

SUSTAINABILITY REPORT 2022



UMEÅ UNIVERSITY

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SUSTAINABILITY REPORT 2022

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Foreword

The past few years have been affected by multiple crises: the pandemic, the war in Ukraine and other humanitarian disasters, but also an increased loss of biodiversity, and climate change that is becoming more and more tangible. The trend towards attaining the sustainable development goals (SDGs) in the 2030 Agenda and the trend towards attaining Sweden's climate goals are both negative. For some of the 2030 Agenda SDGs, the trend was positive before the pandemic but has stalled, and for three of the SDGs, the trend in many low- and middle-income countries now lies below the pre-pandemic levels. These are *No poverty* (SDG 1), *Zero hunger* (SDG 2) and *Decent work and economic growth* (SDG 8).

Making progress towards global sustainability requires peace, diplomacy, international cooperation and an equitable distribution of resources. But new knowledge, changes in behaviours, innovative and more sustainable technology, and a much more efficient utilisation of resources are also needed. It is also important to have ambitious and credible national and international plans, and real action around the world.

One of Umeå University's tasks is to respond to the demands and expectations of society, and to actively participate in and drive the transformation to sustainable development. Through education, research and collaboration, the University can help to bring about change by contributing new knowledge about long-term, sustainable solutions, but also by setting good examples within its own activities.

This is the University's first Sustainability Report. The report presents the University's activities in light of each of the SDGs in 2030 Agenda. The report

is intended for anyone who is interested in our activities. The examples mentioned under each SDG are only a small selection of all our activities.

“Making progress towards global sustainability requires peace, diplomacy, international cooperation and an equitable distribution of resources.”

The content of this report has been compiled by Louise Eriksson, research fellow at the Department of Geography, and Lisa Redin, environmental and sustainability strategist. The examples have been taken from the research database Scopus and from the University's faculties, the University Administration and the University's Strategic Council for Research and Doctoral Education, and Strategic Council for Education. Examples have also been taken from news articles, reports and descriptions on the University's website. The University Management was asked for its endorsement of the report before the Vice-Chancellor established it.

We hope you enjoy reading our report.

Content of the report

Umeå University's Sustainability Report is a snapshot taken at the beginning of 2023 of how the University is contributing to the attainment of the SDGs in the 2030 Agenda. Looking at the University's core activities - education, research and collaboration - as well as its governance and its functions that support its core activities ('Support functions' in this report) through the lens of increased global sustainability, the ways in which Umeå University is contributing to this become apparent. But it also becomes apparent that challenges remain. The report outlines some of these challenges in relation to the University's endeavours to improve its sustainability work.

Education at Umeå University can contribute to attaining the SDGs by strengthening the skills required for each of them, but also by contributing knowledge about the SDGs themselves and the work needed to attain them. Where possible for an SDG, a quantitative measure of the number of relevant graduates is reported to show how education at the University is contributing to the goals. Good examples of how sustainability perspectives have been integrated into courses and study programmes are also highlighted under each of the goals from SDG1 to SDG16, but these are only a small selection. Under SDG17, we have described the key competencies highlighted by UNESCO as fundamental to attaining the 17 SDGs of the 2030 Agenda, which students ought to take with them from their higher education.

The report describes the **research** conducted at Umeå University that is linked to SDG1 to SDG16 based on the predefined research fields in SciVal, a bibliometric analysis tool based on the Scopus database. The search was limited to publications between 2017 and 2022 and was carried out on 5 January 2023. The number of publications and the Field-Weighted Citation Impact (FWCI), which reports citations received compared to the average or expected number of citations received by other similar publications from the same research field, are the quantitative measures used to show how the University's research is contributing to each

of the SDGs. The focus of the research reported under each SDG derives from these publications. In addition, the report describes research environments that are important for conducting research on sustainable development, as well as research and research environments that have the potential to strengthen sustainability research at the University in the future. The analysis in SciVal has its limitations, which means that it has not been possible to identify some research in primarily humanities disciplines since it is published in other forums. The search in SciVal does not provide the basis for a complete analysis of research on sustainability at the University, since only quantitative measures of research production are used. However, this standardised format does make it possible to follow sustainability research at the University over time. SDG17 is not found in SciVal as it concerns the means of implementation of all the SDGs and partnerships for this purpose. The section on SDG17 therefore describes the nodes and networks, etc. that support an interdisciplinary and broad approach.

“Umeå University's Sustainability Report is a snapshot taken at the beginning of 2023 of how the University is contributing to the attainment of the SDGs in the 2030 Agenda.”

Umeå University's **collaboration** that has a bearing on the SDGs is described based on their impact within the University's activities and collaboration projects - from local to regional,

national, and global activities. Actors with which the University collaborates are industry, national authorities, regions, and municipalities, but also civil society actors. This reflects how efforts at all levels, and involving different actors, are part of the University's work with the SDGs.

The work of the University's **support functions** for increased sustainability is described on the basis of efforts to increase sustainability within the University's own activities and among students and staff in relation to relevant SDGs. Support functions and preventive efforts are those described here. In addition, examples are given of how Umeå University is contributing to economic, social and environmental sustainability by carrying

out activities, setting requirements and goals or adopting plans for example.

For each SDG, the University's **strengths and challenges** are also reported. There are many ways to evaluate sustainability efforts. They can be compared across all the SDGs, against other universities' sustainability efforts, or in relation to the climate and sustainability targeted goals that the University itself has set. The challenges presented in this report can be seen as those impacting research, education, collaboration and support functions where Umeå University could be doing more. In future sustainability reports, it will also be possible to compare the University's sustainability efforts over time, with this report being the baseline.

AGENDA 2030 AND THE GLOBAL GOALS





SDG 1 No Poverty

This SDG aims to ensure that all people have the same right to a dignified and secure life with freedom, influence, health, physical safety and access to education. It is about ending poverty in all its forms, not just economic poverty. For Umeå University, this SDG means that all students, regardless of background, should be given the same opportunities to study here.

EDUCATION

An example linked to this goal is *Minor Field Studies (MFS)*, which is funded by the Swedish International Development Cooperation Agency (SIDA). Through MFS, students at the point of writing their Bachelor's essay or Master's thesis can apply for a scholarship to carry out projects that deal with health, economics, politics or social issues in low- and middle-income countries. An important aim of MFS projects is to prepare students to be able to work with global development issues. In 2022, 16 students from Umeå University travelled to various countries - mainly in Africa, Asia and South America - for MFS projects.

RESEARCH

Medicine and social sciences dominate the research related to this SDG. There is a clear focus on studies of various forms of inequality related to socioeconomics, social factors and health, primarily in northern Sweden. Research on social inequalities in health and access to health care in northern Sweden is conducted at the *Norrland Observatory for Equity in Health and Health Care*, which is an interdisciplinary research group at the Faculty of Medicine. There is also a special interest in health among the Sami people at the Observatory. Research concerning the labour market relevant to the SDG *No poverty* includes studies of unemployment, income-related inequalities in health, and gender.

COLLABORATION

During the Easter holidays in 2022, a creative lab for 13- to 18-year-olds was run at Curiosum, the University's science centre, on the theme 'Save the World'. The creative lab gave these young people the opportunity to try their hand

at solving world problems such as poverty and climate change through art, creativity, technology and collaboration.

