
# SUSTAINABILITY Report 2024

LUT University

# CONTENTS


| | |
|---|---|
| Rector's foreword | 3 |
| Introduction to LUT | 4 |
| Sustainable Development Goals | 5 |
| **RESEARCH IMPACT** | **7** |
| Scientific publications | 8 |
| Highlights of research in 2024 | 9 |
| **SOCIETAL INTERACTION** | **12** |
| Highlights of societal interaction in 2024 | 14 |
| **SUSTAINABILITY IN EDUCATION** | **15** |
| Highlights of education in 2024 | 17 |
| **SOCIAL RESPONSIBILITY AND GOVERNANCE** | **18** |
| Highlights of social responsibility in 2024 | 21 |
| **ENVIRONMENTAL PERFORMANCE** | **22** |
| Carbon footprint | 23 |
| Climate Action Plan and target | 25 |
| Consumption and waste management | 26 |
| Appendix 1 | 28 |
| Appendix 2 | 29 |



**CONTACT INFORMATION:**
**Hanna-Leena Ottelin**
**Sustainability Manager**
**hanna-leena.ottelin@lut.fi**
**tel. +358 50 409 3043**



**EDITOR:**
**Sanna Heiskanen**

**LAYOUT AND GRAPHIC DESIGN:**
**Oona Rouhiainen**

**PUBLISHER:**
**LUT University, 2025**

# RECTOR'S FOREWORD

**LUT University** continued on its path of rapid growth, internationalisation, and top-level research in 2024. We welcomed a growing number of students and staff members, and we are increasing our educational and research impact to solve the world's wicked problems.

**We are now a globally top-ranked research university** and, according to T-Media's survey, the most reputable university in Finland. A shining example of LUT's expertise was the second edition of our Energy Outlook, which provides a comprehensive overview of energy security, pricing, and sustainability in Finland. Collaboration with Cambridge University's Clare Hall was our most important new initiative related to climate change and sustainability.

**Our first major alumni event**, Homecoming Day, attracted over 2,000 alumni who gathered to reconnect and come up with new, stellar ideas for future cooperation on matters such as climate action, sustainable water management, novel technology, and the creation of growth companies.

**Well-being** is at a rather high level in the LUT community, but disruptions on our campuses have increased as our community has grown. Even though the world is in turmoil for many reasons, we should continue to respect each other and foster a sense of community. We want to develop a positive organisational culture, which is key to our collective success and individual well-being.

**Juha-Matti Saksa**
Rector

# INTRODUCTION TO LUT

**LUT University's Strategy 2030: System Earth seeks solutions for life-giving resources such as clean energy, water and air.**

Taking environmental, economic, and social responsibility into consideration guides LUT's strategic choices, management and operations. Sustainable development and responsibility are integrated into our educational content and our objectives for research impact.

LUT also wants to emphasise the positive environmental handprint, which refers to the positive impacts that the university's education and research have on society and companies.

LUT contributes to the sustainable renewal of business and society in its three faculties: LUT Business School, the School of Energy Systems, and the School of Engineering Sciences which also incorporates social sciences.

## FACTS AND FIGURES 2024

**1969**
was the year LUT was founded

**1 148**
scientific publications

**7 969**
bachelor's, master's and doctoral students

**61**
doctoral degrees

**1 049**
master's degrees

**631**
bachelor's degrees

**751**
students in continuing education

**588**
students in open university instruction

**1 545**
staff members

**133.3**
million euros in funding:
Ministry of Education € 65.7 million, supplementary funding € 67.6 million

**102**
nationalities on 2 campuses

**96%**
of master's graduates employed one year after graduation

# SUSTAINABLE DEVELOPMENT GOALS

**Education and research at LUT promote all the 17 Sustainable Development Goals on the United Nations' 2030 Agenda. Through our strategy and research, we particularly pursue the following seven Sustainable Development Goals.**

### SDG 6 | Ensure availability and sustainable management of water and sanitation for all.


- At LUT, we respect water as a resource to be protected, cleaned, and refined. We recover raw materials from wastewater and create new solutions for water treatment.
- We are a leading community for expert training and research in water treatment and separation technology.
- We monitor our own water consumption and strive to reduce it.

### SDG 7 | Ensure access to affordable, reliable, sustainable and modern energy for all.


- We develop clean energy solutions with expertise in technology and economics. We utilise Power-to-X technologies and electrification. We are trailblazers for an economically viable, global, carbon-neutral energy system.
- We consume clean energy and promote the energy efficiency of our facilities with the facility owners. We use certified bio-based district heating on our Lappeenranta campus.
- We produce 4% of the electricity we consume with our own solar panels on the Lappeenranta campus.

### SDG 8 | Decent work and economic growth.


- Economically, socially, and ecologically sustainable business is at the core of our scientific expertise. We promote innovative business models and entrepreneurial and network-like solutions.
- We educate future actors and decision-makers who have the capacity to act responsibly in their own field.
- Our community's activities are guided by our equality and non-discrimination plan.
- Our investment strategy aims for profitable investments, taking responsibility into consideration.

### SDG 9 | Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.


- We promote the sustainability of society through circular economy and sustainable business models, data analytics, digitalisation, electrification, Power-to-X technologies, and the hydrogen economy. We see emissions as raw materials creating new value. Green Campus Open is a unit that supports turning our research into business.

### SDG 12 | Ensure sustainable consumption and production patterns.


- We promote the renewal of industrial production through digitalisation, the circular economy, new materials and enhanced processes. Our systemic perspective offers system-level solutions for areas such as waste management, urban planning and production management. We utilise economics and consumer research to develop sustainable business models.
- We consider environmental aspects in our procurements and campus activities.
- We publish an annual sustainability report.

**SDG 13 | Take urgent action to combat climate change and its impacts.**


- We produce scientific knowledge and sustainable, system-based, technological, and business-related solutions to mitigate climate change.
- In line with worldwide efforts to limit global warming to 1.5°C, our aim has been to become carbon neutral by the end of 2024 for our GHG Protocol scope 1 and 2 emissions.
- We also strive to reduce our scope 3 emissions. We calculate and report our carbon footprint annually. In addition, we help other organisations to reduce their carbon footprint, thereby increasing our own carbon handprint.

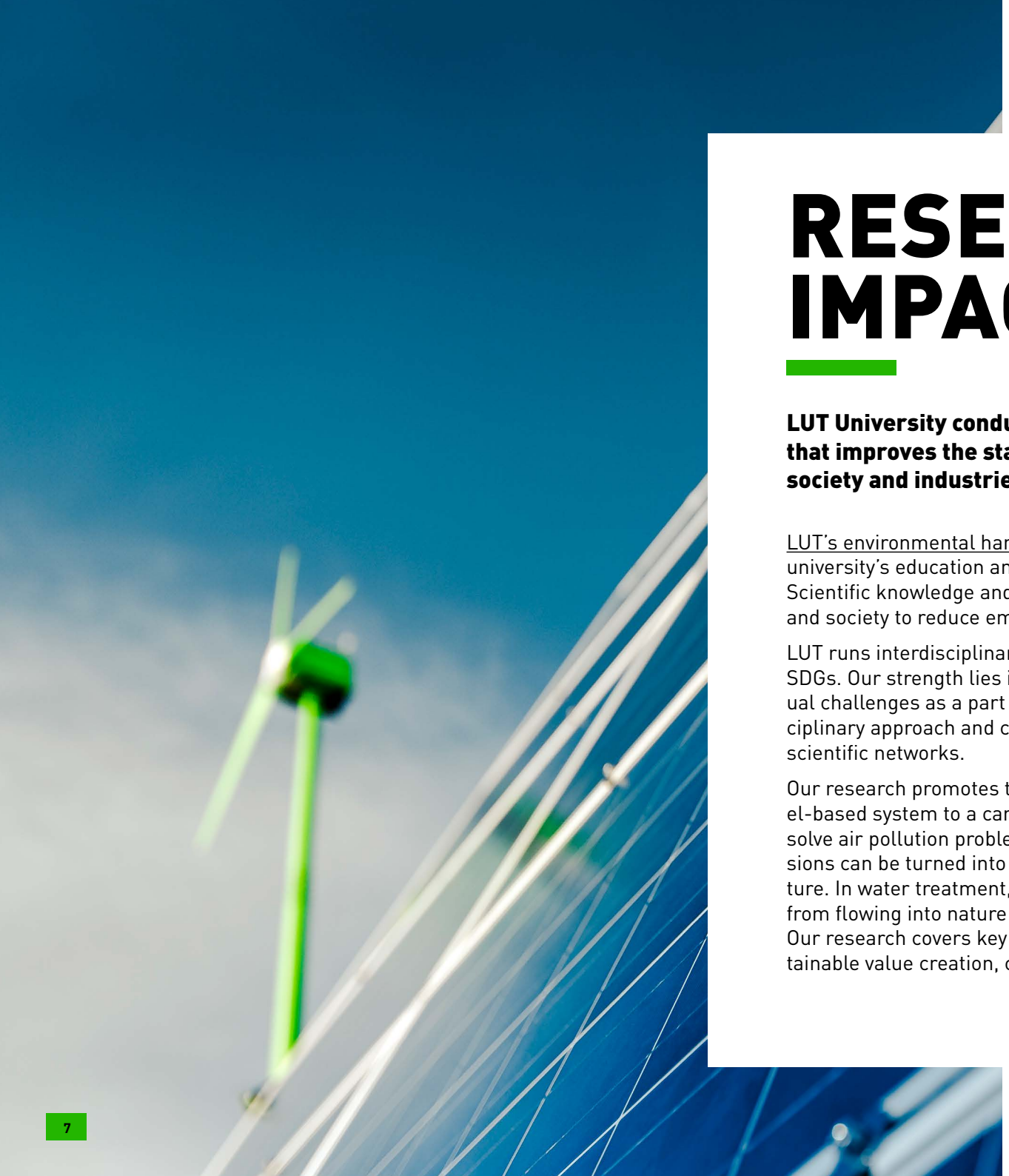
**SDG 17 | Strengthen the means of implementation and revitalize the global partnership for sustainable development.**


