



Environmental report 2020

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Preface

In 2020, SLU implemented both a new strategy and a new vision that focuses on sustainability. One of the focus areas in the university's strategy is our next step towards sustainability. It has its basis in all of SLU's subject areas that touch upon the conditions necessary for us to exist, and that our skills are important and relevant to society's efforts to attain the goals outlined in Agenda 2030 and meet global challenges such as food security and climate change.

Some of our more crucial tasks include researching and teaching prioritisation between production and environmental goals. This means that we have the knowledge necessary for making carefully considered decisions and can strive to be seen as setting a good example. Therefore, we should do our very best with the resources available to us and conduct our operations and activities with the least possible environmental impact.

SLU has been working systematically with environmental issues for several years, we have chosen to certify our operations and activities according to the ISO 14001 standard and EMAS. As of 2016, all of the university's operations are certified. 2020 saw intensive efforts to prepare the current eleven certificates being combined into a single one. We work actively to identify and measure our environmental aspects, to set environmental goals, follow up on aspects and goals, and ensure that we achieve what we set out to do.

Several improvements were implemented in 2020, big and small. All objectives and focus areas are presented in the environmental report, but to highlight a few:

- New guidelines for food focusing on climate and biodiversity, waste and packaging.
- SLU, as an organisation, has signed Uppsala County's action programme for biodiversity that lists concrete measures to implement.
- New energy objectives that aim to intensify energy savings and produce more fossil-free electricity.

- Strong focus on sustainability when developing our course and programme offering.

SLU has maintained the breaks in trends and we see a continued reduction in air travel. 2020 was an extreme year as so much travel had to be cancelled, but even under normal circumstances, we would possibly have achieved our environmental objective for business travel. We have also saved many tonnes of CO₂ through the transition to bio-based fuel in farms in Uppsala and Hallfreda on Gotland, and we have accomplished a lot both within research and our own biodiversity operations. R/V Svea, our research vessel, has run on fossil-free fuel from the outset.

I look back at 2020 from an environmental perspective with pride and satisfaction at what we have achieved, but I also see that a lot remains to be done if we are to achieve our goal of being a climate-neutral university by 2027. Let's all help in identifying what each one of us can do, and together continue our active sustainability efforts.



*Maria Knutson Wedel,
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About SLU

SLU improves the knowledge on how to use biological natural resources on land and at sea in a sustainable way. SLU conducts education, research and environmental assessment at over thirty locations around the country. The main campuses are located in Uppsala, Alnarp and Umeå. In 2020, the university had 3,155 employees and 4,216 students (both full-time equivalents).

SLU has four faculties with a total of 34 departments.

- Faculty of Landscape Architecture, Horticulture and Crop Production Science (LTV)
- Faculty of Natural Resources and Agricultural Sciences (NJ)
- Faculty of Forest Sciences (S)
- Faculty of Veterinary Medicine and Animal Science (VH)

SLU also has a university administration with 14 divisions whose main task is to provide support for research and education.

Mission statement

SLU conducts education, research and environmental monitoring and assessment in collaboration with society at large. Through our focus on the interaction between humans, animals and ecosystems and the responsible use of natural resources, we contribute to sustainable societal development and good living conditions on our planet.

Strategy

In 2020, the SLU Board adopted a new strategy for the university, with three strategic focus areas: *SLU's next step for sustainable development, One SLU and SLU in the digital society.*

Environmental policy

“SLU contributes to an ecologically, socially and financially sustainable development. Environmental thinking and environmental aspects are integrated in all decision-making and are part of all activities within SLU's organisational units. The environmental work at SLU is a long-term process which builds on continuous improvement and is based on the environmental regulations in force.”

Environmental management system

SLU complies with the environmental management standards ISO 14001:2015 and EMAS. This means that the university conducts structured environmental work and follows up on the environmental aspects of its operations. The vice-chancellor has the ultimate responsibility for SLU's environmental work, and the university management decides on any improvements. In 2009, the vice-chancellor decided that all of SLU would be certified according to the ISO 14001 standard. Between 2004 and 2016, several SLU units were successively certified.



CERTIFIED
ISO 14001
Environmental
management systems



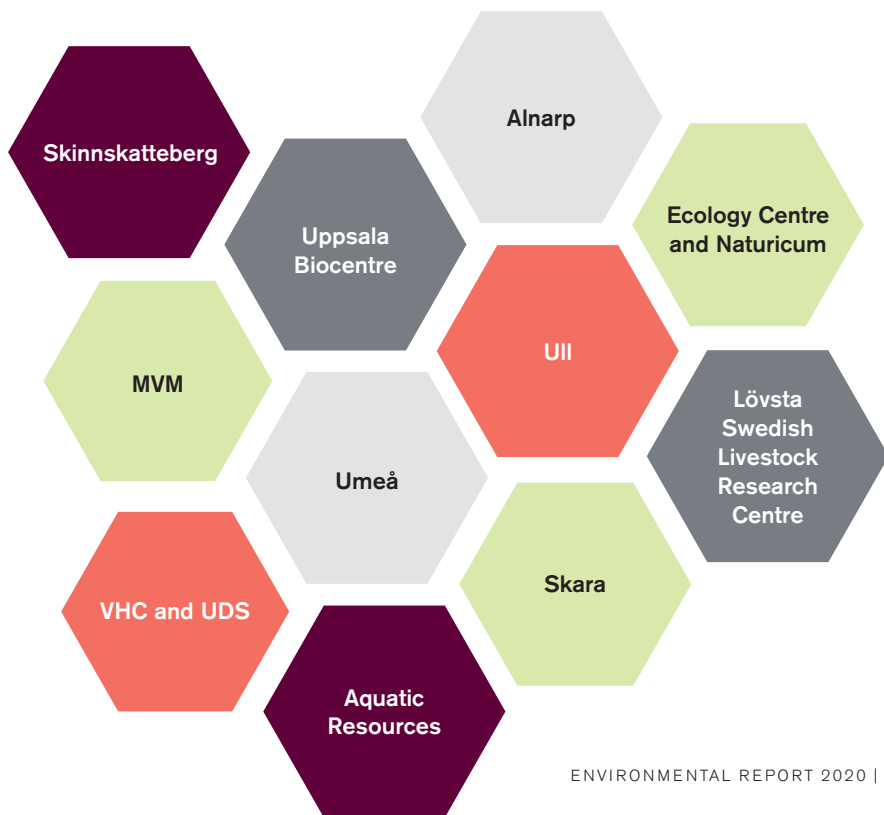
Today, SLU holds eleven certificates.

