

Stockholm University

Climate Roadmap

for the period 2023 - 2040

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Stockholm University

Preface

Climate change is the defining issue of our time. We face tremendous challenges, in Sweden and globally, to tackle greenhouse gas emissions and adapt to a changing climate. We seek to approach these challenges in accordance with the recommendations of the UN Intergovernmental Panel on Climate Change (IPCC) 2022 reports. Domestically as well as within the EU and internationally, new international agreements along with relevant legislation and regulations are taking shape to contribute to bringing carbon dioxide emissions down to acceptable levels. Meanwhile new technologies are being developed to reduce emissions and to appropriately deal with the carbon dioxide that is already present in the atmosphere. But legislation and technology shifts are not sufficient – we also need changes in the behavioural patterns of individuals, households, public authorities, and business enterprises. However, the Sixth Assessment Report of the United Nations Intergovernmental Panel on Climate Change shows that the combined international and national mitigation measures taken so far are still insufficient to achieve the 1.5 degrees Celsius threshold target agreed upon in the Paris Agreement.

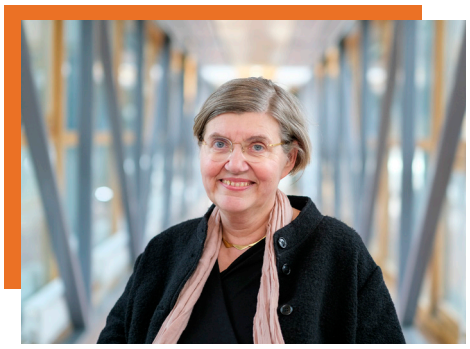
Universities have a special role in addressing climate challenges, in particular through their core missions of generating new knowledge via research, imparting knowledge via education, and interacting with the wider community. It is also important for our credibility in the wider community that universities themselves reduce their carbon dioxide emissions in line with what research shows is essential. This entails significant challenges and affects all parts of our activities. Swedish universities and other institutions of higher education have shown a strong commitment to contribute, as a civil society entity via both internal and external work, to the climate goal set by the Swedish Parliament to achieve carbon neutrality by 2045.

”Universities have a special role in addressing climate challenges”

With the focus on accelerating Stockholm University’s efforts related to climate action, in June 2019 the University signed the UN’s Climate Emergency Letter, the UN Agreement on Global Sustainability Goals for Higher Education, thus committing Stockholm University to be carbon neutral by the year 2040. The present Climate Roadmap for the period 2020-2040 is based not only on the sustainable development goals of Agenda 2030, but at the same time has a broader societal perspective that also includes statements and target formulations in, for example, Sweden’s climate policy framework, as well as in the European Green Deal and the EU’s Climate Law.

The process of transforming Stockholm University and the social transformation of the broader community in Sweden has been underway for some time. My personal hope is that the Climate Roadmap will establish a compass along with explicit support for the level of ambition and the pace of efforts, which is dependent on not only on a high level of dedicated commitment throughout the entire University, but also mirrors the University’s strong profile in these issues.

Last but not least, I would like to extend a special thanks to the Environmental Council under the leadership of Magnus Breitholtz, who has been responsible for the development of the Climate Roadmap with the support of a reference group that has assisted in the work – Lennart Bergström, Karin Bäckstrand, Line Gordon, Johan Kuylenstierna, Alasdair Skelton and Cynthia de Wit – as well as Nathaniel Morris and Lena Söderlundh at the central environmental office and Environmental Coordinator Paul Glantz. It is my hope and expectation that all persons in leadership positions, faculty, support staff, researchers and students will contribute jointly to Stockholm University’s leading role in the necessary development of the future climate action efforts, towards a more sustainable and resource-efficient society.



President Astrid Söderbergh Widdin

Summary of Proposed measures for the period 2023-2024

Management of the University's emissions

Buildings and facilities

- Ensure that central resources are available for effective and efficient planning of future needs for premises and facilities, with a focus on utilising existing premises and facilities rather than building new ones.
- Examine the present use of existing space, premises and facilities, including teaching rooms, throughout the entire University's leased property portfolio.
- Ensure that climate considerations are of central concern early in the design and construction process.
- Identify, prioritise, and implement energy-saving measures in the premises that are leased by the University, in dialogue with the property owners.

Procurement of goods and services

- Examine how the coordination of the transport of supplies and materials purchased can be made more efficient with regard to reducing greenhouse gas emissions, for instance by stipulating requirements in connection with the drafting of contracts during procurement and signed contracts.
- Investigate product groups whose lifespan can be extended by means of extended useful life or reuse, and identify requirements/criteria that provide incentives for increased lifespan.
- Establish or acquire a central system for the re-use of furniture/fixtures/equipment including laboratory equipment.

Stockholm University business travel

- Ensure the availability of equipment and facilities in order to provide for digital and hybrid meetings, workshops, conferences, and defences of doctoral dissertations.
- Ensure that the policy for meetings and travel is adhered to in all academic and administrative departments.
- Ensure that the annual reduction in emissions from air travel in all academic and administrative departments is reduced in line with the target of a 25 percent reduction in emissions for the University as a whole by 2025 compared to the base year of 2019. In cases where emission reductions are insufficient, the University should develop appropriate and effective control instruments to accelerate the transformation efforts.
- In continuous dialogue with the contracted travel agency, further improve and simplify the possibilities of choosing ground-based alternatives such as trains instead of flights for the University's business travel within Sweden and Europe.

Negative emissions

- Have a continuous dialogue with Akademiska Hus and Stockholm Exergi on possible further synergies and joint efforts regarding district heating that generates negative emissions.



The University's contribution to a sustainable and resource-efficient society

Development of new courses and study programmes

- Create an inventory of the courses and degree programmes offered within the field of sustainability and, if necessary, develop new courses and educational programmes.
- Identify and reduce administrative barriers to the development of new interdisciplinary and inter-faculty educational programmes.
- Examine the need for professional development in sustainability for teachers and researchers interested in addressing interdisciplinary environmental and climate issues in their teaching.
- Explore the global community's need for commissioned contract courses in the field of global warming and climate change within the framework of lifelong learning, and the possibilities for developing such educational programmes.

Students and student participation

- Increase awareness of and promote sustainability in courses and programmes on Stockholm University's education portal.

Academic collaborations and partnerships

- Provide central resources to enable collaborations with other universities to facilitate the pursuit of national and international research and collaborative projects in the field of climate action and sustainability.

Partnerships and joint projects

- Identify and make the University's existing arenas for collaboration linked to sustainability more visible.
- Ensure that sustainability and climate efforts are a central part of the University's collaborations with other businesses, authorities and organisations.
- Clarify and present the unique strengths that Stockholm Trio's joint sustainability efforts provide the wider community with by building on the strengths of the three member universities.





Background

1

Stockholm University

Background

1.1. Global commitments and perspectives

In September 2015, Heads of State and Government worldwide adopted a new development agenda and global sustainable development goals. Agenda 2030 consists of 17 Global Sustainable Development Goals aimed for instance at eradicating poverty, halting climate changes, promoting education and fostering peaceful and secure societies. In December of the same year, countries of the world signed the Paris Agreement, the legally binding international convention on climate change under the United Nations with the aim of limiting global warming to 2 degrees, preferably to 1.5 degrees. Pursuant to the Paris Agreement, every five years all countries will submit their report for review on the progress of new stricter commitments for domestic reductions in emissions.

The first interim report, part of the sixth main report (AR6), of the UN Panel on Climate Change (the scientific basis), published in 2021, shows that the global average temperature has increased by 1.1 degrees since the beginning of industrialisation. However, the warming on land until 2020 has occurred considerably faster: 1.6 degrees compared to 0.9 degrees over the oceans. The third interim report of the UN Panel on Climate Change (that addresses mitigation strategies to limit climate change), published in 2022, sends a clear message – the greenhouse gas and global warming situation is urgent, the gap in order to be in line with the 1.5 degrees target is growing, and emissions are increasing while radical emission reductions are needed.

1.2. EU Climate Policy

On the EU level, near the end of 2019 the European Commission presented the European Green Deal, a roadmap for efficient use of resources for a transition to climate neutrality and a new growth strategy. It aims to transform the EU into a more equitable and prosperous society with an improved quality of life for present and future generations. This is aimed to lead to a resource-efficient and competitive modern economy where by 2050 there are no net greenhouse gas emissions and economic growth is decoupled from the consumption of resources. The European Green Deal confirms the Commission's ambition for Europe to become the first climate-neutral continent by 2050. In April 2021, EU Member States agreed on a new European Climate Law, which will supplement the existing policy framework by establishing a long-term direction and anchoring the 2050 climate neutrality target in EU law. As part of the European Green Deal, in 2021 the European Commission presented "Fit for 55," a palette of measures and legislative proposals to realise the EU's goal of reducing greenhouse gas emissions by 55% from 1990 levels before year 2030. The legislative package aims to define the way forward for the EU's ambitions to deliver on its contribution under the Paris Agreement and includes all elements of the European Green Deal, including the EU's new Climate Change Adaptation Strategy.