- We are committed to the UN Global Compact initiative. We promote the sustainable development goals through strong cooperation with our partner companies, campus cities, and other stakeholders.
- We operate in several local, national, and international sustainable development networks, including the Greenreality Network, ISCN, and NSCN.
- The services provided by the campus property owners – including building service technology, waste management and maintenance of buildings and outdoor areas – form an essential part of the sustainable development on our campuses.

# COMMITMENTS

LUT has been a member of the UN Global Compact since 2021 and reports on related progress in accordance with the requirements for non-business participants. LUT is also committed to the following:

- SDG Accord, universities' collective response to global goals
- Race To Zero, universities' initiative for a zero-carbon world
- UNIFI's theses on sustainable development and responsibility for Finnish universities
- WWF Green Office certification
- LUT Business School's commitment to the UN's Principles for Responsible Management Education (PRME)



# RESEARCH IMPACT

**LUT University conducts and publishes high-level research that improves the state of the environment and is relevant to society and industries.**

LUT's environmental handprint refers to the positive impacts that the university's education and research have on society and companies. Scientific knowledge and innovations that we produce enable businesses and society to reduce emissions and curb climate change.

LUT runs interdisciplinary research platforms that all focus on specific SDGs. Our strength lies in systemic understanding – addressing individual challenges as a part of an overall system. We emphasise an interdisciplinary approach and collaboration with our partners, companies, and scientific networks.

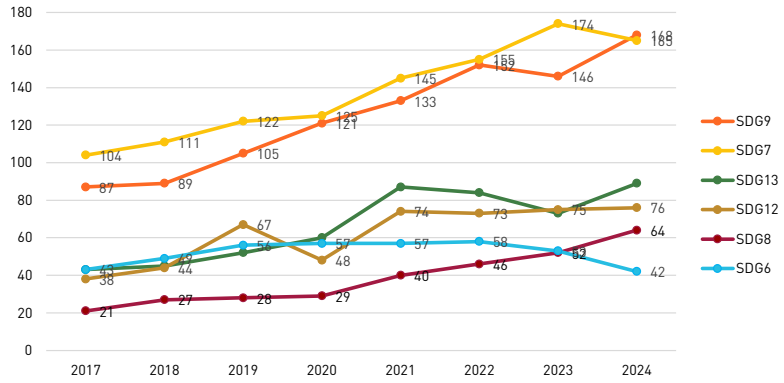
Our research promotes the ongoing global transition from a fossil fuel-based system to a carbon dioxide-free one based on electricity. We solve air pollution problems and investigate how greenhouse gas emissions can be turned into valuable raw materials for industry in the future. In water treatment, our research helps to stop harmful chemicals from flowing into nature and recover and recycle nutrients from sewage. Our research covers key areas of business management, such as sustainable value creation, corporate responsibility and digitalisation.

# SCIENTIFIC PUBLICATIONS

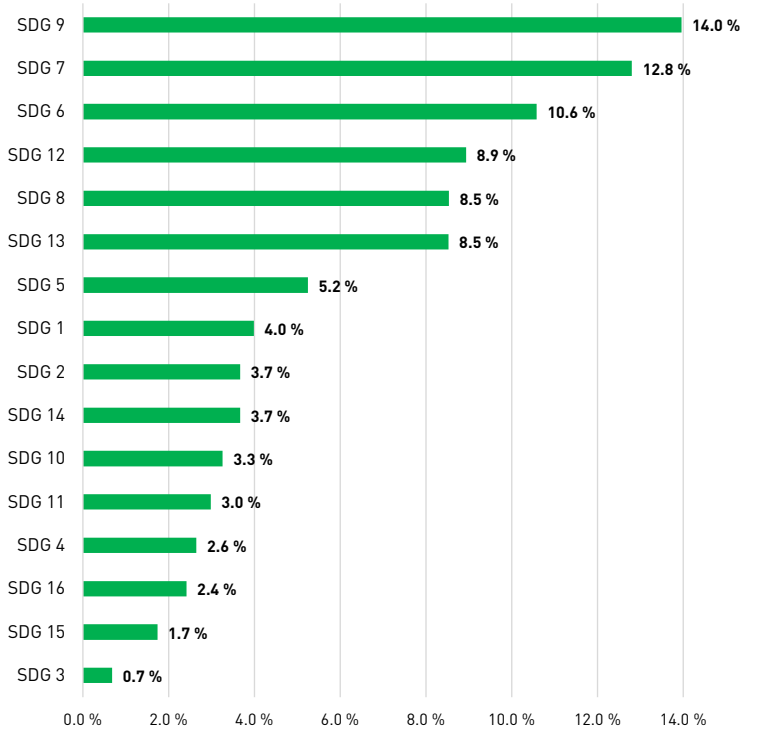
LUT is committed to promoting open science and research. The goal is that all scientific publications will be either originally published in an open forum or made available through our publication repository, LUTPub.

In 2024, LUT released 512 scientific publications in high-quality journals (Publication Forum rating 2–3). A total of 465 of LUT's Scopus publications in 2024 dealt with at least one sustainable development goal. A year earlier, the respective numbers were 483 and 429.

## LUT's SDG publications 2017–2024




## LUT's share of SDG-related scientific publications produced by Finnish universities and organisations (2024)




Source: SciVal 2/2025

# HIGHLIGHTS OF RESEARCH IN 2024


LUT develops effective methods for removing per- and polyfluoroalkyl substances (PFAS) from water in water utilities using innovative functional materials. These forever chemicals are increasingly detected in water bodies, and the concern around their environmental persistence, bioaccumulation and toxicity is rising worldwide.

Climate change causes water shortages and jeopardises the availability of clean water. In addition to technology research, LUT explores the water system and its technological possibilities from a societal perspective.

The TransformAr project develops solutions and pathways for rapid and far-reaching transformational adaptation to water-related risks and impacts of climate change in vulnerable regions and communities across Europe.

The Arctic Water Excellence project aims to enhance Northern Finland's regional expertise and coordination in the water sector.

**SDG 6**


LUT's research was featured in the report of the IRENA Coalition for Action comparing three fully renewable energy scenarios at a global level. LUT's studies show, for example, that wave energy could have a key role in realising the UK's net zero ambitions. LUT's researchers have also published new studies on possibilities to shift from fossil to renewable energy in Africa and the Caribbean.

JustH2Transit is a multidisciplinary consortium studying a justified and sustainable energy transition driven by hydrogen.

New value chains arising from the development of the Power-to-X (PtX) market were identified by the HYGCEL consortium.

The PHOENIX project focuses on energy justice and resilience from the perspectives of households, firms, different industrial sectors, and regions.

LUT also investigates aspects on justice and nuclear power, which is one of Finland's most significant low-carbon energy sources and considered in some cities for future district heat production.

