



# Environmental reporting 2013

Miljörådet



Stockholms  
universitet

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### Words from the President

In the spring of 1997, Stockholm University became a pilot agency commissioned to introduce an environmental management system. During the same year the Vice-Chancellor of that time, Gustaf Lindencrona, decided on the establishment of an environmental council to coordinate the work and I accepted the presidency. At that time I was unaware of the challenges ahead of us.

As a basis for the environmental management we had an action programme "From insight to action" which was prepared by a committee with representatives from the four faculties. The programme identified how the University could take up the assignment in the most appropriate manner and the areas which required improvement.

We started by adopting the University's environmental policy, environmental targets and environmental action plan for the work. Then we ensured that there were environmental representatives out in the operations, as without involvement of employees you cannot achieve anything in the environmental management. We organised internal courses and other activities on environmental issues. One activity entails the environmental and health campaign in which employees were challenged to cycle and walk for a week instead of using public transport or driving.

Now the University is at the finishing line and will be certified in accordance with the environmental management standards ISO 14001 and EMAS. We would not have been able to achieve this without support and commitment by the management and employees in the environmental management. I am delighted and feel slightly nervous about welcoming the external environmental auditors in the spring term of 2014.

## About the University

At Stockholm University teaching and research are conducted within the areas natural sciences and humanities/social sciences spread across four faculties with approximately 70 departments, institutes and centres.

The students can choose between 180 programmes and 1,500 independent courses within the humanities, law, teacher training, natural sciences, social sciences and languages. The strong connection between research and teaching guarantees the high quality of education.

Researchers at the University are active in debates and social development and are appointed in government commissions. Researchers participate in media, provide comments on official reports for legislative proposals and are a part of several Nobel committees as well as international expert bodies.

The University is located in a national city park with a unique natural and cultural environment but is also close to the city and its offering. Approximately 30,000 students and 4,500 employees visit the University area on a daily basis.

# Stockholm University's environmental policy

*Adopted by the Vice-Chancellor on 23 September 2010. The environmental policy applies up until 01/09/2015.*

Stockholm University, located in the world's only national city park, is Sweden's largest university. At the University internationally distinguished research and teaching are conducted for the environment within natural science, social science and interdisciplinary disciplines. The goal is to be a leader in teaching and research on the environment and sustainable development.

In order to highlight and work in a structured manner with reducing direct and indirect negative environmental effects, Stockholm University works based on the established environmental management system standards ISO 14001 (2004) and EMAS, which entail an undertaking for continuous improvement of environmental performance.

In order to increase the positive environmental effect, Stockholm University should create awareness and commitment for the environmental issue within the University sphere and the surrounding community.

In striving to achieve continuous improvement, Stockholm University should:

- Work towards ensuring that aspects concerning the environment and sustainable development are considered in all decisions which are taken, regardless of level and area
- Actively collaborate with students, students' union, the surrounding community and other stakeholders in the contexts related to the environment and where environmental management can be improved.
- Ensure that adequate resources are assigned to the work on continuous improvement of environmental performance and that these resources are used in the most efficient manner.
- Continuously monitor measures to reduce the use of natural resources and reduce emissions to the air, ground and water caused directly or indirectly by the operations.
- Without exception, comply with the laws and minimum requirements imposed on all areas of the operations and, where possible, work based on higher requirements.
- Ensure that all employees, regardless of employment form, are aware of the significance of structured environmental management, and receive relevant training on these issues.
- Ensure that this policy forms the basis of the University's environmental targets, that it is communicated to all employees and is easily accessible to the public and other

stakeholders such as students and collaboration partners, and that it is continuously revised by the management of Stockholm University to correctly reflect targets and aims for the environmental area.

## The University's environmental management system

Stockholm University works in accordance with the environmental management standards ISO 14001 and EMAS. This means that the University works with environmental issues in a structured manner and the environmental performance of the operations is monitored. The University's management decides on which improvements should be made.

Everyone at the University participates in the environmental management. An environmental council, appointed by the Vice-Chancellor, is at the top of the environmental organisation. The Council coordinates and monitors the environmental management at an overall level. The University's environmental coordinator is the Council's official.

The area councils and administration have environmental organisers who coordinate, supervise and support the environmental representatives of the units. The task of environmental representatives is to coordinate and inform about environmental management at the unit level.

## Identified environmental aspect areas

The University has identified the activities which impact the environment both in a positive and negative manner, referred to as 'significant environmental aspects.' These activities have become focus areas for the University's environmental management and improvements are made there. The work includes creating optimal meetings to reduce the emission of greenhouse gases of business travel and promote environmental and sustainability issues within education.