SUPPORT FUNCTIONS

The University offers several types of scholarship for students from low- and middle-income countries. To attract more students from more countries, the University also participates in virtual fairs, for example through the organisation *Study in Sweden*. This organisation's virtual fairs target students in Africa, Asia, North and South America, and Europe.

STRENGTHS AND CHALLENGES

Umeå University is contributing to the SDG *Zero poverty* to a limited extent through its research as well as its education and collaboration with the wider community. The number of publications with a bearing on this SDG is low in comparison to other SDGs, and the research that the University conducts concerns only a few dimensions of significance for eliminating poverty globally. The University does not monitor the number of students from low- and middle-income countries for example, which means that it is not possible to assess the scale of this activity. There is no other governance of the University in relation to this SDG either.

PUBLICATIONS

161

FWCI

1.22



SDG 2 Zero hunger

This SDG aims to end hunger, achieve food security and improved nutrition. It also concerns promoting sustainable agriculture through new technology and an equitable distribution of resources. For Umeå University, this SDG includes collaborating on new methods for producing food.

EDUCATION

The importance of food for human health and a sustainable society is central to the *Food and Nutrition Programme*. The students who complete this programme may in the future influence the meals that three million people are served in health care, school and social care settings in Sweden when they later start working in this field. Knowledge is needed about what foods people should eat to avoid ill-health, and students studying for their Degree of Bachelor in Dietetics learn to be experts in the importance of food for health and ill-health. On graduating they are well placed to improve people's health.

RESEARCH

Research with a natural sciences focus predominates and covers a number of areas including food security - even from the perspective of the Nordic countries - and how food systems can be made more sustainable. Medical research focusing on dietary patterns and health in northern Sweden is also conducted, as well as research in the social sciences and natural sciences on changed conditions for reindeer husbandry as a result of climate change.

COLLABORATION

HealthFerm, a collaboration project with organisations in nine other European countries, is investigating the possibilities of fermented food with the aim of developing new types of fermented foods that will be tested by consumers, and to increase knowledge about how fermented foods affect human health.

SUPPORT FUNCTIONS

In 2022, there were eight cafés and restaurants attached to the University. One of these worked actively to reduce food waste and one offered only vegan food. During *Health on Campus* in autumn 2022, some of the restaurants on campus chose to serve a healthier lunch option, a 'Health on Campus' meal.

STRENGTHS AND CHALLENGES

The number of publications related to the goal of *Zero hunger* is small but a strong impact is evident from the FWCI. Research at the University concerned a number of fields relevant to this SDG. Within education, diet is an important focus, but there are few courses at the University with a focus on sustainable agriculture. The University lacks requirements to promote healthy food and refreshment options, to reduce food waste and improve source separation of food waste in order to contribute to improved nutrition and better resource management among staff and students.





SDG 3 Good health and well-being

This SDG aims to ensure healthy lives and promote well-being for all at all ages. Education and research are conducted at Umeå University with links to this SDG. For the University, work with this SDG also means that staff and students are to have a sustainable working and student life, respectively.

EDUCATION

Almost one third of the students who graduate from Umeå University have specialised in occupations that promote health. In 2022, this figure was around 1,300 students.

The Faculty of Medicine has begun work to integrate aspects of sustainable development and the SDG *Good health and well-being* into its medicine and health care programmes so that these perspectives are clearer. In 2022, a review of how the sustainability perspective is integrated into course and study programme syllabuses was carried out, and from 2023 all faculty teaching staff will complete a workshop on learning for sustainable development. Students of the *Master's Programme in Public Health* (120 credits) have a particularly broad focus on sustainable development throughout their programme, and in addition the whole world as their potential sphere of work.

RESEARCH

Research in the area of this SDG has a predominantly medical focus. Cancer research is a big area of research at the University and involves nearly 100 research groups. Many of the studies deal with prostate, bowel and breast cancers as well as risk factors associated with various forms of cancer. There is also extensive research on asthma, diabetes and COVID-19. These studies are conducted in northern Sweden but also nationally and internationally.

In the *MONICA study*, which began in 1985, cardiovascular diseases are being studied by means of regular population surveys in Västerbotten and Norrbotten counties. Causes of and risk factors

linked to stroke and cardiovascular disease are studied with the aid of the MONICA databases.

COLLABORATION

Collaboration is at local, regional, national and international levels. One example is the virtual *European Climate and Health Observatory*. Umeå University participates in this Observatory to strengthen the health component in climate adaptation strategies, and the climate adaptation components in European health policy. Another form of collaboration occurs in *Change the Game*. Its purpose is to promote physical literacy, and the Umeå School of Sport Sciences participates each year in the activity and training days that *Change the Game* organises.

“Almost one third of the students who graduate from Umeå University have specialised in occupations that promote health.”

SUPPORT FUNCTIONS

All students should be able to complete their studies without adverse effects on their health. The *Student Health Service* offers free advice, support or individual consultations to students



Health on Campus is an event held twice each year to encourage physical literacy and healthy behaviours in students and staff, and offers free trials of activities and health-related lectures. Photo: Ulrika Bergfors.

experiencing anxiety and stress, and help with stopping drug and tobacco habits. At the *Psychology Clinic*, students from the *Study Programme for University Diploma in Psychology* offer counselling. *Health on Campus* is an event held twice each year to encourage physical literacy and healthy behaviours in students and staff, and offers free trials of activities and health-related lectures. On the main campus there is also an outdoor gym, a functional training facility and a running track that can be used freely by everyone. IKSU, one of northern Europe's biggest training facilities is located close to the University.

STRENGTHS AND CHALLENGES

Research and education linked to the SDG *Good health and well-being* is considerable at Umeå University. The number of publications is the highest for this SDG compared to the others, but the University does not rank among the top 100 universities in Europe. Within support functions, there is an ongoing project to improve health. Because many threats to human health persist and new ones keep arising, there is a need for further health initiatives - not only medical initiatives, but

also new perspectives from the humanities, social sciences and engineering need to be highlighted.



Cancer research is a big area of research at the University and involves nearly





SDG 4 Quality education

This SDG aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. For Umeå University, this SDG means imparting knowledge about sustainable development, developing key competencies and using educational approaches that are compatible with the values underlying sustainable development.

EDUCATION

Competence is essential for being able to confront and manage the societal challenges of our time. Umeå University had 36,400 students in 2022, of which just over 18,000 were full-time equivalents, in around 160 study programmes and 1,800 courses. In addition, there are almost 1,000 doctoral students. As advocated by the University's quality system for education, sustainable development was assessed to be a pervasive perspective within 85 per cent of the study programmes, which is an increase compared to previous years.

“Umeå University had 36,400 students in 2022, of which just over 18,000 were full-time equivalents, in around 160 study programmes and 1,800 courses.”

Examples can be found in the teacher education programmes where the students are taught how to teach pupils about sustainable development. At the Faculty of Arts and Humanities, work has been done to clarify what UNESCO's eight key competencies for sustainability (see SDG 17) mean for the Faculty's study programmes, through the project *Humanities competencies*. Through *Lifelong learning*, the University educates people

already employed to be able to meet the needs of a changing workplace.