**SDG 7**


LUT University reached the world's top 10 in climate action in the 2024 THE Impact Rankings.

LUT University and Clare Hall of the University of Cambridge established a joint agreement and Global Climate Research Prize.

LUT and VTT have jointly studied carbon handprint and environmental handprints for years and have published new guidelines that provide companies a transparent way to assess and communicate their positive impacts on the environment.

LUT and VTT are studying how carbon dioxide emissions from the forest industry can be utilised in producing plastics, for example. Carbon dioxide can also be used to produce aviation fuel – and even food.

A research project studies the green transition and the impact of the Finnish ICT sector on climate and the environment.

LUT introduced internal funding for projects that either reduce the university's own carbon footprint or help other organisations to reduce their carbon footprint. The funded projects enhance LUT

**SDG 13**


LUT investigates and develops critical societal systems that are vital for the functioning of society, including food systems, water management, the energy system, and transportation and mobility. Critical systems need renewal to become less vulnerable to disturbances and crises, increasing resilience in society and businesses.

The green transition will increase the demand for critical metals and minerals. Metals are also necessary in products that are essential to the security of supply. LUT's research underlines the need for ecodesign in the mining sector.

Batteries enabling the storage of renewable energy play a key role in the green transition. LUT investigates the potential of the battery sector and the need for measurement and testing services and is building two RDI environments to meet the needs of companies in Southeast Finland.

**SDG 9**


LUT conducts research on the electrification of heavy-duty vehicles with the help of battery and semiconductor innovations or hydrogen combined with fuel cell technology.

A dissertation from LUT presented new insights into how an electricity distribution network should be designed to ensure a smooth electric vehicle charging experience and manage related additional loads.

Indirect carbon dioxide emissions from supply chains may account for up to 90 per cent of a company's overall emissions. According to a dissertation from LUT, the decarbonisation of supply chains requires new types of collaboration, systemic thinking and investments in low-emission transportation.

Digital twins – also known as virtual models – promote sustainable business by saving costs and improving safety. LUT's recent study of digital twins also focuses on social sustainability and workplace well-being.

The generative AI application ChatGPT is currently shaping the world of work in many, partly unexpected ways. LUT has studied what it means for software engineers' work and labour market situation.

**SDG 11, SDG 8**


LUT's researchers analysed discussion about sustainable consumption based on more than 11,000 social media posts. The study provides practical implications for those interested in fostering sustainable consumption.

A dissertation from LUT examined impulse buying behavior in the context of purchasing ecofriendly products and among sustainably motivated consumers.

Companies can make significant environmental contributions but often lack the confidence to publicise their efforts. Researchers refer to this as greenblushing, a harmful phenomenon that conceals progress in sustainability.

LUT contributed to the CAMPAIGNers research project, which aimed to make low-carbon lifestyles a significant part of the solution to climate change. The project involved five continents and sixteen major cities with over twenty million residents.

**SDG 12**


LUT's researchers study the impact of AI on society, culture, and the environment. For an AI system to be responsible, it needs to be ethical and secure, comply with regulations, preserve privacy, and align with human values.

An increasing share of products, services, and systems around us utilize data, and AI can be used in more and more contexts in the society to solve sustainability problems.

A new report by Hydrogen Research Forum Finland outlined key research topics that could help Finland become a leader in PtX technologies and the hydrogen economy.

A Fast Expert Team's report listed eight concrete measures to promote the clean energy and hydrogen economy market in Finland. New energy investments can only take place through collaboration across sectors.

**SDG 16, SDG 17**


Shifting to a circular textile business is beneficial for the environment but could negatively impact incomes and working conditions in the Global South. A dissertation from LUT investigates how to make the transition socially just.

A spinoff from VTT and LUT, Solar Foods, produces protein from water and carbon dioxide captured from the air. Solein received regulatory approval in Singapore and the United States, where it can now be used in food products to replace other protein sources. The company's CEO and LUT's energy technology alumnus, Pasi Vainikka, received LUT's first Curious Alumni Award.

LUT coordinated the BIOPROT research project to improve the sustainability of personal protective equipment, absorbent hygiene products and anti-viral surfaces. The study showed, for example, that resin destroys coronavirus on plastic surfaces.

A study at LUT introduced a novel approach to modeling malaria incidence in Nigeria by assessing the relationship between malaria incidence levels and meteorological factors using cluster-integrated regression.

**SDG 1, SDG 2, SDG 3**


Every year, approximately 20–30 women participate in an entrepreneurship bootcamp in Kenya, supported by LUT Business School. Supporting women's entrepreneurship advances equality and children's well-being.

LUT Business School has studied how local people and communities work to improve and regenerate Finnish lake environments.

LUT is involved in a major research programme on emission-free pulping, which aims to significantly reduce biomass burning and increase the product yield of wood material used for pulping from approximately 50% to around 70%, saving wood while reducing emissions.

LUT is part of the BIODIFUL consortium, which studies leadership that respects biodiversity at the individual, organisational, and societal levels. In the consortium, LUT develops and tests methods to calculate the biodiversity impacts of products or services.

**SDG 10, SDG 14, SDG 15**

# SOCIETAL INTERACTION

LUT University is an expert member of several international research, business, and sustainability networks and often consults for parliamentary committees and various regional, national, and international institutions, especially regarding renewable energy and carbon neutrality.

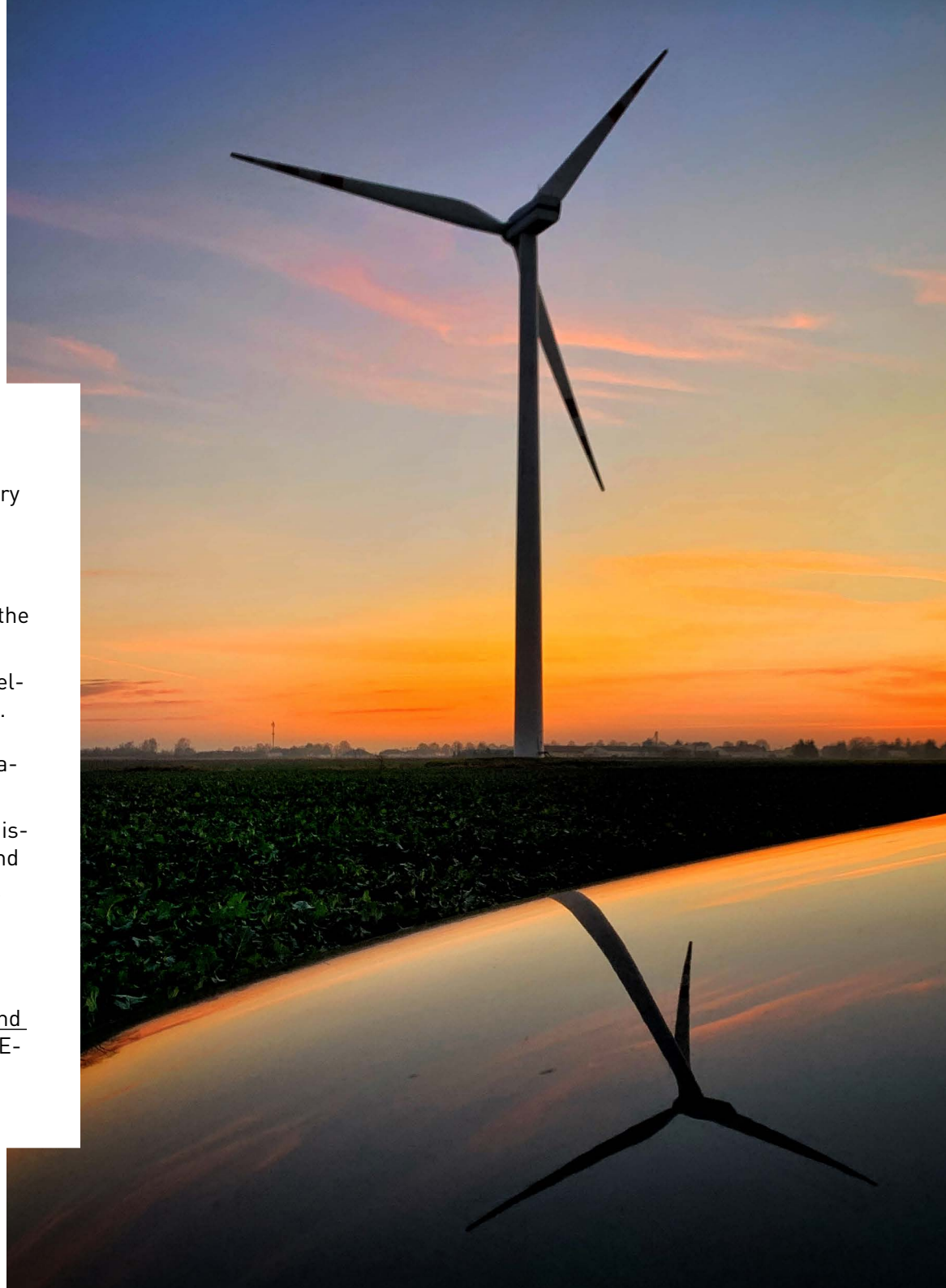
LUT is represented in the Euro-Case Executive Committee of European science academies and participates in the Science Advice Mechanism of the European Commission.

