

SUSTAINABILITY REPORT 2007



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University of Gothenburg have the ISO 14001 certificate and EMAS registration.

Accounting principles: The account for 2007 is named “Sustainability Report 2007”. It focuses on environmental issues and the administration of work for the environment but also includes social and economic perspectives. The social and economic perspectives are to be found mainly in their respective chapters but also in the description of the University’s core activities (research, education and collaboration with society) and in the chapter on professional development. The University aims, with a time horizon of a few years, to present a fully integrated report on social, economic and environmental perspectives in compliance with the guidelines of the Global Reporting Initiative (GRI). In the account for 2007, environmental work is adequately reported in a way that meets the standard of EMAS. The report is mainly a follow-up of the University’s Policy for the Environment and Sustainable Development 2007–2010 and the tasks assigned to the faculties, but it also summarises other important outcomes of the past year. In the chapter “Environmental Work at Faculty Level”, the faculties give their own descriptions of efforts made in 2007. In addition, the faculties have made a more comprehensive follow-up of their aims and policies; their follow-up is, however, not included in this document.

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The Vice Chancellor's Introduction

During the past year, a great deal of effort has gone into the creation of research and education strategies for the University. Cutting-edge research and prominent areas have been identified and five overriding profile areas of research and education have been formulated. It soon became apparent that the environment would be one of those five profile areas as it is an area which has been given priority for many years. Research and education connected to the environment are carried out not only in the Faculty of Science but also within The School of Business, Economics and Law (Environmental Economics, Environmental Law, Corporate Social Responsibility and Consumption Research) and the Faculty of Social Sciences (Environmental Psychology, Human Ecology, Risk and the Environment, and Global Environmental and Sustainability Issues). Another faculty with environmental research is the Sahlgrenska Academy where physiology and social medicine are renowned research fields within this area. The Faculty of Education offers all its students in the teacher training programme a course in sustainable development and the faculty is proud to have a UNESCO professor, namely Ingrid Pramling Samuelsson.

Within the University's profile area for the environment, I see several contributors who will be important for building bridges and for publicity. The Gothenburg Centre for Environment och Sustainability (GMV), which is a joint venture with Chalmers University of Technology is a promoter of partnerships both nationally and internationally. The focus we are putting on marine environment and the establishment of the Sven Lovén Centre for Marine Sciences will strengthen our position as leaders within marine education and research in Sweden. Also the new Environment and Health Research School is a joint initiative between the University, Chalmers University of Technology and the Västra Götaland Region.

It is not possible to discuss the environment without mentioning sustainable development in light of today's international debate. As the view of human influence on the environment has shifted from a problem area within the natural sciences and technology to a problem closely related to the structure of society, lifestyle and culture, the area has expanded incredibly. There is also another of the university's research and education profiles which is related to sustainable development, namely "Democracy and societal development". This profile is particularly strong in the Faculty of Social Sciences and The School of Business, Economics and Law but also within the Humanities.

The Nobel Peace Prize for 2007, which was awarded to the Intergovernmental Panel on Climate Change (IPCC) and former Vice President Al Gore had an enormous impact in increasing awareness about the question of climate and the impor-



tance of sustainable development for our future. In connection with Mr. Gore's visit to Gothenburg, it was announced that the University of Gothenburg has created six stipends of SEK 75,000 each for the dissemination of climate-related knowledge. The aim is to spread information and research results to groups of people who would not normally see these results. The stipends were created in memory of the climate researcher Professor Bert Bolin who was one of the leading forces behind the UN's IPCC climate panel and became internationally renowned as its president from 1988 - 1997. Professor Bolin died in December 2007 at the age of 82.

Because of its successful work on the environment, the University has been given the main responsibility by the Swedish Government to draw up guidelines for the reporting and reviewing of environmental control systems for all Swedish institutes of higher education. The outcome was reported during this year. Furthermore, on commission from the Swedish Environmental Protection Agency, the University's Environmental Unit has devised an Environmental Management Guide for all government bodies and their environmental work.

The Sustainability Report is a helpful tool to show how we are working towards being a responsible organisation which contributes to sustainable development. The work to develop the sustainable university will continue.

A handwritten signature in black ink, which reads "Pam Fredman". The signature is fluid and cursive.

Pam Fredman

Vice Chancellor, University of Gothenburg

The University

The University of Gothenburg is one of the largest universities in northern Europe and one of Sweden's most popular universities with the most sought-after programmes and courses.

At the University of Gothenburg, work is done in education, research, and development within a wide range of areas at approximately 70 departments and units. This includes everything from medicine and marine environment to opinion polls and economical policy instruments, which makes the University one of the country's most broad and versatile institutes of higher education.

Also from an international perspective, the University of Gothenburg is exceptionally successful with cutting-edge competencies within a number of dynamic research areas. Collaboration

with Chalmers University of Technology, Sahlgrenska University Hospital, the surrounding society and trade and industry is constantly being strengthened as are international contacts and collaborative projects.

The University of Gothenburg has the largest number of applicants for places in several programmes and courses which makes the University Sweden's most popular among young students. Good study environments which are close to cultural events and entertainment and also trade and industry are important for university students.

In the centre of town, at the centre of public debate

Open to the rest of the world and to different ideas

Several disciplines in creative collaboration

Research and education in cooperation

Contributing to a sustainable society

One of the largest in Europe

(University of Gothenburg - Core Values)

Social Perspectives

The university has an important role to play in the development of society as a whole. Research in areas such as gender and working life science leads the way and our education prepares thousands of students for their working life. The University aims to be an organisation with extensive social responsibility for both staff and students. This aim has been formulated in our motto for personnel matters: “Respect for the individual, equality and equal opportunities are natural cornerstones in our philosophy.”

Staff

The University of Gothenburg employs 5,286 persons (as per October 2007; the figure for October 2006 was 5,180), staff on leave not included. Of those employed, 57 per cent are women and 43 per cent men. There has been no change in these proportions from the previous year. The proportions of staff on permanent and non-permanent contracts have also remained unchanged: 56 and 44 per cent, respectively. The money spent on salaries and other staff expenses amounted to 56 per cent of the University's total budget, which is a marginal decrease as compared with 2006.

Sick Leave

The time for sick leave has been relatively constant for a number of years but was reduced by slightly over 0.51 percentage points in 2007 in relation to the figure for 2006. Within the faculties there is active work going on in order to survey and follow up cases of sick leave and decrease the extent by preventive measures and rehabilitation. There is also a new unit for competence improvement which aims to improve conditions for a sustainable working life. The unit will work with different aspects, one of them with a focus on staff on long-term sick leave.