RESEARCH

Research related to this SDG is conducted largely within social sciences subject areas. For example, this research has focused on gaining a better understanding of learning through studies of learning strategies, the role of the teacher, and the use of digital tools. Sustainability in the education system has been studied in the lower ages as well as the higher levels. Vocational education and training has also been studied from a democracy perspective. Part of this research is conducted at *Umeå Science Education Research (UmSER)*, which is a research environment focused on how types of instruction but also context, gender, identity, motivation and emotions affect learning in science and engineering subject areas, as well as sustainable development.

COLLABORATION

Kunskapsveckan (Knowledge Week) is a conference held each year to which school staff from all over the country are invited for continuing professional development and further education within theme areas of vital interest to schools. *Knowledge Week 2022* was introduced by the Director-General of the World Health Organization, as sustainability was one of several themes. *Strategic partnerships* between the University and other organisations lead to professional development so that the knowledge acquired can benefit society.

SUPPORT FUNCTIONS

To develop teachers' knowledge and educational approaches, the University's Centre for Educational Development (UPL) offers the course *Education*



Through Lifelong learning, the University educates people already employed to be able to meet the needs of a changing workplace. Photo: Malin Grönborg.

for sustainable development. The Umeå School of Education has a specific task to coordinate, develop and quality-assure the University's teacher education programmes as well as research and doctoral education in educational sciences. The SDG also aims to create inclusive and safe education environments, which the University works with continuously by taking the opportunity to address deficiencies in accessibility in conjunction with the refurbishment of premises regardless of the reason for such refurbishment, as well as regular *safety walks*.

STRENGTHS AND CHALLENGES

In terms of the University's total sustainability research, the research with a focus on *Quality education* lies at roughly the mid-level and is mainly

in the social sciences. Besides teacher education programmes, the University also provides education for most sectors in society. Work is under way at several faculties to integrate sustainability perspectives into the courses and study programmes they offer, but there is great variation in how far they have progressed in this work. There is also a need for professional development of teaching staff in education for sustainable development.

PUBLICATIONS

337

FWCI

1.31



SDG 5 Gender equality

This SDG aims to achieve gender equality and empower all women and girls, as this is a prerequisite for sustainable and peaceful development. This SDG is also about an equitable distribution of power, influence and resources. Achieving gender equality is also a theme common to all the University's activities. The ambition is that the University should be an inclusive culture characterised by gender equality, diversity and equal opportunities.

EDUCATION

Gender equality is to permeate all education according to the University's quality system for education. An example is the *Early Childhood Education Programme*, where gender mainstreaming in the courses has a clear and conscious progression and is anchored in the course content and assessment. Gender equality is also a central theme in other courses such as *Social Categorization and Workplace Discrimination* which is offered at the Faculty of Social Sciences. The *Bachelor of Science in Environmental Health Programme* has been working on a project entitled "Gender equality as a theme running through the Bachelor of Science in Environmental Health programme" to make gender equality visible in the content of the study programme and how it is taught. The *Umeå Centre for Gender Studies (UCGS)*, an interdisciplinary research centre, includes the Graduate School of Gender Studies. Since it started in 2001, 83 doctoral theses have been produced and there are currently 20 doctoral students active there.

RESEARCH

Medical and social sciences research dominate the research linked to this SDG. Studies in medicine include sexual behaviour and health, reproductive health and domestic violence. These studies are conducted in an international context, for example in African countries, but also in Sweden. The social sciences studies focus on gender and gender equality in education and in the labour market. The *Nordic Gender Equality Network* offers opportunities to share knowledge concerning gender equality according to the Nordic model which is based on two providers in the family. The gender studies research conducted at different departments is tied together by the UCGS.

COLLABORATION

In June 2022, representatives from the University participated in a roundtable discussion organised by the county administrative boards of Norrbotten and Västerbotten. The topic of the roundtable discussion was gender equality in relation to the

"Close to 4,400 people were employed at the University in 2022, and the gender distribution was 55 per cent women and 45 per cent men."



urban transformation in the north of Sweden. Issues discussed included the risk of gender equality disappearing from the agenda when the focus of the urban transformation is climate change, and the risk that gender equality will be reduced to nothing more than getting women to choose study programmes in engineering and science to provide new industries with the labour they require.

To inspire young women to study engineering, the Faculty of Science and Technology collaborates with the organisation *Datatjej*, a network for women and non-binary people who study, work or are interested in IT. Through the *Pepp* initiative, engineering students can become mentors for young women who want to study to become engineers.

SUPPORT FUNCTIONS

Close to 4,400 people were employed at the University in 2022, and the gender distribution was 55 per cent women and 45 per cent men. In positions as lecturer and administrative staff, there is a predominance of women, with women in administrative roles accounting for all of 78 per cent of these positions. For professors, the situation is the reverse, where 67 per cent are men and 33 per cent are women. The gender distribution among

library staff and researchers is also uneven. Even among students, the gender distribution is skewed. In 2022, the proportion of male students was 36 per cent and this figure has decreased in recent years.

STRENGTHS AND CHALLENGES

Research at the University with a focus on the SDG *Gender equality* is ranked 47th among universities in Europe and thus, relatively speaking, ranks the highest of all the University's research related to the SDGs. But the citation impact only ends up being as expected (close to 1). The University offers a wide range of courses and study programmes that contribute to building competence around gender equality. Within its own organisation, while the University works actively with gender equality issues, there is still quite a lot to do to attain this SDG.



The ambition is that the University should be an inclusive culture characterised by gender equality, diversity and equal opportunities. Photo: Johnér Bildbyrå AB.



SDG6 Clean water and sanitation

This SDG aims to ensure the availability and sustainable management of water and sanitation for all. More precisely, it is about reducing pollution in water and significantly increasing wastewater treatment globally. In Sweden, work with this SDG is more about not polluting our water and protecting, conserving and restoring watercourses to their original form. For Umeå University, this SDG entails conducting research and communicating knowledge about the status of and changes in aquatic environments over time.

EDUCATION

One example is the course *Freshwater Management*, in which biology students are taught to understand and compare the effects of various disturbances caused by humans, as well as how aquatic ecosystems can be protected and restored to achieve good water quality. In 2022, approximately 50 students were examined at first-, second- and third-cycle levels in the subject areas biology, ecology, ecosystem management and chemistry, where the *Clean water and sanitation* SDG is addressed.

RESEARCH

With regard to this SDG, the University's primary contribution is through scientific research. A number of the studies deal with environmental toxins and drugs in wastewater as well as wastewater treatment. This involves studying wastewater treatment based on microorganisms and bio-carbon using biological methods. The research also specifically concerns microalgae and their role in wastewater treatment. *EcoChange* is a strategic research area where the consequences of climate change for marine systems are studied and where the Baltic Sea is an important area of study. The researchers expect that there may be fewer fish and more environmental toxins in the Baltic Sea in the future.

COLLABORATION

To achieve the SDG of Clean water and sanitation, it is not enough to focus on water quality alone. It is also important to understand social and cultural expressions linked to living near watercourses. The *Biosphere area Vindelälven-Juhttáhokka* is a model area designated by UNESCO for sustainable

development. Within the Biosphere area, the University is collaborating with municipalities along the Vindel River Valley and testing a range of initiatives that can contribute to achieving the SDGs of 2030 Agenda. In 2023, a visiting professor was appointed at Umeå University to work on research linked to UNESCO Biosphere areas.