In Finland, an LUT professor chairs the Expert Panel for Sustainable Development and another professor is a member in the Climate Change Panel. The panels appointed by the Prime Minister's Office provide independent reports and scientific data to support decision-making regarding sustainable development and climate adaptation.

LUT also plays a role in informing governmental bodies and public administration, such as Business Finland, in matters involving green hydrogen and renewable energy. LUT counsels the Finnish Hydrogen Valley Association and chairs Hydrogen Research Forum Finland.

LUT has contributed to the European Sustainable Energy Week (EUSEW) policy dialogue with research-based solutions since 2016.

LUT is registered in the EU's Transparency Register. Our memberships and affiliations include, for example, the EUA, T.I.M.E., EERA, A.SPIRE, WaterEurope, and UniLiON.



## Cooperation with campus cities and sustainability networks

The LUT campuses serve as a venue for diverse scientific and societal encounters. At LUT, we also cooperate closely with our campus cities, Lappeenranta and Lahti. The focus of the cooperation is on education, commuting, climate change mitigation, and networks for sustainable business and technology development. Both Lappeenranta and Lahti received the EU Mission Label recognition in 2024.

Junior University incorporates LUT Universities' sustainability contents into the curricula of local primary schools in the cities of Lappeenranta, Imatra, and Lahti. In 2024, the activities reached 11 314 people in total – including 9 482 children and young people. Junior University promotes particularly SDGs 4, 12, 13, and 17.

LUT's researchers contributed to public outreach through Mikkeli Water Week, Lahti Science Day, and the Greenreality Carnival in Lappeenranta.

LUT is a member of Women in Tech Finland, a network that promotes diversity, equality, and inclusion in the field of technology. LUT also participates actively in the International Sustainable Campus Network (ISCN), a global forum that shares ideas, information, and best practices in the different areas of sustainable development.

# HIGHLIGHTS OF SOCIETAL INTERACTION IN 2024


The second edition of LUT's Energy Outlook serves the public, experts and decision-makers by providing a comprehensive overview on energy security, pricing, and sustainability in Finland.

LUT hosted an event in Brussels on the European Sustainable Energy Week in June, focusing on energy resilience, green hydrogen, and data-driven innovation in energy systems.

LUT's researchers also contributed to the Future Energy Solutions conference in Lappeenranta, Finland.

LUT's experts published a number of blogs and opinions on various topics promoting the green transition – for example, how it boosts financial well-being and security in Finland.

**SDG 13, SDG 7**


Junior University arranged workshops on sustainable living for all eighth graders in Lappeenranta, lessons on clean water for all third graders, and a one-day festival for all fifth graders.

In Lahti, LUT provided education on the circular economy for third graders.

**SDG 11, SDG 6, SDG 4**


Jointly organised by LUT and the Marjatta and Eino Kolli Foundation for the fifth time, the Metsä360 Award and the Metsä360 Competition for schools highlighted the value and significance of forests.

The 2024 award was given to Uute Scientific's microbial extract that stimulates the immune system.

**SDG 15**

# SUSTAINABILITY IN EDUCATION

The technology, business, and social sciences education provided by LUT University focuses particularly on clean energy, water, and air. By educating environmentally conscious experts and decision-makers, LUT contributes to global, national, and regional development and helps society and businesses in their sustainable renewal.

LUT's social scientists are solving problems of the future and the sustainability crisis at the interface of people and technology. The degree programmes address the challenges and interconnectedness of critical systems such as energy, food production, water, natural resources, transport, and mobility, which are crucial to society and people's well-being.

Introduction to corporate social responsibility and sustainability is a compulsory course for all bachelor's students at LUT Business School. Sustainable development is a cross-cutting theme in the programme portfolio, from bachelor's to doctoral degrees.

All the degree programmes at LUT are built to increase the graduates' competences in sustainability. Based on the national bachelor's graduate survey of 2024, the sustainability skills of graduates from LUT are stronger than those of graduates from other Finnish universities in the survey (LUT has the highest indicator value 3.9 while the average is 3.4). Based on the latest master's graduate surveys, the sustainability skills of LUT graduates in both business administration and technology are stronger than the national average. (Source: TEK Graduate Survey 2024, SE Graduate Survey 2024.)

## Degree programmes and open studies promoting sustainable development

Examples of degree programmes promoting sustainability at LUT:

- Software Engineers for the Green Deal
- Sustainable Energy Systems
- Circular Economy
- Sustainability Science and Solutions
- Environmental Technology

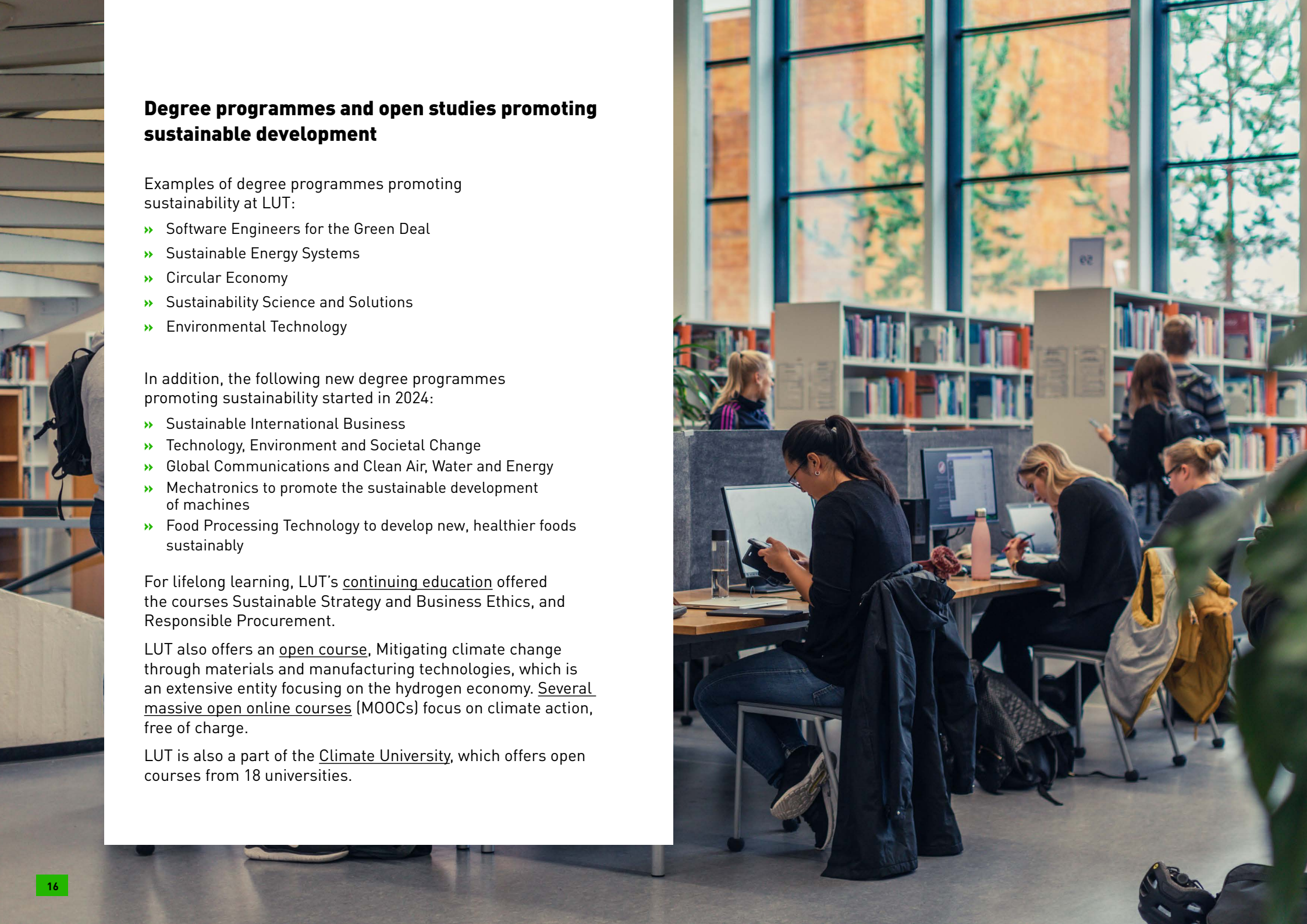
In addition, the following new degree programmes promoting sustainability started in 2024:

- Sustainable International Business
- Technology, Environment and Societal Change
- Global Communications and Clean Air, Water and Energy
- Mechatronics to promote the sustainable development of machines
- Food Processing Technology to develop new, healthier foods sustainably

For lifelong learning, LUT's continuing education offered the courses Sustainable Strategy and Business Ethics, and Responsible Procurement.

