

# **Sustainable Campus Charter Report of Aalto University 2015 ISCN-GULF**

# Responsibility at Aalto University

Responsibility and sustainable development are key points in Aalto University's strategy and values, and the University strives for responsibility in all its activities. Aalto's working group on sustainable development supports the development of the University's different activities and responsible modes of operation, as well as the University's responsibility reporting. In autumn 2015, representatives from all the University's key services and core functions were appointed to the working group.

Aalto University is a member of the International Sustainable Campus Network (ISCN), and complies with the reporting charter endorsed by the ISCN, on which Aalto University specifically emphasises teaching, research and artistic activities. This report uses the ISCN's three key principles to report for the purpose of demonstrating Aalto University's responsibility and compliance with sustainable development. However, our report first covers our focus areas, teaching and research (Principle 3), before presenting the environmental (Principle 1) and indirect impacts of campuses (Principle 2).

## PRINCIPLE 3: Teaching, research and societal impact

### Teaching and learning

Aalto University's objective is to integrate responsibility and sustainable development into all teaching and learning. A report, which will be completed in spring 2016, surveys how responsibility and sustainable development are evident in the objectives of the University's degree programmes. In 2016, Aalto will also strive to create a module for the internal education of teachers, aiming to lower the threshold for integrating the practices of responsibility and sustainable development into one's teaching work. Responsibility and sustainable development can be part of the practices or the content of teaching and learning.

A total of 47 courses are taught at Aalto University that include the terms responsibility, sustainable development and/or environment (referring to protection of the environment) in their names. In addition to these special courses, numerous other courses have content related to the theme. Sustainable development and responsibility are key areas of focus in the Aalto University Creative Sustainability Master's Programme and the Aalto Global Impact unit. Sustainable Global Technologies in turn is a three course module, which emphasises the roles of sustainable development and technology in the global world. Aalto University also offers courses related to the theme through its partnering institutions.

Many of the University's student projects also produce new information and applications that promote sustainable development and responsibility.

- **The Sustainable Entrepreneurship course** held in autumn 2015 focused on finding methods for integrating asylum seekers into Finnish society and for supporting their prerequisites for entrepreneurship. According to interviews carried out by students, many asylum seekers have a background in entrepreneurship and they are interested in continuing as entrepreneurs in Finland. For example, the students suggested that the entrepreneurship potential of asylum seekers could be improved by offering them office space with other entrepreneurs. Different actors could also be activated to help with the accessibility of information pertaining to entrepreneurship. Asylum seekers were also welcome to participate in the discussion day organised at the end of the course.
- **A group of Aalto students** from the fields of technology, business and arts were assigned the task of examining different future scenarios as part of a company project in 2015. The purpose of the project was to envision the kind of world that the technology company Outotec will operate in 2050, taking into account political, economic, social, technological and ecological perspectives. Scenarios also included suggestions on which direction Outotec's activities could be taken in with the prevailing conditions. One of the project's outcomes was a glass sculpture that depicts the future. The project is part of Aalto University's environmental commitment, the aim of which is to encourage Aalto's partners to familiarise themselves with the perspectives of sustainable development.
- **In autumn 2015, the Aalto University Media Lab** created an interactive pedagogical game, where the player's objective is to carry threatened species lovingly to safety. The motion tracker-based Move or Die game for both adults and children was part of the Change in the Air exhibition organised by the University of Helsinki at the Finnish Museum of Natural History, which focuses on climate change.