Equality and Equal Opportunities

In 2007 the Equality Committee was replaced with a Committee for Equal Opportunities in order to achieve a more integrated organisation for these matters. Participating in the work of the Committee are representatives from all the Faculty Boards. Every institution has appointed

an ombudsman for equal opportunities and those appointed are offered a course on perspectives on equal opportunities. So far, there have been about seventy participants.

Courses and Programmes with Gender Imbalance



The proportion of women in undergraduate education went down by one percentage point between 2005 and 2006 and by another percentage point in 2007 so that the figure is now 66 per cent. Women still tend to choose their traditional educations, i.e. teaching and care, which represent the traditional labour market for women. The greatest change from 2006 is to be found at the IT University, where the proportion of women has increased by four percentage points. In its recruitment activities during 2007 the IT University has tried to focus on factors that affect the choice of careers. Women students have been representatives at

exhibitions and visited upper secondary schools. Women teachers have been active in work for recruitment and the production of information material has aimed to be gender-neutral in terms of attraction to the education. The language used at information meetings has been adapted to an audience that includes people who are not already interested and knowledgeable in technical matters.

In the area of teacher education, student counsellors have used various information meetings to try to work for increased gender balance. There has now been a slight increase in the proportion of men recruited to the programme for teacher education and training. The faculty level is also involved in a number of measures for a better gender balance. In the different faculties there are individual courses and programmes which have a gender distribution that is not in line with the faculty average.

Gender Perspectives in Education

As formulated in the University's policy of

Table 1. Proportion of women in undergraduate education

Faculty	Proportion of women
Arts	64
Social sciences	71
School of Business, Economics and Law	51
Education science	79
The Sahlgrenska Academy	78
Natural sciences	56
Fine arts	60
IT University	24
Teacher education and training (UFL)	77
Average for the University	66

equal treatment for the years 2007–2010, students should be given an education which includes gender perspectives in course content, teaching and methods for examination. This aim is reflected in the faculties' own goals and policies for an integrated gender perspective in the educational programmes. In the University's syllabi it is also stated that aspects of equality should be considered in the courses' content, textbooks, teaching and evaluation. The person in charge of a course should see to it that this intention is implemented in an adequate manner.

In what follows, some results from the past year are presented. In connection with the Bologna implementation, the Sahlgrenska Academy has formulated some aims related to equality in its syllabi for courses and programmes. The Department of Health and Caring Sciences has reviewed the textbooks used in several courses to find out how gender is presented. The Faculty of Social Sciences has funded a number of departmental projects. The Faculty of Fine Arts has ar-

anged a series of seminars for the whole faculty and "Jämdagen" (Equality Day) on the theme of pedagogy, equality and gender perspectives, using the educational activities of the departments as a starting point.

Male and Female Staff

In comparison with the situation in the past, there is a development in the direction of a more even gender balance within all categories of staff in the University as a whole. The proportion of women in the category of full professors has increased, as has the proportion of men in the category of lecturers (non-PhD). For all other staff categories, the proportions are within 60/40 with the exception of technical and secretarial staff. In that category changes are only marginal and in the two subcategories there is still a predominance of men among technical and of women among administrative and secretarial staff. When new posts open up, applications from the underrepresented gender are explicitly specially invited.

Recruiting and Training Managers

In order to stimulate young teachers and researchers of either sex to take up positions as managers, there have been courses in leadership and other activities arranged both by the University and by a number of faculties. For several years now, the University has been arranging courses for Heads of Department, Directors of Studies, and leaders in general. In preparation for the appointment of a new Dean, Head of Department or Director of Studies, both women and men have to be among the nominees. In 2007, the appointment of a new Dean did not increase the proportion of women as compared with 2006. Among Heads of Department, women are still underrepresented, although the proportion went up by five percentage points in 2007. Among Directors of Studies there is gender balance.

Students' Working Environment under Scrutiny

For a positive development it is essential that the University provide a good and attractive working environment for students and staff. The "Student Barometer", a project carried out for the first time in 2007, is based on questionnaires answered by over 4,300 students at the University. The survey gives a unique picture of student life, comprising their general situation in life and their studies, including work environment, financing, academic demands, leisure interests, use of alcohol, and their attitudes to the University and the education it offers.

The survey shows for instance that many students regard their financial situation as an important external factor and they have pointed out that grants and other financial support are insufficient. This is



particularly true for students who have a family and children, a situation regarded by many respondents as an impediment to being a “traditional student”.

In the survey, the focus on psycho social aspects of the working environment is striking. It is evident that there is room for improvement as regards the psycho social aspects but also that there is very little violence or threats of violence, mobbing, sexual harassment and discrimination. In matters of that kind, however, even a limited incidence is serious and it is necessary to work towards the elimination of them as far as possible.

The “Student Barometer” also included questions about environmental issues. The results show that over seventy per cent of the students use public transport and nearly forty per cent purchases ecolabelled products every week.

Although the students identify areas in which the environment for studies can be improved, their assessment of the

University and the programmes and independent courses offered is very positive. A comparison with the views expressed by university staff in their “Working Environment Barometer” shows that the students are satisfied to the same extent as the employees, or even to a somewhat greater extent, both as regards the University as a whole and as regards the department where they study.

Students’ Influence

In accordance with the rules in the Higher Education Ordinance, students are represented in the University’s decision-making bodies, including preparatory committees. In addition, many departments arrange meetings of the departmental administration and student representatives in order to improve the quality of the education and to create conditions that will help new students to take their courses successfully. Student union representatives participate in various projects with the aim of

adapting activities, including evaluation etc., based on the conditions under which students work. In cooperation with the student organisations, the University has produced “Rules and regulations for studies at Göteborg University”, which is applicable primarily to undergraduate studies but to some extent also to the postgraduate level.

Education with Social Dimensions

The Department of Law has arranged, for the second time, a complementary study programme for holders of a law degree from another country. Similarly, teachers with a non-Swedish degree have been offered a complementary study programme. A special teacher education programme for unemployed university graduates has been completed by 26 persons.

Human Rights in Practice

The University of Gothenburg, in collaboration with Roehampton University, England, and the University of Tromsø, Norway, has received financial support for Erasmus Mundus programme. Erasmus Mundus is an EU collaborative effort to position the Union as a “Centre of Excellence” for higher education. The Master’s programme in Human Rights Practice is a two-year project and has been created by the three universities working together. There are over 20 students in the programme, recruited from all over the world, for instance from China, India Thailand, Albania, Norway and Uganda. During the programme they will study at all three universities.