In 2019, it was decided that the eleven certificates would be combined into one certificate for the whole university. In 2020, the work to achieve one shared environmental certificate was intensified, and in February 2021 SLU will be audited as one single certificate. In connection with this, a new environmental organisation at SLU has been proposed, possibly involving new constellations, new ways of working and some training.

At SLU, everyone is involved in our environmental efforts. The eleven certificates differ in content depending on the location, faculty, building, or, in some cases, department. The spread of certificates across the country reflects

SLU's width both in terms of operational areas and geographical locations.

Each certificate has its environmental coordinators, representatives and environmental management. The university management and vice-chancellor are included in Ull's certificate, where the general environmental objectives and university-wide guidelines are developed. The Environment Unit coordinates and reports on environmental work at a university-wide level. For example, the Environment Unit proposes general environmental objectives and coordinates internal environmental audits and events for environmental coordinators.



The 2020 environmental year (performance)

Several new environmental projects were launched in 2020, some environmental objectives were concluded and new ones were developed. It was also a year filled with commitment from researchers, other SLU employees and students, and stakeholders.

The Uppsala County Administrative Board's sustainability promises in biodiversity

The Uppsala County Administrative Board continues running its programme for a sustainable county. In 2020, SLU submitted a large number of promises regarding biodiversity and ecosystems. These include increasing the number of flowering edge zones and continued research on links between cropping systems (including cropping rotation), soil health and productivity.

New environmental objectives for business travel, energy, education and environmental monitoring and assessment

During the year, environmental objectives for business travel, energy, education for sustainable development and environmental monitoring and assessment have been redefined as they expired at the end of the year. The energy objective was adopted in December 2020, the other environmental objectives will be adopted in January 2021.

Bold decisions on travel

Work to establish new environmental objectives for business travel and updated guidelines for travel and meetings has been ongoing during the year, and started with a workshop to discuss the current situation and what we would like the future to look like. In the spring, the first proposals for objectives and guidelines were sent out to all of SLU for comment. The new objectives for business travel are in line with the Paris Agreement, with much stricter objectives for travel. The purpose of the guidelines is to help students and staff select the best meeting format, aiming for more online solutions, and to primarily opt for the train for domestic travel.

Energy objectives focusing on savings and cooperation

This decision involves a considerable focus on producing renewable electricity and heating as well as systematic efforts to increase efficiency, in rented property and properties owned by SLU. One of the objectives is to increase the on-site production of electricity and heating. For the properties rented from Akademiska hus,

we have agreed on an objective focusing on energy savings together with the landlord.

Educating future decision-makers

2017 saw the introduction of the overarching objective: all students on SLU degree programmes will be given with a solid foundation for managing all dimensions (financial, social, environmental) of sustainability in their future professional life. To meet this objective, several interim targets have been set within the regular environmental management work. The overall environmental objective remains, but the interim targets have been updated. For example, sustainable development is to be a part of all degree programmes and we will aim for students and alumni to rate that effort highly.

Environmental monitoring and assessment

The new environmental objectives in this area are extended and the required compliance rate increased.

Food guidelines

After an exciting process, discussions with a reference group and consultation rounds within the university, the vice-chancellor at the end of the year adopted guidelines for the purchase of food. The Environment Unit outlines the environmental requirements when procuring framework agreements, but the person ordering is responsible for deciding what products to order via the framework agreement. These new

guidelines aim to support staff ordering or procuring meals and food products to reduce the environmental impact of our consumption on biodiversity and the climate. The guidelines cover fruit and vegetables, cakes and pastries, coffee, tea and other beverages, fish and shellfish, meat and other animal products, plant-based protein sources and carbohydrates. They also cover managing food and general waste.

New, environmentally friendly scrapping service for computers

As part of a procurement of IT services last spring, Uppsala has been testing a scrapping service that is both safe and environmentally friendly. SLU's supplier of IT equipment collects the equipment and makes sure that anything that can be reused is. In the first round, 80 items were handed in and 39 of these could be re-used.

Ranking environmental management work at SLU

In 2020, no ranking was established as part of the Environmental Protection Agency's follow-up of public authorities' environmental management work. The reason for this is that the Ordinance on Environmental Management in Government Agencies is undergoing review, and the ranking system needs adjusting. Instead, the organisation Climate Students published their first climate ranking of Swedish higher education institutions. Their ranking is based on the data reported to the Swedish Environmental

Protection Agency, and SLU was ranked second among the 16 higher education institutions that were included.

Increasing energy efficiency in animal husbandry

In the cow stables at Lövsta Swedish Livestock Research Centre outside Uppsala, LED lights have replaced strip lights as the first step in increasing energy efficiency. SLU Götala Beef and Lamb Research Centre, outside Skara, is now using one of Sweden's first electric feed mixers when feeding the cattle. This is one step towards fossil-free machinery, in preparation for SLU phasing out all fossil fuels by 2027. Both projects were granted funds from the SLU Climate Fund.

Environmental audits at SLU

SLU is annually audited both externally, by the certifying body Rise, and internally, by SLU's environmental auditors. Rise found some non-conformities, the majority of which were rectified during the year. In 2020, SLU had 17 trained and approved environmental auditors, including one student.

R/V Svea

SLU took over ownership of the research vessel R/V Svea in the summer of 2019. Before the vessel was designed and when the dock was procured, the Environment Unit took part in the discussions and requirement process. Efforts to include Svea in the environmental management system

continued, but was delayed due to the pandemic. We estimate that Svea will be fully included in the environmental management system as of spring 2021.

