



UiO : **University of Oslo**



# ENVIRONMENTAL STRATEGY 2013 | 2014 | 2015

University of Oslo

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# Preface

In Strategy 2020, the University of Oslo (UiO) has stated that it wants to establish itself as a green university by 2020. It will not be possible to achieve this goal without the participation of the Estate Department (ED). ED currently manages one-seventh of UiO's budget, and it is thus an important provider of premises for all the environmental work at UiO. ED's environmental strategy and action plan should reflect this.

Work on this strategy has been based on Strategy 2020, UiO's Environmental Policy, UiO's Annual Plan (2013–2016), strategies of key partners (Statsbygg), the Arnstad Report and several premise-defining political signals (EU directives) and guidelines at the UiO level (the climate forum "Næring for Klima", Rio+20 Higher Education Sustainability Initiative, etc.).

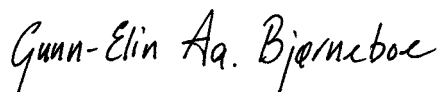
Network participation and collaborative solutions are necessary in order to develop the environmental competence of ED and provide inspiration for new ways of working and for environmentally oriented development projects at UiO and the rest of the local community. ED cooperates therefore closely with Green UiO and is a member of the Norwegian Green Building Alliance.

This document gives an account of our long-term environmental ambitions and goals. Environmental goals for two time horizons have been proposed, for the next three years (2013–2016) and for the period up until 2020, respectively. The long-term environmental goals (2020) act as guidelines for UiO's long-term environmental work, and provisions have been made for the revision of these goals as needed.

ED's environmental advisor has been responsible for the coordination and implementation of the process of defining an environmental strategy. ED's energy efficiency forum has revised the strategy and submitted it to the management of ED.



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PHOTO: UIO / FRANCESCO SAGGIO

# Introduction

*In order to live up to existing and future requirements and expectations, the Estate Department (ED) at UiO must establish and follow a future-oriented environmental strategy. This document proposes long-term environmental ambitions up until 2020 and secondary goals for the next three years (2013–2016). The secondary goals will be further specified for each year through annual action plans. The annual action plans will be based on the environmental strategy, but they will be published as separate appendices.*



PHOTO: UIO / FRANCESCO SAGGIO

## **BACKGROUND OF OUR AMBITIONS AND GOALS**

The background of this strategy is the increasingly rapid development of stricter requirements for the construction industry, our common moral responsibility for the increasingly threatening environmental challenges the world is facing, a desire to establish greater predictability for the planning of ED's own environmental work, and the need for a clear and effective inclusion of the environmental goals at the UiO level in ED's activities. The aim is to identify and strengthen the green theme of UiO's environmental work, from the national level down to the ground level at ED.

## **STRUCTURE OF THE PLANNING FRAMEWORK**

The time horizon of the proposed long-term environmental goals is up until 2020, and they should be normative for ED's long-term environmental work. The environmental goals and secondary goals for the period from 2013 to 2016 should provide the foundation for annual action plans. The annual action plans will, however, not cover all of the environmental work that takes place in ED, and ED

units are free to propose their own environmental goals in their annual plans, as long as they support the main focus areas of the environmental strategy, or are required due to statutory or safety-related reasons.

Measures should be taken to operationalise the long-term environmental ambitions and the three-year secondary goals. These measures are defined in ED's annual action plans, and included in the annual plans of the underlying units when appropriate. These annual plans state what environmental measures ED and its underlying units are to prioritise in their follow-up of environmental goals.

## **REPORTING**

The environmental advisor reports annually on the measures in the action plan in ED's annual environmental report. The environmental report is published and presented during the following half-year period.

## **A DYNAMIC DOCUMENT**

The environmental strategy extends over a long period of time. During this period, changes may take place that are important to ED achieving its goals. For example, this could be knowledge of new technology, amendments to the regulations, new framework conditions, etc. ED must therefore regularly compare the long-term goals of the environmental strategy with the framework conditions. Such an evaluation and updating/adjustment should be made at least every third year, and every time new technical regulations enter into force.

