plan. The assignment regarding local and regional climate transition involved a great many dialogues with municipalities, regions, government agencies, research bodies, business and other relevant players, which form the basis for the barrier analysis, and the proposed means of control or suggested actions that were presented. Many assignments are under way at the Energy Agency related to the electrification strategy, energy efficiency and secure energy supply, as well as the establishment of a national centre for carbon capture and storage (CCS).

The Climate City Contract agencies are also five of the 14 members on the government's Council for Sustainable Cities. In March 2022, the council was given an extended and modified remit, with more of a focus on working towards the 2030 Agenda's Sustainable Development Goal 11, Sustainable Cities and Communities. Several of the agencies have been involved in the National Board of Housing, Building and Planning's coordination assignment as part of New European Bauhaus (NEB). One example is the call Ideas for future habitats in Kiruna, Gällivare, Boden, Luleå, Skellefteå and Umeå – idea sketches ready in the project *Visioner. i norr – Hållbar Stad* (hallbarstad.se).

The Swedish Transport Agency's knowledge forum – Arena for Transport-Efficient Urban Environment – is part of a government assignment (2019–2022) to carry out communication and knowledge-enhancing measures for the transport sector's transition to fossil freedom. An R&I programme for geofencing, financed by the Swedish Transport Administration and run by Closer at Lindholmen, brings together the

necessary players in society, business and academia to jointly develop solutions to promote the use of geofencing in controlling the transport system.

Some of the projects related to the development of systems innovation are Evolved working methods and processes for greater synergies between regional, national and international innovation efforts, Systems innovation in cities (Vinnova), Strengthening the regional work on sustainable development (various government agencies), Contributing to upcoming discussions on the EU's urban agenda (Formas), and Vinnova's initiative to support cities' ability to lead and organize innovation, for instance through the companion researcher network which for nearly ten years has been following the development of the Innovation Platforms for Sustainable Cities initiative, and the *Accelerera* project, which is developing and offering support for innovation management in municipalities to ISO standard.

New signatory agency

The Swedish Environmental Protection Agency decided to sign the Climate City Contract 2030 in December 2022, and will therefore participate in the process moving forward.

8. The contract

The parties agree that their joint commitments as formulated above shall apply for 2022. The first version of Climate City Contract 2030 was signed in 2020. The Climate City Contract shall be updated and renewed prior to each new year.

Climate City Contract 2030

Between Linköping Municipality, the government agencies the Swedish Energy Agency, Vinnova, Formas, the Swedish Agency for Economic and Regional Growth, the Swedish Transport Administration, the Swedish Environmental Protection Agency and Viable Cities.

Stockholm, 8 December 2022. The parties agree that their joint commitments as formulated above shall apply for 2023. The first version of Climate City Contract 2030 was signed in 2020. The Climate City Contract shall be updated and renewed prior to each new year.

Mikael Sanfridson
Mayor,
Linköping Municipality

Olga Kordas
Programme Manager,
Viable Cities

Robert Andrén
Director General,
Swedish Energy Agency

Darja Isaksson
Director General,
Vinnova

Johan Kuylenstierna
Director General,
Formas

Elisabeth Backteman
Director General,
Swedish Agency for Economic and Regional Growth

Roberto Maiorana
Director General,
Swedish Transport Administration

Björn Risinger
Director General,
Swedish Environmental Protection Agency

Appendix 1 – document links

Below are links to the most relevant documents in relation to Climate City Contract 2030 for Linköping.

Links to relevant documents and other links

Linköping Climate and Energy Programme (2022–2030, in Swedish)

The municipal group's action plan for a carbon-neutral Linköping 2021–2023, looking towards 2025 (in Swedish)

Follow-up of goal achievement for a Carbon Neutral Linköping by 2025, for years 2019 and 2020 (in Swedish)

Programme and action plan for climate adaptation (in Swedish)

The Linköping Initiative (in Swedish)

Linköping's work on Green Travel Plans (in Swedish)

Climate Smart Linköping – website (in Swedish)