Non-conformities and improvement proposals

In 2020, 151 non-conformities and improvement proposals were submitted through IA, SLU's case reporting system. Of these, 103 were concluded. Many of the cases submitted are improvement proposals from staff and students at different SLU locations. The proposals are wildly different in character and scale. A majority of them concern one of four areas. These are transport (lack of charging points for cars, bike-promoting measures etc.), document management (missing documents, too much printed on paper, inefficient procedures), lab work (incorrect handling of chemicals etc.) and food-related issues. In principle, all submitted cases have been processed and several resulted in concrete improvement measures. For example, the vice-chancellor has approved guidelines for purchasing food, and in cooperation with Akademiska hus, 26 new charging points for electric cars have been installed at Campus Ultuna.

Environmental considerations in procurements

The Purchasing and Procurement Unit handles all procurements that exceed the monetary limits for direct procurement. The Environment Unit conducts an environmental

risk analysis of all procurements that include environmental requirements. In 2020, environmental requirements were included in procurements for e.g. IT equipment and software, window cleaning and restaurant and catering services in Alnarp. For IT, the requirements included providing SLU with information on developing and improving products from an environmental perspective. The catering procurement included requirements for packaging, non-disposables and transport. For the procurement of window cleaning, the requirements concerned the cleaning product used.

Environmental aspects list for all of SLU

As part of the work of combining eleven environmental certificates into one, the Environment Unit has produced a joint environmental aspects list for all of SLU. There are links to Agenda 2030, the national environmental quality objectives and

SLU's CO₂e emissions according to the Greenhouse Gas Protocol (GHG). This change means we can now follow up on our CO₂e emissions annually, and we can compare 2019 and 2020 to the previous CO₂e analyses from 2015 and 2018. More information on SLU's CO₂e emissions is available in the section on this topic.

Digital transition

As SLU is a geographically dispersed institution, with a presence from north to south, our video conferencing infrastructure is continually updated to encourage staff to opt for online meetings rather than travel. The digital transition caused by the pandemic has led to increased use of Teams and Zoom. SLU's play-on-demand channel (play.slu.se) has also been further developed. Lectures used for distance teaching, as well as event materials, are published on this channel.

SLU Climate Fund

In 2015, SLU launched a climate fund as part of its efforts related to the environmental objectives for work-related travel. All air travel at SLU is subject to a fee that is added to the fund.

Staff can then apply for funding for projects that promote the climate. Funding is paid out once every autumn semester. The Climate Fund had a three-year test period and was, after evaluation in 2018, extended by another three years. The fund will be evaluated again at the end of this new three-year period.

Each one-way flight is subject to a fee; the amount varies depending on the type of trip:

- domestic – SEK 100
- Europe – SEK 200
- intercontinental – SEK 300.

No projects were granted funding in 2020. As the pandemic led to a considerable reduction in travel, less funding was available, to the extent that it was not deemed reasonable to grant any projects funding given the administrative work involved.



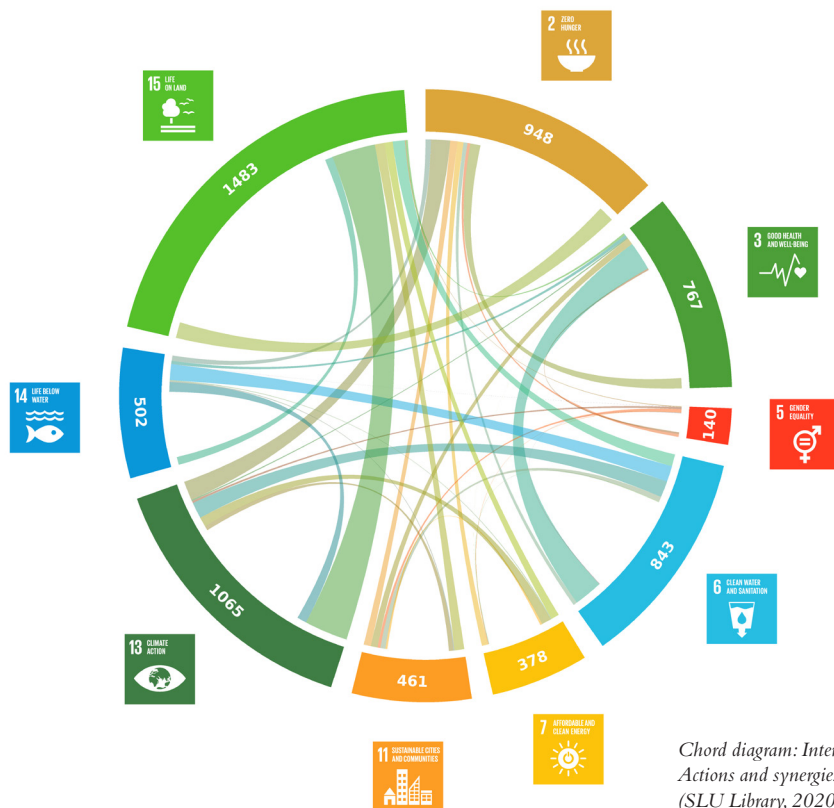
Scientific publications per global goal

SLU contributes to the Agenda 2030 sustainable development goals through research and through building and disseminating knowledge.

In 2020, a service was designed for making available publications of importance to the sustainable development goals. Publications are selected by searching bibliographical databases such as Scopus and Web of Science Core Collection; this is combined with a manual selection and the researcher/author reporting their

publications. This service is still a work in progress, and at the end of the year, results were available for 9 of the goals. The image gives an overview of the size (the number of related publications) for these 9 goals and how they interact with each other.

¹<https://www.slu.se/samverkan/internationalt/sluglobal/agenda-2030/test-agenda20302/>



Chord diagram: Inter-Actions and synergies (SLU Library, 2020).

PRME Certification

PRME (Principles for Responsible Management Education) is a UN initiative to create a platform for educating future business leaders who are able and willing to work with sustainable development in business management.

Master's programmes with a focus on sustainability in business administration are offered by the Department of Economics. The certification applies to the entire university, all campuses and programmes, although the PRME certification is subject-based. In 2020, SLU continued towards new objectives and a new certification in 2021. With

the aid of the UN and Global Compact, PRME has quickly risen in prominence, and the certification makes SLU more attractive to students, future employees, and partners looking for a future-oriented university with a focus on sustainability.

PRME Principles for Responsible Management Education



Production of fossil-free electricity

SLU produces its own electricity and heat. We have a biogas plant, solar cells and biofuel boilers.