Data on Staffing and Equal Opportunities

Undergraduates:	50 058 (66 % women)
Undergraduates (full year equivalents):	24 755 (66 % women)
Postgraduates:	2 278 (59 % women)
Employees:	5 286 (57 % women)
Proportion of permanent posts:	56 %
Professors:	457 (24 % women)
Senior lecturers:	600 (45 % women)
Lecturers (non PhD):	374 (62 % women)
Junior research fellows:	85 (53 % women)
Doctoral students recruited in 2007:	221 (58 % women)
Overall percentage of time on sick leave:	2.85 % from 3.36 % 2006
Proportion of long term sick leave (60+ days):	63 %
Total cost of staff:	SEK 2 524 million

Economic Perspectives

In recent years there has been increased appreciation, both in Sweden and internationally, of the role played by universities and university colleges in the creation of sustainable growth and prosperity.

As the economy is becoming increasingly knowledge based, research and higher education are becoming a more and more important factor for competitive business and industry. In the face of globalization and foreign ownership in Swedish companies, the nation's academic research will be a factor in the competition for establishing new business and keeping it in Sweden. Also, through the creation of new university based enterprises, the University will contribute to the renewal of the structure of business and industry.

Innovations Utilised

The University of Gothenburg is a "broad" university which also has cutting edge research in a great number of areas, from pharmaceuticals to maritime environment. Quite regularly, research results are arrived at that can have commercial applications. However, it is not a core activity of the University to create marketable products; instead, the results should be made available to society without delay. In order to facilitate this transmission, the University created, as early as ten years ago, an infrastructure for collaboration and commercialisation. Today it consists of the internal unit "Research and Innovation Service" and "GU Holding", a company with the University as the sole owner.

In the spring of 2006 an independent evaluation was carried out at all Swedish universities of the work being done for the dissemination and utilization of research results. The report specifically mentions the "Research and Innovation Service" and "GU Holding", including their harmonious interaction, as role models for others.

Research Resulting in Business

At the present time, GU Holding is a co-owner in some twenty companies based on research results produced at the University. Some examples are Ostre Sverige AB, which intends to start commercial culturing of oysters on a large scale on the west coast of Sweden, and Marine Paints, which is developing environmentally friendly paint for hulls of ships. Another example of research results about to become a marketable product is a project concerning sea-wave power. The technology is dynamic in the sense that it makes use of the kinetic energy of waves in a way that extracts a maximum of energy regardless of the size of a wave. Furthermore, the technology is relatively uncomplicated, which will make the apparatus when installed economical and reliable in an exposed environment.

Capital and Ethics

The University's capital in the form of foundations totals SEK 800 million. Most of this capital comes from donations made by alumni and prominent individuals in business and industry. The yield, ca. SEK 25 million per annum, is used to finance professorships and research grants.

In addition to demands for a good yield, the management of the foundation capital is governed by aspects of environment and ethics. Consequently, the capital must not be invested in the production of alcohol, tobacco, arms or in commercial gambling; in addition, the enterprises involved must meet environmental demands. This money cannot be used for speculation: much of the capital has existed for 100 years and should be kept in existence for another century.

New Realities in Business and Industry

In recent years, the role and the responsibility of business have been discussed to an increasing extent. The debate has concerned environmental and social responsibility as well as the business scandals that have left their mark on the first few years of the 21st century. In actual practice the change in attitude to business has led to a renegotiation of the social contract between business, government and society. Against this background, the School of Business, Economics and Law is about to integrate such issues systematically in its research and education. In consequence, the School will be carrying out research on the changing role and responsibility of business in society, teach students and business executives how to deal with this new economic reality and be a forum for a constructive debate on new ways of creating sustainable prosperity.

The Centre for Business in Society are specialized in the study of the role and responsibility of business in the development of society. It also develops new tools for management that are compatible with current changes in the economy. Two examples of areas concerned are Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI).

Financial Data

Total revenues:	SEK 4 491 million
Operating result:	SEK 91 million
Government appropriation:	SEK 3 080 million
External income and other revenues:	SEK 1 410 million
Cost of premises:	SEK 600 million
Size of premises:	SEK 393 000 m ²

Saving through Electronics

The University is about to implement electronic invoicing procedures, which means that invoices from suppliers and other demands for payment will be completely computerized instead of being handled on paper. Electronic invoicing procedures will reduce the consumption of paper as well as emissions caused by transport. Based on the handling of over 2,000 invoices a month, the reduction will save 20 tonnes of CO₂ during that period, provided that all invoices are sent electronically instead of by letter (CO₂ equivalents based on figures from the Swedish Post Office).

Another project about to be implemented is the “GU Card”, a multifunctional card (for instance entry pass, photocopying/printing card, cash card etc.) for students and staff.

Ethics and Social Demands in Procurement

Issues of ethics in government procurement have been discussed for a long time and increased awareness in society and among the general public has made these issues even more important. At the present time, the demands and expectations of the general public have been intensified as regards the way government organisations spend public money.

For many years now, in connection with all major procurement agreements, the University has been asking certain general questions concerning suppliers’ work for the environment, sustainability, equality, ethics, working environment and safety. Equality issues form an area in which the University can make demands on suppliers’ internal work, as regards for instance gender equality and the representation of ethnic minorities. Environmental demands made by the University in connection with procurement negotiations are treated in more detailed in a later chapter on resources.



Within the University there is an ongoing discussion of possible ways to integrate ethical demands in procurement negotiations. During 2007 structured work has been initiated with a focus on producing a policy for the University’s ways of dealing with ethical demands in the future.

During the past year the University has been engaged in discussions with the Fair Trade (“Rättvisemärkt”) organisation with a view to becoming a “Fair Trade University”, a concept that exists in the UK but which will have to be adapted to the Swedish situation as regards the criteria for acceptance, which has not yet been done. The matter of ethical and social demands is pursued together with students at the University.

94 Million for Development through Environmental Economy

Funded by SIDA and led by Professor Thomas Sterner, the Unit of Environmental Economy, has started two large-scale initiatives in the areas of environmental economy and fighting poverty. The first one is a helpdesk with the purpose of assisting SIDA with expertise in environmental economy. Through

advice and evaluation, SIDA is helped in the creation of high quality projects and policies.

