



Report on

SUSTAIN- ABILITY

2016–2018

Report on

SUSTAIN- ABILITY 2019

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IN FIGURES 2018

1969

founded in 1969, combining
technology and business
from the start

925

scientific publications

5200

Bachelor's, Master's and
doctoral students

80

million euros in funding:
Ministry of Education and Culture
€ 45 million, supplementary funding
€ 35 million

926

staff members

81

nationalities on 2 campuses

20%

of incoming students are
international

2

campuses:
Lappeenranta and Lahti

SUSTAINABILITY AT LUT UNIVERSITY

LUT is committed to considering its environmental, financial and social responsibility in all of its activities: scientific research, academic education, societal interaction, and supporting functions at the LUT Green Campuses in both Lappeenranta and Lahti. This report presents the main goals and progress in these areas from 2016 to 2018.

LUT's official commitments to sustainability:

- » LUT's environmental policy gives the framework for sustainability activities at the university.
- » The Green Campus is our way of thinking and operating and where interdisciplinary research and teaching are utilised to increase our positive impact on sustainable development and to decrease our environmental load.
- » LUT participates in Society's Commitment to Sustainable Development with the aim of becoming the best university workplace in Finland.
- » In 2012, the university was awarded the WWF Green Office certificate. The certificate has been renewed through an external assessment in 2019.
- » LUT offers a sustainable and attractive working environment for researchers in accordance with the European Commission initiative HRS4R - Human Resources Strategy for Researchers. LUT has possessed an HRS4R quality label since 2013, and it has been renewed in 2019.
- » LUT's environmental system was certified in 2014-2017 and has been continuously maintained and developed according to best practices.
- » LUT was awarded in the International Sustainable Campus Excellence Award competition as the best university in the Excellence in Campus category in summer 2013. The award has encouraged sustainable campus development.

**SUSTAINABLE
DEVELOPMENT GOALS**

SUSTAINABILITY AT LUT UNIVERSITY

By our strategic choices, we strive to impact sustainable development globally.

The Trailblazer 2020 strategy seeks answers to four questions through scientific research activities and academic education in LUT's School of Energy Systems, School of Engineering Science and School of Business and Management.

THE KEY QUESTIONS ARE:

- » Are we going to burn up everything?
- » Will waste be the grave of our future?
- » Is humanity condemned to suffer from the water it has polluted?
- » Will we let Europe degenerate to the world's backyard?



LUT UNIVERSITY

The Lappeenranta-Lahti University of Technology LUT is a pioneering science university in Finland, bringing together science and business since 1969.

We typically set very ambitious targets: we are interested in tasks that others may consider impossible. Because of

our trailblazer spirit, we are often in the vanguard and address issues based on our ability for renewal and our visionary outlook.

Our international community is composed of approximately 6 500 students and experts engaged in scientific research

and academic education. As a compact, agile, and highly focused university, we strive to build a financially, ecologically and socially sustainable world together with our partners in cooperation.

LUT opened a new campus in Lahti in August 2019.

OUR VALUES | COURAGE TO SUCCEED. PASSION FOR INNOVATION THROUGH SCIENCE. WILL TO BUILD WELL-BEING.



SUSTAINABILITY IN SCIENTIFIC RESEARCH

GOAL: LUT will conduct and publish high-level research which improves the state of the environment and is relevant to society and industries. We contribute to an economically, ecologically and socially sustainable society in our research areas together with our partners in cooperation.

- » On average, at least 65% of our publications involve sustainable development.
- » Clean energy and water, a circular economy, and sustainable business and entrepreneurship involve the key questions to which we seek solutions through technology and business expertise.
- » LUT schools conduct interdisciplinary research between in research platforms established in 2015-2016.
- » We communicate about the importance of openness in science to support the development of our culture. In 2016, the Finnish Ministry of Education awarded LUT for the best progress in openness in science among all Finnish research organisations.
- » Examples of LUT research promoting sustainability:
 - Food from air: production of single-cell protein with electricity and CO₂
 - Energy system based on 100% renewable energy
 - Removal of drug residues by wastewater purification technologies
 - Fibre-based packaging to mitigate plastic pollution
 - Personal carbon trading scheme for mobility
 - Internationalisation and growth of Finnish cleantech SMEs
 - Sustainable business models
 - Sustainable supply chain management

SUSTAINABILITY IN ACADEMIC EDUCATION

GOAL: LUT's graduates will be academics and decision-makers with expertise in sustainable development. By using their knowledge, skills and competences, they will contribute to sustainable solutions and practices wherever they work.