The EU currently has a system for emissions trading, the Emissions Trading System (ETS), which encompasses some 750 Swedish industry and energy production facilities – 13,000 facilities across the EU. The aim of ETS is to reduce emissions of carbon dioxide and other greenhouse gases, and it is a key instrument for the EU to attain its own climate targets and fulfil its international commitments under the Paris Agreement. The "Fit for 55" package proposes a review of several pieces of EU's climate legislation, including the ETS. The ETS previously covered around 40% of total EU emissions; the revised version intends to increase this share with the inclusion of additional sectors such as shipping as well as a new ETS for transport and buildings from 2026. The European Commission also proposes a gradual phasing out of the free allocation of emission rights in aviation starting from 2025 and accelerate the implementation of 'the polluter pays principle' with full auctioning of allowances applied by 2027.

1.3. Sweden's Climate Policy

As an international pioneer in the environmental field, Sweden has a long-standing tradition of establishing and working towards ambitious environmental goals. The Swedish system of environmental goals currently consists of one generational goal, 16 environmental quality goals and a number of intermediate goals in the areas of solid waste, biodiversity, hazardous substances, sustainable urban development, air pollution and adaptation to climate change. Sweden also adopted a climate policy framework in 2017, effective on 1 January 2018, consisting of a Climate Action Act, climate targets, and a climate policy council. The overall long-term goal for Sweden is to have zero net greenhouse gas emissions by 2045, which applies to territory-based emissions. In order to achieve net zero emissions, additional measures may be credited. Direct emissions from activities within the territory of Sweden shall be at least 85 percent below 1990 emissions. In addition, emissions from the transport sector are to be reduced by 70% by 2030 compared to 2010. As the European Commission's "Fit for 55" package was launched more than four years after the Swedish Climate Action Act and climate targets, it will be interesting to follow the implementation of the Commission's proposed measures on a national level in the coming years.

If the Environmental Committee's proposal, which has the support of members from all Swedish parliamentary parties, goes through then Sweden will be the first country in the world to explicitly establish long-term targets for consumption-based emissions. According to the proposal, total emissions from consumption should be net zero by the year 2045. This includes emissions from international aviation and imports of goods and services, which account for some 60% of the emissions generated by Swedes.

With regard to territory-based emissions, Sweden must therefore achieve net zero emissions of greenhouse gases to the atmosphere by 2045 at the latest, and thereafter achieve negative emissions.
The Climate Policy Council has reviewed and evaluated the Swedish government's climate policy in four annual reports. Every year, it has been criticised for slowing down the pace of transition, as highlighted in the latest report dated 16 March 2022.
The European Council states that current policies are insufficient to achieve the climate targets.

1.4. The climate action initiatives in Swedish higher education

Achieving the goal of carbon neutrality by 2045 will require a transformation of society as a whole; many technological leaps will need to be implemented in a short period of time. In addition to this, various changes in behaviour are also required for sustainable consumption, from the individual level up to the societal level. A large part of the work to achieve this goal lies within the business community. With focus on the Swedish government's Fossil-free Sweden initiative, various branches of industry have developed a total of 22 roadmaps for how they will become fossil-free. Knowledge about greenhouse gasses and climate change, the environment, and sustainability are all important for achieving the overall goal of climate neutrality in all industries, and institutions of higher education play a central role in the dissemination of knowledge and development of skills and expertise.

In addition to important contributions to climate action via research and education, all Swedish institutions of higher education are part of the Universities Climate Action Network in Sweden (previously the Climate Policy Framework), which since autumn 2021 has been run under the auspices of the Association of Swedish Higher Education Institutions (SUHF). This entails that institutions of higher education commit to (i) continued contribution to society's ability to achieve the established goals via education, research and joint collaborations, (ii) reducing their climate impact in line with the society's commitments as expressed in national and international agreements, (iii) setting far-reaching goals for climate action and allocating resources to achieve these goals and to carry out monitoring, and (iv) clearly disseminating information about climate action with the goal of inspiring and spreading knowledge to key institutions in society as well as to members of the public.

In addition to these initiatives, which are more or less of a more voluntary nature, the Swedish government's policy steering of the climate action efforts undertaken by institutions of higher education has become more forceful, not least with regard to university business travel. According to the government regulation letter of the 2022 financial year for Swedish higher education, all institutions must report on their efforts to make use of the experience gained from the coronavirus pandemic in terms of reduced emissions from university business travel. In particular, they must describe what they can do to continue to develop approaches that offer alternatives to face-to-face in-person meetings with the goal of reducing environmental and climate impact, while taking the needs of their activities, their geographical location and other conditions into account. Trackable targets to 2025 compared to 2019 are to be reported for travel on University business in such a way as to minimise environmental and climate impacts.

1.5. Stockholm University's efforts related to climate action

As part of the UN Higher Education Sustainability Initiative (HESI), in June 2019 Stockholm University became the first Swedish educational institution to sign the UN Climate Emergency Letter, an agreement on global sustainability goals for higher education, which means that Stockholm University is committed to:

1. Being carbon neutral by 2040.
2. Mobilising more resources for solution-oriented climate research and generation of expertise.
3. Developing environmental and sustainability courses across disciplinary boundaries.

As part of this ambition, in December 2020 Stockholm University adopted a Climate Roadmap. The aforementioned sustainability goals constitute an overall objective and establish a clear structure for the University's efforts related to climate measures in both the academic and administrative functions over the next 20 years. The current Climate Roadmap has a broader scope and mandate and also takes into account the wording and goal formulations of the Swedish climate policy framework, the educational institutions' frameworks surrounding policies related to the educational institutions' climate action framework, the European Climate Law, and the European Green Deal. The purpose of this overview and report is to highlight and clarify Stockholm University's critical role for positive social development and for the work to achieve long-term sustainable development.
In Stockholm University's previous strategies for the period 2020 to 2022 the following objectives were linked to the strategic area of environment and sustainable development:

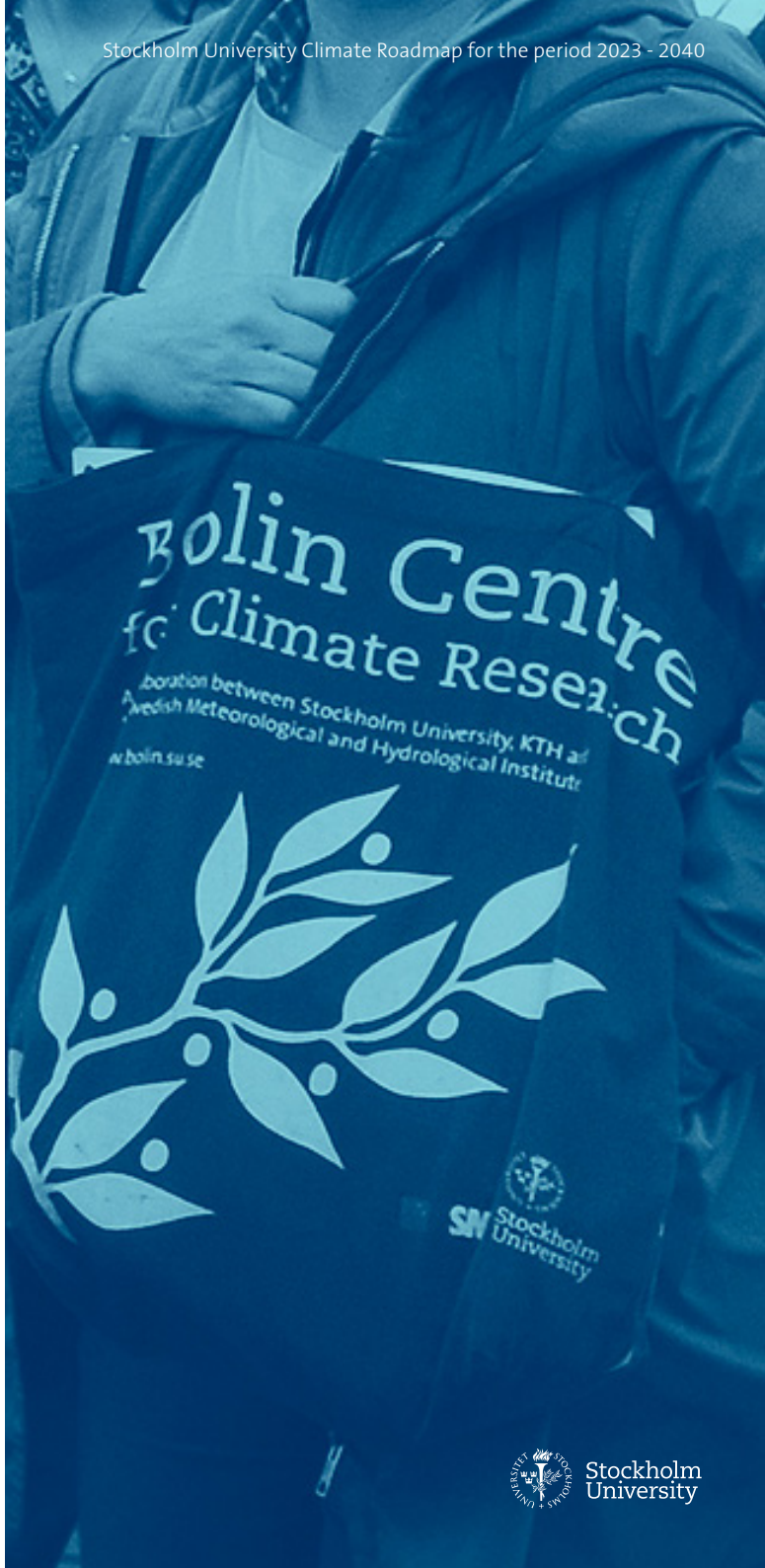
Strategic objective
Stockholm University has a clear sustainability profile that contributes to sustainable development and reduced environmental and climate impact.