SUPPORT FUNCTIONS

The University's own governance within this SDG consists of a checklist to limit the discharge of chemicals into the wastewater system. In 2022, a campaign for the disposal of hazardous chemicals was conducted. During the campaign, the University's activities could hand in chemicals no longer being used free of charge for disposal. About three tonnes of hazardous chemicals were handed in.

STRENGTHS AND CHALLENGES

The research here is dominated by studies in the natural sciences which mainly concern pollution and wastewater treatment. To a lesser extent, the University conducts research on how discharges and contaminants can be prevented. Courses and study programmes with a bearing on this SDG are limited. Within the University's own activities, there are no policies for reducing water consumption or improving water-use efficiency. The property owners of the University's buildings do not have any goals to improve water-use efficiency except for hot water.

PUBLICATIONS

221

FWCI

2.87



SDG 7 Affordable and clean energy

This SDG aims to ensure access to affordable, reliable, sustainable and modern energy for all that does not damage the planet. In 2022, issues related to energy, electricity consumption and electricity costs have been in high focus in Sweden and Europe, and thus also in focus for the University.

EDUCATION

The University offers Bachelor and Master degree programmes in engineering in *energy engineering*. This area is multidisciplinary and the students who study these degree programmes acquire knowledge in physics, chemistry, biology, electronics and environmental technology. The *Master of Science Programme in Energy Engineering* offers two specialised study profiles, *Bioenergy* and *Energy Efficiency*, both of which have a strong connection to sustainable development and the SDGs. In 2022, more than 40 students graduated with a Degree of Bachelor or Master in Science in Energy Engineering.

RESEARCH

Natural sciences research dominates research with a bearing on the *Affordable and clean energy* SDG. Processes for biofuel production through gasification and starch hydrolysis are being studied as well as the use of nanomaterials in the area of renewable energy. In the *Nano for Energy* research group, different types of nanomaterials and carbon compounds such as graphene and fullerenes are being studied to better understand the structure and properties of these materials and how they can be used in, for example, fuel cells, electrolyzers and solar cells. The research also concerns the *Internet of Things*, where electric devices are connected to the Internet. Energy efficiency in buildings is another important area of research.

COLLABORATION

In the project *RUGGEDISED*, Umeå Campus has served as a test bed for energy-smart and climate-smart solutions. Thousands of sensors have been installed in order to get a better understanding of the

actual usage of the University's premises so that the usage can be improved. *RUGGEDISED* was conducted in a collaboration of 34 partners comprising cities, universities, companies and research institutions in six European countries. The University also participates in *Hydrogen Sweden*, a platform whose members include companies as well as universities that are working actively to drive the development of hydrogen gas as an energy carrier in Sweden. *Bio4Energy* is a strategic research environment with an emphasis on research into biorefineries for the sustainable production of renewable energy carriers and materials. In this research environment, the University is cooperating with Luleå University of Technology, the Swedish University of Agricultural Sciences, RISE and RISE Processum.

“In the project RUGGEDISED, Umeå Campus has served as a test bed for energy-smart and climate-smart solutions.”

SUPPORT FUNCTIONS

There is a long tradition at the University of working with the campus property owners to save energy. In 2022, the University's energy consumption was the same as in 2021 and 2020, and ten per cent lower than in 2019. The University is also working with the property owners on the transition to renewable

electricity. Solar panels have been installed on the roofs of the Teacher Education Building, the Natural Sciences Building and the Social Sciences Building, and in 2022 these generated 515 MWh of electricity.

STRENGTHS AND CHALLENGES

Research on sustainable energy solutions is extensive in relation to other sustainability research at the University. The University also offers study programmes that are important to strengthening skills in the work being done towards this SDG. But since energy solutions need to be seen from the perspectives of both producers and end users, interdisciplinary research towards attaining this SDG may need to be strengthened. While the University is working to optimise its energy consumption and collaborating with others in this area, more measures could be taken to reduce its energy consumption.



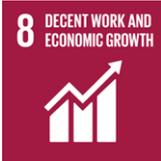
In 2022, more than

40

STUDENTS

graduated with a Degree of Bachelor or Master in Science in Energy Engineering

PUBLICATIONS	FWCI
421	1.47



SDG 8 Decent work and economic growth

This SDG aims to promote full and productive employment and decent work for all. This includes promoting sustained, inclusive and sustainable economic growth. For Umeå University, work with this SDG includes providing education and conducting research that can promote sustainable economic growth.

EDUCATION

Promoting decent working conditions requires knowledge in occupational health and safety in the work environment, and the working conditions of workers. An example of education in this area is the course *Psychosocial Work Environment*, which is offered at the Faculty of Social Sciences. Students taking this course are given an introduction to the field and its importance to the individual, the organisation and the community as a whole. In the *Master's Programme in Working Life and Health* (60 credits), students learn about the impact of the work environment on health, and acquire skills in assessing work-related, ethical and legal dilemmas.

RESEARCH

Research is conducted in various social science areas with links to the labour market. For example, studies focus on how health and well-being are affected by unemployment and insecure work, but also how the labour market can be understood from a gender perspective. In addition, there are studies of regional development in Sweden with a special focus on rural areas. Research focusing on northern Sweden includes studies of tourism in the region and the Sami indigenous population.

COLLABORATION

Examples of collaboration include *Innovation Boot Camp*, which is a recurring multi-day event where students can develop and test ideas for new businesses and then compete with them. The students get support from business developers and experts from the Innovation Office at Umeå University as well as the other organisers of the event. At *Innovation Boot Camp* in 2022, there was a

broad focus on sustainable solutions for people and communities, ranging from well-being to tourism, and recycling to infrastructure.

“Research is conducted in various social science areas with links to the labour market. For example, studies focus on how health and well-being are affected by unemployment and insecure work, but also how the labour market can be understood from a gender perspective.”

SUPPORT FUNCTIONS

One of the University's climate and sustainability targeted goals is that *the environment and sustainability are to be considered when investing funds received from foundations and donations*. This target was met in 2021 and means that investments may only be made in companies that comply with the core conventions of the International Labour Organization (ILO), the OECD Guidelines for Multinational Enterprises, and the UN Global

Compact; and that observe the UN's Universal Declaration of Human Rights, the UN Convention on the Rights of the Child, the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change.

To achieve a sustainable work environment, cooperation between employers and staff is essential. The University and the trade union councils have a local collective agreement that sets out the nature of the cooperation between the parties and in which areas this cooperation should occur.

STRENGTHS AND CHALLENGES

Decent work and economic growth is one of the SDGs in which social sciences research dominates. In both research and education regarding this SDG,

as well as the University's support functions, the focus lies on social and economic processes as well as governance. Since sustainable growth requires the integration of context-appropriate sustainable technological solutions, a challenge lies in the lack of interdisciplinary research. As an employer, the University is required to provide sustainable working conditions, but continuous efforts are needed, even in support activities.

PUBLICATIONS

337

FWCI

2.13



To achieve a sustainable work environment, cooperation between employers and staff is essential.

Photo: Malin Grönborg.



SDG 9 Industry, innovation and infrastructure

This SDG aims to build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. For the University, this can mean being a driver for growth and providing the community with well-educated labour as well as generating knowledge that will benefit the community.