- » LUT degree programmes have increased their commitment to develop their students' sustainability knowledge, skills and competences. The share of degree programmes with sustainability-related intended learning outcomes has increased from 54% in 2017 to 72% in 2019.
- » Every autumn, all new students undergo a Green Campus orientation. This orientation is based on the strategic focus areas of LUT research and helps LUT students to develop a sustainable mindset.
- » Through a strong commitment to digitalisation in education, LUT has developed great possibilities to study online without the need for attendance on campus.
- » According to the Graduate Surveys of 2016-2018, the sustainable development expertise of LUT graduates at the Bachelor's, Master's and doctoral levels has increased steadily. Moreover, LUT has succeeded in improving its graduates' sustainability competences more than competing Finnish universities.
- » LUT collaborates actively with its stakeholders to provide and develop a sustainable environment in which LUT students can live and study. For example, the LOAS housing foundation provides sustainable and energy efficient housing solutions for students, and the Finnish Student Health Service supports student health and well-being.
- » Examples of LUT's engineering degree programmes promoting sustainability:
 - Master's Programme in Bioenergy Systems
 - Master's Programme in Energy Conversion
 - Master's Programme in Biorefineries
 - Master's Programme in Water Technology
 - Master's Programme in Sustainable Production in Mechanical Engineering
 - Master's Programme in Sustainable Science and Solutions
 - Master's Programme in Circular Economy
- » The education and research of the LUT School of Business and Management focuses on sustainable business renewal. The school is committed to the United Nations' Principles for Responsible Management Education.



SUSTAINABILITY IN SOCIETAL INTERACTION

GOAL: LUT bases its collaboration with companies on a strong international entrepreneurship ecosystem and an international process for the commercialisation of innovations involving students, alumni, investors and enterprise networks.

- » The core business ecosystem includes LUT's research and education units, LUT's business accelerator Green Campus Open (GCO, established in 2017), the J. Hyneman Center (JHC, 2018) for rapid prototyping, the LUT Entrepreneurship Society LUTES, and the cleantech seed investor Green Campus Innovations Ltd (GCI).
- » We create sustainable solutions for society and industries: new business models, inventions and patents, new products and spin-off companies. We have reported numerous high-impact success stories, and tens of globally used sustainable products stem from our research.
- » LUT research results in about 60 inventions annually. LUT applies for patents actively, being second of the universities in Finland.
- » Roughly five research-based spin-off companies are established each year. In 2018, there were 48 active spin-offs, which had been established at least three years ago.
- » In addition, LUT graduates establish tens of other spin-off companies every year without systematic support from GCO or GCI.
- » Financing for 2018: core funding by the Ministry of Education: € 45.5 million; supplementary funding: € 34.9 million. This demonstrates the high impact of LUT's research on the society.
- » The Junior University incorporates LUT's sustainability contents into the curricula of local schools. The Junior University consolidates the knowledge of and skills in sustainable development among the region's children and youth – 3500 students a year.
- » LUT is a member of the highly regarded sustainable development networks in Finland and internationally, e.g. the International Sustainable Campus Network, the Nordic Sustainable Campus Network, the United Nations' Principles for Responsible Management Education, Network for Business Sustainability, Finnish Business & Society.





SUSTAINABILITY AT THE LUT GREEN CAMPUS

GOAL: LUT aims to create a campus culture that reduces our environmental load and carbon footprint.