Overall objectives

1. The University contributes to its new construction and redevelopment being in line with national and regional climate and environmental goals.
2. The University's purchasing and use of goods, products, and services is conducted from a sustainability perspective; this is to ensure that the University's resources are used efficiently and in an effective manner.
3. The use of travel by air for University business travel is reduced in favour of land-based travel.

In the current strategies for Stockholm University 2023-2026 there are four strategic areas that establish a long-term framework for the University's activities. One of these areas reads "A social force making positive contributions to democracy and sustainable development." This strategic area states that the University's activities are to be characterised by a clear and developed sustainability profile that contributes to sustainable development foremost through its scientific research and education, but also by reducing the environmental impact and climate footprint of its own activities.

The overall responsibility for assuring the achievement of carbon neutrality by 2040 and for the University's contribution to a climate-smart and resource-efficient society lies with the University's President and along with the University management. However, achieving the goals requires efforts from each and every part of the University. In accordance with the Swedish Ordinance concerning Environmental Management in Governmental Authorities (2009:907), (and in accordance with the ISO standard 14001:2015), the University has established an Environmental Management System to manage its environmental activities



at both local and university-wide levels, providing a structured approach to planning, implementing and monitoring environmental aspects, including the climate action efforts as set out in this Roadmap. Since the first version of the Climate Roadmap was adopted by the University President in December 2020 the preconditions for systematic climate action have improved considerably thanks to a number of administrative and organisational changes. Meanwhile, the knowledge of the University's emissions has increased thanks to the recently completed climate survey and the introduction of a new climate tool that visualises all University emissions (see section 3). Nevertheless, it is a challenge for the organisation to work towards achieving a target that is two decades away, with constantly changing circumstances and realities, such as technological progress in transport and energy as well as changing social norms, behaviours, and consumption habits. Policy instruments, such as a more efficient emissions trading scheme, may also alter the circumstances and prospects in which the University achieves its climate targets and climate action goals in the future. In order to adjust to new knowledge and technology as well as changing circumstances the Climate Roadmap is to be revised every two years. The governance of the University's activities towards achieving the sustainable development goals and the Climate Neutrality by 2040 is to be managed via rules, policies, mitigation measures and action plans with shorter time horizons.

The efforts to achieve the climate-related goals are evaluated through regular monitoring of emissions in each science area along with the University's action plans and strategic plans. The boards of human and natural science and the administrative departments are required to report implemented and ongoing measures in accordance with the Climate Roadmap.

Figure 1 below highlights which global agreements, statutes and regulations have been taken into consideration when developing the Climate Roadmap. Its integration into the University's Environmental Management system is also highlighted.

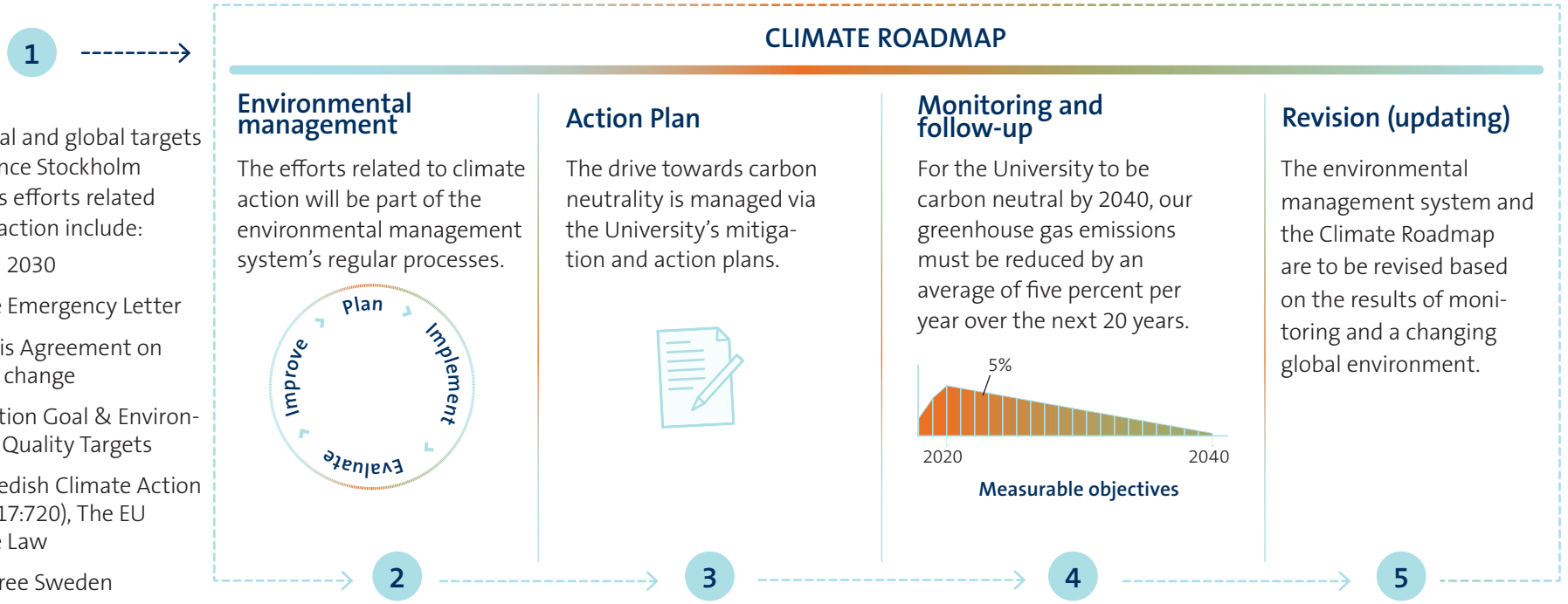


Figure 1. The Climate Roadmap charts the way for the University's efforts related to climate action over the next 20 years. **1**) These efforts are guided by the policies pursued at national and global level. **2**) Proposals for measures presented in the Climate Roadmap are managed within the framework of the structure and governance of the existing Environmental Management System. **3**) Efforts to achieve carbon neutrality are managed through the university's two-year action plans. **4**) Set targets are then followed up based on direct and indirect greenhouse gas emissions from, among others, travel on University business, energy consumption, and goods and services. **5**) Both the Environmental Management System and the Climate Roadmap will be continuously revised based not only on results from the review of set targets but also based on changing circumstances, such changes in behaviour changes and new technologies.

Stockholm University



The purpose and structure of the Climate Roadmap

2

The purpose and structure of the Climate Roadmap

The overall aim of the current Climate Roadmap is to chart the way for Stockholm University's efforts related to climate action for the period 2023-2040.

The Climate Roadmap describes how Stockholm University will work to achieve carbon neutrality by the year 2040 and also presents proposals for measures for how the University can contribute, via scientific research, education and collaborations to the development of a more sustainable and resource-efficient society.



- **Section three** discusses how Stockholm University measures greenhouse gas emissions and how large they are in different areas of emissions.
- **Section four** presents the University's priority emission areas, as well as targets and proposed measures for reducing emissions in these areas for the period 2023-2024.
- **Section five** discusses the University's contribution to a sustainable and resource-efficient society via research, education, and interaction with the wider community, and proposes measures to make these contributions more effective for the period 2023-2024.
- **Section six** discusses the contribution of senior management and operational support to climate action.
- **Section seven** discusses the division of responsibilities and monitoring of the Climate Roadmap.





A carbon neutral university by year 2040

3

A carbon neutral university by year 2040

3.1. How do we measure our greenhouse gas emissions?

The Swedish Ordinance concerning Environmental Management in Governmental Authorities (2009:907) requires Stockholm University, as a governmental entity, to report certain emissions. However, achieving carbon neutrality requires a broader review of the emissions generated by the University's activities.