## Research and artistic activities

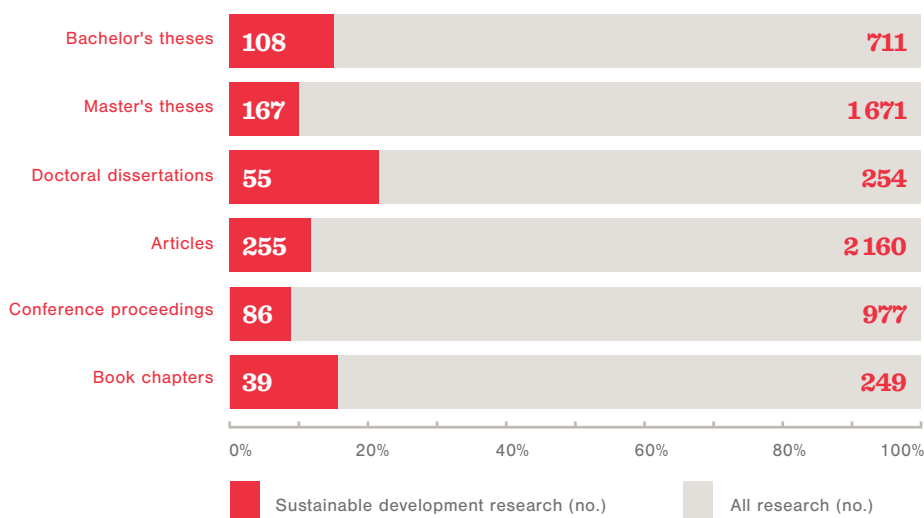
Responsibility and sustainable development are apparent in the themes, content and results, as well as in the processes and practices involved in Aalto University's research and artistic activities. Aalto University's key areas of research are linked to clearly identified social challenges. The key areas include ICT and digitalisation, materials and sustainable use of natural resources, global business dynamics, as well as art and design. In addition to these, the University invests in three integrative multidisciplinary themes: advanced energy solutions, health and wellbeing as well as human-centered living environments. Based on research, Aalto creates expertise and new solutions which are part of the University's societal impact.

Aalto University has many research groups that focus on responsibility and sustainable development, and the themes are researched in all the University's Schools. The University's artistic activities also include several projects in which responsibility and sustainable development form the core.

- **A research group at the School of Engineering headed by Professor Mika Järvinen**, including researchers Arshe Said and Sanni Eloneva, created a revolutionary industrial innovation, which converts carbon dioxide and the by-products of steel manufacture into important raw materials for industry; precipitated calcium carbonate. The research results have significant impact on the environment, and the group's results are now in the process of being commercialised. The group was granted the Caltech University Resnick Institute's Resonate Award in 2015 for this research project.
- **In June 2015, Professor Maarit Karppinen's research group** at the Aalto University School of Chemical Technology won the Helsinki City Scientific Award for its research work with functional oxide materials. The materials play an important role in matters such as energy technology that conserves the environment.
- **The Hard Rain project, which was carried out in autumn 2015**, centred on environmental change from the perspective of art. The project included exhibitions, a seminar and theme-related art work.

In 2015, a total of 341 peer-reviewed articles and conference papers on the subject of sustainable development were published in the University. This is approximately 11% of all the University's publications. Aalto University's Library has developed an extensive word search application that recognises publications related to sustainable development and responsibility. In addition to research that focuses on the theme, numerous Aalto University research projects are indirectly linked to sustainable development via e.g. utilisation of research results.

## Publications related to sustainable development, number and share of all publications, 2015



## Societal impact

Aalto University makes an effort to actively find solutions for social challenges within the framework of its expertise. In 2015, reception of the growing number of asylum seekers became a key social challenge. Aalto University made a decision to support the integration of asylum seekers in Finnish society with numerous different projects, in which the multidisciplinary of Aalto supports the creation of new ways of understanding and new approaches.

- **A research group headed by Tuuli Mattelmäki**, a Professor of Service Design at Aalto University, and Researcher Helena Sustari developed statutory service processes for immigrants. They organized several service design workshops that engaged various actors involved in the service path.
- **The theme of an Argumenta project headed by Professor Matti Häyry** from the Aalto University School of Business is fairness. The project funded by the Finnish Cultural Foundation organises symposiums intended for researchers and decision-makers as well as events for the general public. The aim of these events is to kick start conversation on the position of fairness in people's everyday mindset and in political decision-making.