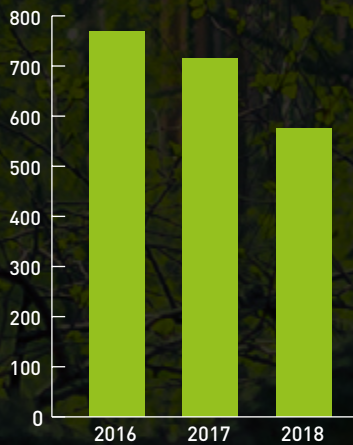
- » The Green Campus demonstrates how science, technology and business can help to provide solutions to ecological problems and build a sustainable world.
- » LUT monitors, measures and regularly reviews its impact on the environment.
- » All LUT units have adopted an environmental management system, and Green Campus activities will be applied on both the Lappeenranta and Lahti campuses.
- » LUT's solar panels produce almost 7% of the electricity LUT consumes, and 100% of LUT's purchased energy is renewable.
- » LUT takes environmental responsibility into consideration in all procurements.
- » Campus restaurants have increased their sustainability e.g. by decreasing food waste with the ResQ mobile application.
- » LUT has renewed its waste policy and improved the instructions for the separation of waste.

SUSTAINABILITY AT THE LUT GREEN CAMPUS

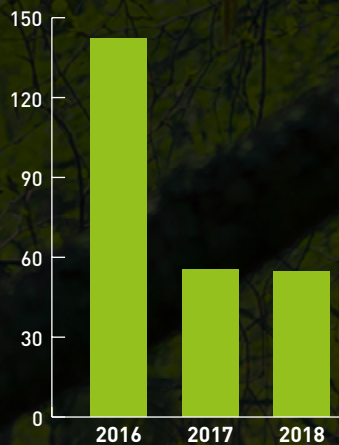
We have reduced our energy consumption, water usage, photocopying, air travel and waste.

Figures on the Lappeenranta campus by ilmastolaskuri.fi

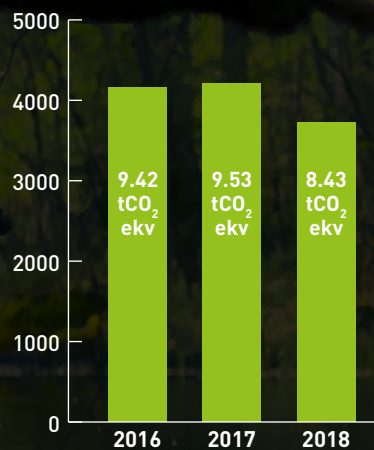
Energy
tCO₂ ekv



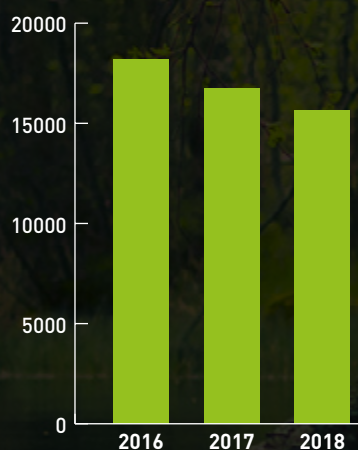
Waste
tCO₂ ekv



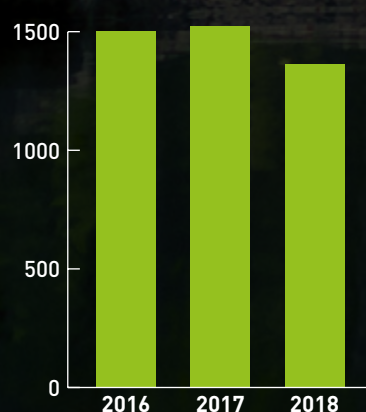
Paper
Ream



Water
m³



Air travel
tCO₂ ekv



Our operational carbon dioxide emissions have decreased from 2016 to 2018 by over

17%

2424 tCO₂ ekv
↓
2005 tCO₂ ekv

FUTURE: A CARBON NEGATIVE LUT BY 2024

LUT University has set more ambitious sustainability goals. LUT is committed to carbon negativity by 2024 and will not settle for carbon neutrality.

LUT is preparing a plan to reach this objective using its own research expertise. The goal is achievable by continuously producing technological solutions for carbon negative operations.



Watch a video:
[Carbon negative LUT campuses by 2024](#)