LUT also offers an open course, Mitigating climate change through materials and manufacturing technologies, which is an extensive entity focusing on the hydrogen economy. Several massive open online courses (MOOCs) focus on climate action, free of charge.

LUT is also a part of the Climate University, which offers open courses from 18 universities.



# HIGHLIGHTS OF EDUCATION IN 2024

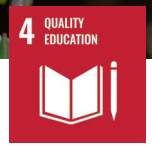

LUT maintained its overall position in the 2024 THE World University Rankings as well as the latest THE Impact Rankings, and reached the world's top 10 in climate action (SDG 13).

LUT was again the most reputable university in Finland according to the Reputation & Trust survey, which measures how Finns perceive the reputation of Finnish universities.

LUT is involved in a doctoral education pilot programme, which reshapes and increases doctoral education in Finland in 2024–2027.

LUT is a member of the EULiST alliance (European Universities Linking Society and Technology), which aims for the establishment of a new European university in the long term. In 2024, the alliance prepared its first Sustainability Strategy Plan and developed its carbon footprint calculation, along with other achievements.

**SDG 4, SDG 13**




LUT Business School's sustainability report received the PRME award for the second time. Winning reports must present sustainability goals and actions in a very concrete and transparent way.

LUTES, the student entrepreneurship community of LUT University, participated in the international InCube Challenge, an innovation competition that tackles companies' sustainability challenges.

**SDG 4, SDG 12**


LUT applied for new educational responsibilities in civil and construction engineering, aiming to make buildings sustainable and to respond to future energy and environmental challenges in the built environment. The responsibilities were granted in early 2025.

**SDG 4, SDG 11**

# SOCIAL RESPONSIBILITY AND GOVERNANCE

**LUT University complies with Finnish laws and regulations and internally applies LUT Group regulations and LUT University regulations. ESG compliance is implemented at LUT at the group level.**

## Policies and operating principles

LUT University's sustainability policy was adopted in 2021 to steer all of the university's activities. In addition, LUT's sustainable development action plan sets annual targets for the work done in accordance with the sustainability policy. Its execution is monitored in the sustainability and quality steering group and regular management reviews, and actions are adjusted if needed. The achievement of targets for 2024 is presented in Appendix 1.

LUT's quality management system includes sustainability management. The quality management system is externally audited by the Finnish Education Evaluation Centre (FINEEC), and it ensures systematic and transparent operations through the continuous evaluation and improvement of our activities.

Our code of conduct describes the ethical and lawful courses of action that guide our activity and expectations and the ways we ensure ethical and responsible conduct in decision-making. In addition, we apply an equality and non-discrimination plan to prevent any discrimination at LUT and to make the university an equal work community where everyone is treated with respect.

LUT has feedback channels where staff and students can submit feedback, initiatives, or reports in accordance with the whistleblower protection act. A whistleblowing channel on LUT's website enables people from outside the university community to safely report breaches. The reports are dealt with in accordance with the act's provisions.

LUT's organisational structure – the board of directors, advisory board and university collegium – is presented transparently. Our students influence the university's decision-making and organise activities on the campuses through the Student Union of LUT University (LTKY).

We are committed to observing good scientific practice based on openness and comparability. We also ensure personal data protection and the accessibility of our web services. Accessibility is taken into account also in the design of facilities.

LUT's investments comply with the UN's Principles for Responsible Investment (PRI) and apply conventional profit and risk indicators and environmental, social, and governance (ESG) reporting. Income from investments enables operations and growth in line with our strategy. Responsible financial management enables LUT as an employer to react flexibly to changes in the operating environment. Financial statement 31 December 2024.




## Sustainable working culture

LUT is a highly international and growing higher education community. We emphasise our community's ability to promote sustainable development.

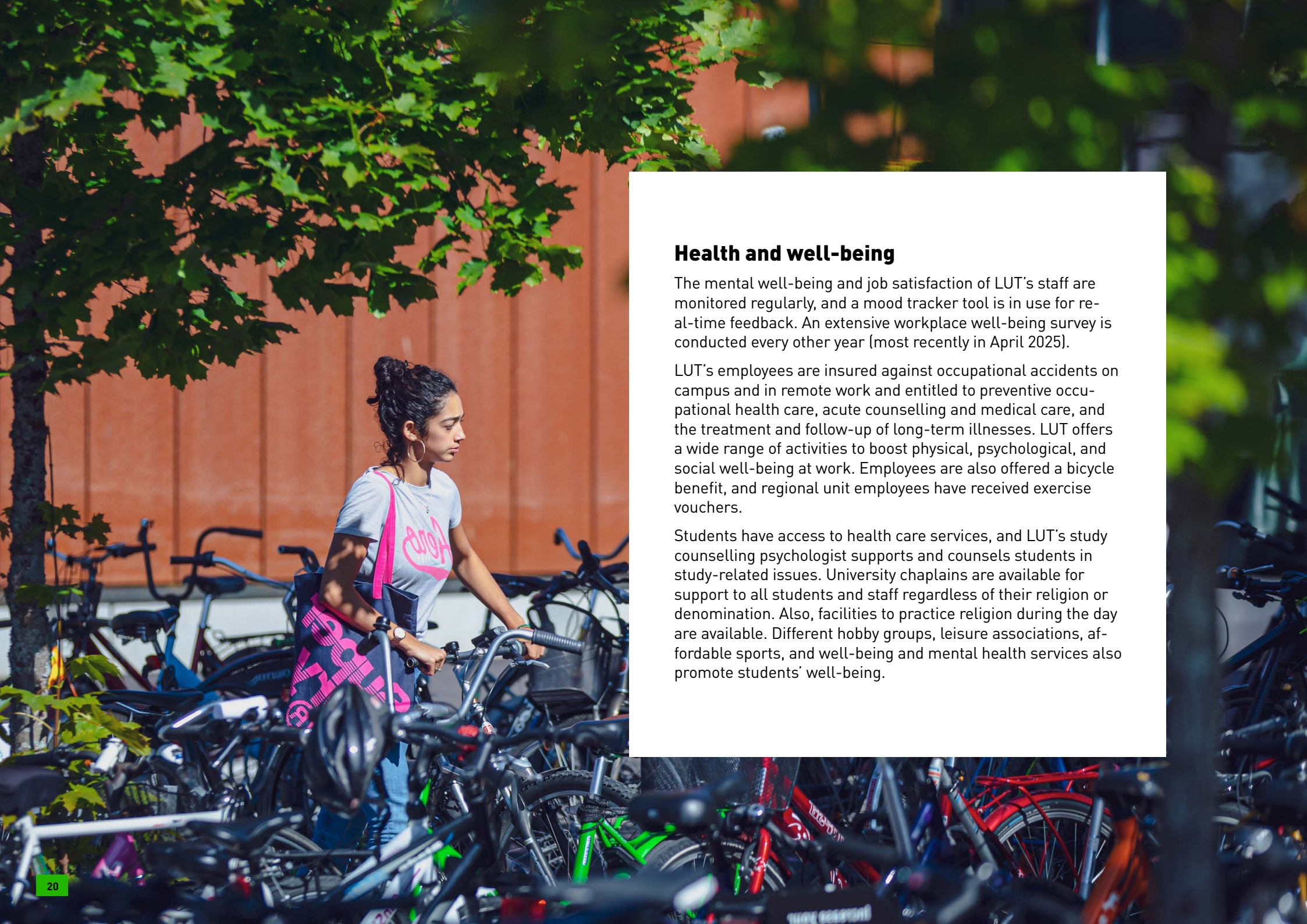
LUT has implemented a work community development plan, which defines how the employer promotes employee well-being, professional development, and effective leadership.