The Greenhouse Gas (GHG) Protocol is a standard to measure greenhouse gas emissions and a framework used to identify and track where emissions are being generated and to determine amount of influence or control an organisation has over it. The Greenhouse Gas Protocol is primarily designed to be used in, for example, production activities in the private sector, but it is now also possible for other types of organisations, such as universities, to use this framework. Stockholm University uses the Greenhouse Gas Protocol to classify and group its emissions. Broadly speaking, the Greenhouse Gas Protocol is based on three scopes, and within each scope there are emission categories determined by in which sector the business operates (see Figure 2):

- **Scope 1:** Combustion of fossil fuels for e.g. manufacturing in proprietary factories or emissions from proprietary or leased vehicles/machines.
- **Scope 2:** Consumption of electricity, district heating and cooling.
- **Scope 3:** Emissions from the purchase of goods and services, e.g. logistics, digital services, air travel, taxis, hotel nights and material consumption.

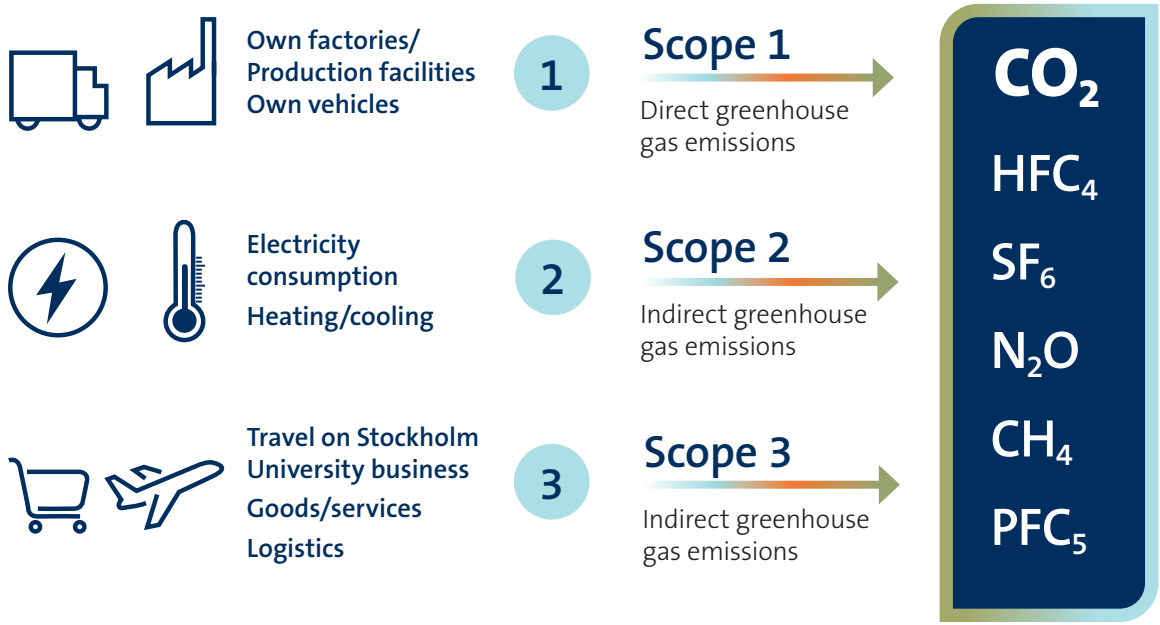


Figure 2. The framework presented in the Greenhouse Gas (GHG) Protocol is useful for identifying and monitoring where greenhouse gas emissions are generated and the possibilities at hand to influence the emissions and their impacts. **Scope 1** encompasses direct emissions from the combustion of fossil fuels, e.g. for manufacturing in proprietary factories or emissions from proprietary or leased vehicles/machines. **Scope 2** concerns indirect emissions from the consumption of electricity, district heating, and district cooling. **Scope 3** relates to emissions from the purchase of goods and services, such as logistics, digital services, air travel, taxis, hotel nights, and consumption of materials.

The Greenhouse Gas Protocol makes a distinction between direct (Scope 1) and indirect (Scopes 2-3) greenhouse gas emissions. Stockholm University's emissions are mainly in Scopes 2 and 3 (approximately 95%), and are consequentially the two scopes on which the Climate Roadmap focuses. Development work is also underway to develop a new scope (Scope 4) on avoidable emissions.

Work is also underway to develop a new scope (scope 4) that deals with avoidable emissions. An example of this may be emission reductions outside the life cycle of a product, e.g. the research and development that makes a specific product de facto more energy efficient than if the product had not been developed. Based on this description, it would also be possible to place the new research findings and knowledge generated by the University's research and education (see section 5) within Scope 5. These emission categories are significantly more difficult to quantify than other emission categories, but can have significant importance and be absolutely crucial to the transition of society as a whole, and can make a significant contribution to increasing resource efficiency and reducing emissions. The possible future use of a fully developed framework that includes Scope 4 and better addresses avoidable emissions will be evaluated in the context of subsequent revisions of the Climate Roadmap. Irrespective of the scope within which these emission categories are placed, they will need to be described qualitatively and be based on different scenarios.

In 2019, Stockholm University began exploring how to calculate total emissions from its activities in an efficient and reproducible way. A climate tool was commissioned and launched in early 2022. This climate tool, which includes emissions from all scopes (1-3), can be seen as a sophisticated application of the Greenhouse Gas (GHG) Protocol. The tool uses available primary data sources such as from the contracted travel agency and secondary data in the form of data from the University's accounting and financial management system. The tool shows how the University's emissions are distributed among the main categories – such as business travel, buildings and services – and how much and in which categories individual academic departments and administrative departments emit. The tool assists in prioritising measures and measuring their impact. It also aids employees who use the tool in gaining a deeper understanding of emissions in their own academic or administrative department. A full report on the tool's methods, results and limitations is available on the University's website[1].

3.2. What are our emissions? What are we emitting?

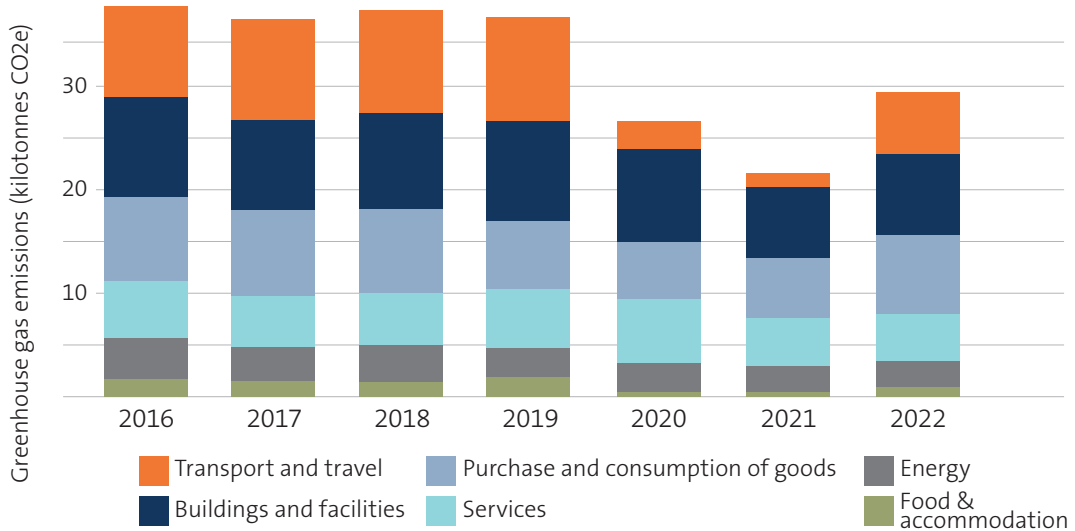
Stockholm University's carbon footprint has remained stable, at around 37 ktonnes of carbon dioxide equivalents (CO_2e) per year between 2016 and 2019, but the 2020 carbon footprint of around 26.5 ktonnes of CO_2e is 28% lower (Figure 3). This is of course a consequence of the coronavirus pandemic which reflects a shift in our activities where much of the regular activities continued, while business travel was significantly reduced.

The largest emission categories for the period 2016-2019 are (share of total average carbon footprint indicated in parentheses):

- Transport and travel (26 %)
- Buildings and facilities (25 %)
- Purchase and consumption of goods (21 %)

On average between 2016 and 2019, the carbon footprint was 1.4 tonnes CO_2e per student (full-time equivalent), or 7.7 tonnes CO_2e per employee (full-time equivalent), while the 2020 carbon footprint was 0.9 tonnes CO_2e per student (full-time equivalent), or 5.4 tonnes CO_2e per employee (full-time equivalent).

Figure 3. Stockholm University's carbon footprint from the purchase of goods and services, transport, energy consumption and facility management 2016-2020, broken down by overall categories.