In 2020, SLU produced a total of 2,455 MWh of electricity and 8,570 MWh of heat. SLU's total consumption in rented and owned premises was 25,820 MWh of electricity and 24,540 MWh of heating. The degree of self-sufficiency in rented and owned premises was thus 10 per cent for electricity and 35 per cent for heating. The self-sufficiency for heating was 84 per cent for SLU's properties. The production for 2020 can be broken down as follows:

- biogas plant, electricity: 2,340 MWh
- solar power cells, electricity: 116 MWh
- biogas plant, heating: 2,245 MWh
- biofuel boilers, heating: 6,320 MWh.



Lövsta Swedish Livestock Research Centre

Photo: Pereric Öberg, Aerobilder.

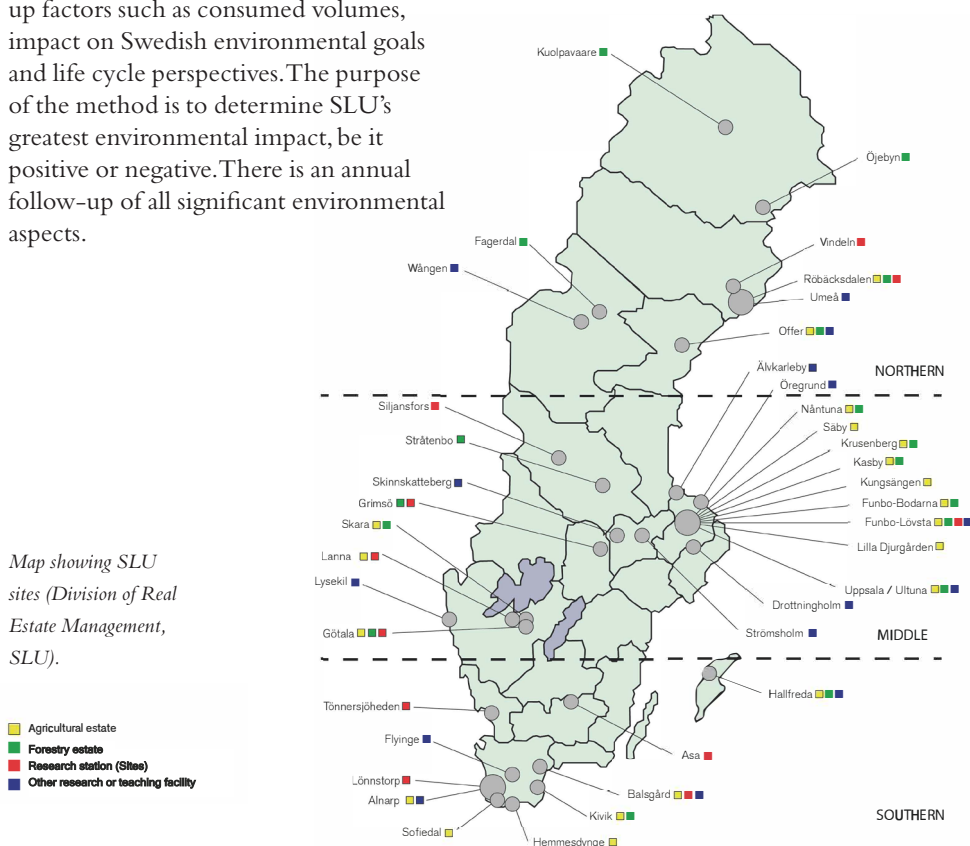


Environmental indicators

The environmental indicators provide management with data to evaluate the university's environmental performance and identify areas that need improvement.

SLU has identified the activities that have a positive and/or negative environmental impact, referred to as significant environmental aspects. These activities have become focus areas for the university's environmental work and how the university continuously strives to improve its environmental aspects. The work includes considering environmental factors in purchasing and procurements, devising new meeting methods to reduce the university's greenhouse gas emissions and disseminating knowledge about environmental and sustainability issues. The significant environmental aspects are selected using a method that aims to weigh up factors such as consumed volumes, impact on Swedish environmental goals and life cycle perspectives. The purpose of the method is to determine SLU's greatest environmental impact, be it positive or negative. There is an annual follow-up of all significant environmental aspects.

Map showing SLU sites (Division of Real Estate Management, SLU).



Significant environmental aspects

There are significant environmental aspects at all the faculties as well as within the university administration.

- *Faculty of Landscape Architecture, Horticulture and Crop Production Science (LTV)*
- *Faculty of Natural Resources and Agricultural Sciences (NJ)*
- *Faculty of Forest Sciences (S)*
- *Faculty of Veterinary Medicine and Animal Science (VH)*
- *University administration (Uadm).*

Significant environmental aspects	LTV	NJ	S	VH+UDS	Uadm
Education: by educating students on sustainability, food production, energy, etc., we hope to give the next generation of decision-makers the tools to take good decisions.	X	X	X	X	
Research: in, for example, SLU's interdisciplinary future platforms (Future Animals, Nature and Health, Future Food, Future Forests and Urban Futures), researchers collaborate across disciplinary boundaries and with different stakeholders in society. Some research findings have had a particularly significant impact on society, and research relating to gender is being conducted in several places.	X	X	X	X	
External collaboration, information and advisory services.	X	X	X	X	X
Environmental assessment including communication, data collection and environmental monitoring: SLU has a societal remit that is unique among Swedish universities. In addition to education and research, SLU is tasked by the Swedish Government with conducting environmental monitoring and assessment (EMA). Through EMA, we give decision-makers data on the state of the environment, primarily in Sweden.	X	X	X	X	X
Landholding: 6,303 ha of which 2,878 ha agricultural land, 2,636 ha forest and 789 ha other lands. Semi-natural pastures make up 253 ha of the 'other lands' category.					X
Forest holdings: 2,636 ha of which 2,171 ha productive forests.					X
Approximately 40 per cent of the total arable land is used for experiments, including the production of roughage for research animals.	X	X	X	X	X