## **SCOPE**

This strategy encompasses energy, waste management, and water consumption for all of the owned and leased areas at UiO. Regarding the environmental aspects of climate change, all of the owned and leased areas, ED's own motor vehicles and transport for

# Summary

ED's own employees (air, rail, road, etc.) are encompassed by the strategy.

## OUR ENVIRONMENTAL STRATEGY CONSISTS OF:

- Vision 2020
- Goals for 2020 related to environmental aspects
- Secondary goals for the first action plan period (2013–2016)

More detailed specification per year will be carried out as part of the budget process, and it will be described in ED's annual action plans. The following four strategic focus areas or environmental aspects have been identified as the most important to ED, and will form the basis for environmental work up until 2020. Environmental aspects attributed to statutory or regulatory obligations that arise as a result of new legislation or regulations during the period will come in addition to:

- Energy (stationary energy consumption in all owned and leased buildings)
- Climate (stationary energy consumption and waste in all owned and leased buildings, transport for ED's employees)
- Waste (waste in all owned and leased buildings)
- Annual environmental aspects with special priority for 2013–2016: Energy Management, Environmental Management, Water Consumption

The environmental aspects have been chosen by comparing the following factors of influence: Environmental impact, frequency and quantity, laws and regulations, the attitudes of stakeholders and their opportunities to exert an influence (including economic conditions). The aspects with the three highest number of points were then selected. In addition, a decision was made to add a fourth variable environmental aspect that will have special priority for a period of one year.

## LONG-TERM GOALS UP UNTIL 2020:

DESCRIPTION (Note: See Section 3 for reference values)
UiO's energy consumption per square metre should be reduced by at least 15 per cent, compared with 2012.
Greenhouse gas emissions per square metre from stationary energy consumption (UiO) and transport (ED) should be reduced by at least 20 per cent, cf. 2012.
The source separation rate should be increased to at least 70 per cent.
The projects' relative environmental impact should be reduced annually during the period from 2016 to 2020.
Significant individual improvements should be made for the annual environmental aspects with special priority.

## SECONDARY GOALS FOR THE PERIOD FROM 2013 TO 2016:

DESCRIPTION (Note: See Section 3 for reference values)
UiO's energy consumption per square metre should be reduced by at least 10 per cent by 2016 (cf. 2012 level).
Greenhouse gas emissions per square metre from stationary energy consumption (UiO) and transport (ED) should be reduced overall by at least 10 per cent from the 2012 level by 2016.
The source separation rate should be increased to at least 50 per cent by 2016, cf. 2012.
Routine for the annual quantification and reporting of the projects' combined environmental impact introduced.


**(2013) Energy management:** Energy management introduced.

**(2014) Environmental management:** Environmental management introduced.

**(2015) Water consumption:** Water consumption reduced by 20% per square metre, cf. before the measures.







*The Estate Department at the University of Oslo should be the most capable and important actor with respect to environmentally oriented practical action in the Norwegian education sector.*

# 1 Vision

**The vision of the Estate Department at the University of Oslo should be something to strive for NOW and in the FUTURE:**

*– The most capable!*

Being capable means that you are good at what you do, in other words that you are practically oriented and get things done. This also means that you must have the competence required to make the right environmental decisions and establish a timely level of ambition based on current environmental challenges. The environmental strategy here defines this level of ambition.

*– The most important!*

ED has the size, competence and willingness required to achieve the position of being Norway's most important organisational unit in the Norwegian education sector in the area of the environment. This requires that initiatives are taken, that there is good external communication and that this desired status is envisioned in everything the unit does.

The goals of the strategy seek to reflect what is visionary in the vision so that it becomes an adopted truth over time.