[1] https://www.su.se/polopoly_fs/1.547883.1616577315!/menu/standard/file/Stockholms%20universitets%20klimatavtryck%202016%E2%80%932020%20slutgiltig%20rapport%20mars%202021.pdf

Prioritised areas for addressing Stockholm University's own emissions

4

Prioritised areas for addressing Stockholm University's own emissions

4.1. General background

Stockholm University is making efforts to limit its direct and indirect greenhouse gas emissions. However, the University's research, teaching and collaborative activities mean that a certain proportion of total emissions will most likely remain in 2040. For example, aviation is unlikely to be completely carbon neutral by year 2040. This means that Stockholm University must simultaneously invest in the climate by generating negative emissions (lowering the level of greenhouse gases in the atmosphere), which compensates for the remaining emissions.

For Stockholm University to achieve carbon neutrality by 2040 mathematically speaking this means that our greenhouse gas emissions must be reduced by an average of five percent per year between 2020 and 2040 (excluding the impact from negative emissions). Stockholm University's total greenhouse gas emissions in the first year of the pandemic (2020) compared to the period 2016-2019 show that it is possible to achieve significant reductions in emissions. At the same time, the 28% reduction in 2020 can be attributed almost entirely to reduced travel. In other words, although business travel was close to zero and much of our activities were heavily reduced, emissions in all categories other than business travel were almost at the same level as in previous years. This highlights the challenge of tackling emissions from, for example, construction and the purchase of goods and services.

Awareness of greenhouse gas emissions from our activities has increased, not only thanks to the recent climate survey and the introduction of the new climate tool, but also due to the environmental assessment conducted in 2020. Together, these overall assessments and studies show that the University's emissions will continue to be concentrated in the areas of buildings/facilities, purchases of goods and services, and business travel. Prioritisation of the University's efforts related to climate action is thus guided by the overall objectives that were adopted in 2021 and are now included in the Climate Roadmap. These objectives focus on ensuring that at Stockholm University:

I. construction and redevelopment is in line with national and regional climate and environmental targets,

II. the purchase and use of goods, products and services are performed from a sustainability perspective for the efficient and effective use of resources,

III. iii) travel by air on behalf of the University is reduced in favour of land-based travel.

A brief background on the challenges/opportunities to achieve the 5% annual emission reduction target and proposed measures for the period 2023-2024 are presented below for each overall objective and key area.



4.2. Buildings and facilities

The objective related to climate-smart construction and redevelopment is complex, and likely to be difficult to address quickly via individual policy documents. It requires long-term, broad-based efforts at the university-wide level that gradually change processes, organisational structure and behaviours. Joint efforts with property owners are, and will continue to be, a key element in achieving efficient and effective solutions. In order to achieve more significant reductions in emissions over the long term, policies on both national and EU level will be crucial. In particular, the new emissions trading system (ETS) from 2026, which also includes transportation and buildings, will be a key instrument. Regarding the University's ambition to reduce total emissions by an average of 5% per year by 2040, there is reason to believe that success in this area will be difficult in the short and medium term. It is therefore essential that in the coming years the University identifies ways in which emissions from buildings and other facilities can be reduced and that resources are deployed where they will have the greatest impact, while monitoring compliance and achievement of the desired effect. In parallel, developments on the EU level should be monitored so that measures can be adapted in response to changes.

Stockholm University's Buildings and Premises Supply Plan (Lokalförsörjningsplan 2021–2023) is based on the Climate Roadmap. The plan emphasises, among other things, that future premises needs should primarily be met within existing premises and that construction should be avoided as far as possible.

To achieve this, the University needs to address climate considerations early in the construction process (pre-planning stage), especially in the case of major needs for premises. In concrete terms, this could mean making greater use of emission calculations or life cycle assessments (LCA) as part of the decision-making process for future major premises strategy considerations. In the same way that construction planning has historically been evaluated in terms of financial, functional and time considerations, emissions need to be included as a built-in component. For example, an existing, older building could be compared to a potential new building in terms of CO_2e emissions from both the management phase (energy consumption) and the production phase (materials, transport, etc.). A first step towards these comparisons was made in collaboration with Akademiska Hus in 2020, where an existing turn-of-the-century building in Kräftriket was compared with one of the new buildings in Albano. This work can be further developed in dialogue with property owners.

Even during the management phase (in this case, during the time the University occupies premises in a building), there is potential regarding, for example, energy efficiency measures in dialogue with property owners and internal concepts for reuse of furniture and fittings. Moreover, energy saving measures and increased reuse are not only beneficial from a climate change perspective, but also lead to potential financial savings.



The greatest potential however is seen in those premises that are not presently used at their full capacity. Efficient use of premises and facilities is beneficial for both financial and the environmental benefits. It can ultimately mean a lower rental cost for the University (if this leads to the possibility of terminating leases) while at the same time decreasing the amount of space rented, which in itself can lead to reduced consumption of electricity for the University as a whole, resulting in further financial savings. This potential can be employed via, for example, working more closely with property owners regarding technical solutions. In concrete terms, this could involve gaining a better and more detailed understanding of how the premises are actually used (broader and more useful data than is currently available) by conducting sensor and scanning projects[2] – in order to be able to plan premises in an optimal way. Furthermore, it is also important that policies and guidelines are defined at the university-wide level. This might include what should apply to new or refurbished office environments based on functional requirements[3] or defining rules for room booking that encourage efficiency.

Proposed measures for the period 2023-2024:

- Ensure that central resources are available for efficient and effective planning of future premises needs, with a focus on utilising existing premises rather than new construction.
- Examine the present use of existing space, premises and facilities, including teaching rooms, throughout the entire University's leased property portfolio.
- Ensure that climate considerations are a central part early in the design and construction process.
- Identify, prioritise, and implement energy-saving measures in the premises leased by the University, in dialogue with the property owners.



[2] https://www.umu.se/nyheter/digital-tvilling-av-umea-universitet-skapas_11550803/
[3] Decision document from Luleå University of Technology, LTU-1046-2020

Stockholm University

4.3. Procurement of goods and services

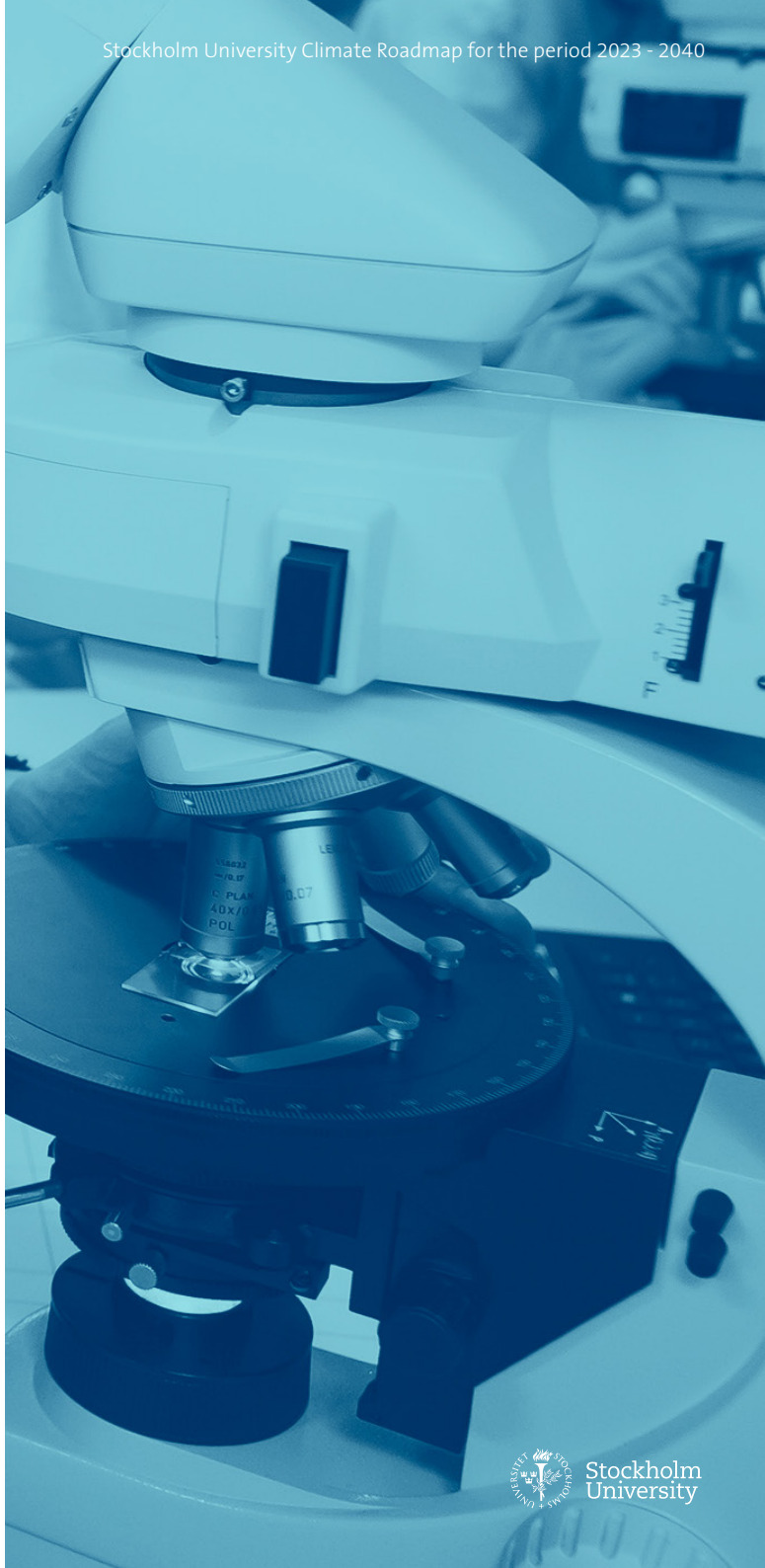
When it comes to purchasing goods, it is not only the goods themselves that have a climate impact, but the entire process from production to delivery.
In addition to continuing the University's efforts with green procurement, it is essential that coordination with regard to transportation is made more efficient. This could involve, for example, having fixed days for receiving deliveries. It is important that this is anchored in dialogue between the University's central administration and the academic departments.