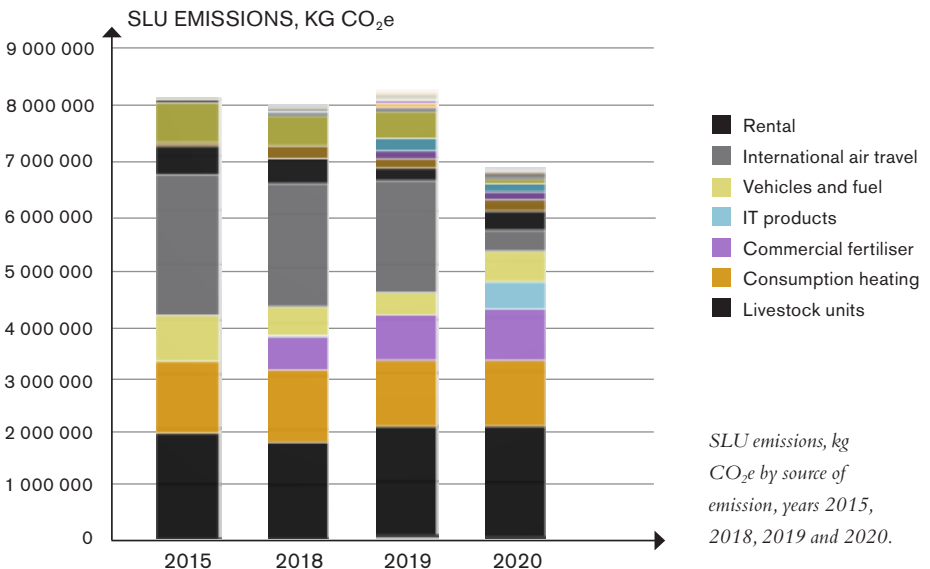
Betydande miljöaspekt	LTV	NJ	S	VH+UDS	Uadm
<ul style="list-style-type: none"> Livestock units: cattle, pigs, poultry, sheep and fish: SLU owns about 1,000 livestock units that affect the environment both positively and negatively. For example, cattle emit methane but also graze on fields and promote biodiversity. SLU livestock primarily contributes to research and education in sustainable animal husbandry. 	X	X	X	X	X
<ul style="list-style-type: none"> Commercial fertilisers: In SLU's agricultural operations and experiments, commercial fertilisers are used for increased growth. Producing these requires a lot of energy. 	X	X	X	X	X
<ul style="list-style-type: none"> Plant protection products: In SLU's agricultural operations and experiments, plant protection products are used for increased growth. The production process, and the use, involves emissions. 	X	X	X	X	X
<ul style="list-style-type: none"> Chemicals: All SLU laboratories, forestry and agricultural operations and other activities use many different types of chemicals. Possible emissions can affect air, water and land. 	X	X	X	X	X
<ul style="list-style-type: none"> Travel: we sometimes need to travel as part of work, and this travel results in emissions of CO₂ and other substances. 	X	X	X	X	X
<ul style="list-style-type: none"> Consumption of heating, excluding own-produced: Our operations and activities consume energy in the form of heating. In many cases, this causes emissions of CO₂ and other environmentally hazardous substances. 	X	X	X	X	X
<ul style="list-style-type: none"> Vehicles, including non-road mobile machinery: SLU owns many different vehicles, and they run on different types of fuel. Using fuel generates CO₂ emissions and other substances hazardous to the environment. 	X	X	X	X	X
<ul style="list-style-type: none"> Purchases: SLU procures and purchases products and services amounting to several million every year. It is important to ensure that the procurements are of the highest possible standard from an environmental perspective. The purchases can generate emissions in other parts of the world, such as when purchasing IT products, and it is important to have a life-cycle perspective. Purchases of plastic (packaging and products) is another example where SLU can make a difference by choosing wisely. 	X	X	X	X	X

SLU's CO₂e emissions

SLU's CO₂e emissions according to the Greenhouse Gas Protocol (GHG) have been followed up for four years and in the future will be followed up annually. The chart shows CO₂e emissions per environmental aspect for the last four years. During these years, it has become possible to measure an increasing number of environmental aspects in kilos CO₂e, which is why there is a taller bar for 2019. In 2020, emissions from primarily international air travel were reduced considerably due to the pandemic.

What is unique to SLU, above all when you compare us to other higher education institutions, is the fact that we have livestock units, landholdings and forest holdings, and use commercial fertilisers. Emissions from livestock units shown in the

chart are the methane gas produced by ruminants. Feed production, fertilisers and other parameters linked to animal husbandry have not been included. Animal husbandry also has positive effects. The emissions included in the chart for fertilisers refer to the production process, but bigger harvests and other effects are not included. Landholdings and forest holdings both give rise to emissions, but they also bind carbon. Calculations based on SLU's forest management plans show carbon sequestration close to 8,500 tonnes CO₂e. We currently do not have any data on CO₂e emissions or carbon sequestration from landholdings, but such data will be made available for 2021. The environmental impact of activities like these are complex, and presenting them in a fair way is difficult.



Environmental objectives and 2020 results

The UN's climate goals are clear: global greenhouse gas emissions must be halved by 2030 and almost gone by 2050. SLU is a university with an environment profile and we want to practise what we preach, and we also see the importance of managing our climate emissions in our role as a public authority.

For the significant environmental aspects, the university has chosen to define environmental objectives for education and EMA as well as energy consumption, purchases and business travel. Additionally, the vice-chancellor has decided that SLU should be a climate-neutral university

by its 50th anniversary (2027). This vision includes further environmental objectives. The vision will allow SLU to contribute to reaching the objectives of the Paris Climate Agreement and Sweden's national objective of being climate-neutral by 2050.

1. Education²

All students on one of SLU's programmes should, in preparation for their future professional roles, receive a solid foundation for working with the different dimensions (financial, social, and environmental) of sustainability.

1.1 Sustainable development in degree programmes³

Integrating sustainable development into all programmes (100 per cent) by 2020.

Results: SLU has 28 programmes that start at the undergraduate level (excluding foundation years). Some are Bachelor's programmes, but most are professional programmes that continue to Master's level after the first three years. All SLU degree programmes include sustainability aspects, in some programmes these need to be concretised. SLU also offers 22 Master's programmes, where most are international and taught in English. In all 22 programmes, sustainability aspects make up a significant part of the programmes' profiles and are included in the programme syllabuses. In a few cases, the programme syllabuses can be made clearer on this.