Aalto University is a member of numerous international university networks including the International Sustainable Campus Network (ISCN), the Nordic Sustainable Campus Network (NSCN) and the Global Alliance. In summer 2015, Aalto University also became a member of the European Institute of Innovation and Technology's (EIT) climate expertise and innovation community (Climate KIC, Nordic Node). The cooperation project will include climate change related teaching, as well as innovation and entrepreneurship activities. Aalto University has also signed the universities' Rio+20 declaration.

A proposal that over 6,000 universities and institutions of higher education signed via the Global Alliance was published at the United Nations' Climate Change Conference COP21 in Paris last December. The purpose of the proposal was to encourage decision-makers to strengthen the role of research and education, as well as set more tangible objectives for the prevention of climate change. The Nordic Sustainable Campus Network (NSCN), founded and coordinated by Aalto University, has participated in drawing up the letter. In 2015, the NSCN also published a report that mapped out the state of sustainable development of universities.

## PRINCIPLE 1: Environmental impact of campuses

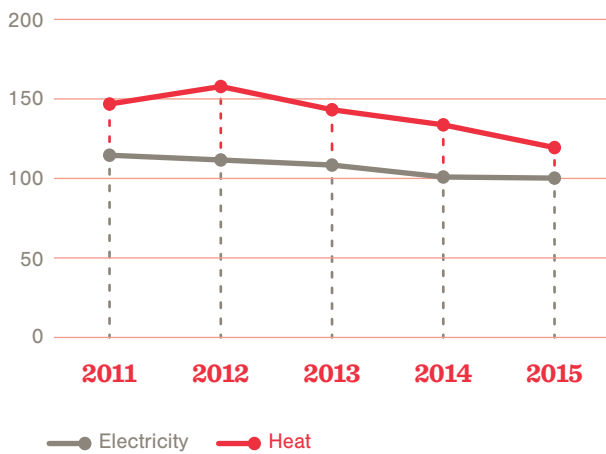
The key environmental impacts of campuses are related to energy consumption, transport and recycling. Campuses operating in line with the principles of sustainable development are a key part of the University's campus strategy. Aalto University campuses actively work to develop the energy efficiency of their present building base and to decrease energy consumption. Aalto University Properties Ltd is responsible for three-quarters of the premises used by the University, and the intention is to cover all the premises of significant scope used by the University in reporting. Aalto University Properties Ltd also invests in producing its own energy in an environmentally-friendly manner. The objective is for the Otaniemi Campus to be energy self-sufficient by 2030.

Key achievements in 2015 included:

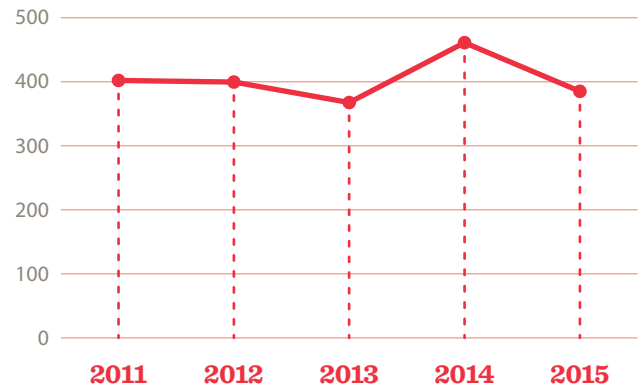
- **The Maarintalo solar energy project** was completed and the Otaniemi-based building's solar energy is 103 KVP. ACRE is also looking into the possibilities of geothermal heating.
- **A survey found that 49% of students and 39% of staff** on the Otaniemi Campus used public transport. Campus bikes area also made available for the university staff.
- **The Barrier-Free Finland (Esteetön Suomi) prize for 2015** was awarded to Aalto University's Undergraduate Centre building in Otaniemi. During the planning phase of the repair and alteration work for the building, personnel and students were invited to take part in the process and the Espoo Council on Disability was consulted. Renovations involved work to ensure unhindered access from the entrances to all floors and to the front stages in lecture halls, which are protected by law. Special attention was also given to lighting and guidance signs.