The significant environmental aspects are:

- Research, education and collaboration with the surrounding community
- Energy usage
- Usage of office devices
- Travel and transport

- Purchasing and procurement
- Skills development for staff
- Material usage
- Waste management
- Chemical usage
- Emissions to water

## Environmental target management and results

The results of environmental management for 2013 and how well the University attained its environmental targets are presented below. The targets applied between 2012 and 2013. Some examples of activities conducted during the year are also presented.

### Waste management

#### *Target*

The amount of combustible waste at Stockholm University should reduce by 10 per cent compared to the level of 2010.

#### *Results*

The total amount of combustible\* waste has declined by 5.5 per cent compared to the level of 2010. Calculated per full-year employee, the amount has declined by approximately 20 per cent and per full-year student by approximately 5 per cent.

\*Unsorted household waste which is thrown in waste paper baskets and waste which cannot be recycled.

#### *Activities during the year*

Every year a lot of food and drink packages are generated at the University area, which is a result of the grab n' go culture. The University has worked to increase the sorting of these packages. Now students and other visitors can sort waste at source at any of the sorting at source stations. Evidence of increased sorting is the amount of sorted plastic packages. They increased from approximately 1.5 tonnes to approximately 17 tonnes between 2012 and 2013.

Table Amount of combustible waste

<i>Year</i>	<i>Total in kg</i>	<i>Kg/full-year employee</i>	<i>Kg/full-year student</i>
<b>2013</b>	<b>489,271</b>	<b>111</b>	<b>16.6</b>

<b>2012</b>	<b>480,275</b>	<b>111</b>	<b>16.3</b>
<b>2011</b>	<b>500,296</b>	<b>122</b>	<b>17.1</b>
<b>2010</b>	<b>515,900</b>	<b>134</b>	<b>17.4</b>

## Energy usage

### *Target*

Stockholm University's electricity usage should not increase per square metre compared to the level of 2010.

### *Results*

Electricity usage increased by 1 kWh per square metre compared to the level of 2010. The usage per full-year employee declined by approximately 903 kWh but increased per full-year student by approximately 26 kWh. The target was not attained.

### *Activities during the year*

During the year the University's IT department worked with a virtualization project which entails a reduced number of computer servers in use. The result of this work is lower usage of energy for operation and cooling. At other units they have reviewed their electricity usage habits and taken measures to save electricity. Some examples are new procedures for lighting over unutilised cultivation areas, installation of motion sensing switches and replacement of thick computer screens to flat ones and changed pre-selection settings on computers. The University continues the work on saving electricity.

Table Electricity usage

<i>Year</i>	<i>Total in kWh</i>	<i>kWh/full-year employee</i>	<i>kWh/full-year student</i>
2013	32,496,523	7,365	1,099
2012	32,475,755	7,490	1,103
2011	32,210,127	7,852	1,107
2010	31,896,545	8,268	1,073

## Travel and transport

### **Air travel**

#### *Target*

Up until 31/12/2013, Stockholm University should reduce the emissions of carbon dioxide from air travel by 3 per cent compared to the level of 2011.

#### *Results*

Emissions of carbon dioxide from air travel have increased by approximately 650,000 kg in comparison to the level of 2011. This is an increase of approximately 18 per cent. The

University's target for national and international collaboration is assessed as being the fundamental reason for the increase. The target was not attained.

#### *Activities during the year*

In order to reduce the emissions of carbon dioxide from air travel, units have worked to replace air travel with video meetings, video conferences and train. Furthermore, employees have been trained on conducting online meetings with Adobe Connect. The University's travel and meeting policy has been revised to influence employees to plan meetings taking the environment into account.

Table – Statistics on emission of carbon dioxide from the University's air travel

<i>Year</i>	<i>Number of km</i>	<i>CO2 emissions in kg</i>	<i>CO2 in kg/full-year employee</i>
<b>2013</b>	<b>39,758,208</b>	<b>3,556,834</b>	<b>806.2</b>
<b>2012</b>	<b>36,491,786</b>	<b>3,275,777</b>	<b>755.5</b>
<b>2011</b>	<b>31,942,357</b>	<b>2,904,821</b>	<b>708.2</b>
<b>2010</b>	<b>30,817,030</b>	<b>2,744,974</b>	<b>711.5</b>

### **Emissions of carbon dioxide from car travel**

#### *Target*

Stockholm University should have identified carbon dioxide emissions from car travel (own car, taxi, leased car and company car) and certain bus travel conducted on duty by 31/12/2012 at the latest.

#### *Results*

Emissions of carbon dioxide from car travel of employees have been partially identified. The reporting does not contain data on emissions from bus travel and rented cars. Car travel for 2013 contributed to approximately 126,000 kg of carbon dioxide emissions. The target was partially attained.