The second initiative started by the Unit of Environmental Economy, “Environment for Development”, aims to set up six centres for environmental economy in different parts of the world (Central America, China, Ethiopia, Kenya, South Africa and Tanzania). The purpose of “Environment for Development” is to increase, by means of research as well as education, local knowledge of ways to use nature as a sustainable resource for an escape from poverty. One of the important tasks for the centres is to advise politicians and civil service staff. The Peking Centre, China, was inaugurated on the 29th of October by Maud Olofsson, Minister of Industry, Employment and Communications. Initially the centre will focus on issues concerning forestry reforms and methods to combat climate change by means of environmental economy. In preparation for the Olympic Games in 2008, ways of reducing air pollution in Peking will be studied.

Environmental Perspectives

Environmental issues have a long local tradition, going back to the time of the foundation of the University, long before the first course on the environment in 1969 and the establishment of the Environmental Section in 1990 (later renamed The Centre for Environment and Sustainability, GMV).

August Wijkander, together with S.A. Hedlund, was one of the forces behind the creation of the University in the nineteenth century. Wijkander was an ambitious and experienced man who was active in many different fields. The observations he made with Norden-skiöld in Svalbard were not unlike those made by today's climatologists in polar areas. As chairman of the city council and a holder of other civic positions he laid stress on the issues of the city's water supply, waste water treatment, public transport, the expansion of the railway system and a great number of other things. This spirit of creating a society with long-term sustainability lives on today in the University's core values, "working for the sustainable society". The chief carriers of this tradition are the University's 265 researchers on sustainable development and the thousands of students participating in the University's 329 courses in sustainable development.

Aiming to Be Role Models

The University of Gothenburg is trying to be a role model both in academia and among government agencies when it comes to work for the environment and sustainable development. Among Swedish public organisations, only another two have been both ISO14001 certified and EMAS registered; in a global university context the University of Gothenburg is unique. The work is carried out with a high degree of openness and willingness to share our experience with others. Therefore, the University is frequently visited by organisations that want to learn more about our work for the environment and we



also take part in a number of networks, two examples of which are Sustainable Campus Network and MLUH, which is a network for leaders of environmental work at Swedish universities and university colleges. Sustainable Campus is an international network, with a number of leading universities in Europe, America and Asia participating. MLUH is a very active national network pursuing cooperation issues in work for the environment.

National Assignments

In the past year, two tasks commissioned by the Swedish Government were carried out. The first one concerned the development of the reporting on environmental work which is to be done by all Swedish universities and university colleges, as ordered by the Ministry of Education and Science. The task commissioned by the government was coordinated by the University of Gothenburg, assisted by a number of other higher education units, and was

completed in May 2007.

A second prestigious task completed in 2007 was the preparation of guidelines for environmental work in all government agencies in Sweden. The resulting booklet, entitled "Miljöledningsguiden" (A Guide for the Administration of Environmental Work), is intended to be a guide for all government organisations engaged in environmental work. The guide includes criteria for a system of environmental work administration for the public sector, similar to the current use of the ISO14001 criteria in the private sector.

Our Environmental Work Administration system

An important tool is constituted by the system for administration of environmental work, which has been certified in accordance with ISO14001 and EMAS. The system has been the basis of a handbook for the environment which describes how environmental work is to be carried out (www.gu.se/miljo). The handbook contains a wide range of information for employees, from policies to practical guidelines on how to deal with purchases, waste and chemicals.

A Dynamic System

The environmental work system contains a number of tools and processes which are all geared towards continuous improvement. One of these dynamic processes is aims and policies. The most powerful tool is perhaps the formulation of targets to be attained through a number of specified efforts. At different levels of the University's organisation such aims and policies can be found.

The plan common to the University as a whole covers the period 2007–2010. It is strategic in nature and works as a guideline for the faculties. All the faculties write their own aims and policies with more concrete actions and initiatives. A summary of the faculties' work is to be found at the end of the present report.

The faculties' syllabi function as a motor in the professional development process. The faculties can get help from the University's Environmental Unit, which provides courses and course packages. The past year's initiatives in the area of professional development are to be found in a separate chapter in the present report.

A third dynamic process within the system for environmental work is environmental auditing. In principle, environmental auditing is a control function within the system, but comments and cases of non-compliance that are rectified are vital components in the process of improvement. In 2007, 60 cases of non-compliance (seven of which were termed "major") were identified by out internal auditors and 23 (two of which were termed "major") by the external reviewers, the SP (the Swedish Institute for Technical Research).

Responsibility and Organisation

The responsibility and the authority to act in the work for the environment and sustainable development are based on the line organisation: The Vice-Chancellor (university level)—Deans (faculty level)—Heads of Department. The line organisation is backed by an Environmental Organisation: Environmental Unit (university level) —Environmental coordinators (faculty level) —Environmental representatives (department level). Six times a year, the Environme-

ntal Unit and the faculty level Coordinators have meetings to coordinate their work. At the faculty level, there are meetings on a regular basis for environmental coordinators and environmental representatives.

Our Environmental Impact

For credibility, the rule of "practise what you teach" is important. The aim of the University is to be one of the leading universities in Europe in research and education in sustainable development, and this aim must have an impact on the regular day-to-day work of the University. The University has focused its work and efforts on six important aspects of the environment. In what follows here they are briefly described, including how they are linked to the 16 national goals for environmental quality. The way in which work with the different aspects is progressing will be described in detail in their respective sections.

Research: The research on sustainable development carried out at the University of Gothenburg has positive effects for all the national goals for environmental quality.

Education: The teaching in sustainable development offered by the University has positive effects for all the national

goals for environmental quality.

Collaboration with Society: The dissemination of research results, collaborative projects with private and public organisations and the dissemination of knowledge in other forms have positive effects for all the national goals for environmental quality.

Impact on the Climate: Travel, transports and the use of energy cause emission of CO₂, which has a negative effect on the national goal of "Limited impact on the climate". These activities also affect other national goals negatively.

Consumption of Resources: The purchasing and use of products and the waste they generate have a negative impact on a number of national goals for environmental quality, such as "only natural acidification", "no eutrophication", "limited impact on the climate", "poison-free environment"; the same impact can be noted for the use of land, water and non-renewable resources.

Hazardous Chemicals: In laboratories and in artistic work, chemicals are used that can affect the environment negatively, for instance metals and organic poisons. The national goal of "poison-free environment" is affected negatively by the University's use of chemicals.