LUT's HR strategy for 2024–2026 focuses on hiring talented people, creating an environment for growth, and making LUT the best place to belong. Staff development and well-being are key aspects of the related action plans. LUT Universities also launched a three-year leadership training programme (LEAD – Leadership Excellence and Development) for supervisors, and the first participant groups started at the end of 2024.

LUT provides a wide range of training and open university courses for staff. The amount and topics of online staff training continued to increase last year – particularly training on the use of AI applications. The staff also has access to the variety of multilingual online training offered by the Eduhouse e-learning service.

LUT has increased and developed courses in Finnish as a second language and English-language training. The student portal eLUT and the staff intranet are bilingual. Webinars on Finnish culture and the Finnish world of work are part of the onboarding of new international employees.

LUT's blended work model enables employees to alternate between remote and on-site work, offering family-related flexibility. Different work arrangements and substitutions ensure that absences due to family leave will not overburden the personnel at work. A total of 73% of LUT's employees (1 125 persons) are on contracts of at least 24 months, which provides job security.



## Health and well-being

The mental well-being and job satisfaction of LUT's staff are monitored regularly, and a mood tracker tool is in use for real-time feedback. An extensive workplace well-being survey is conducted every other year (most recently in April 2025).

LUT's employees are insured against occupational accidents on campus and in remote work and entitled to preventive occupational health care, acute counselling and medical care, and the treatment and follow-up of long-term illnesses. LUT offers a wide range of activities to boost physical, psychological, and social well-being at work. Employees are also offered a bicycle benefit, and regional unit employees have received exercise vouchers.

Students have access to health care services, and LUT's study counselling psychologist supports and counsels students in study-related issues. University chaplains are available for support to all students and staff regardless of their religion or denomination. Also, facilities to practice religion during the day are available. Different hobby groups, leisure associations, affordable sports, and well-being and mental health services also promote students' well-being.

# HIGHLIGHTS OF SOCIAL RESPONSIBILITY IN 2024


A well-being week for LUT staff and students twice a year offers exercise, sports demo classes, and other tips.

LUT made a charitable donation to help children and youth in need and to support their recreational activities in both campus cities.

Women made up 61% of the management group and 44% of the board of LUT. Since 2021, women have constituted 46% of LUT's employees.

LUT was one of the universities organising Shaking up Tech, a yearly event for women and non-binary upper secondary school students who are interested in technology and considering university studies.

LUT's TechnoTET project introduced primary and secondary school students and especially young women and young immigrants to work in technology.

**SDG 3, SDG 5**


LUT annually organises the DuuniDay recruitment event to connect students and employers.

LUT makes responsible investments in, for instance, funds that support renewable energy and address global challenges. Up to 76% of LUT's investments have a Sustainalytics ESG rating. At the end of the year 2024, the responsibility risk (19.3) and weighted carbon intensity (79) of LUT's investment portfolio were clearly lower than the reference index.

LUT Universities' online equality training is mandatory for new employees and helps ensure all employees are aware of and committed to maintaining a respectful and diverse community.

LUT received the award for the best public sector organisation in the International Employer of the Year 2024 competition.

A webinar organised by the Finnish universities' DEI network was promoted to LUT's staff in order to assess our relationship with the issues of race and racism and to strengthen an antiracist society.

**SDG 10, SDG 8**


The new course Introduction to Sustainable Development in LUT Universities was launched in 2024 as a mandatory part of the onboarding of new employees, and it is also recommended for all other staff members.

LUT's Common Good 2024 volunteer day supported the national One Million Trash Bags campaign for city cleanup.

LUT's campus restaurant has introduced carbon intensity labels for its lunch options.

Besides the usual recycling and waste management on the campus, a pop-up Recycling Corner enabled staff and students to recycle used household items.

**SDG 12**

# ENVIRONMENTAL PERFORMANCE

**Monitoring and reporting on LUT's environmental performance includes electricity, heat, and water consumption, waste streams, and a carbon footprint.**

The university's carbon footprint is calculated according to the Greenhouse Gas Protocol's (GHG Protocol) guidelines, and the ways to reduce emissions are outlined in the university's Climate Action Plan.

LUT's campus buildings and the land they are on are owned in Lappeenranta by the University Properties of Finland (SYK) and in Lahti by Isku Center. In addition, LUT has regional units in rented premises in Kouvola and Mikkeli. The services provided by the campus property owners related to building maintenance technology, energy efficiency, waste management, and facility upkeep and development compose an essential part of our sustainability.

The largest share of our carbon footprint consists of indirect emissions generated by service suppliers involved in the university's activities. We require sustainable operations from our partners and cooperate with our staff, students and service providers to measure and reduce these emissions in accordance with our Climate Action Plan.

# CARBON FOOTPRINT

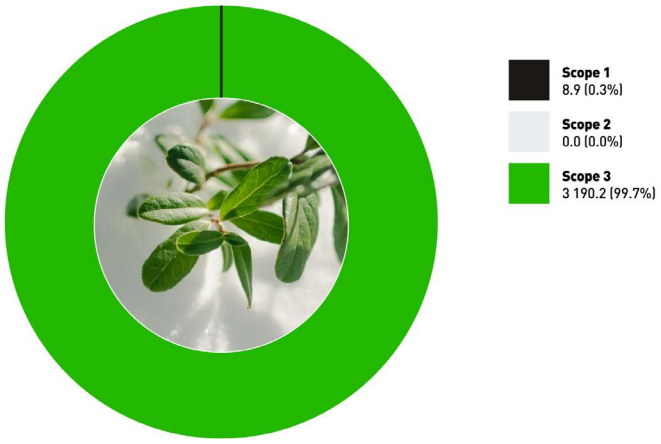
LUT's carbon footprint for the year 2024 totalled 3 199 tons of carbon dioxide equivalent ($CO_2$ eq). The carbon footprint was calculated according to the GHG Protocol, which classifies emissions into three scopes. LUT's regional units are also included in the calculation of the carbon footprint. For complete details, see Appendix 2.

**Scope 1** includes direct emissions from sources owned or controlled by the organisation. At LUT, this means a fleet of seven corporate cars, which account for merely 0.3% of the total carbon footprint.

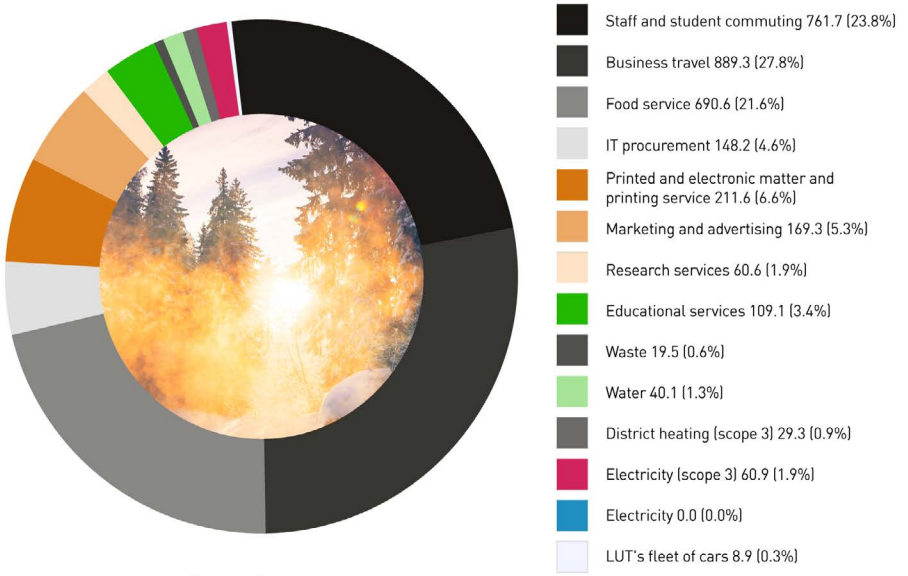
**Scope 2** includes purchased electricity, steam, heat or cooling. LUT's scope 2 emissions totalled zero.

**Scope 3** includes indirect emissions related to the university's activities. This scope also includes district heating and electricity included in the property rent. Other major sources of indirect emissions are staff and student commuting, business travel, and campus food services. A total of 99.7% of LUT's carbon footprint belongs to scope 3.