# 2 Strategic focus areas

UiO's strategic focus areas for the period from 2013 to 2016 are described in greater detail in the following. Annual environmental aspects with special priority are also discussed.

## 2.1 ENERGY

Energy is defined here as energy used for the heating, operation and use of buildings by UiO. Energy as an environmental aspect is based on the following environmental goals and ambitions at the UiO level:

- UiO must reduce the consumption and environmental impact of energy as input factors.

### 2.1.1 REQUIREMENTS

Energy is a scarce commodity under pressure, and it will become an increasingly scarce commodity in the future. We must therefore be prepared to pay more for energy in coming years. This is attributed in part to increasing consumption, to higher transmission capacities to and from abroad, and in part to declining reserves of fossil energy resources. By investing in energy-efficient buildings based on renewable sources of energy, UiO will be able to improve its long-term operating economics, and at the same time reduce its greenhouse gas emissions as required by the climate challenge. The potential for increased energy efficiency at UiO in itself makes this an interesting area of focus.

### 2.1.2 STATUS 2012

UiO's energy costs have risen on average by NOK 10 million every year over the last five years (2007–2012). The reasons for this are complex. Some of this is attributed to greater consumption, some is attributed to larger areas and a higher standard that includes pavement heating and cooling, some of it is attributed to higher prices, and some is attributed to a lack of energy management. UiO paid a total of NOK 140 million for its stationary energy consumption in 2011. Of this cost, 56% is attributed to electricity, 43% to district heating, and a little over 1% stems from fossil oil and gas.

### 2.1.3 MEASURES

Given the energy costs and maintenance lag we currently have at UiO, it is obvious that it

will be possible to realise many energy efficiency gains by increasing the level of investment. Some buildings distinguish themselves in a particularly negative manner and should therefore receive greater focus. What is important in this context is that the change in consumption and costs from year to year becomes predictable and can be planned for. This can be ensured through the introduction of energy management, in other words financial management in the energy area. With regard to measures entitled to support, an application for support from Enova for the period up to 2016 inclusive has been approved. The measures for which support was sought will represent a greater share of the combined energy efficiency measures.

## 2.2 CLIMATE

Climate is often defined as the average weather over time. Climate as a focus area is based on the following goals and ambitions at the UiO level:

- UiO should reduce its environmental and climate impact.
- UiO's climate impact must be quantified and reduced, and UiO's greenhouse gas accounts must be improved so that they are suitable as a tool for environmental management.

### 2.2.1 REQUIREMENTS

A number of industrialised countries undertook to reduce their emissions of greenhouse gases in the Kyoto Protocol. Norway's commitment in the Kyoto Protocol states that we cannot increase our emission of greenhouse gases by more than 1 per cent relative to 1990. The Norwegian Parliament has also adopted a resolution to exceed Norway's commitment in the Kyoto Protocol by 10 per cent. Norway and many EU countries will fulfil their emission targets by means of national measures and policy instruments. We will also purchase emission rights from other countries by means of the flexible mecha-

nisms that are established in the convention. Without these mechanisms, it is not very likely that Norway would achieve its climate goal.

Through participation in the climate forum “Næring for Klima”, UiO has also undertaken to contribute to a 50% reduction in Oslo's greenhouse gas emissions by 2030.

### 2.2.2 STATUS 2012

UiO has used fossil fuel oil for heating for many years. This has resulted in particle emissions, major greenhouse gas emissions and required some transport. Therefore, in 1996, UiO started to work on the replacement of fossil fuel oil with district heating. At the start of 2013, only the Viking Ship Museum and the premises leased at St. Olavs gate 29 use fuel oil as their primary source.

In 2011, the district heating mix consisted of 11% fossil fuel oil and 6% liquid natural gas (LNG). In addition, it of course contained waste that had been converted to energy, waste generated by fossil resources. Electricity for heat pumps (7%) and electric boilers (25%) from Hafslund does not have guarantees of origin, and in 2011 we knew that the fossil share for this type of power was 45%, and the nuclear power share was 32%. We can therefore say that a conservative estimate for the overall fossil share of the district heating consumption at UiO is at least 35%. Conversion from fossil oil to district heating has in isolation reduced the greenhouse gas emissions by 65% in other words (not adjusted for changes in consumption).