EDUCATION

Annually, approximately 250 students graduate with a Degree of Bachelor or Master of Science in Engineering, with all of the Master's graduates completing the course *Sustainable Development for Engineers*. In 2022, it was decided to reinstate the *Master of Science in Engineering Chemistry Programme*, which will have a strong connection to the SDGs and the urban transformation and industrial investments occurring in northern Sweden. To start new businesses and develop existing businesses and organisations requires knowledge about entrepreneurship. Students who take the course *Entrepreneurship and Business Development* at the Umeå School of Business, Economics and Statistics acquire this knowledge.

RESEARCH

The research in this area is dominated by studies in the natural sciences. Life-cycle analyses focusing on total environmental impact over time are used to study the environmental impact of different fuels, for example. The University conducts research on digital infrastructure and research concerning social and digital innovations. In 2022, an anthology on *Social Innovation for Sustainable Development* was published, in which researchers from the University participated. Studies of microalgae in wastewater as a source of bioenergy are another important research area.

COLLABORATION

The Industrial Doctoral School creates the basis for collaboration between researchers, industry and the public sector through jointly funded research

projects, including projects that combine high scientific quality with high social benefit. To date, the Industrial Doctoral School has educated more than 80 researchers in collaboration with more than 60 external partners. Through the *European Connected Health Alliance (ECHA)* and together with Region Västerbotten and Luleå University of Technology, Umeå University has established conditions for supporting collaborations that can contribute to the digital health care solutions of the future. Researchers at the Faculty of Science and Technology received a collaboration award in 2022 for their work to create a *Centre for Sustainable Cement and Quicklime Production*.

“In 2022, it was decided to reinstate the Master of Science in Engineering Chemistry Programme, which will have a strong connection to the SDGs and the urban transformation and industrial investments occurring in northern Sweden”

SUPPORT FUNCTIONS

The University's Innovation Office provides support to researchers and students in the earliest phases of idea development or commercialisation processes. In 2022, 78 ideas from researchers and staff and 86 ideas from students passed through the Innovation Office. Commercial ideas and start-up companies can also receive support through the business incubators linked to the University via Umeå universitet Holding AB.

STRENGTHS AND CHALLENGES

Research with a bearing on *Industry, innovation and infrastructure* covers only a few aspects of this SDG. However, there are a number of initiatives within education, collaboration and in our own activities that can contribute to this SDG. The challenge lies in broadening the research to cover more dimensions of the SDG. The University works strategically with collaboration and has an established structure for offering support to innovations.

PUBLICATIONS

200

FWCI

1.70





SDG 10 Reduced inequalities

This SDG aims to reduce inequality within and among countries, so that everyone has the same rights and opportunities and that no one is left behind. The University's work to ensure equal opportunities is based on the seven grounds of discrimination in the law: *gender, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.*

EDUCATION

An example from education is the *Sociology Programme*, which has a focus on inequalities throughout. Another example is the course *Equality and Health* offered at the Faculty of Medicine. This course teaches the students about theories of moral philosophy that are relevant to how the health care system operates and how work with public health is conducted. The course also deals with the relationship between moral philosophy and political decisions.

In the *Master's Programme in Education (60 credits)*, the students take a course on *Norm-critical Pedagogy in Working Life*. In this course, students learn how to challenge norms, since norms can be both exclusionary and inclusionary. Students taking the course *Fundamental Values, Ethics and Diversity*, also within pedagogy (educational methods), learn more about the fundamental values of the school and professional conduct for schoolteachers. The goal is for teacher education students to acquire tools to critically handle social situations in learning environments marked by cultural diversity.

RESEARCH

The research in the area of this SDG mainly has a medical or social sciences focus. There is research on social inequalities in health and access to health care similar to that described for the SDG *Zero poverty*. Besides equality, and in the same way as for the SDG *Gender equality*, gender equality is a consistently important theme and is addressed in the research various contexts such as the education

system, the home and the labour market. Research is also being conducted on migrant workers in rural areas, for example.

“Besides equality, and in the same way as for the SDG Gender equality, gender equality is a consistently important theme and is addressed in the research various contexts such as the education system, the home and the labour market.”

COLLABORATION

In a project being carried out in collaboration with Umeå municipality, FORTE and the local Coordination Association, researchers from the Department of Epidemiology and Global Health are working to provide young people with the foundations for a good life and good health, and to find ways to support young people who remain at home in involuntary isolation instead of going to school or work. The goal is to ensure that young

people not in education, employment or training (NEET) do not remain in this situation.

SUPPORT FUNCTIONS

The University is working to reduce inequality. For example, there is zero tolerance for discrimination, harassment or other offensive treatment of students, staff, representatives of partner organisations, or visitors. In 2022, an external investigation of the University's work to combat psychological harassment and other forms of harassment was conducted. The investigator presented 32 recommendations that could improve the University's work in this area. Most of the recommendations have been implemented, including revised rules, strengthening of the support for managers, providing training on what sexual harassment means and how to prevent it, and seminars on masculinity norms.

In 2022, the Faculty of Arts and Humanities' Committee for Equal Opportunities held a workshop on equal opportunities with students. While this

formed part of the Faculty's preventive efforts in the area, it was also an opportunity for the Faculty to study the risks for discrimination and psychological harassment in the learning environment.

STRENGTHS AND CHALLENGES

The amount of research at the University concerning *Reduced inequalities* is relatively large in comparison to research relevant to other SDGs. Although questions related to equality can be found as themes in some study programmes, but there is more to be done here. The University works actively with equality issues within its own organisation, but shortcomings remain, which indicates a need for increased efforts.





SDG 11 Sustainable cities and communities

The aim of this SDG is to make cities and human settlements inclusive, safe, resilient and sustainable where rapid migration in large numbers to cities places demands that need to be addressed in an environmentally, economically and socially sustainable way. At Umeå University, this is translated into collaboration that can contribute to the development of sustainable cities and suburbs, for example.

EDUCATION

The Umeå School of Architecture has a strong focus on sustainability, where the *Architecture Programme* can be described as lying somewhere between the artistic and the scientific, while the *Master's Programme in Architecture and Urban Design* takes challenges such as climate change, inequality in development, and migration as its points of departure when developing new architectural solutions. In 2022, almost 70 students graduated from these programmes. In the *Urban and Regional Planning Programme*, students learn about the challenges and opportunities that exist in planning with regard to sustainability, housing, transport, migration and welfare. In 2022, 30 students graduated from the programme. Most courses in the *Bachelor of Science Programme in Civil Engineering* address the SDG *Sustainable cities and communities* and in 2022, 23 students graduated from this programme.

RESEARCH

The environment in cities is an important component of sustainable cities. Research at the University pertaining to this SDG is mainly in the natural sciences and medicine with studies of the health effects of air pollution. This research includes how air pollution affects the heart and breathing, as well as the risks for various cancers, dementia and increased mortality. Similar to the SDG of *Clean water and sanitation*, there are also studies dealing with water quality and wastewater treatment.

Research is also being conducted on the ongoing urban transformation in northern Sweden, where

big investments are being made in new industries to reduce dependence on fossil fuels. This research deals with the driving forces behind this urban transformation, and focuses on a number of its challenges, such as skills supply and community planning.

COLLABORATION

Two of the University's strategic partnerships - those with Umeå and Skellefteå municipalities - have a particular focus on sustainable urban development and sustainable social development. In 2022, the theme of both *AIM Day* and the *Social Innovation i Norr* conference was the urban transformation occurring in northern Sweden.

In 2022, Bildmuseet held two public events related to this SDG. One event was a panel discussion about wooden architecture and the opportunities and challenges of the timber industry, the other concerned what the climate crisis means for architecture.