Our Environmental Policy

University of Gothenburg will be one of the leading universities in Europe in education and research within sustainable development and environmental sciences

1. The University will endeavour to make its students and personnel aware of environmental and development problems and, through research, education and interaction with the community, stimulate concrete activities that promote sustainable development.
2. The University will, through its systematic and focused environmental work, aim to prevent or reduce its negative environmental impact. The Environmental Management System at the University will be certified.
3. Environmental considerations will be incorporated into all decisionmaking processes. Research, teaching, administration, management and technical functions, will be characterised by environmental accountability.
4. The University's environmental work will be continually improved and evaluated by regular environmental audits.
5. The University will comply with applicable environmental legal requirements and with other environmental requirements to which the organisation subscribes.

Results for 2007

☺ Indicator in the right direction ☹ Indicator unchanged ☹ Indicator in the wrong direction

Objective's for 2010	Indicator	Present State of Commissions
The University should increase research on sustainable development	<p>☺ The number of researchers/ teachers/ postgraduates linked to GMV's network for sustainable development increased in 2007 by 12% and totalled 265.</p> <p>☺ The number of dissertations dealing with sustainable development increased in 2007 by 25% and totalled 40.</p> <p>☹ The measuring of other scientific publications has not started.</p>	<p>☹ During 2007 the University Library (UB) has started a dialogue with GMV with the purpose of developing bibliometrical methods for measuring the number of scientific publications dealing with sustainable development.</p> <p>☹ The one day conference for researchers on the environment, planned for 2007 by External Relations has been postponed until 2008.</p> <p>During 2007 GMV has GMV har under året...:</p> <p>☺ initiated and stimulated research projects for sustainable development;</p> <p>☺ actively approached researchers and helped them apply for research grants in the area of sustainable development.</p> <p>☹ began an inventory of the University's research in the area of sustainable development;</p> <p>☺ kept track of possible funding of research and stimulated researchers to apply for grants available for sustainable development.</p>
The University should integrate sustainable development in education	<p>☺ The number of courses that take up the environment and sustainable development increased by 3,5% in 2007 to a total of 329.☺ The number of programmes that take up the environment and sustainable development increased by 26% in 2007 to a total of 48.</p> <p>☹ The number of degrees to do with sustainable development has decreased by 35%, mainly because a number of "Magister" programmes are being terminated and split into a Bachelor and a Master programme.</p>	<p>During 2007 GMV has</p> <p>☹ not initiated a course on sustainable development, common to the University as a whole;</p> <p>☹ not given support to staff in charge of programmes and courses on how to increase the integration of sustainable development in the courses offered, for instance by developing a guide for teachers on the integration of sustainable development;</p> <p>☺ organized a new postgraduate school in sustainable development geared towards health and the environment;</p> <p>☺ cooperated with the Environment Unit and the students' environmental organisations to arrange a thematic day for students "HällBarHet" (SustainAbility) with a focus on sustainable development;</p> <p>During 2007 the Environment Unit has...:</p> <p>☺ sent to all new students information about the University's work on sustainability;</p> <p>☺ included in the "Student Barometer", in cooperation with the Personnel Unit, questions that measure the University's students' degree of environmental awareness.</p> <p>☺ The Deputy Vice chancellor in charge of educational issues has cooperated with the Environment Unit/GMV and the committee for postgraduate studies to prepare for an award for the most commendable dissertation in the area of sustainable development.</p> <p>☺ The Division of Human Resources has investigated the students' attitudes to their studies and their social conditions in relation to their work, in the form of "Studentarbetsmiljöbarometern" (barometer for students' working environment).</p>
The University aims to present at least one public event every day about sustainable development	<p>☺ In 2007 the University offered 473 public events to do with sustainable development as against 264 in 2006.</p> <p>☺ The Environment Portal had the number of "unique visitors" to its website increased by 43% to 1603 per week.</p>	<p>☺ GAME arranged seven seminars and improved and vitalised the network between the University, public administration and business and industry in Västra Götaland.</p> <p>☺ GMV arranged a big conference in Barcelona, Alliance for Global Sustainability.</p> <p>☺ GMV arranged a large number of seminars on Environmental perspectives.</p> <p>☺ GMV continued promoting the website "Miljöportalen", helped greatly by the interest of the media in the climate.</p> <p>☹ The Environment Unit and the Deputy Vice chancellor are postponing the start of an Academy for Sustainability.</p> <p>☺ External Relations has been energetically promoting the issue of sustainable development in various media such as GU spegeln (a university magazine), Akademiska kvartar (public mini lectures), Vetenskaplandet (TV program) and also activities concerning sustainable development in the lecture programme common to the University as a whole. In addition, the fact that the University has been environmentally certified has been presented in various booklets.</p>
The University aims to reduce emissions of greenhouse gases by four percent during the period 2007-2012	<p>☹ The number of CO2 equivalents resulting from work related travel in relation to the number of full time employees has increased by 14% to 647 kg, mainly resulting from more international travel by air.</p> <p>☺ The proportion of train kilometres in the total number of domestic travel (train and air) has increased by three percentage points to 79%.</p> <p>☺ The number of kilometres travelled by employees in their own cars for work related purposes has decreased by 4%</p>	<p>☺ The Travel Group conducted a number of meetings with travel suppliers for the purpose of discussing how environmental considerations can affect travel habits and choice of transport for the University's employees</p> <p>☺ The IT Group promoted increased use of electronic meetings. They did this by arranging two presentations, by providing three extra virtual rooms, a new server and new instructions in Swedish.</p> <p>☹ The Conference and Service Unit offered video conferences free of charge.</p> <p>The Environment Unit has...:</p> <p>☺ arranged a Travel Day for the University's central administration, disseminated information and taken part in debates in different media about travel, parking etc and been active in the travel group of Gothenburg's Transport Office.</p> <p>☺ in collaboration with the University's central administration started a car pool consisting of four environmentally friendly vehicles.</p> <p>☹ not reviewed or improved the supply of bicycles for work related travel.</p> <p>☹ initiated a degree project aimed at investigating the possibility of receiving delivered goods centrally in order to reduce the number of transports to and from the University.</p>