1.2 Course evaluations⁴

No later than 2020, have at least 70 per cent positive responses in course evaluations when asking if sustainability has been integrated into the programme.

Results: The average for this course evaluation question in 2020 was 4.09 out of 5 across all SLU courses. This corresponds to 80 per cent, which is in line with the objective.



1.3 Workshop: education relating to sustainable development⁵

At least once per year, a workshop with programme directors of studies should be held to share experiences and further develop the teaching of sustainable development.

Results: A conference took place in 2019, but not in 2020 due to the pandemic.



1.4 Continuing professional development: education relating to sustainable development⁶

Before the end of 2020, at least 80 per cent of all course coordinators will participate in a one-day professional development for sustainable development course.

Results: So far, around 90 per cent (381 people) have taken the training.



1.5 Alumni: sustainable development in professional roles⁷

At least 70 per cent of alumni will, when asked, state that their programme has given them tools to work with all three dimensions of sustainable development in their professional roles.

Results: This question will be asked for the first time in 2022.

2. Environmental monitoring and assessment

To contribute more to societal environmental work, SLU has a general environmental objective to increase the use of data generated through SLU's environmental monitoring and assessment among national decision-makers, public authorities, researchers and the public.



2.1 Metadata concerning environmental assessment data⁸

By the end of 2020, at least 80 per cent of all operations participating in SLU's quality work will provide open data online according to the applicable quality guide for environmental data management.⁹

Resultat: Of all the operations that took part in the quality work, not quite 10 per cent met the requirements by the end of 2020. This objective was not fulfilled in 2020. It is extended to 2025 and the objective is now 90 per cent.

²SLU-internal environmental objective 4.4

³SLU-internal environmental objective 4.4.1

⁴SLU-internal environmental objective 4.4.2

⁵SLU-internal environmental objective 4.4.3

⁶SLU-internal environmental objective 4.4.4

⁷SLU-internal environmental objective 4.4.5

⁸SLU-internal environmental objective 5.4

⁹<https://internt.slu.se/quality-guide>

3. Energy consumption

Consuming various types of energy impacts the environment in many different ways. SLU has several types of operations which are relatively energy-intensive and we have therefore chosen to set objectives in this area.

3.1 Electric energy¹⁰ and district heating/cooling¹¹

All electrical energy and district heating/cooling purchased or consumed by SLU will be from fossil-free sources.

Results: SLU only purchased and consumed fossil-free energy in 2020. The district heating/cooling purchased or consumed by SLU in 2020 was 63 per cent fossil-free.

3.2 Self-sufficiency¹²

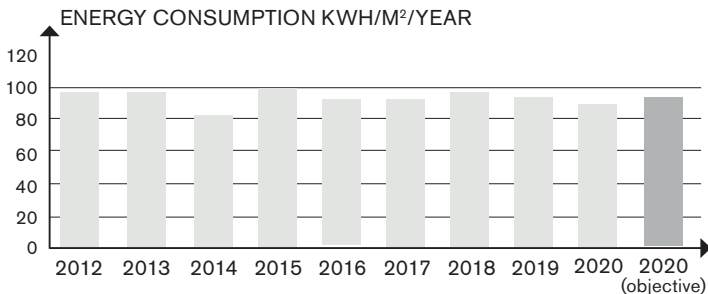
Using 2014 as the base year, SLU will increase its self-sufficiency when it comes to electrical energy in rented and owned properties by at least 13 per cent by 2020. When it comes to heating, the self-sufficiency shall remain above 90 per cent in SLU's properties.

Results: The self-sufficiency in rented and owned premises in 2020 was equal to 9 per cent renewable electrical energy. The self-sufficiency for heating in 2020 was 84 per cent for SLU's properties.

3.3 Energy savings¹³

SLU will save at least 1 per cent of energy per m² and year in its properties, using 2012 as the base year. In other words, SLU will have saved at least 9 per cent energy per m² by 2020.

Results: In 2020, energy consumption had increased by 7 per cent since 2012 in SLU's properties.



SLU energy consumption
in kWh/m², years
2012–2020.

4. SLU's vehicles¹⁴

SLU owns numerous vehicles of different kinds, e.g. cars, farming and forestry machines, scooters, ships, quad bikes, wheel loaders etc. In many cases, the fuel consumption of these vehicles is an environmental issue.



4.1 SLU's vehicles

All SLU-owned motor vehicles, machines and tools will run on non-fossil fuels by 2027.

Results: Motor vehicles, machines, and tools owned by SLU, a total of 187 in 2020, can be broken down as follows: electric 5 per cent, hybrid 4 per cent, methane gas 1 per cent, diesel 71 per cent, and petrol 20 per cent. Of the total fuel consumption, at least 37 per cent was fossil-free. NB. R/V Svea is not included in this. The vessel only runs on fossil-free diesel. (HVO100).

5. Purchases



5.1 Procurement¹⁵

The procurement of goods and services will be guided by clear climate awareness.

Results: In principle, objectives have been fulfilled. When relevant, environmental considerations must be taken into account to the extent possible for the procurement of products, services and buildings. The type of procurement determines whether environmental requirements are needed. SLU operations are broad, and it is not unusual that very specific products are procured. In most cases, there is only one supplier, and this affects environmental requirements.



5.2 Follow-up of procurements¹⁶

There will be an annual follow-up of at least three procurements to determine if, and to what extent, the environmental impact has been reduced.

Results: Three follow-ups took place in 2020. One was bus travel with a driver. Suppliers have submitted proof that the objectives were fulfilled, for example, the requirement for clean cars to have an environmental classification of at least Euro 5, and that the fuel with the highest available environmental classification commercially

¹⁰SLU-internal focus area 6.1

¹¹SLU-internal focus area 6.2

¹²SLU-internal environmental objective 1.1

¹³SLU-internal environmental objective 1.3

¹⁴SLU-internal focus area 6.3

¹⁵SLU-internal focus area 6.4

¹⁶SLU-internal environmental objective 3.6

available at the site must be used. The second follow-up concerned snow clearing, and the suppliers have submitted proof that they use hydraulic oil and fulfil the Euro 4 environmental requirements. The third follow-up was the handling of hazardous waste; here, the suppliers have submitted proof that they fulfil several requirements. However, it is not possible to prove that any palm oil used in biofuels is certified and free from PFADs (Palm Fatty Acid Distillates).