#### *Activities during the year*

Many of the University's employees travel by car on duty. This is often to transport equipment to field operations or media production. Several car journeys are conducted to deliver goods and collect waste sorted at source within the University area.

During the year the University has changed the procedures for accounting of local travel in the finance system. Furthermore, the units have improved their reporting of fuel consumption and number of driven kilometres with vehicles owned by the units.

## Rental cycles at the University area

### *Target*

Stockholm University should work towards ensuring that rental cycle stations are located at the University area.

### *Results*

As of August 2013 there are four rental cycle stations in the University area. There are three rental cycle stations in the northern Frescati area, by Allhuset and Södra huset and outside the underground station. There is one station in the southern Frescati area, in Kräftriket at Roslagvägen.

### *Activities during the year*

A collaboration between Akademiska Hus, Stockholm's student union and Stockholm University and Clear channel was initiated at the start of 2013. Places for placement of strategic areas for rental cycle stations were discussed. In May the parties agreed on localisation and in August the rental cycle stations were installed.

## Material usage

### *Target*

Stockholm University's consumption of copying paper should decline by 5 per cent compared to the level of 2010.

### *Results*

The University decreased its consumption by approximately 30 per cent compared to the level of 2010. The consumption has roughly halved per full-year employee since 2010. The target was attained.

### *Activities during the year*

Most of the measures to reduce the consumption of printing paper were conducted at the unit level. The units have changed print settings and procedures for printing and increased the use of reading pads and laptops during meetings, courses, etc.

Table – Consumption of copying paper

<i>Year</i>	<i>Total consumption in A4 sheets</i>	<i>Number of A4 sheets/full-year employee</i>
<b>2013</b>	<b>22,089,530</b>	<b>5,007</b>
<b>2012</b>	<b>22,647,715</b>	<b>5,223</b>

2011	27,581,736	6,724
2010	28,971,119	7,509

## Collaboration

### *Target*

Stockholm University should ensure that information on the ongoing environmental management is available for students on the University's website by 31/05/2013 at the latest.

### *Results*

In May 2013 the Environmental web was published which caters for employees, students and other stakeholders. The target was attained.

### *Activities during the year*

The Environmental web contains a tab "Green student" with information on student collaboration and how students can participate in the University's environmental management.

## Teaching

### *Target*

Stockholm University should make it clear for students which courses and programmes have elements of sustainable development in accordance with the Higher Education Act, Chapter 1, §5, by 31/12/2013 at the latest.

### *Results*

Two investigations were conducted to find proposals for methods to make it clear for students which courses and programmes have elements of sustainable development. In December the University management decided on the continued work. The target was partially attained.

### *Activities during the year*

During the year two investigations were conducted to find proposals for methods to show elements of sustainable development in the teaching. The investigation resulted in two reports. In the first report the results were presented based on a questionnaire survey of the University's range of courses and programmes with the elements. Furthermore, a summary was provided of how other institutes of higher education work to make clear elements of sustainable development. The survey responses revealed that a number of institutes already make clear elements of sustainable development in their courses and programmes. In the second report a proposal was presented for procedures for the University to integrate and make sustainable development clear within education.

## Research

### *Target*

Stockholm University should measure its scientific production within sustainable development by examining usage of selected subject headings/key words over a fixed period of time.

### *Results*

The target of measuring scientific production within sustainable development by examining usage of selected subject headings/key words over a fixed period of time was attained.

### *Activities during the year*

A bibliometric study was conducted in the spring of 2013. The study was based on a list containing used subject headings/key words during publication of scientific production within sustainable development. The list was prepared together with representatives from the four faculty departments (equivalent). The results of the study show how the concept has appeared and developed in the University's research. The study's publications were obtained from the database Web of Science. The study is based on a very broad and general definition of the concept sustainable development.

## The University's environmental indicators

The environmental indicators provide the Environmental Council a basis for assessing the University's environmental performance and identifying areas in environmental management which need to be improved. Every year the University conducts complete monitoring of the University's environmental management. Basic monitoring is conducted in May/June.