The carbon footprint grew by 789 tons (33%) compared to the previous year. The increase is primarily due to more precise emission calculations for food services, the inclusion of IT equipment, and the growth in the number of students and staff members.




*LUT's emissions in the scopes 1, 2 and 3 [t $CO_2$ eq]*



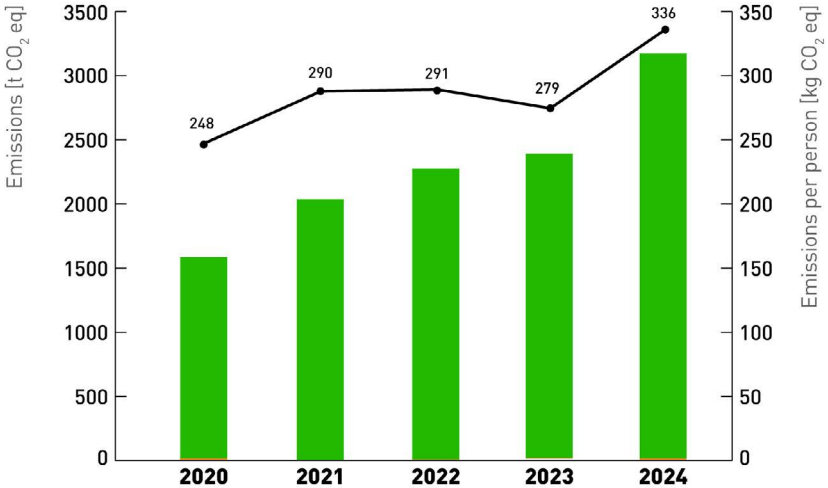

*LUT's carbon footprint [t $CO_2$ eq] and emission sources*

## Discussion and next steps to reduce emissions

LUT's carbon footprint figures from the past five years are not fully comparable since we are continuously improving the carbon footprint calculation process, including data quality and data collection procedures. Also in 2024, new and more accurate data sources and more categories have been added. The availability and accuracy of data also depends on the location and property owner – an aspect that requires further development.

LUT's goal to become carbon neutral for scope 1 and 2 emissions by the end of 2024 was not fully achieved due to the remaining fuel-burning cars in the university's fleet.

The increase in scope 3 in 2024 is primarily due to more precise emission calculations for food services, the added category of IT equipment, and growth in the number of students and staff members. Furthermore, the emissions have increased in recent years due to reasons such as increased business travel and more comprehensive tracking of its emissions; the post-pandemic return to the campuses, which increased food service consumption and waste; and changed commuting habits.




| | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|
| Scope 3 I other indirect emissions | 1 583.7 | 2 040.5 | 2 279.9 | 2 397.2 | 3190.2 |
| Scope 2 I energy, indirect emissions | 0.0 | 0.0 | 0.0 | 3.2 | 0,0 |
| Scope 1 I direct emissions | 9.7 | 5.6 | 8.1 | 9.4 | 8.9 |
| **Total** | **1 593** | **2 046** | **2 288** | **2 410** | **3 199** |

*LUT's carbon footprint in 2020–2024*

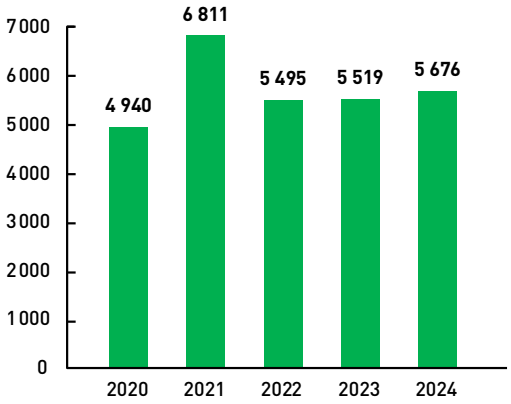
# CLIMATE ACTION PLAN AND TARGET

To tackle the unfavourable trend of growing emissions, LUT has updated its Climate Action Plan in May 2025. Set for 2025–2030, the Climate Action Plan outlines a range of actions to achieve zero emissions in scopes 1 and 2 and to continue attempts to reduce emissions in scope 3 in cooperation with partners and service providers, such as campus restaurants, business travel services, and campus property owners.

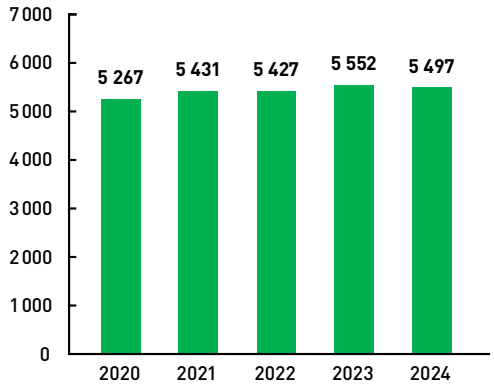
LUT's rector has confirmed in December 2024 that LUT will continue its climate work in line with existing commitments. LUT aims for net zero in 2050 in accordance with the initiative Race to Zero for Universities. Progress and actions will be reviewed annually in accordance with the Climate Action Plan. In 2030, LUT will hold an interim review to re-evaluate its climate target and actions, also addressing the requirements of the Ministry of Education and Culture.

# CONSUMPTION AND WASTE MANAGEMENT

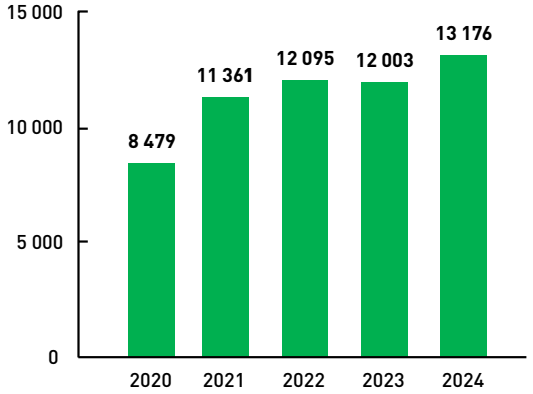
**Heat consumption, total [MWh]**




**Electricity consumption, total [MWh]**




**Volume of water used [m³]**




The waste streams and consumption of water, heat and electricity are reported from LUT's Lappeenranta campus.

The Lappeenranta campus uses certified bio-based district heating, generated from materials such as wood residues and chips. All purchased electricity on the Lappeenranta campus is renewable, produced by wind or solar power. The university's own solar panels generate about four per cent of the electricity consumed on campus.

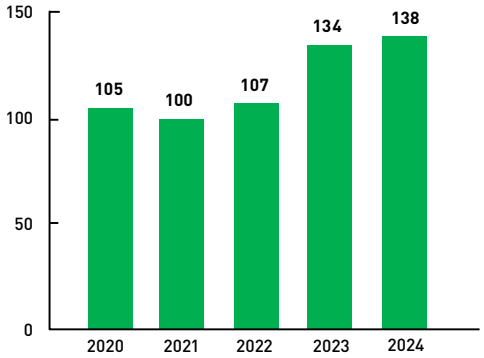
Finland has abundant freshwater resources. Tap water is drinkable and freely available for all on LUT campuses. Drinking tap water eliminates the need for bottled water, saving a great deal of resources and minimising waste. Irrigation is neither used nor needed in campus outdoor areas.

All collected waste fractions from LUT's Lappeenranta campus are directed to recycling and energy recovery processes. Nothing is landfilled.

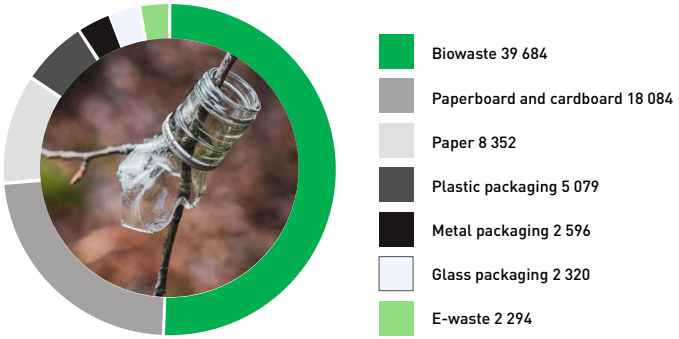
Waste to energy and biowaste are the largest fractions. The campus restaurant promotes sorting and reducing biowaste actively and sells leftover food to take home at reduced prices. Single-use takeaway cups are collected separately for carton recycling. Coffee grounds are also collected separately for recycling.