5.3 Environmental requirements in procurements¹⁷

In cases where it is relevant from an environmental risk analysis perspective, environmental requirements must be listed in all procurements.

Results: In 2020, an environmental risk analysis was performed for all procurements that led to an agreement being concluded. In six of these (handheld computers for field analysis, dry chips, window cleaning, IT products, restaurant and catering services in Alnarp, bus travel with driver), the environmental risk analysis resulted in environmental requirements, and green leaf-marked products in Proceedo were used where possible.



5.4 Call-offs with environmental considerations¹⁸

Increase the number of call-offs with environmental consideration for focus areas with fixed terms. For 2020–2022, the focus area is purchasing domestic hotel nights.

Results: Of the 20 hotels most often booked by SLU in 2020, 49 per cent of hotel nights were booked at a hotel with an environmental certificate.

6. Business travel¹⁹

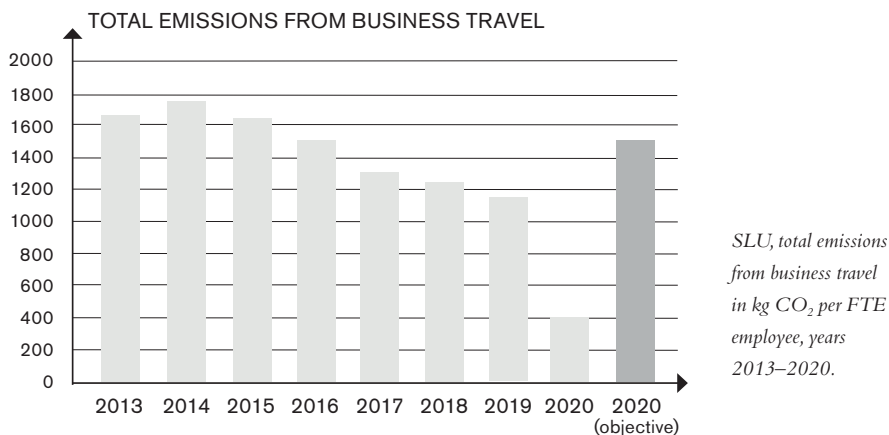
SLU's operations are spread across the country, and this combined with many international contacts, cooperation forms and research projects mean our work entails frequent work-related travel. Emissions from business travel will be reduced according to the existing action plan and objectives.



6.1 Total for work-related travel²⁰

SLU will reduce the carbon dioxide emissions from travel by at least 10 per cent per full-time equivalent (FTE) employee by 2020 compared to 2013.

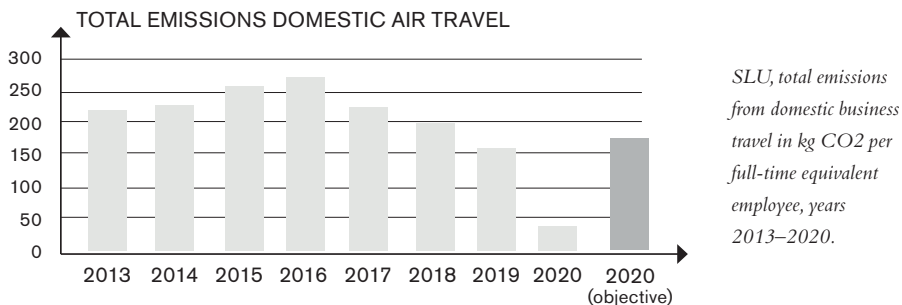
Results: SLU has reduced carbon dioxide emissions from travel by 75 per cent per FTE compared to 2013. This objective was fulfilled already in 2019.



😊 6.2 Domestic business travel²¹

Carbon dioxide emissions from domestic flights will be reduced by at least 20 per cent per FTE by 2020 compared to 2013.

Results: SLU has reduced emissions from domestic flights by 83 per cent per FTE compared to 2013. This objective was fulfilled already in 2019.



¹⁷SLU-internal environmental objective 3.7

¹⁸SLU-internal environmental objective 3.8

¹⁹SLU-internal focus area 6.5

²⁰SLU-internal environmental objective 2.1

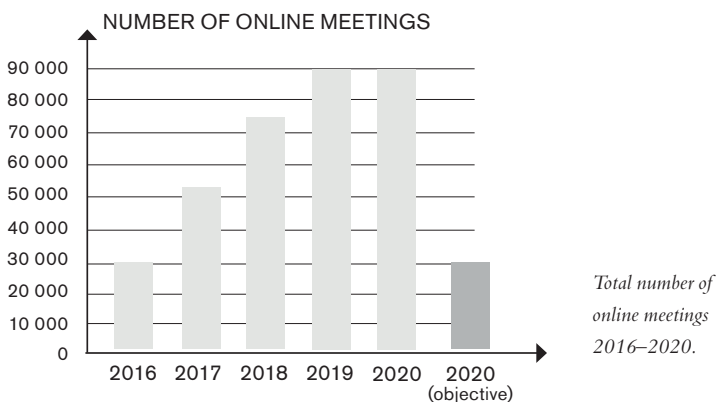
²¹SLU-internal environmental objective 2.4



6.3 Online meetings²²

Online meetings will increase by at least 15 per cent by 2020, compared to 2016.

Results: Since 2016, the number of online meetings has increased by 200 per cent. This does not include Teams, Zoom and Skype meetings. In 2020, the number of Zoom meetings was 131,891. This includes teaching and staff meetings, as we do not yet have the means to separate the two. The number of Teams meetings was 133,499.



7. Climate compensation²³



SLU cannot completely eliminate gas emissions that affect the climate from our operations, as some air travel will always be necessary and our ruminants are crucial to our operations. SLU, therefore, intends to compensate for these emissions.

Results: In 2020, SLU launched a project to look into what practical measures we can take to bind carbon dioxide e.g. by producing and processing biochar, but a formal decision has yet to be taken.