It is also important that the University ensures that the lifetime of the products and materials purchased are lengthened. The issue of reuse raises the question of the University's contracts for various IT products in particular, to give one example.

One group of goods purchased that accounts for a relatively large share of the University's carbon footprint (just under 5% of the University's total emissions and about 25% of pre-pandemic goods in 2019) is "chemicals and chemical products." Organic chemicals make up a large share of this commodity group and are currently almost exclusively of fossil origin. Initiating a procurement process focusing on fossil-free alternatives would in itself send a strong signal that the research community wishes to use sustainable chemicals and at the same time provide an opportunity for individual researchers to reduce their carbon footprint. However, before such a procurement process can be initiated, it is important to first investigate whether there is an interest within those parts of the University that conduct chemical-intensive research activities.

Proposed measures for the period 2023-2024:

- Examine how the coordination of the transport of supplies and materials purchased can be made more efficient with regard to reducing climate emissions, for instance by stipulating requirements in connection with the drafting of contracts during procurement and signed contracts.
- Investigate product groups whose lifespan can be extended by means of extended useful life or reuse, and identify requirements/criteria that provide incentives for increased lifespan.
- Establish or acquire a central system for the re-use of furniture/fixtures/equipment including laboratory equipment.



4.4. Business travel for the University

The third objective concerning business travel for the University has been highlighted in the funding target agreements for the financial year 2022, which requires all Swedish universities and other institutions of higher education to report on how they are using the experience of the coronavirus pandemic to reduce emissions from business travel. In particular, institutions of higher education are to describe what they can do to continue to develop ways of working that offer alternatives to physical face-to-face meetings, and that reduce the environmental and climate impact, while considering the needs of their activities, their geographical location and other circumstances. Achievable targets for travel are to be presented for 2025 compared to 2019, in such a manner that leads to reduced environmental and climate impacts.

Stockholm University's new policy for meetings and travel from 2021 is an important tool for reducing the climate impact of business travel. This policy, in combination with the new climate impact calculation tool, offers an opportunity for individual departments and support units to work on reducing emissions at the local level. The coronavirus pandemic has already led to a change in business travel behaviour, which is likely to continue after the pandemic. Given that the new policy on meetings and travel was introduced during the pandemic, it is difficult at this stage to evaluate its effectiveness in reducing air travel under more normal conditions.

Unlike the other two targets, there is a good chance of achieving a 5% average reduction in emissions per year in this area. The potential for reduction has been enhanced by the change in travel patterns and the significant increase in the use of digital solutions for research, teaching, and communications brought about by the pandemic. In addition, Stockholm University now has a strict policy on meetings and travel, while the possibilities of replacing flights with ground-based alternatives such as trains (where, for example, it will be possible to book Interrail passes via the contracted travel agency from 2021) are continuously improving. This means that it seems to be entirely reasonable to achieve a 25% reduction in emissions from travel on University business by 2025 compared to the base year of 2019. In turn, this will allow the University to place a greater focus on managing emissions in the other two, much more challenging, emissions categories (new construction and renovations; procurement and use of goods, products and services). In order to meet the requirements of the 2022 funding target agreements, the following targets for travel on University business are added:

- Stockholm University is to achieve a 25% reduction in emissions from travel on University business in 2025, compared to 2019

The monitoring of the target is accomplished using data provided by the contracted travel agency. Data is compiled quarterly and reported to the University's senior management team and area and departmental leaders.

Proposed measures for the period 2023-2024:

- The academic and administrative departments have an obligation to ensure the availability of equipment and facilities to conduct digital and hybrid meetings, workshops, conferences and public defences of doctoral dissertations. The University's administrative departments should ensure support for centrally provided digital tools.
- Ensure that the policy for meetings and travel is adhered to in all Departments and administrative departments.
- Ensure that the annual reduction in emissions from air travel in all academic and administrative departments is reduced in line with the target of a 25% reduction in emissions for the University as a whole by 2025 compared to the base year of 2019. In cases where emission reductions are insufficient, the University should develop appropriate and effective measures to accelerate transformation efforts.
- In continuous dialogue with the contracted travel agency, further improve and simplify the possibilities of choosing ground-based alternatives such as rail travel instead of air flights for travel on University business within Sweden and Europe.

4.5. Negative emissions

In addition to the aforementioned prioritised areas, there are a number of other areas where the University should be able to reduce its emissions. As in the first version of the Climate Roadmap from 2020 one important area continues to be the district heating used to heat the premises rented by the University.

With current technology, negative emissions can be generated only to a limited extent. This is far from enough to neutralise all our emissions – and we are far from the technological development that this would require. Moreover, the climate crisis is so urgent that there is no time to wait for technological developments. The carbon sinks available today are primarily natural environments that absorb greenhouse gases by means of biological and geological processes: forests, wetlands and oceans, for example. Nor are these processes large enough or fast enough to absorb emissions at the rate we would need. The IPCC report clearly points to these limitations and to the urgent need to limit the emissions themselves.

Until very recently, Stockholm Exergi was planning for a full-scale biochar production facility – with a process and an end product that generates negative emissions. This venture required significant financial investment and, at the same time, sufficient interest from existing customers. With the ambition to contribute to this venture, together with Akademiska Hus and KTH, Stockholm University signed a letter of intent at the end of 2020 to purchase district heating coupled with negative emissions from Stockholm Exergi. In 2021, Stockholm Exergi conducted a survey of the biochar market, which showed however that sufficient demand to make an investment in the planned production plant simply was not there. This means that the ability to purchase district heating with negative emissions from the beginning of 2023 will not be fulfilled.

Instead of a biochar plant, Stockholm Exergi has now focused on building a Bio-Carbon Capture and Storage (bio-CCS) plant at Värtaverket. This would be Europe's first large-scale negative emissions plant, with a target of capturing 800,000 tonnes of carbon dioxide annually. In 2022, it was announced that the EU Innovation Fund will support the project with EUR 180 million. For the project to be realised additional funding is needed in the form of both state subsidies and revenues from the sale of Carbon Removal Certificates (CRCs) on a voluntary market for negative emissions. Stockholm University, in close dialogue with Akademiska Hus and Stockholm Exergi, needs to follow developments in this area in order to be able to contribute, if possible, to the development of this technology and, in the long run, to be able to purchase district heating with negative emissions.

Proposed measure for the period 2023-2024:

- Have a continued dialogue with Akademiska Hus and Stockholm Exergi on possible further joint efforts regarding district heating that generates negative emissions.





The University's contribution to a sustainable and resource-efficient society

5

The University's contribution to a sustainable and resource-efficient society

5.1. Background

In addition to the goal of achieving carbon neutrality by 2040, which primarily concerns Stockholm University's own environmental impacts, the University has an important role to play in the community-at-large as a provider and disseminator of education, knowledge, and research on the causes and effects of a changing climate. In other words, the University's core activities contribute to society's knowledge of and ability to address climate challenges and efforts to achieve the UN's Sustainable Development Goals.

Stockholm University is to be characterised by a strong primary research tradition and by educational programmes that are closely linked to the research being undertaken, resulting in high quality of education. In addition, efforts are to be made to ensure that the research findings and results can be applied, directly and indirectly, in ways that lead to positive societal development and to innovations of societal relevance and utility. These initiatives and efforts are to be undertaken by both the teachers and academic researchers themselves, along with the University's well-developed organisation for interaction with the global community. Nevertheless, there is potential for further development in research in and communication of climate, environmental and sustainability issues – which are especially important due to the climate crisis.