Since UiO purchases guarantees of origin for electricity, it is otherwise worth noting that the grid power used for hot water, UiO's own electric boilers, heat pumps, lighting, technical equipment, etc. does not contribute to greenhouse gas emissions. Generators and emergency power generators at UiO currently run on fossil fuels.

### 2.2.3 MEASURES

With regard to climate, the most effective measures will be linked to continuing the phase-out of fossil fuels for stationary heating and transport. With regard to district heating, the supplier should be influenced to offer guarantees of origin and reduce his fossil share by other means. ED should also investigate the possibility of generating more renewable energy locally, where the energy is to be used.



PHOTO: UIO / FRANCESCO SAGGIO

### 2.3 WASTE

Waste can quickly end up as the loss of resources. Globally, however, we also see that the volume of waste is constantly increasing. Thorough need assessments for procurement, reuse, recycling of materials and energy recycling are therefore becoming increasingly important environmental measures. Waste solutions are also visible, and UiO also generates a lot of waste that is classified as hazardous waste. Even though very little of this waste is generated by ED itself, ED is responsible for providing regulation storage facilities, reporting statistics, etc.

Waste as an environmental aspect is based on the following goals and ambitions at the UiO level:

- UiO should reduce the consumption and environmental impact of input factors, such as energy, water, paper, materials and chemicals.
- When conferences and other events are arranged, an environmental policy should be adopted that limits negative environmental effects and promotes environmentally sound behaviour. An Eco-Lighthouse certified model should be established for arranging large events at UiO.

### 2.3.1 REQUIREMENTS

The Waste Regulations and other laws and regulations regulate how waste should be handled. In addition, the responsibility matrix between ED, the users and the leases indicates how responsibilities and costs should be shared. If we look at the Planning and Building Act, we find that waste is hardly mentioned at all. Therefore, the most important regulatory policy instruments are those that are established in regulations and laws.

One such important law is the Environmental Information Act. This gives all citizens certain rights to information about the environment. For ED, providing unsolicited information about waste may also contribute to an improved perception of the service level among users.

The Regulations relating to the road transport of hazardous goods<sup>1</sup> are also important. This also applies to the internal transport of hazardous waste. Focusing on waste as an environmental aspect will strengthen ED's prerequisites for clarifying how its own practice relates to these regulations, and to the rest of the regulatory framework.

Reducing the volume of hazardous waste does not just contribute to a reduction of environmental risk, but also to a better environment. In 2010, a total of 1.2 million tonnes of waste were delivered to a licensed processing facility in Norway. This was an increase of 14 per cent over the previous year. Since 1999, the volume of hazardous waste has increased by 114 per cent<sup>2</sup>. UiO had

a registered volume of waste of 1,670 tonnes and a source separation rate of approximately 32 per cent in 2012<sup>3</sup>.

Reducing the total volume of waste is demanding. The general development of society, in which product life cycles are becoming ever shorter and the number of products and needs are constantly increasing, contributes to this. On the other hand, we know that it is possible to reduce the volume if we make better use of the waste pyramid<sup>4</sup>, think twice before we buy anything, throw anything away or consume anything. Here there is an important role for ED as a facilitator.