SUPPORT FUNCTIONS

The targeted goals that *University premises must be used more efficiently and Climate impact from travel must decrease* are linked to the goal. Activities towards these goals are carried out in stages. A bicycle parking garage has been designed to facilitate sustainable mobility, for example. In 2022, the number of in-service trips decreased compared to before the pandemic, but the greenhouse gas emissions from these increased. Concerning improving efficiency in the use of premises, work has begun, but is still in its infancy.

STRENGTHS AND CHALLENGES

Strong research with a bearing on the SDG *Sustainable cities and communities* covers a relatively narrow area focused on health effects, but there is a growing interest in broadening this research to include additional perspectives. The University is contributing to the supply of skills in this area and implementing collaborations with commerce and industry and a number of other initiatives for putting this knowledge into practice. However, given the complexity of communities today, we need preparedness for ongoing efforts towards sustainability on all fronts.

PUBLICATIONS

283

FWCI

2.13





SDG 12 Responsible consumption and production

The aim of this SDG is to transition to sustainable consumption and production patterns. This includes environmental, social and economic aspects needed to change these patterns. At Umeå University, this is translated into education and research on resource management and sustainable consumption patterns, but also research on pollution of the water, soil and air.

EDUCATION

Examples of study programmes linked to the SDG are Master's programmes at the Umeå School of Business, Economics and Statistics with specialisations in *resource and environmental economics and health economics*. The Umeå School of Business, Economics and Statistics also works actively with its students to achieve a more sustainable school and to educate them about and for sustainability in a positive way. In 2022, more than 400 students graduated from the Umeå School of Business, Economics and Statistics.

RESEARCH

Scientific research, but also social research, is conducted in this area. Sustainable forest management has been studied from the perspective of both forestry and social conditions and its driving forces. Research environments with strong ties to this SDG are also apparent in publications linked to other SDGs. These include studies of energy efficiency in buildings, sustainability in the tourism industry, and life-cycle analyses of environmental impact.

The Umeå School of Business, Economics and Statistics was early in identifying the rising importance of sustainability issues in today's companies and organisations, which includes an interest in sustainable consumption and value chains. Sustainable business models, social innovation, sustainable consumption and investment are among the areas being researched.

COLLABORATION

Researchers at the Umeå School of Business, Economics and Statistics also participate in the

"In order to reduce the amount of printed paper, administrative processes are being digitalised. However, the consumption of paper remains considerable, as printouts at the University in 2022 amounted to the equivalent of 162 trees."

Research Institute for Organization and Business in Sustainable Transitions (ROBUST), which works to support, develop and communicate research on business-related decision-making, but also to educate and collaborate on these issues.

The Umeå Plant Science Centre (UPSC) conducts research and collaborates with society. At the Centre, studies are conducted on the extent to which plants can adapt to changes in the environment by changing their physiology. Understanding how suitable a particular plant is in a particular environment and in agricultural systems is crucial for yield. In the long term, the researchers want to use this knowledge to design better trees and crops.

SUPPORT FUNCTIONS

The University's targeted goal that *The number of procurements setting environmental and sustainability requirements must increase every year* is linked to this SDG. In 2022, almost half of the University's procurements include environmental requirements. The targeted goal that *The amount of combustible waste as well as hazardous waste must be reduced* is also related to this SDG. In 2022, about half of all waste was sorted at source. Activities carried out were the introduction of source separation of waste in public spaces and in two office buildings. In order to reduce the amount of printed paper, administrative processes are being digitalised. However, the consumption of paper remains considerable, as printouts at the University in 2022 amounted to the equivalent of 162 trees.

STRENGTHS AND CHALLENGES

Research with a focus on *Responsible consumption and production* covers a range of dimensions relevant to the SDG. But this complex SDG requires further knowledge around the entire value chain and in relation to different products and production systems. Even if the University collaborates with the wider community on a broad front and the University is working on this in its support functions, there is potential for improvement by setting requirements in procurements and highlighting shortcomings through regular follow-ups.

PUBLICATIONS

286

FWCI

1.66



At the Umeå Plant Science Centre, studies are conducted on the extent to which plants can adapt to changes in the environment by changing their physiology. Photo: Johnér Bildbyrå AB.



SDG 13 Climate action

The aim of this SDG is to take urgent action to combat climate change and to increase capacity for climate adaptation. At the University, education and research related to climate change are conducted in all faculties. The University's climate and sustainability work is based on *the Climate framework for higher education institutions (Klimatramverket för universitet och högskolor)* through which virtually all higher education institutions in Sweden have undertaken to work towards achieving the intentions of the Paris Agreement.

EDUCATION

The University provides education on climate change in multiple disciplines. Students in biology and earth sciences get a natural sciences perspective on climate change. In medicine, there are courses for health professionals on how various factors, including climate change, affect the health situation in low- and middle-income countries. The Faculty of Arts and Humanities offers the course *Cultural Perspectives on Climate Change* which addresses the social and cultural aspects of how people perceive, understand and position themselves in terms of climate change. Within social sciences, courses are offered that highlight climate change from a societal perspective, including the course *Planning for Sustainable Communities*.

RESEARCH

Research in the natural sciences predominates with regard to this SDG. This includes studies of climate effects in boreal and Arctic lakes and watercourses. Carbon sequestration and carbon flows are studied in a northerly context, for example in land with permafrost on the tundra. This research is conducted at the *Climate Impacts Research Centre (CIRC)*, which coordinates research on the effects of climate change in Arctic ecosystems. The Centre, which is located in Abisko, offers both opportunities for field work and access to laboratories.

Two research infrastructures - the Environmental Archaeology Lab and the Strategic Environmental Archaeology Database (SEAD) - have clear links to the environment and sustainability. SEAD is an open access research infrastructure for empirical data on past human

activity, biodiversity and long-term environmental and climate change. SEAD enables the storage, processing, sharing and analysis of environmental archaeology data.

COLLABORATION

Researchers from the University participate in the Swedish Expert Council on Climate Adaptation and the Swedish Climate Policy Council. The Climate Policy Council submits a report each year to the Swedish Government describing whether the policies pursued are sufficient to achieve the goal of being a climate-neutral nation by 2045.

At the United Nations Climate Change Conference COP27, one of the University's researchers lectured at an event organised by the World Health Organization on climate and health communication.

Together with eight other higher education institutions in Sweden, in 2022 the University developed open online courses under the banner Open for the Climate which are intended to help develop skills that are considered to be particularly important in supporting society's climate transition.

In 2022, the *Lärosätenas klimatkätverk* (The higher education institutions' climate network) was founded. Umeå University is one of the hosts that organised a kick-off on the theme *The sustainable researcher* during the autumn. 200 people participated, either physically or remotely.

SUPPORT FUNCTIONS

In 2022, the University became a member of the *Umeå klimatfärdplan* (Umeå climate roadmap). This undertaking means that the University supports, and will actively contribute to, goals intended to



The research conducted at the Climate Impacts Research Centre (CIRC), coordinates research on the effects of climate change in Arctic ecosystems. The Centre, which is located in Abisko, offers both opportunities for field work and access to laboratories. Photo: Ive van Krunkelsven.

lead to a climate-neutral Umeå by 2040, and a reduction in consumption-based greenhouse gas emissions in Umeå to 2 tonnes of CO₂ per person in 2040 and 1 tonne in 2050. Today, the University's greenhouse gas emissions correspond to approximately 6 tonnes per employee per year.