Objective`s for Indicator
2010

Present State of Commissions

<p>The University aims to reduce the use of electricity, heating and cooling in its buildings</p>	<p>☹ The consumption of electricity increased by 0.5% and heating by 4% from 2006. The total consumption of energy decreased by 1.7%</p>	<p>☺ A number of rented premises were converted to the use of district heating. ☺ Energy is now on the agenda for meetings with the faculty staff in charge of premises and has been added to the agenda of a number of meetings with landlords. ☺ One energy seminar and one lighting seminar “Hållbar belysning” (sustainable lighting) were arranged for the major landlords and the University staff in charge of premises. ☺ The rental of an oil heated building (Lyckans väg 2) has been discontinued and replaced by the rental of a building more economical in terms of energy. In a number of renegotiations, electricity was separated from the rent, which means that it will be in the users’ interest to reduce consumption. ☹ In 2007 no major efforts were made to reduce heating together with landlords and users. ☺ Starting in January 2007, green electricity is bought for the University’s own contracts, amounting to c. seven million kWh. ☺ The IT Unit is guided by environmental considerations in their purchases of computers. A working party is preparing guidelines for the use of computers with peripheral equipment in order to reduce their consumption of energy.</p>
<p>The University’s purchases should be an example for other organisations in terms of economic, cultural, social and environmental aspects.</p>	<p>☺ In all major procurement negotiations, prospective suppliers are required to describe their work for sustainability (equality, ethics, working environment). ☺ In six out of thirteen (46%) large scale procurements, environmental requirements had to be met by the goods, which is an increase from 2006.</p>	<p>☺ In the database for business agreements, the environmental information intended to facilitate purchases with environmental considerations has been improved. ☹ There were no direct demands presented that environmentally certified or more environmentally friendly products should be highlighted in suppliers’ web based catalogues, but suppliers were asked about this during negotiations. ☺ Staff in charge of purchases were not offered courses in environmentally friendly purchasing in 2007, but a guiding booklet has been prepared. ☺ Laboratory Days, with lectures and mini exhibitions, were arranged in 2007, attended by 300 visitors.</p>
<p>Waste recycling, composted or disposed of as hazardous waste should make up 75% of total amount of waste.</p>	<p>☹ The proportion of waste prepared for recycling, composted or dealt with as hazardous waste was 35% of the total amount of waste. ☹ The waste generated per working day averaged 0.29 kg per person at the University (students and staff).</p>	<p>☺ The Division of Building and Services in cooperation with cleaning staff and property owners worked for a larger proportion of waste to be prepared for recycling. ☺ The Division of Building and Services updated and finalized the University’s waste management plan. ☹ The official in charge of waste management worked actively with faculties and cleaning staff in order to increase the proportion of waste that is prepared for recycling, composted or dealt with as hazardous waste, but the goal of 75% was not attained. ☺ The official in charge of waste management followed up new agreements concerning waste management with property owners and has continuous discussions about separating waste management from new rental contracts. ☹ The Environment Unit did not arrange seminars about waste management and recycling. ☹ The Environment Unit did not arrange seminars about environmentally friendly maintenance of buildings. ☺ For parts of the University the Environment Unit ascertained that information about waste separation is presented in the area where the special containers are placed. ☹ The Environment Unit did not promote a policy of using buildings, furniture and equipment that are repairable and made from natural materials, preferably from nearby areas. ☹ The Environment Unit did not investigate the possibilities of reducing the amount of commercial advertising brochures sent to the University or of taking action against the situation.</p>
<p>The University aims to substitute and reduce the use of hazardous chemical products.</p>	<p>☹ The total amount of the entire University’s substitution and reduction of chemicals cannot be calculated. However, eight examples are included in the present account.</p>	<p>☺ Rules for environmentally adapted management of chemicals were updated to some extent. ☺ Laboratory Days stimulated exchange of experience and dissemination of knowledge, which has led to the support of substitution and the development of methods that reduce the amount of chemicals used. ☺ Two Laboratory Days were arranged in 2007, attended by 300 visitors. ☺ The University took part in work to set up a national group for substitution of chemicals.</p>
<p>All members of staff should be made aware of how to contribute to a sustainable development in their area of responsibility.</p>	<p>☺ In 2007 more than half of the employees took part in some form of environmental course. The number of hours offered was a record 4,950.</p>	<p>☺ The Environment Unit planned, organized and carried out suitable environmental courses for different categories of employees, in accordance with identified needs for environmental competence for different posts. ☺ GMV arranged seminars for the University’s employees about “Education for Sustainable Development”. ☺ The Division of Human Resources will include environmental questions in the next “Working Environment Barometer” for staff (2008). ☺ The Division of Human Resources will integrate environmental issues in its leadership courses and treat leadership from a sustainability perspective.</p>

Research on Sustainable Development

In 2007 there was an increase in the amount of research carried out in the area of sustainable development. There are at least two reasons. First, the topics are currently on the agenda in society and therefore interesting objects of study for our researchers. Second, funding for research was geared towards the area of sustainable development.

RESEARCH

Objective:

The University should increase research on sustainable development

Results in brief:

- In 2007 an increased number of researchers and postgraduates joined the GMV network for sustainable development.
- The number of dissertations bringing up the issue of sustainable development increased by 25% to a total of 40.

Table 2. Dissertations in the field of environment and sustainable development

Year	Dissertations: numbers and proportions
2007	40 out of 295, 13.6 %
2006	32 out of 265, 12.1%
2005	17 out of 285, 6.0 %
2004	16 out of 313, 5.1 %
2003	17 out of 303, 5.6 %

The University Has A Focus on the Maritime Environment

In December 2006, the Commission of Inquiry on Maritime Environment proposed that a national institute for the maritime environment would be established and located in Gothenburg. To be able to support this development, the University is working on strengthening its leading position in Sweden in the area of maritime education and research. This is being done in various ways, one of them being the newly established Sven Lovén Centre for Maritime Sciences.

More Funding for Research on Sustainable Development

An increased amount of funding for research on sustainable development is coming from different sponsors, both from the EU and from national contributors. In 2007 the University was granted funding for a number of different projects.

SEK 47 Million for Research on Sustainability

In 2007, the research council Formas distributed grants totalling SEK 491 million for research on sustainable development. The University of Gothenburg received almost ten per cent, SEK 47 million, for various projects. Some twenty projects were awarded financial support, for instance one on healthy and sustainable eating habits of children, one on the effects on the ecosystem by the invasion of the comb jellyfish, and one on disturbances caused by petrochemical industry.

Risks Connected with Nanoparticles

The potential environmental hazards of nanotechnology is still a relatively unexplored area. A new project at the University will now examine the environmental impact of synthetic nanoparticles.



During the last few years, nanotechnology has developed rapidly and products containing nanoparticles are becoming increasingly common. At present synthetically manufactured nanoparticles are to be found in a wide range of products, from sunscreens to packaging for food.

Research on International Climate Policies

The Swedish Energy Agency awarded the University SEK 4.7 million for two projects on international climate policies. Madelene Ostwald will be studying “The changing use of land and forests in the broader context of the Kyoto agreement”. Thomas Sterner will be doing research on “Sustainable international cooperation on the climate by countries with country-specific structures”.