<i>Environmental aspect areas</i>	<i>Indicator</i>	<i>Results 2013</i>
<b>Research and education</b>	Environmental indicators are being prepared	Work is ongoing

<b>Skills development of staff</b>	Environmental indicators are being prepared	
<b>Purchasing and procurement</b>	Economic value of registered acquisitions with environmental requirements of the total value of registered procurements.	The purchasing system is being implemented. It is currently not possible to measure the University's acquisition.
<b>Waste management</b>	The number of kilograms of combustible waste per full-year employee (HA) and full-year student (HS) compared to the level of 2010.	<b>2010</b> HA: 134 kg HS: 17.4 <b>2013</b> HA: 111 kg HS: 16.6 kg
	Quantity of hazardous waste in kg compared to 2009.	<b>2009</b> 30,385 kg <b>2013</b> 20,871 kg
	Quantity of recycled waste (packages, waste paper etc.) compared to 2009	<b>2009</b> 373,370 kg <b>2013</b> 509,938 kg
	Quantity of electricity waste in kg compared to 2009.	<b>2009</b> 48,090 kg <b>2013</b> 31,065 kg
<b>Energy usage</b>	Total usage in kWh	<b>2009</b> 64,355,200 kWh <b>2013</b> 61,096,710 kWh
	Usage in kWh per full-year employee (HA) and full-year student (HS)	<b>2009</b> HA: 17,318 kWh HS: 2,248 kWh <b>2013</b> HA: 13,848 kWh HS: 2,067 kWh
	Usage in kWh per m <sup>2</sup>	<b>2009</b> 256 kWh per m <sup>2</sup> <b>2013</b> 236 kWh per m <sup>2</sup>
	Share of renewable energy	<b>2009</b> 78 per cent <b>2013</b> 87 per cent
<b>Usage of office devices</b>	Environmental indicators are being prepared (The Swedish Environmental Protection Agency's indicators for green IT)	
		Work is ongoing

<b>Travel</b>	Emissions of carbon dioxide in kg in total (T) and full-year employee (HA) per year for air travel (<500 km and >500 km), train journeys, bus journeys and car journeys.	<b>2009</b> T: 2,183,427 kg HA: 587.6 kg <b>2013</b> T: 3,556,834 kg HA: 806.2 kg
	Number of users of Adobe Connect compared to number of full-year employees (HA) and year.	<b>2011</b> 349 users of 4,102 HA Approximately 8.5 per cent of users compared to the number of HA <b>2013</b> 792 users of 4,414 HA Approximately 18 per cent of users
	Number of meeting minutes in Adobe Connect per user and year	<b>2011</b> 340 minutes per user and year <b>2013</b> 150
<b>Material usage in office operations</b>	Number of A4 sheets of copying paper in total (T) and full-year employee (HA) and year.	<b>2009</b> T: 42,112,000 A4 sheets HA: 11,333 A4 sheets  <b>2013</b> T: 22,089,30 A4 sheets HA: 5,007 A4 sheets
	Amount of chemicals in litres per year	<b>2009</b> 19,900 litres <b>2013</b> 18,000 litres
<b>Chemical usage</b>	Not possible to measure.	--
<b>Emissions in outlets</b>	Not possible to measure.	--
<b>Other</b>	Number of reported deviations/improvement suggestions	90 reported
	Number of serious deviations/improvement suggestions	0 reported
	Number of rectified deviations/improvement suggestions	64 rectified (5 deviations not solved and work is ongoing with 21 improvement suggestions)
	Environmental indicators for activities concerning collaboration with the surrounding community,	Work is ongoing

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	material usage in laboratory activities and transport as well as travel to and from the work have not been prepared.
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# Appendix 1-Reporting of core indicators for environmental performance in accordance with EMAS III

Each core indicator consists of the following:

A figure A which states the total annual discharge/impact within the specified area.

A figure B which states the organisation's total annual production. (As the University does not belong to the production sector but the sector management/services, the figure for productivity is stated in number of annual full-time workforce equivalent).

A figure R which states the relationship A/B

Area	Core indicator	A	B	R
Energy efficiency	Total direct energy usage (MWh).	61096.710	4,412	13.848
	Total renewable energy usage of total direct energy usage (87 per cent) (MWh).	53154.138	4,412	12.048
Material efficiency	Total usage of copying paper (tonnes).	132.537	4,412	0.030
	Total usage of chemicals in laboratory activities (tonnes).	18.000	4,412	0.004
Water	Total annual water consumption (m <sup>3</sup> ).	158,779.9	4,412	35.988
Waste	Total annual production excluding hazardous waste distributed among type of waste (tonnes):		4,412	
	Material recycling	509.938		0.116
	Energy recovery	489.271		0.111
	Landfill	14.435		0.003
	Electronics	31.065		0.007

	Unsorted	18.044		0.004
	Total annual production of hazardous waste (tonnes)	18.300	4,412	0.004
Biological diversity	Land use in built-up area (m <sup>2</sup> ).	280,900	4,412	63.667
Emissions	Total carbon dioxide emissions for business travel (tonnes)	3.558	4,412	0.0008