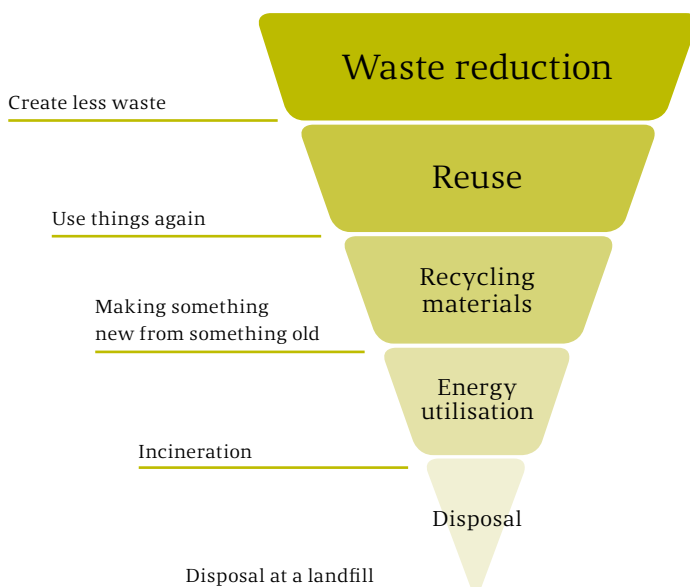
If we look at the empirical data, we see that the volume of waste in Norway is growing steadily. Economic cycles do of course have an impact, and this essentially explains the decline in the volume of waste around 2009. The long-term increase in the volume of waste cannot be entirely attributed to population growth.

### 2.3.2 STATUS 2012

At UiO, the Park Grounds unit under ED is currently responsible for outdoor waste management on the campus area (Blindern). At present, no waste separation at source has been established here. The same is the case for UiO's other outdoor areas, even for well-visited attractions like the Viking Ship Museum at Bygdøy, and the Tøyen area with its species diversity, museums, etc.

Indoors at UiO, source separation schemes for cardboard, paper and residual waste have been established in many places for employees, laboratories, auditoriums, etc. Locally, at the area level, there should also be opportunities for the disposal of hazardous waste, EE waste, etc. The SiO canteens and cafés have their own arrangements. A system for waste separation at source has not been established for indoor common areas. There are exceptions for organisations that have environmental certification, or where the users have taken the initiative to set up a system.

Hazardous waste is handled and treated by the users themselves. ED is responsible for providing suitable intermediary storage sites with signage, and for establishing



<sup>1</sup> <http://www.lovdatab.no/for/st/jd/xd-20090401-0384.html>

<sup>2</sup> <http://www.ssb.no/spesavf>

<sup>3</sup> See ED's environmental report for more detailed information.

<sup>4</sup> The waste pyramid ranks the environmental value of the various methods of handling and preventing waste.

agreements and routines for the collection of waste. At present ED does not have a common standard for what the intermediary storage sites for hazardous waste should look like and fulfil this task.

ED transports some sensitive documents to incineration, on behalf of the tenants.

### 2.3.3 MEASURES

Effective measures for waste should be based on a combination of the priorities of the waste pyramid, the prerequisites of the organisation, and the expectations of the neighbourhood. Waste-reducing measures and reuse should therefore be given priority, whenever possible. There is also a great potential for increased recycling of materials by increasing the source separation rate. Measures taken during the period up until 2020 should reflect all of these considerations.

### 2.4 PROJECTS AND PROJECT FOLLOW-UP

ED carries out projects that cost several hundred million Norwegian kroner annually. The environmental effect of this use of resources is therefore significant. The requirements for how buildings are to be designed and built are also becoming increasingly more stringent. There is a greater degree of talk of construction contracts with interaction, and suppliers that cannot present, or present EPDs (Environmental Product Declarations) with poor performance, will become increasingly less competitive. BREEAM NOR and BREEAM in Use also place stricter requirements for a holistic life cycle approach. Technical regulations are also being issued more and more frequently. All in all this and more mean that the environmental aspects of projects require increasingly more competence and resources.

Projects and project follow-up are based on the following ambitions at the UiO level:

- Environmental and sustainability considerations must be safeguarded for all procurement, and there must be a special focus on framework agreements and major individual procurements. UiO must demand that the selection of suppliers, products and solutions is based on credible environmental documentation.
- Investments and the use of IT must be based on best practices in Green IT.
- The environmental impact from transport must be reduced both by reducing the need for transport through video confer-

encing and other measures, and by using more environmentally friendly means of transport.