Researchers Participating in the Climate Debate

During 2007, there was a strong focus on the climate both in Sweden and in a global context. The UN climate panel, IPCC, released its fourth report, which describes climate changes and their effects and possible action to take. Professor Ulf Molau at the University of Gothenburg served as “expert reviewer” for the report. He had also coauthored the third report of IPCC, which was published in 2001. Since the beginning of the 1990s, Ulf Molau and his colleagues have been

studying the impact of climate changes on the flora of the high mountain ranges of the north of Sweden.

Research staff from the University took part in the formation of Swedish climate policies in a number of contexts. In March 2007, Prime Minister Fredrik Reinfeldt visited the University for discussions of issues concerning the environment and the climate with researchers from the University and Chalmers University of Technol-



Prime Minister Fredrik Reinfeldt meets researchers from the university.

ogy. Åsa Löfgren (Department of Economics), Stefan Hulth (Department of Chemistry) and Eva-Lotta Sundblad (Department of Psychology) discussed with the Prime Minister concrete steps to improve the climate, based on for instance economic incentives and sanctions and on research on environmental psychology.

During the past year, Anders Biel, professor of psychology at the University, was a member of the Government's scientific board for climate issues. Biel's research focuses on how control mechanisms to do with the environment such as taxes, laws and subsidies affect the behaviour of people.

Tellus - The Centre for Earth System Science

"Tellus" is a research platform for studies of how the interaction of processes to do with the climate and the environment condition improves

life on earth. "Tellus" forms part of the strategic initiatives of 2007 to stimulate interdisciplinary research. The aim of the work done in "Tellus" is to develop knowledge on which to base a better understanding of climatic and environmental problems caused by human activities and an improved ability to solve them. A prerequisite for such work is an integrated view of the climate and environment of planet Earth. For the purpose of creating this integrated view, climatic and environmental models are being developed in "Tellus" through collaboration between researchers from the geosciences, chemistry and biology.

What Is Sustainable Development?

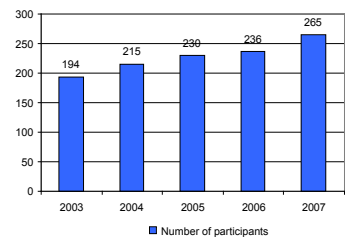
During the past year, there was a dialogue going on with a number of researchers about what should count as research on sustainable development. Is only that research to be counted which focuses on the core area of sustainable development, where social, economic, cultural and ecological dimensions are included, or should any research count that takes up or touches upon sustainable development from basically one of the perspectives? The latter definition was used by a university committee consisting of five professors in order to identify those dissertations which take up sustainable development, a total of 40 for 2007.

Scientific Meetings on Sustainable Development

In October 2007, a scientific seminar was arranged on risks and safety, relating to a number of scientific fields: social science, natural science and technology. Risk and safety research includes for instance the effects of climate change in the valley along the Göta River, risk assessment in the treatment of polluted ground, data security and the ways in which public authorities make decisions and communicate in the area of risk and safety. At the seminar there was also some focus on public participation in decision making and on risks and safety from a practical everyday perspective.



Diagram 1. Researchers/teachers/postgraduates from the University connected to the GMV network for sustainable development.



New Graduate School within Environment and Health

A new graduate School within environment and health has been prepared during the year. With an amount of SEK 20 million the University together with Region Västra Götaland and Chalmers University of Technology will build a multidisciplinary graduate school that over the year will comprise 24 PhD students.

Sustainable Development in Education

The UN has proclaimed 2005-2014 the decade for education for sustainable development. A number of UNESCO Chairs in sustainable development have been created around the world, one of them at the University of Gothenburg.

EDUCATION

Objective:

The University should integrate sustainable development in education

Results in brief:

- The number of courses with components to do with the environment and sustainable development increased by 3.5% in 2007 to a total of 329.
- The number of programmes with components to do with the environment and sustainable development increased by 26% in 2007 to a total of 48.

The different aspects of sustainable development, the environment, social, cultural and economic issues affect human life in a global perspective. The comprehensive goal of the UN decade for education for sustainable development is to integrate principles, values and experience from sustainable development in all areas of education.

The Swedish Higher Education Act has been amended through the addition of a passage that prescribes the integration of sustainable development in university level education. Against the background of the amendment the University instructed the faculties to set up a plan for the integration of sustainable development in the undergraduate courses and programmes. The instructions were followed by an injunction to put the integration into practice.

Examples of units that have made headway in this area are the Sahlgrenska Academy, where all programmes include an introductory course in sustainable development, and the Social Science Faculty, where four seminars for teachers were arranged in 2007. The other faculties have discussed the matter in undergraduate education committees or in teaching staff meetings.

Table 3. Programmes and courses that include questions to do with the environment and sustainable development.

Year	Criterion I	Criterion II	Total number of programmes and courses
Programmes 2007 (%)	16 (7,5)	32 (15,0)	214
Programmes 2006 (%)	12 (9,7)	26(21,0)	124
Programmes 2005 (%)	9 (7,3)	24(19,5)	123
Courses 2007 (%)	105 (8,2)	224 (17,4)	1287
Courses 2006 (%)	103 (7,6)	215 (16,0)	1346
Courses 2005 (%)	126 (7,1)	226(12,7)	1776

Criteria for programmes and courses

- Programme/course that has the environment and sustainable development as its main focus
- Programme/course that has components dealing with the environment and sustainable development.

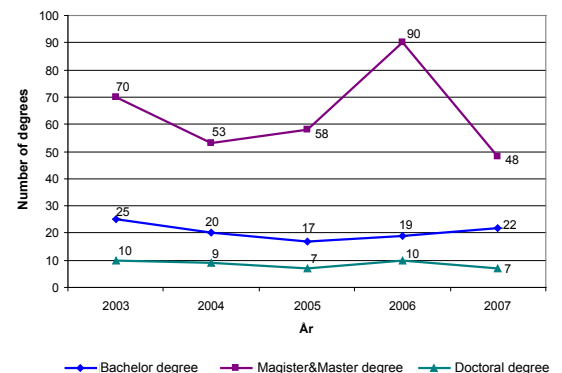
More Sustainable Development in Education

Of the 1,287 courses offered at the University in 2007, one fourth included issues to do with sustainable development, which is an increase from previous years. The number of Magister degrees decreased generally as a result of the fact that a number of Magister programmes are being discontinued and split into a Bachelor and a Master programme.