8. Operation-specific environmental objectives

In addition to SLU's university-wide environmental objectives, many operations have their environmental objectives. Some examples are:

- Remove or replace at least six products made of fossil-based plastics by 2020. The replacement products must contain at least 70 per cent bio-based plastics, or be made from another renewable material. (VHC)
- No later than the end of 2020, all estates must have introduced two measures aimed at reducing the environmental impact from plant protection products. (Ull)
- Starting 1 January 2019 and by 31 December 2021, endeavour to ensure that there are no domestic flights within SLU Skara operations. (Skara)
- By 2021, endeavour to ensure that the Department of Ecology increases its number of FTE students by 10 per cent compared to 2018. (Ecology Centre and Naturicum)
- 80 per cent of course coordinators have taken part in training to teach sustainable development. (Ecology Centre and Naturicum)
- Measure the number of articles with an environment focus at SLU Alnarp in Swedish media. The search tool Retriever is used to search for articles containing (SLU Alnarp OR (Swedish University of Agricultural Sciences AND Alnarp)) AND (environment★ OR ecology★ OR sustainable★).
- Increase our positive environmental impact by recreating and informing on functional living environments for freshwater pearl mussels and brown trout in the Hedströmmen run-off area in Skinnskatteberg. (Skinnskatteberg)
- By 2020, reduce the share of combustible waste by 15 per cent compared to 2015. (Umeå)
- Reduce the emissions of copper sulfate to biogas (Lövsta).

²²SLU-internal environmental objective 2.5

²³Focus area 6.6

Laws and other requirements

SLU operates under many laws, regulations and other requirements when it comes to environmental work. All requirements are available in a legislation list. To ensure that we fulfil the requirements and expectations placed on us, we carry out an annual compliance review. Several public authorities also supervise our work through annual reports, inspections and reviews.

In addition to laws and regulations, there are other collaborations where SLU has promised to contribute in various ways. This includes the climate framework for universities, the Uppsala County Administrative Board's sustainability promises, the Uppsala Climate Protocol,

Uppsala Municipality's bike-friendly workplace certification, and not least all the sustainable development goals in Agenda 2030.



What happens next?

There will great environmental challenges at SLU in the future. Below are some items that the university will be highlighting in the near future.

- Continue work on the new **SLU strategy** to make it clear e.g. what the focus area ‘our next step to sustainability’ means in concrete terms.

- **One certificate:** SLU’s eleven certificates will be combined into one after the February 2021 external environmental audit.

- **Agenda 2030:** continue implementing the UN sustainable development goals in SLU operations and finding good ways of showcasing this. This will be done through various cooperation projects and tools.

- **Internal environmental audit** with the new organisation. Internal environmental audits will be done by faculty rather than by certificate like before, and there will be a new procedure for this.

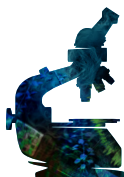
- **Reporting THE SDG ranking:**

For the first time, SLU will be reporting according to the Times Higher Education Impact Rankings against the United Nations’ Sustainable Development Goals (SDGs).

- **Environmental objectives:** new objectives adopted for business travel, education and environmental assessment.

- **Climate-neutral university:** In the coming year, work continues in the six focus areas related to our vision of becoming a climate-neutral university by 2027.

- **Biochar:** The project investigating what practical measures we can take to bind carbon dioxide e.g. by producing and processing biochar, continues.



The Environment Unit at SLU 2020

The SLU environmental report was developed by staff at the Environment Unit.

More information on SLU's environmental work can be found on the web:

<https://internt.slu.se/en/environment/>

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Appendix 1: Core indicators

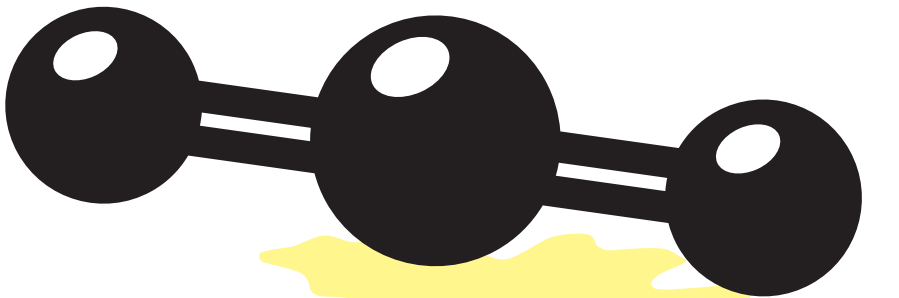
In the environmental report, organisations must provide core indicators as long as they relate to the organisations' direct environmental aspects and other relevant indicators for environmental performance as described below.

Presentation of core indicators for environmental performance according to EMAS III.

Each core indicator consists of the following:

Number A, specifying the total annual addition/impact in the given area.

Number B, specifying the organisation's total annual production. (As the university is not part of the production sector, but rather the administration/services sector, the productivity number represents the number of employee FTEs: 3,155.) Number R, signifying the A/B ratio.



Field	Core indicators	A	R	Comment
Energy efficiency	Total annual energy consumption, MWh	54 300	17,2	
	(a). Percentage of a that is from renewable energy sources produced by the organisation (b).	20,3		
Material efficiency				Not reported. SLU has no material flows of significant environmental importance.
Water	Total annual water consumption, m ³ .	193 808	61,4	
Waste	Total annual waste production, excluding hazardous waste, in tonnes.	Misc paper: 10,9 Coloured glass: 2.4 Clear glass: 1.8 Plastic packaging: 8.3 Metal packaging: 1.9 Paper packaging: 5.6 Cardboard: 25.8 Recovered paper: 7.7 Combustible waste: 267.1 Compostable waste: 67.7	0,0035 0,0007 0,0006 0,0026 0,0006 0,0018 0,0082 0,0025 0,080 0,020	Calculated using standard values based on information from Akademiska hus for Ultuna.
	Total annual hazardous waste production, in tonnes.	124,3	0,04	Data from Ragn-Sells.
Biodiversity	Land use in built-up areas (m ²). CO ₂ -equivalents.	2 768 820	878	Total campus area.
Emissions	Emissions from work-related travel and other fuel consumption, and CO ₂ from electricity, heating and cooling, and animals, tonnes of CO ₂ equiv.	4 405	1,4	



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SLU operates all over Sweden.
The main sites are Alnarp, Umeå and Uppsala.
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