#### 2.4.1 REQUIREMENTS

The building and property industry in Norway accounts for approximately 40% of the country's combined consumption of energy and materials, and approximately 14% of all waste. In addition, the sector is responsible for a significant portion of the pollution found in the environment. Therefore, the industry is also regulated by a number of environmental requirements. Most of these are in the form of laws and regulations, and perhaps the most important of these are the Building Regulations (TEK10). In addition, importance should be attached to the national indicators and performance measurements defined in the Ministry of Environment's parliamentary bills. A brief summary of the most important environmental laws in the project area are listed below:

- Planning and Building Act
- Pollution Control Act
- Environmental Information Act
- Nature Diversity Act
- Nature Conservation Act
- Product Control Act

Some of the important regulations are:

- Pollution Control Regulations
- Building Regulations
- Waste Regulations
- REACH Regulations

#### 2.4.2 STATUS 2012

ED currently uses an online project handbook to safeguard relevant environmental aspects. This has functioned satisfactorily to date. Continuous new regulations, a higher level of ambition with respect to environmental work, and increased competence requirements point in the direction of the fact that measures must be implemented now.

#### 2.4.3 MEASURES

The environmental requirements in the project handbook will be revised in order to ensure consistency with current ambitions, laws and regulations. The project managers' reporting responsibilities in the environmental area will also be redefined and followed up. In addition, we will start to familiarise ourselves with the preparation of greenhouse gas accounts for construction projects.



## 2.5 ANNUAL ENVIRONMENTAL ASPECTS WITH SPECIAL PRIORITY

ED has chosen to define the following environmental aspects as focus areas with special priority during the initial strategic period:

- 2013: Energy management introduced
- 2014: Environmental management introduced
- 2015: Water consumption reduced by 20% per square metre, cf. before the measures

### 2.5.1 REQUIREMENTS ENERGY MANAGEMENT

No requirements for energy management exist at present, but large property owners like UiO consider this to be a necessity in order to ensure good financial management and resource optimisation. Energy management should therefore be included as a key component of the organisation's environmental management system.

### ENVIRONMENTAL MANAGEMENT

An important prerequisite for the systematic realisation of environmental gains over time is measurement. Measurement is systematised when an organisation introduces a system of environmental management. An

environmental management system also forces the organisation to identify its most important environmental aspects, and describe measures, consequences and influences. Upon completion of this, a good foundation has been established to motivate the organisation towards continuous improvement.

The Action Plan for Environmental and Social Responsibility in Public Procurement requires that all government organisations have an environmental management system. This action plan stresses the importance of measurement and statistics in connection with the follow-up of the plan. For organisations with a substantial environmental impact, the system should be certified in accordance with ISO 14001 and/or EMAS. All organisations that have over 250 full-time equivalents or are engaged in more than ordinary office activities should rely on an ISO 14001/EMAS certified system.

The Agency for Public Management and eGovernment (Difi) has been made responsible for the follow-up of the action plan and has started to work on measures to:

- Motivate government organisations to keep track of their environmental impact

- Facilitate the introduction of environmental management
- Measure across sectors
- Report and make environmental data available

These measures will continue the Green Government project, which focuses on the measurement and publication of performance. Statskonsult's evaluation (2006) showed that approximately 20 per cent of the organisations had established an integrated environmental management system, 60 per cent had started to introduce environmental management, while approximately 20 per cent had not started. The evaluation pointed out that a lack of central reporting made it difficult to keep track of and follow up the organisations.

#### **WATER CONSUMPTION**

There are no requirements with regard to water consumption in Norway at present. Water consumption is, however, a cost item and a driver of UiO's energy consumption (hot water), and therefore it deserves attention. It is unknown how much energy is consumed at UiO to heat water. The treatment of waste water also requires the use of chemicals and energy (external environmental factor).