Over the past twenty years, Stockholm University has, either on its own or with the support of external funding, made strategic investments in research environments that deal with interdisciplinary research issues. This includes basic research as well as applied research and communication and dissemination of research findings. These include the Bolin Centre for Climate Research, the Baltic Sea Centre, Stockholm University's Centre for Circular and Sustainable Systems (SUCCeSS), the Stockholm Resilience Centre (SRC), Environmental Humanities, Earth System Governance, the Navarino Environmental Observatory (NEO), the Tarfala and Askö research stations, and the Stockholm Environmental Law Centre, among others. With these and other initiatives, Stockholm University is at the forefront internationally in research related to climate action, the environment and sustainability.

Regarding the educational curriculums provided by the University it is researchers, academic departments, and faculties that design and develop programmes based on their research expertise and their specific academic discipline and research traditions. At the same time, the University's senior management needs, in close dialogue between the various levels of the University, to take appropriate measures to, for example, stimulate and facilitate interdisciplinary and inter-Faculty educational initiatives and to establish commissioned contract courses that respond to global societal needs.

Demands from the global community to take climate and sustainability challenges seriously have grown in volume and strength in recent decades. For Stockholm University, this presents both risks and opportunities. Not taking the climate crisis seriously enough, or not communicating clearly enough that the University is responding in a meaningful way, can damage the University's reputation. If the University clearly shows that it is taking the climate crisis seriously, this can contribute to generating trust and have positive effects, for instance on student recruitment. Stockholm University also has a prominent position in terms of research synthesis and research collaboration with the wider society globally, as an international participant (in the IPCC, IPBES, COPs for Climate and Biodiversity, UN Climate Action Summit or HELCOM, to name a few) and as a capital city university – with the proximity to the offices of the policymakers, the central government and its agencies, and the business community that this implies.

The year 2040 may seem far off, but reorganising structures and implementing measures to achieve climate and sustainability goals is time-consuming and resource-intensive. It is therefore essential to support research, education and collaborative efforts in this area by securing the existing high-quality work and launching new initiatives. A number of proposed measures in the context of the University's research, educational activities and collaborative initiatives are listed below. The rationale of these proposals is to reinforce the positive impact that the University already has on development and provision of competence to society in terms of sustainability and dissemination of knowledge and new scientific findings.

5.2. Prioritisation of activities within education and research

Development of new courses and study programmes

As mentioned above, it is primarily individual Departments at the University that initiate and develop educational programmes, based on the advances and shifts in the subject disciplines and research fields that they are actively involved with. Nevertheless, there is further room for development. Additionally, with regard to the environment and sustainability, the University has an obligation – based on the requirements of the Swedish Higher Education Act – to promote sustainable development in its activities. In 2017, the Swedish Higher Education Authority (UKÄ) conducted an evaluation at the request of the Swedish Government regarding the efforts of the higher education institutions to promote sustainable development in the field of education, including monitoring procedures and how higher education institutions ensure and develop work on sustainable development in their educational programmes. The work of higher education institutions in promoting sustainable development is monitored by means of reporting requirements in the annual report.

To respond to society's urgent need for climate change transition and adaptation in all sectors – in parallel with the increasing presence of sustainability objectives in virtually all academic disciplines – universities need to work continuously to inventory and highlight the educational curriculums related to sustainability. In the first instance, this means not only making them more visible to prospective students, but also to organisations and companies in need of skills development and lifelong learning. There is potential here for both local and central initiatives. The various disciplines at the University can, via the individual Faculties and Schools, regularly and systematically conduct overviews of their educational offerings. Centrally, procedures can be established and support be provided to facilitate the establishment of new commissioned contract courses. Central administrative offices and support units can assist with communication efforts to promote the curriculum of regular courses within the University's regular activities as well as contract courses or programmes.

Issues related to sustainability, including climate change and the environment, are often interdisciplinary in nature. The approach in dealing with such issues can benefit from inter-area, inter-Faculty and inter-Departmental collaborations. There are already good examples of interdisciplinary courses, including "Climate Change Solutions," a climate change course with a significant impact among students from very diverse educational backgrounds, based on broad collaboration spanning the University's Faculties and individual academic disciplines. Stockholm Business School (SBS) has recently launched a new interdisciplinary bachelor's degree programme named Business Administration, Ethics and Sustainability (Företagsekonomi, etik och hållbarhet), which provides future employees in the private and public sectors with an integrated sustainability perspective. The Department of Materials and Environmental Chemistry also recently established a Master's degree programme in "Sustainable Chemistry."

Interdisciplinary collaboration across disciplines can be further promoted by various forms of financial and administrative incentives. For such collaborations to occur, internally as well as nationally and internationally, contact nodes are needed where teachers and researchers can develop their contact networks and become familiar with other disciplines. Some of the existing interdisciplinary programmes have also been established as a result of external funding and of individual initiatives. It is crucial to review how these programmes, once successful, can be sustained in the longer term. Investment in skills development in the field of sustainability can be made by establishing and supporting both new and existing seminars, workshops, courses, and networks that link together different subjects that share the same sustainability aspects – in other words, collegial forms of skills development. One example of such an initiative is the university teacher training offered to all teachers at Stockholm University from the autumn of 2022, which includes a module equivalent to three academic credits on the theme of "teaching sustainable development". The aim of the course is to provide an overview of the didactic and pedagogical research available in the field of teaching and learning in sustainable development. The focus is on the interdisciplinary nature of the content and the democratic functions of education, thus offering an arena for teachers from throughout the University to view, analyse, and develop their own teaching in relation to sustainability.

Proposed measures for the period 2023-2024:

- Create an inventory of the courses and degree programmes offered in the field of sustainability and, if necessary, develop new courses and educational programmes.
- Identify and reduce administrative barriers to the development of new interdisciplinary and inter-faculty educational programmes.
- Examine the need for professional development in the field of sustainability for teachers and researchers interested in addressing interdisciplinary environmental and climate issues in their teaching.
- Explore the global community's need for commissioned contract courses in the field of global warming and climate change within the framework of lifelong learning, and the possibilities for developing such educational programmes.

Students and student participation

The students are unquestionably the University's most important stakeholder group. It is therefore essential to further develop partnerships with Stockholm University's students and student unions in order to receive and incorporate ideas from students as well as to support them in their efforts to monitor and promote issues related to sustainability and climate in the curriculum and more generally issues related to life on campus. Currently the Student Union has the possibility to influence these issues via representation in the Environmental Council and other bodies, such as the University Board and boards and committees on Department level.

The University must assist and support students in identifying, at an early stage, the ways in which its courses and educational programmes can contribute to addressing today's and tomorrow's climate challenges or, even more broadly, how they contribute to achieving the sustainable development goals of the 2030 Agenda for Sustainable Development. Although many courses and programmes are not specifically focussed on dealing with climate and sustainability challenges, they sometimes contain elements covering measures that are crucial for society's ability to adapt. Making every student at the University aware of the potential importance of their efforts in professional life in relation to climate efforts can ultimately have significant positive effects on society as a whole.

To assist existing students and attract new ones, it is important that the University clearly identifies which courses and programmes on the University's education portal have a climate and/or sustainability focus, (www.su.se/utbildning/alla-amnen), for example by setting up a specific area of interest called "Environment, Climate and Sustainability" and/or by clearly identifying which global sustainability goals are addressed within which courses and programmes.

Proposed measure for the period 2023-2024:

- Increase awareness of and promote sustainability within courses and programmes on Stockholm University's education portal.



Stockholm University

Academic collaborations

Stockholm University's strategic investments in research environments that address multidisciplinary research issues on climate, environment and sustainable development, as mentioned above, have led to many valuable collaborations with a variety of higher education institutions, both in Sweden and internationally. Stockholm University has thus gained a prominent position in attracting interdisciplinary research funding, publishing research in prominent scholarly academic journals, and developing new research fields that have had a major impact on international sustainability work outside academia. These collaborations also establish a strong basis for international engagement in important and policy-relevant processes such as the IPCC and IPBES, which strengthen the entire international sustainability transition. Since parts of this research, which often go beyond the boundaries of individual Faculties and academic disciplines, are largely built up using both time-limited direct government funding and time-limited external grants, it is essential that the University investigates how this research can be both secured and further developed in the long term.

Strategic collaborations with other institutions of higher education with similar sustainability profiles and ambitions can further strengthen the University's efforts, for example, in achieving carbon neutrality by the year 2040. Within the framework of the academic collaborations of Stockholm Trio a sustainability group was established in 2021, consisting of the Chair of the Environmental Council, the University President's Council for Environment and Sustainable Development, the Vice Chair of the Environment Council at Stockholm University, and their counterparts at the other two universities, Kungliga tekniska högskolan and Karolinska institutet. The Stockholm Trio also has working groups that do not focus directly on sustainability but may have a positive impact on how the universities cooperate in areas such as scientific research and education, which in turn can create opportunities for cooperative efforts in the field of sustainability.