Aalto University's activities predominantly focus on the premises of Aalto University Properties. Aalto University's energy, electricity and water consumption has evened out and it is evident that energy efficiency measures have produced results. The total energy saving target for Aalto University Properties Ltd was achieved in 2015, energy savings were 5885 MWh, 110 % of the target.

**Per capita consumption of electricity and heat, Aalto University Properties Ltd (kWh/brm<sup>2</sup>)**



**Per capita consumption of water, Aalto University Properties Ltd (l/brm<sup>2</sup>)**

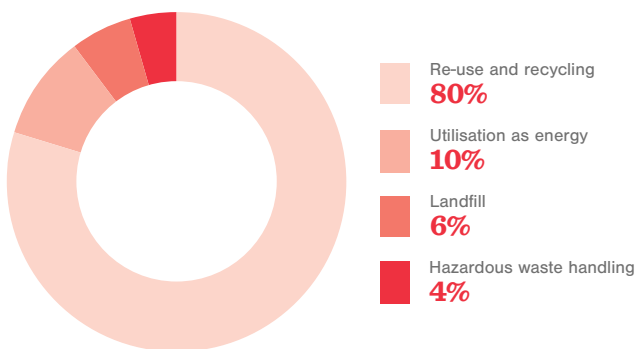


**Electricity, heat and water consumption in facilities by campus**

	Electricity (Mwh)		Heat (Mwh)		Water (m <sup>3</sup> )	
	2014	2015	2014	2015	2014	2015
Otaniemi	30 818	29 819	42 186	38 698	135 302	112 486
Töölö	2 204	1 868	3 911	3 378	12 852	12 284
Arabia	2 350	2 399	6 238	5 595	27 341	23 015
<b>Total</b>	<b>35 371</b>	<b>34 086</b>	<b>52 334</b>	<b>47 671</b>	<b>175 495</b>	<b>147 784</b>

Aalto University has invested in the reuse of waste. In 2015, 90% of waste from the University’s facilities was utilised as materials or energy, maintaining the level reached in 2014.

**Waste amounts of Aalto University according to handling method, 2015**



## PRINCIPLE 2: Campus planning and indirect impacts

Responsibility is taken into account in all Aalto University's daily activities and support services. The working group on responsibility and sustainable development supports work to develop the University's different activities and responsible modes of operation, as well as the University's responsibility reporting.

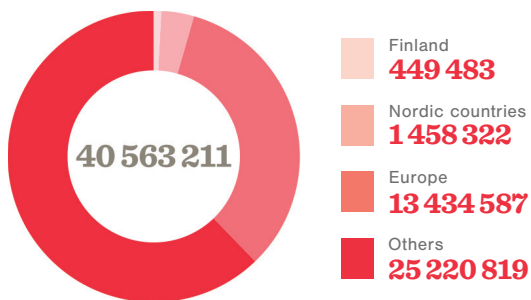
For example, in University restaurant services the aim is to increase the amount of food from local suppliers when possible, and the University IT services have developed distance working possibilities and tools.

The orientation entity for new students includes a section on responsibility and sustainable development. Additionally, both students and employees are given practical instruction on the realisation of sustainable development on campus.