#### **2.5.2 STATUS 2012**

##### **ENERGY MANAGEMENT**

In 2012, ED acquired a new energy monitoring system, and the aim is to introduce energy management.

##### **ENVIRONMENTAL MANAGEMENT**

The aim of environmental work must be to obtain a reduction in the environmental impact. Measurement is an important prerequisite for this. The challenge lies in the fact that there is no uniform practice for measurement density with regard to water and energy in UiO's buildings. This means that in some cases, it is not possible to obtain statistics per building or per tenant, which subsequently makes it difficult to implement appropriate incentive mechanisms and offer users information on their use of resources. Real-time updating of the energy monitoring system has been implemented to a varying

degree. Environmental management has not been introduced at present with the exception of the Repro Centre. ED currently only has responsibility for the environmental certification of its own organisation and buildings.

##### **WATER CONSUMPTION**

UiO paid around NOK 9.5 million for water and sewerage in 2011. Energy for heating water is in addition to this. One building at UiO accounts for approximately one-third of this water consumption. Many of the water meters at UiO are still manual, and those values are therefore not loaded into the energy monitoring system in real time.

#### **2.5.3 MEASURES**

##### **ENERGY MANAGEMENT**

ED will introduce energy management in 2013. The indicator set to be used will be based on Enova's own checklist: [http://www.enova.no/upload\\_images/1FB2A2CC-C6464AFCB7768DB000CA94Do.pdf](http://www.enova.no/upload_images/1FB2A2CC-C6464AFCB7768DB000CA94Do.pdf)

##### **ENVIRONMENTAL MANAGEMENT**

ED's goal is to introduce environmental management by 2015. It is desirable that the introduction of such a system will entail better practices with regard to environmental work in projects, use of materials, and documentation of environmental decisions.

##### **WATER CONSUMPTION**

It will be natural to look at several measures simultaneously when work to reduce the water consumption at UiO intensifies. All equipment that uses water should in principle be surveyed during the year prior to the measures being identified and implemented. In particular, measures related to the use of hot water, water for cooling and for research experiments should be given priority.

Reference values have been established for the goals described on page 7, for which this is relevant. They represent the comparison basis for the evaluation of the achievement of goals.



PHOTO: TERUJE HEESTAD



# 3 Reference values

## 3.1 ENERGY

The reference value for energy is based on 2012 data from the energy monitoring system, as well as area values reported to the Database for Statistics on Higher Education at the Norwegian Social Science Data Services (NSD).

Area:	571,351 m <sup>2</sup>
Energy consumption:	138,846,115 kWh
<b>Consumption per m<sup>2</sup>:</b>	<b>243 kWh/m<sup>2</sup></b>

It is worth noting that the data in the energy monitoring system have not been fully quality assured. This is work that will be carried out continuously in the future. Thus, the reference value for energy consumption may be adjusted somewhat during the term of the strategy period. Such adjustments will be documented.

## 3.2 GREENHOUSE GAS EMISSIONS

The reference value for greenhouse gas emissions is based on the 2012 values for stationary energy consumption for UiO, as well as transport for ED. Transport emissions are encumbered by a margin of uncertainty of up to 5%.

Electricity: Zero emissions due to the purchase of guarantees of origin	
District heating: 57,033,762 kWh x 0.000073 <sup>5</sup> =	4163 tonnes
Heating oil: 129,629 x 0.002663 <sup>6</sup> =	345 tonnes
Transport (ED): =	60 tonnes <sup>7</sup>
<b>Greenhouse gas emissions in CO<sub>2</sub> equivalents:</b>	<b>4568 tonnes</b>

## 3.3 WASTE SEPARATION AT SOURCE

The source separation rate at UiO is derived from the waste reports from the general agreement supplier for ordinary and hazardous waste for 2012. In addition, data from other small suppliers that have been able to produce tonne values have been included in the figures. Waste separation at source is defined here as waste that is separated on UiO's property. Any separation that takes place at the waste facilities is not included in the source separation rate.