LUT Universities' waste disposal guide was updated in 2024. Cardboard, paper, plastic packaging, metal packaging, glass packaging, and e-waste are sorted for recycling. In general, the number of waste sorting containers has been increased, and their timely emptying is emphasised to increase the efficiency of waste management and recycling.

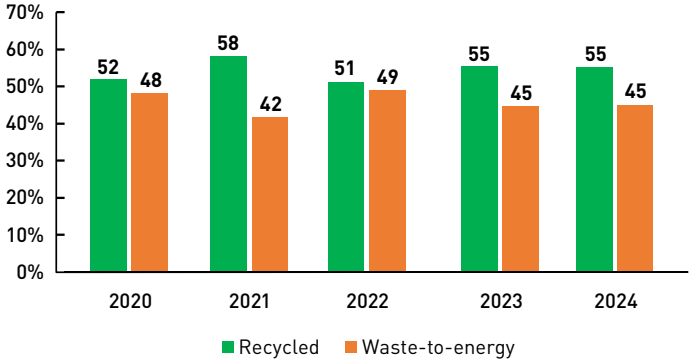
**Amount of waste [t]**




**Proportion of waste recycled [t]**




**Percentages of waste recycled and waste-to-energy**



# APPENDIX 1

## GOALS AND PERFORMANCE IN 2024

Our sustainability goals are included in our sustainable development action plan. We evaluate our progress and report on the achievement of our goals annually. Our performance in the year 2024 is summarised in the table below.

| Activity | Goal | Performance 2024 |
|---|---|---|
| **Scientific research** | The number of scientific publications related to LUT's strategic SDGs (6, 7, 8, 9, 12, 13) will increase. | Achieved |
| **Academic education** | 100% of LUT's new students will undergo an orientation related to sustainable development. | Ongoing |
| | All of LUT's degree programmes will develop students' expertise in sustainable development. | Ongoing |
| | 80% of LUT's courses are linked to at least one SDG. | Ongoing |
| | LUT's bachelor's and master's graduates estimate that their sustainability competencies have developed more strongly than other university graduates in Finland on average. | Achieved |
| **Sustainable campuses** | LUT aims to be carbon-neutral in 2024 (scopes 1 & 2) in accordance with its Climate Action Plan. | Not achieved |
| | LUT aims to strengthen the engagement and well-being of its diverse student and employee body. | Ongoing |
| **Societal interaction** | Junior University strengthens the sustainability competencies of children and youth in the region. Collaboration with schools and municipal education administration will be maintained and further developed. | Ongoing |
| | LUT increases the impact of its activity and promotes sustainable development in collaboration with its EULiST partner universities. | Ongoing |

# APPENDIX 2

## THE DETAILS OF LUT'S CARBON FOOTPRINT CALCULATION IN 2024

### SCOPE 1

Scope 1 emissions are direct GHG emissions from sources that are owned or controlled by LUT University. They include LUT's fleet, which in 2024 consisted of seven cars (three plug-in hybrid, three diesel, and one electric). Emissions were calculated based on the distance travelled and the car manufacturer's emission data. If manufacturer-specific data was unavailable, emission factors were sourced from the EMEP/EEA air pollutant emission inventory guidebook published by the European Environment Agency.

The factors provided by the manufacturers do not accurately represent the actual emissions of LUT's fleet, and the emissions are, in fact, underestimated. The fuel consumption declared by the manufacturers is commonly lower than the actual fuel consumption. Driving patterns, particularly long distances driven by plug-in hybrid cars, lead to higher fuel consumption than declared.

### SCOPE 2

Scope 2 includes emissions from purchased electricity. The emissions totalled zero, because LUT purchased exclusively renewable and carbon-neutral electricity in Lappeenranta and Kouvola. Lahti and Mikkeli are included in scope 3, category 8, since electricity there is included in the property rent. For district heating, see scope 3, category 8.

### SCOPE 3

**Category 1: Purchased goods and services**

The calculation of purchased goods and services is based on the annual financial statement, using the Environmentally Extended Input-Output (EEIO) method with domestic technology assumptions.

IT equipment was added to the inventory for the first time. This category includes emissions from desktops, laptops, and tablets purchased in 2024. The carbon footprint data was retrieved from Efecte. The information is provided for each device as stated by the manufacturer.

Emissions from food services on the Lappeenranta campus are calculated differently. The 2024 calculation includes the restaurant LUT Buffet and, for the first time, also Street Café. The emissions were calculated based on the goods procured, using the emission factors provided by the main supplier, Kespro. For all other suppliers, emission factors were taken from the climate impact dataset for the Finnish food service sector, available at https://etsin.fairdata.fi/dataset/50de6ed6-50ea-44ac-992a-c80e94a1a065.

The method is different to previous years, when the emission levels were calculated based on the number of lunches sold at LUT Buffet multiplied by an average emission factor of 2.225 kg $CO_2$e per lunch. With the older method of calculation, LUT's 2024 emissions related to food services would have been approximately 400 t $CO_2$e in 2024. However, the newer, more accurate method showed emissions of 693 t $CO_2$e. This suggests that LUT may have been underreporting its food service emissions for years.

**Category 5: Waste generated in operations**

The emissions from waste streams were calculated based on the weight of waste generated on the Lappeenranta campus and the emission factors for corresponding waste streams. The emission factors for hazardous waste and e-waste fractions were sourced from the WWF Green Office Calculator. For other waste fractions, carbon footprint data was received from the L&T Ympäristönetti system, covering waste handling, collection, and transportation.

**Category 6: Business travel**

The emissions from business travel include flights, rail travel, and hotel stays booked via LUT's travel service provider and business mileage driven in employee-owned vehicles. It should be noted that other forms of business travel, such as ferries, buses, taxis, flights, and train travel paid for through other channels are not currently included in LUT's carbon footprint, and so far, their share remains unknown.

The emissions from air travel were taken from the travel service provider's annual report.

The emissions from rail travel were calculated based on the total kilometres travelled (passenger km) and the emission factor for Finnish rail transport.

The emissions from hotel stays were calculated based on the number of room nights and the emission factor for the specified country. The emission factor does not account for the number of travellers staying in the room. The emission factors come from the Hotel Footprinting Tool available online at https://www.hotelfootprints.org/.

The emissions from business mileage driven in employee-owned vehicles were calculated by multiplying the total kilometres travelled by the emission factor for certain types of cars. LUT employees' vehicle types are determined based on LUT's commuting survey from February 2024. The cars owned by employees are 52% petrol, 23% diesel, 4% natural gas, 10% electric, 7% hybrid and 4% plug-in hybrid. The emission factors come from DEFRA – UK Government GHG Conversion Factors for Company Reporting 2023.

**Category 7: Employee and student commuting**

The emissions from students and staff commuting were estimated based on LUT's commuting survey results. The survey was carried out in February 2024 and concerned commuting patterns of LUT students and staff during 2023. Nearly 6% of students and 35% of staff responded to the questionnaire. The emissions from commuting were calculated by transportation mode (driving alone, carpool, bus, train, motorcycle, scooter/moped) based on the weekly distance travelled and the emission factor for the transportation mode. Students were assumed to commute 32 weeks and staff 45 weeks out of the year.

The emission factor for train travel comes from the VR Group Corporate responsibility report 2022. The emission factors for passenger vehicles and buses come from the LIPASTO database. The emission factors for hybrid and plug-in hybrid cars come from DEFRA – UK Government GHG Conversion Factors for Company Reporting 2023.

**Category 8: Upstream leased assets**

Under the GHG Protocol's operational control approach, category 8 includes LUT's emissions from electricity use on the Lahti campus and in the Mikkeli regional unit and district heating on the Lappeenranta and Lahti campuses and in the Mikkeli regional unit. Because LUT does not have contracts with the electricity and district heating providers in these locations, it lacks operational control and must report these emissions under scope 3.

The emissions were calculated based on electricity/district heating consumption and market-based emission factors, which reflect the contractual arrangements. Electricity purchased in Lahti and district heating in Lappeenranta are carbon neutral.

There are no separate district heating meters for spaces rented by LUT on the Lahti campus and in the Mikkeli unit. Therefore, the district heat consumption was estimated based on the share of floor area rented by LUT in the building and the total district heating consumption by the building. Additionally, there is no electricity meter in Mikkeli (Lönnrotinkatu 7) for spaces rented by LUT. The electricity consumption was estimated based on the share of floor area rented by LUT in the building and the total electricity consumption by the building.

LUT University

# LAND OF THE CURIOUS