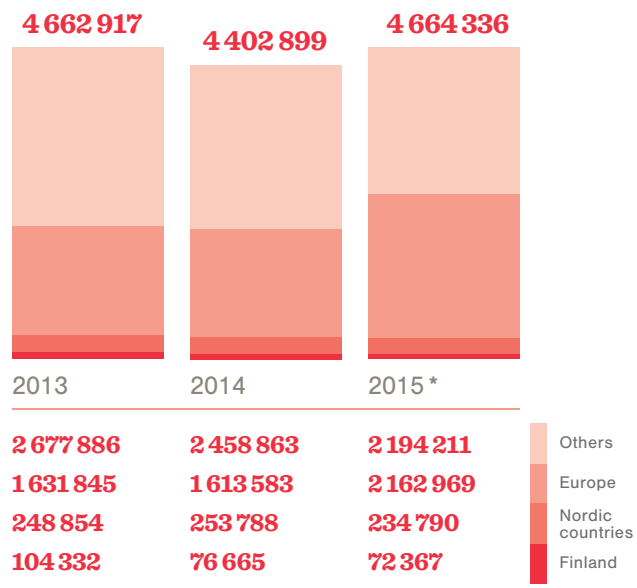
Aalto University complies with the Public Procurement Act in matters related to the responsibility and environmental aspects of its acquisitions. Campus development work also takes into account biodiversity and protected areas, as well as developed campus gardening and maintained a garden for decaying wood. Aalto University's investment activities integrate ESG factors into investment processes and risk analyses. In 2015, Lauri Ehanti from Aalto University was chair of Finland's Sustainable Investment Forum (FinSIF), a scientific working group that promotes responsible investment. University has recently updated its equality and diversity plan.

Air travel accounts for a significant portion of the University's carbon footprint. On the other hand air travel is a prerequisite for internationally notable research activities.

### Distance of the flights (km), 2015



### CO<sub>2</sub> emissions of the flights (kg)

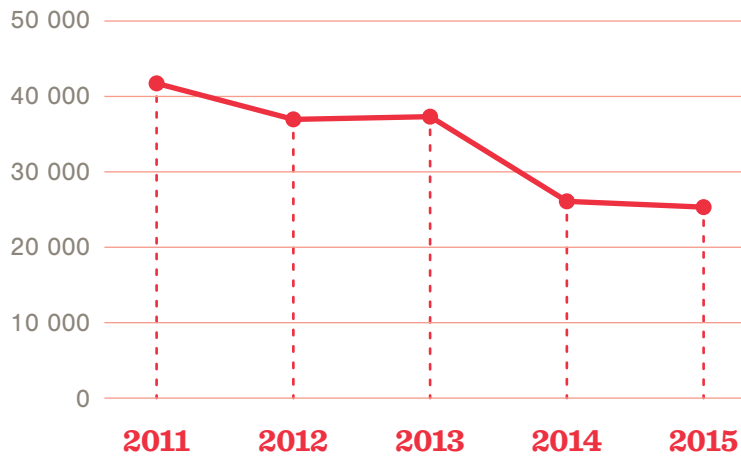


\* Increase of the emissions in 2015 was caused by a change in the emission factors, regarding especially Europe. Combined distance of the personnel flights has not increased between 2013–2015.

Aalto has made an effort to decrease paper consumption as part of recognising responsible approaches in the University's daily activities. The drop in paper consumption has evened out after 2014.

### Copy paper consumption

—● Amount (package)\*



\* One package contains 500 sheets

In order to summarize the direct and indirect environmental impact of the campuses, the greenhouse gas emissions of the University are estimated in the table below.

### Greenhouse gas emissions of Aalto University (tCO<sub>2</sub> eq.)

including the consumption of electricity and heat, as well as personnel flights

	2014	2015
Electricity consumption in facilities	1 678	1 426
Heat consumption in facilities	9 734	8 867
Personnel flights	4 403	4 664
<b>Total</b>	<b>15 815</b>	<b>14 957</b>

## More information:

[aalto.fi/sustainability](http://aalto.fi/sustainability)

### **Annikka Jyrämä**

Relations Manager, PhD, Doцент

+358 50 373 2238 / [annukka.jyrama@aalto.fi](mailto:annukka.jyrama@aalto.fi)

### **Aalto University**

P.O.Box 11000

FI-00076 Aalto