<b>Source separation rate in 2012:</b>	<b>32.0%</b>
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<sup>5</sup> Greenhouse gas emissions in CO<sub>2</sub> equivalents per kWh for 2012 has been calculated to be 73 grams by Hafslund.

<sup>6</sup> <http://co2.klif.no/en/-HOVEDMENY/Slik-beregnes-dine-utslipp/Oppvarming-av-boligbygg>

<sup>7</sup> The calculation is based on air travel, the use of ED's vehicle fleet (total use), public transport travel, taxis, rental cars and use of own cars on official business. Contact ED's environmental advisor with regard to the calculation figures as desired.

# Action Plan for 2013

<b>MILESTONE</b>	<b>ENERGY (Reference value 2012: 243 kWh/m<sup>2</sup>)</b>
UiO's energy consumption should be reduced by at least 10 per cent per square metre by 2016 (cf. 2012 level).	
<b>E1U</b>	Pure energy efficiency investments corresponding to NOK 15 million made.
<b>E2§</b>	Energy evaluation of technical systems completed.
<b>E3§</b>	Energy label certificates made available to the users in the buildings.
<b>E4U</b>	Energy monitoring system implemented technically and organisationally.
<b>E5U</b>	Plan for the upgrading of windows to a higher energy class completed.
<b>MILESTONE</b>	<b>CLIMATE (Reference value 2012: 4,568 tonnes)</b>
Greenhouse gas emissions per square metre from stationary energy consumption (UiO) and transport (ED) should be reduced overall by at least 10 per cent from the 2012 level by 2016.	
<b>K1</b>	Use of fossil oil as the primary source of energy in buildings owned and leased by UiO phased out.
<b>K2</b>	Fossil fuel-powered passenger cars phased out by 2016 (ED).
<b>K3</b>	District heating supplier influenced to supply a more climate-friendly district heating mix.
<b>MILESTONE</b>	<b>WASTE (Reference value 2012: 32.0%)</b>
The source separation rate should be increased to at least 50 per cent by 2016, cf. 2012.	
<b>A1</b>	The recycling station at the Museum of Cultural History secured and upgraded.
<b>A2</b>	All of the intermediary storage sites for hazardous waste surveyed and improvements proposed.
<b>A3</b>	User-controlled destruction of sensitive data introduced.
<b>A4U</b>	Plan for waste separation at source and disposal prepared.
<b>A5</b>	Substitution obligation satisfied and ED's use of chemicals registered with ECO Online.
<b>MILESTONE</b>	<b>PROJECTS AND PROJECT FOLLOW-UP</b>
Routine for the annual quantification and reporting of the projects' combined environmental impact introduced (2016).	
<b>P1</b>	Project handbook updated.
<b>P2</b>	The project managers' reporting responsibilities in the environmental area redefined and followed up.
<b>P3</b>	Greenhouse gas accounts prepared for one project starting in 2013.
<b>MILESTONE</b>	<b>ENVIRONMENTAL ASPECTS WITH SPECIAL PRIORITY IN 2013</b>
Significant individual improvements should be made for the annual environmental aspects with special priority.	
<b>M1</b>	Energy management introduced.
<b>MILESTONE</b>	<b>OTHER ENVIRONMENTAL MEASURES DURING THE PERIOD</b>
Priority measures beyond the main environmental aspects.	
<b>Ø1§U</b>	One-third of the work to replace regulated synthetic coolants completed.
<b>Ø2U</b>	Environmental strategy and action plan for the management and operation of buildings and installations prepared and implemented.
<b>Ø3</b>	Sources of particle/NO <sub>x</sub> emissions identified and quantified.

§ Statutory or regulatory requirement.

U Measure in UiO's Annual Plan 2013–2015.





UiO : **University of Oslo**