STRENGTHS AND CHALLENGES

Research with a focus on *Climate action* is extensive at Umeå University and is dominated by natural sciences perspectives despite a clear need for medical, social sciences and humanities perspectives to combat climate change and adapt society to climate change. While there is good

cooperation in relation to this SDG, a climate budget and set target levels for example would make the University's own responsibilities clearer. A lot still remains to do to achieve the more long-term sustainability target of 1 tonne of CO₂ emissions per person per year.





SDG 14 Life below water

The aim of this SDG is to conserve and sustainably use the oceans, seas and marine resources for sustainable development. Umeå University can contribute to this SDG through knowledge, research and technology for healthier seas.

EDUCATION

The Umeå Marine Sciences Centre (UMF) provides course components on environmental analysis for courses and a study programme within the Faculty of Science and Technology: *Bachelor of Science in Environmental Health Programme* and the course *Analyses of Environmental Changes*. They also participate in a course in *Species Identification and Systematics*.

RESEARCH

The research in this area is dominated by studies in the natural sciences. Research conducted concerns environmental toxins such as drugs and dioxins in the soil and water. Environmental toxins and eutrophication of the Baltic Sea are also studied. The UMF also conducts research with a focus on marine science. UMF is also the University's host Centre for the Swedish Institute for the Marine Environment in the Gulf of Bothnia. The Swedish Institute for the Marine Environment has the task of providing public authorities with scientific skills, and supporting them in their work for a better marine environment through qualified analyses and syntheses.

COLLABORATION

UMF contributes information on several platforms, for example on the website havet.nu, which address politicians, schools and officials. UMF also performs environmental monitoring for the Swedish Agency for Marine and Water Management, the water authorities and the Swedish Meteorological and Hydrological Institute (SMHI). Data from sampling can additionally be used to detect changes in the marine environment and to develop effective measures to solve environmental problems. The results can also be used to show Sweden's progress towards achieving its agreed environmental objectives.

SUPPORT FUNCTIONS

At present, the University lacks its own goals to help protect the world's oceans. The work that is being done also applies to the SDG *Clean water and sanitation*: a checklist has been drawn up that will help to limit chemicals in wastewater.

STRENGTHS AND CHALLENGES

Research in relation to the SDG *Life below water* is limited, with the number of publications being the lowest of all the SDGs, and social sciences perspectives are lacking entirely. The University's other work concerning marine systems mainly entails spreading knowledge in the form of popular science initiatives and active participation in the activities of the Swedish Institute for the Marine Environment. Within the University's own activities there is potential to do better, for example by setting targets and working to reduce the use and purchase of plastic that unfortunately often ends up in our water.





SDG 15 Life on land

This SDG aims to protect and restore terrestrial ecosystems and halt biodiversity loss. It also aims to promote sustainable use of terrestrial ecosystems and sustainably manage forests. At the University, work towards this SDG is manifest in, for example, research and education on forest ecosystems.

EDUCATION

Both courses and study programmes at the University relate to this SDG. The Faculty of Science and Technology offers the courses *Inventory of Biodiversity* and *Diversity of Nature* where students learn to make an inventory of and identify species, make assessments of natural values, and learn about how to protect and conserve protected areas. The course *Forest Ecology* is another example. Its focus is boreal forest, but other forests, such as those in temperate and tropical forest ecosystems, are also addressed in this course. Within the Faculty of Social Sciences, students in the *Master's Programme in Political Science* can study the course *Collaborative Environmental Governance in the Arctic*.

RESEARCH

The research relevant to this SDG has primarily a natural sciences focus. Like the SDG *Responsible production and consumption*, there is a clear focus on investigating boreal forests and the effects of forest management. The research also specifically deals with edge zones where land meets water. The research conducted with a social sciences focus deals with the governance and management of natural resources, primarily forest. In addition, ecosystem services in agriculture, aquatic and forest ecosystems are being researched.

COLLABORATION

Forest Ecosystem Services is a collaborative project between Umeå University, Artdatabanken (species database), the Swedish University of Agricultural Sciences, and the University of Gothenburg. The project focuses on gathering basic knowledge about what steers forest ecosystem services,

thereby providing information that can be applied in forest management and the conservation of forest biodiversity.

“Biodiversity Day is celebrated every year when students hold activities to highlight and promote biodiversity on campus and around Umeå.”

The Campus Bigården apiary is a collaborative project that creates a pollinator-friendly campus and promotes biodiversity. The project also educates the public in nature conservation measures, and the researchers assist a range of actors in placing out their own hives.

Biodiversity Day is celebrated every year when students hold activities to highlight and promote biodiversity on campus and around Umeå. In 2022, these activities included a bat population survey, bug tour, and mounting of bird and bat nesting boxes.

SUPPORT FUNCTIONS

One of the targeted goals for climate and sustainability is that *Biodiversity on Campus Umeå* must increase. In collaboration with Akademiska Hus, Region Västerbotten and the Swedish University of Agricultural Sciences, various activities

in this area are carried out at the University. In 2022, invasive species were dug out of Campus Umeå and the Campus Arboretum was opened.

STRENGTHS AND CHALLENGES

The number of publications relevant to the SDG *Life on the land* is at the average level for all SDGs and the research is conducted within different disciplines. People are becoming more and more aware of the importance of conserving and increasing biodiversity in different ecosystems and there are numerous unanswered research

questions and a need for expertise in the area. It is also becoming increasingly clear that efforts to achieve this SDG need to be strengthened.

PUBLICATIONS

284

FWCI

1.73





SDG 16 Peace, justice and strong institutions

This SGD aims to promote peaceful and inclusive societies, and to build effective, accountable and inclusive institutions at all levels in all countries. Human rights are central and governance is to be free from conflict, corruption and violence. At the University, work towards this SDG means that academic freedom, autonomy and student influence are central for example.

EDUCATION

One example is the *Programme for International Crisis and Conflict Management* offered at the Faculty of Social Sciences, which focuses on how different types of crises and conflicts can arise, be managed and resolved. The same faculty also provides the *Master's Programme in Crisis Management and Peacebuilding* where students practise understanding and analysing various systems for managing national crises, and become specialists in reconstruction in the context of crises, disasters and armed conflicts. The Faculty of Medicine offers the course *Disaster Medicine* where students learn how to quickly assess needs in a range of disaster medicine scenarios and train in being able to lead and implement interventions in such situations.

RESEARCH

Medicine and social sciences dominate the research for the SDG. In medical research, there is a focus on domestic violence based on risk factors and how the health care system works. Minorities and marginalised groups have been studied in both medical and social sciences research in relation to their opportunities to participate in research. In addition, research is conducted on the use of participatory methods in the health care sector. Human rights have been studied in relation to new technology, for example.

The *Várdduo Centre for Sámi Research*, which is Sweden's only research unit dealing with the Sami people and other indigenous research, initiates and coordinates research on Sápmi. International activities are of great importance as the Sami live and work across national borders, and indigenous

issues around the world are in general cross-border issues. Várdduo cooperates actively in the Nordic countries as well as with Australia, Canada and New Zealand.