In 2021-2022, Stockholm Trio's sustainability group worked on a proposal for how future cooperation can be used to contribute to a sustainable society and, in particular but not the least, to a transition to resource efficiency and climate neutrality. With this work as a basis, the steering group for the collaboration decided in 2022 to invest SEK 1 million per educational institution per year for a period of 4 years in order to:

- Strengthen Stockholm Trio's and the individual universities' brands and reputation in the field of sustainability and in general.
- Strengthen the universities' ability to contribute strategically with knowledge for quick and scientifically-based decisions necessary for a transition to a sustainable society.
- Facilitate new inter-faculty research and education beyond Faculty boundaries, in close cooperation with the city government, Region, non-profit and social governance organisations as well as the business community (interdisciplinary/multidisciplinary education).
- Strengthening society in terms of climate action, health, innovation systems, and entrepreneurship.



This initiative will not only provide a central platform for national cooperation and collaboration in the field of sustainability, but should also play a significant role in developing internal sustainability work within Stockholm University, not least with regard to interdisciplinary educational initiatives.

As already discussed in section 1.4, Stockholm University is also part of the host constellation within the Universities' Climate Action Network, which, with funding from Vinnova and Formas as well as from the educational institutions themselves, will work towards achieving carbon neutrality in the higher education sector during the period 2022-2025. Many of the challenges facing Stockholm University in the coming decades are complex phenomena that require cooperation between various parties and stakeholders at both the national and international levels. Therefore it is not only the Climate Action Network, but also the Stockholm Trio initiative, that offers excellent platforms to work together at a national level to ensure that the entire academic community in Sweden contributes to the societal transition and transformation necessary to achieve the global sustainability goals. Within the Climate Action Network, the development of a common national Climate Roadmap for the university sector is being discussed, similar to what the private sector has done in several industries within the framework of Fossil-Free Sweden.

Internationally, Stockholm University has unique opportunities to take advantage of various international academic collaborations and partnerships to develop its research and education in the field of sustainability. One excellent example of this is CIVIS – Europe's Civic University Alliance – a European civic university cooperation that aims to facilitate the mobility of students, teachers and other staff members beyond national borders. CIVIS, which received funding in the summer of 2022 to continue for another four years, focusses on five global challenges, of which Climate, Environment and Energy (centred at Stockholm University) and Digital and Technological Transformations are two challenges of significant relevance to the efforts related to climate action. CIVIS offers an excellent platform, in particular in the wake of the coronavirus pandemic, to further promote international cooperation and mobility in a sustainable and resource-efficient manner using digital technologies, and can thus actively contribute to European cooperation, for instance within the framework of the EU's Green Deal.

Proposed measure for the period 2023-2024:

- Provide central resources to enable collaborations with other universities to pursue national and international research and collaborative projects in the field of climate action and sustainability.



Partnerships and joint projects

With the University's outstanding education and ongoing research in sustainability, there are both good reasons and excellent opportunities to establish, pursue, and expand collaborative projects with a focus on climate and sustainability. The University currently already has a number of venues for exchanging knowledge and experience with various civil society entities in the community, such as public authorities and the business community. It is essential to ensure that sustainability and climate action continue to be a central element in governing documents relating to collaborative work.

Over time the Sustainability Forum has developed into a natural arena for researchers and other civil society entities to come together for an exchange of knowledge, ideas and experience beyond Faculty boundaries and individual academic disciplines. The Sustainability Forum will focus on issues related to the transition of society as a whole, the critical role of universities as civil society entities in the community (research, education, lifelong learning, and collaboration) and how climate change and climate adaptation affect and interact with other important dimensions of development and sustainability. In a collaborative partnership between Stockholm University, KTH and KI, the conference Sustainable planet, sustainable health – how science-based solutions can drive transformative change was held in 2022 in conjunction with the Stockholm +50 conference. With the current focus on sustainability within Stockholm trio, the Sustainability Forum will in the future be a conference run jointly by the three universities under the banner of Stockholm trio.

Other good examples of existing collaborative arenas in sustainability include the Bolin Centre's Climate Arena, where researchers meet representatives from the business community to establish climate solutions together, Stockholm Resilience Centre's work with the Executive programme for business leaders, SeaBOS (which brings together the ten largest fishing companies in the world), and collaboration with the EAT Foundation (which contributes to new international standards for "dietary guidelines" that are both sustainable and nutritionally sound). Efforts made for the IPCC, IPBES, UN conferences and the preparation of papers for these types of major meetings are also examples of where Stockholm University is actively participating in the development of society.

Interdisciplinary research on climate, environment and sustainable development often requires extensive collaboration both within and outside the academic world, which needs to be taken into account in the University's recruitment and staffing efforts.

Proposed measures for the period 2023-2024:

- Identify and make the University's existing arenas for collaboration linked to sustainability more prominent.
- Ensure that sustainability and climate efforts are a central part of the University's collaborative work.
- Clarify and present the unique strengths the Stockholm Trio's joint sustainability efforts have for interaction with the wider community by building on the strengths of the three educational institutions.



Management and operational support 6

Management and operational support

The Climate Roadmap is based on commitments from large parts of the University. The goal of achieving carbon neutrality by 2040 requires, in particular, contributions from senior management and the University's administrative departments at various levels. This section of the roadmap brings together proposals aimed at management and operational support throughout the University.

- **University Management's responsibility and expertise:**
  ensure that senior management has sufficient expertise within the field of climate change. If necessary, lectures and short courses can be specially adapted.
- **Responsible boards have the necessary expertise:**
  ensure that strategic decision-making at the University can be supported by Boards and committees with expert capabilities.
- **Professional operational support:**
  ensure that there are human resources within the University's administrative departments that can provide expert professional support in the implementation of the necessary activities.
- **Professional development for managers:**
  establish space within the framework of, for example, existing management programmes for increasing expertise regarding climate issues and sustainability of all managers in administrative and academic departments.
- **Professional development for technical/administrative support staff:**
  provide relevant technical/administrative staff with current knowledge and expertise in areas that have a major impact in the field of climate change and climate action.
- **Clear missions:**
  clarify and set deadlines for the areas of responsibility and tasks of different bodies in relation to the measures required according to the Climate Roadmap.
- **Adapted system support:**
  develop systems and processes that facilitate the selection of climate-smart alternatives. It should be easy to do the right thing.
- **Effective communication:**
  improve communication about the University's efforts related to climate action so that it is clear both internally and externally the ways in which Stockholm University contributes to carbon neutrality. Highlight examples of measures or activities done by individual employees, academic departments or administrative departments that have been significant for the efforts related to climate action.
- **Environmental Management System:**
  ensure that efforts to develop the environmental management system are clearly linked to the Climate Roadmap and the University's action plans. This will raise awareness about the fact that the Climate Roadmap is an integral part of the Environmental Management System and that each Department (or the equivalent) has an obligation to work on both parts within the framework of its activities.



Responsibility and following-up

7

Responsibility and following-up

The Climate Roadmap extends to 2040, 18 years into the future. It is a challenge for any organisation to relate to a commitment that is so far off in the future. Therefore, the procedures for revising and monitoring the plan need to be structured in such a manner that they take this time horizon into consideration. The Environmental Council thus has the responsibility for the Climate Roadmap and for conducting a comprehensive follow-up of the plan every two years, with a view to ensure both short- and long-term effectiveness. Evaluations of the Climate Roadmap will include assessing the progress of the efforts related to climate action and whether it needs revision. This may involve specific measures to achieve the targets and objectives. Revisions to the University's strategies, as well as developments and events globally, affect the content of the Climate Roadmap.

The members of the University's senior management have overall responsibility for achieving the goal of carbon neutrality by the year 2040. The boards of natural and human sciences as well as the administrative departments are required to report implemented and ongoing measures in accordance with the Climate Roadmap. However, at the local level, each Department (or the equivalent) will need to review its own activities and identify where reductions can have the greatest impacts based on the activities they have control over. The local environmental action plans should be used to set operational emission reduction targets and related measures in the short term.

Within the University Administration and its administrative departments, the responsibility for implementing measures is clarified primarily through the Administration's two-year action plans. The action plans can highlight priority measures and the division of responsibilities. This can be monitored continuously with the goal of ensuring that the work progresses as planned with each measure.

At the university-wide level, the central environmental office, together with the Environmental Council and the climate expert group, contributes to the development of proposals for action or measures to be taken in collaboration with the relevant academic and administrative departments. The central environmental office is responsible for monitoring greenhouse gas emissions and the measures presented in the Climate Roadmap.

In addition, the Climate Roadmap is integrated into the University's Environmental Management System and linked on a strategic level to the University's action plans and strategic plans. The concrete measures that are channelled through the Environmental Management System contribute to the whole university's implementation of the measures.





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