“The Várdduo Centre for Sámi Research, which is Sweden's only research unit dealing with the Sami people and other indigenous research, initiates and coordinates research on Sápmi.”

COLLABORATION

The University participated at the *Nordic University Days 2022* in Brussels, with leading figures in the EU Directorate-General for Research and Innovation. The EU's agenda for research, education and innovation was discussed and a common theme for the sessions concerned academic freedom, academic values and the positioning of the EU in the world.

SUPPORT FUNCTIONS

Academic freedom is fundamental to assuring the role of universities as bearers of democracy and as critical institutions in Europe. Student influence is also central, and the University has three student unions. As a public authority, the University is also



Research that concerns the SDG Peace, justice and strong institutions at Umeå University has the highest citation impact of all among the SDGs. Photo: Mostphotos.

obliged to act objectively. In 2022, the University adopted a policy against corruption.

STRENGTHS AND CHALLENGES

Research that concerns the SDG *Peace, justice and strong institutions* at Umeå University has the highest citation impact of all among the SDGs. However, justice and inclusion are perspectives that could be further strengthened in both research and education based on how vital they are to achieving sustainable development for all.



IN 2022,
the University adopted a policy
against corruption.



SDG 17 Partnerships for the goals

The implementation of the SDGs requires global solidarity, capacity development and the mobilisation of financial resources to ensure that no country or group is left behind. This SDG aims to support the implementation of the entire 2030 Agenda. Sharing knowledge, expertise, technology and financial resources are important components for attaining the SDGs and Umeå University can contribute to the implementation of the 2030 Agenda by educating, researching and communicating knowledge about sustainable development as well as new findings. The University can also contribute through its collaborations with a range of actors in different countries.

KEY COMPETENCIES FOR IMPLEMENTATION

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has listed the eight key competencies for sustainable development that are regarded as fundamental for achieving the 17 SDGs of the 2030 Agenda. These are also competencies that students at Umeå University should be taking with them from their education.

1. **Systems thinking** - the competency to recognise and understand relationships and to analyse complex systems with feedback loops.
2. **Anticipatory** - the competency to understand and evaluate a range of potential future scenarios.
3. **Normative** - the competency to understand and reflect on the norms and values that form the basis for your own actions and the actions of others.
4. **Strategic** - the competency to promote sustainable development locally and in a wider context.
5. **Collaboration** - the competency to learn from, understand and cooperate with others.
6. **Critical thinking** - the competency to reflect on and question norms, practices and opinions.
7. **Self-awareness** - the competency to continuously evaluate and motivate your own actions and to manage your own emotions and desires.

8. **Integrated problem-solving** - the competency to apply different problem-solving frameworks to complex sustainability problems and to develop solutions that promote sustainable development.

NODES FOR SUSTAINABILITY

The *Arctic Research Centre (Arcum)* is one of the University's 24 interdisciplinary centres which aim to stimulate research on topics that do not fit entirely into any one traditional discipline. Arcum was established in 2012 as a collaboration hub for Arctic interdisciplinary research and education with high relevance to the community. Along with departments at the University, Arcum operates an Arctic graduate school where sustainable development is an important component in addition to its Arctic focus. Collaboration is also an important part of the Centre's activities - between researchers from different disciplines but also in the Centre's interactions with the wider community.

The *Umeå Transformation Research Initiative (UTRI)* involves researchers and teachers from all faculties with the aim of supporting interdisciplinary research collaborations investigating urban transformation for sustainable development. UTRI is open to anyone within the University and is organised by a steering committee that includes representatives from all faculties. Since it started in late 2020, UTRI has brought together almost

250 people in its network, and supported around 30 events.

NETWORK FOR IMPLEMENTATION

Umeå University is involved in several international networks and some of them have a particular focus on different aspects of sustainable development. The *Sustainable Development Solutions Network (SDSN)* is a UN initiative that brings together expertise from a range of subject fields and from all over the world to find solutions to global challenges linked to the 17 SDGs. The *Magna Charta Universitatum* initiative, to which the University is a signatory, contains principles of academic freedom and institutional autonomy as guidelines for good governance of universities. *Scholars at Risk* works to give sanctuary to scholars who are being threatened and who cannot operate in their home countries. The networks *Baltic University Programme*, consisting of 200 higher education institutions in the Baltic Region, and the *Artic Five*, comprising five Arctic universities, promote and share knowledge, education and research for sustainable development and for a sustainable Baltic Region. The University also has a number of strategic partnerships with Swedish regions, municipalities and companies where sustainability is an important component. For example, the University has strategic partnerships concerning sustainable working life and health, sustainable growth, sustainable urban development, and sustainable social development.

GOOD EXAMPLES FROM THE UNIVERSITY

The Umeå School of Business, Economics and Statistics is the University's only *ISO14001 certified unit*. Since 2013, the School has worked systematically to integrate sustainability perspectives into its activities. In addition to the SDSN, the School participates in the *Global Business School Network (GBSN)* and *Principles for Responsible Management Education (PRME)*, both sustainability networks. GBSN is an international network of business schools that are all working to improve support development in developing countries. PRME is a UN initiative to encourage business schools around the world to take greater responsibility for providing future leaders with the skills needed to responsibly balance economic and sustainability goals. Since 2018, the Umeå School of Business, Economics and Statistics has also used its own method to highlight sustainable development issues through its recurring campaign *#17goals17weeks*.

INTERNATIONALISATION

Internationalisation is essential to achieving the SDGs of the 2030 Agenda. In 2022, internationalisation was a theme for the University and highlighted the

particular importance of internationalisation for the University – internationalisation at home and in collaborations that concern education or research, as well as internationalisation that creates the conditions for students and staff to experience study or work in another country. Participation in the Erasmus programme is an important foundation of internationalisation efforts at the University. It also includes partnerships with non-EU universities in Kosovo, Ukraine and South Africa. The faculties also regularly announce calls for internationalisation grants to improve the quality of the University's education and research.

PROGRESS TOWARD THE SUSTAINABLE DEVELOPMENT GOALS

Collaboration initiatives and work in networks and centres illustrate how the University is conducting its sustainability work in dialogue with the wider community. From a global point of view, Umeå University's contribution to building knowledge about the SDGs is limited. However, the contribution is not insignificant because the University highlights perspectives on sustainability that are particular to the Nordic region through knowledge about permafrost, forestry issues, the Baltic Sea, reindeer husbandry, and the Sami people. The natural sciences perspectives that the University contributes are important too, but there is also strong medical and social sciences research that is relevant to some of the SDGs. In bibliometric terms, the humanities research conducted has limited impact. The highest numbers of publications from the University in the humanities relate to the SDGs *Quality education*, *Gender equality* and *Reduced inequalities*. The University also contributes to building generic competence for working with sustainable development, and increasingly it is contributing to knowledge about sustainable development from the perspectives of different scientific disciplines and professions. However, it is imperative to strengthen the University's research and dissemination of knowledge, based in particular on an interdisciplinary understanding of more of the SDGs. The University's support functions work with governance (setting requirements and targeted goals) and with implementing sustainable solutions. Of the University's 13 targeted goals for climate and sustainability, the goal concerning sustainable investment has been achieved. Work towards the other targeted goals needs to be accelerated if the University is to live up to the commitments it has made through the Climate framework for higher education institutions and the Umeå climate roadmap, and to make further progress towards attaining the SDGs.



UMEÅ UNIVERSITY