“HållBarHet” - Student Day for Sustainability

Student Days for sustainable development were arranged in the autumn by the University and Chalmers University of Technology. On the agenda for the two day eventful arrangement were environmental dilemmas, ecological wines, advice on food given by a national team of chefs, and Leonardo di Caprio's climate film. There were presentations about travel, consumption, pharmaceuticals, the clothes industry, climate changes and many other topics. Furthermore, there was an environment cabaret, ecological food and a concert given by the Grassroot Band.

Diagram 2. The number of degrees in sustainable development





The Sustainable Future of the Island of Tjörn

In the spring of 2007, a ten-week case study was carried out concerning sustainable development in the administrative district of Tjörn with a year 2037 horizon. The purpose of the study was to find out how today's Tjörn can be utilised, planned and developed and which values and areas should be given priority in order to attain a sustainable society. The study, which was interdisciplinary, was carried out in dialogue with the local inhabitants, representatives of business and industry, politicians and local authority officials and the contacts took the form of interviews, reference meetings and day visits to different activities. The research group consisted of 20 students and researchers from departments of social sciences and natural sciences.

Postgraduate Syllabus for Environmental Science

In 2007, the School of Business, Economics and Law decided on a new syllabus for postgraduate studies in environmental science, which means that in a few years from now, students can get a Doctor's degree in the subject. The main background of the new syllabus is the fact that students from the Environment Programme in the Social Science Faculty are now starting to be accepted for doctoral studies and in certain cases do not have a background compatible with the syllabi for Economic Sciences.

UNESCO Chair at the University

In the past year, Ingrid Pramling Samuelsson, Professor of Pedagogy at the Department of Pedagogy and Didactics, was awarded a UNESCO

chair of "Early Childhood Education and Sustainable Development". She was also appointed World President of Organisation Mondiale pour l'Éducation Pré-scolaire. She hosted the Gothenburg conference "Role of Early Childhood Education in a Sustainable Society", which was one of several international events in Gothenburg on the theme of education and sustainable development. The conference was attended by researchers and teachers from Europe, Asia, Africa and America, who wanted to discuss the role of pre school education for the attainment of sustainable development. Other topics dealt with were democracy, values, poverty and equality.



UNESCO Professor
Ingrid Pramling Samuelsson

The University Compares Well

In the past year, Green Students compared the work for sustainable development at 14 universities and university colleges and ranked them in three categories: research, education and other activities. In each of the categories a maximum of three points were awarded. The University of Gothenburg was the only one to score the maximum in all three categories, thus getting 9 points as against 7 points for the universities of Lund and Umeå. The general conclusion drawn by the Green Students is that the rule laid down in the Higher Education Act (chapter 1, section 5) about the integration of sustainable development in all research and education is being implemented too slowly.



Emilie Persson

Student as an Environmental Profile

Emilie Persson was appointed as the University's Environmental Profile of the month in October 2007, for her great commitment within environmental and fair-trade issues. During several years she has been the front figure in the Coffee Campaign at the University, by trying to get the University serving only Fair-trade coffee. She has also been an active member of the University's student organization for sustainable development, GUME. Her studies at the University include many different courses, there among Human ecology, political science, Development and International cooperation.

University of Gothenburg appointed six Environment profiles during a year. You find them on www.gu.se/miljo/gronheter



Interaction with the Society

“Open to the rest of the world”, “At the centre of public debate”, “Committed to a sustainable society”. These values are illustrated in the University’s 473 public events on sustainable development that took place in 2007. Researchers at the University of Gothenburg are not isolated in their offices; their doors are open to the world at large. Open to the community, businesses, politicians and the general public, at local, national and international level.

INTERACTION WITH SOCIETY

Objective:

the University aims to present at least one public event every day about sustainable development

Results in brief:

- 473 public events (1.3 per day).
- More events dealing with social perspectives of sustainable development.
- 43 per cent more hits on the website “Miljöportalen”

GMV Educates Journalists

The Centre for Environment and Sustainability, GMV, organised a seminar for journalists on “Writer’s cramp and climate anxiety” – Ask researchers about the solution to climate problems.” Six researchers and about twenty Swedish journalists took part. In addition, there was a seminar for foreign correspondents stationed in Sweden on the theme of the environment and sustainable development in which journalists from France, Poland and Germany listened to representatives from GMV’s network of researchers.

The University in Adult Education

Teachers and researchers also act as important educators outside the University. In addition to a large number of appearances at trade associations, exhibitions and fairs, on TV and in the press, they also give seminars for organisations involved in adult education. Åsa Kasimir Klemmedtsson spoke about climate change, food consumption and biofuel production at adult education centres in Lindome, Borås, Kungälv and Ljungskile.

In the autumn, Sverker Jagers organised a three-day seminar for Folkuniversitetet’s education administrators on sustainable development, equality and accountability and on attitudes to education about and for sustainable development.

The University in Schools and Colleges

Disseminating new knowledge and research findings to schools and colleges benefits the whole Swedish education system. In recent years, this task has become a priority. Mikael Olsson and Håkan Pleijel in the Department of Plant and Environmental Sciences visited high schools to give talks and to carry out experiments. Representatives from the Institute of Medicine attended the Student Fair at one college, ‘Lindholmens gymnasieskola,’ and spoke about food and nutrition in the context of sustainable development.

Another excellent example is the National Center for Mathematics Education, NCM, which now uses environmental issues in many of the sample problems sent out to all mathematics teachers in Sweden. These examples are then used in the teaching in Swedish schools.

New Ways to Inspire Young People

As one of its founders and funding agencies, the University is actively involved in the running of Universeum, one of the largest science centres in northern Europe. Universeum’s objective is to make children and youngsters interested in the natural sciences and technology. The University’s researchers regularly take part in activities and lectures at Universeum and in their programme for the training of in-service teachers.

The website “Miljöportalen” is another example of how to engage with young people and the general public. This is a website that publishes research about the environment and sustainable development in a way that is non-professional and easy to understand. Many teachers use the website in their teaching and many pupils search for information on various environment-related issues. “Miljöportalen” also includes interesting animations and games on the subject of sustainable development. More and more people visit “Miljöportalen” and the number of hits increased by more than 40 per cent over the year.

Emerging Social Perspectives

The public lectures are characterised by a changing emphasis and new perspectives. Only a few years ago most lectures on sustainable development dealt with the natural sciences, for instance, threatened animal species and the chemical background to climate change. In 2007 the University’s diary of events was dominated by lectures with a social perspective on sustainable development. The social sciences, in particular, (School of Global Studies, Sociology and Social Work) have become more important, but the humanities also contributed with lectures about our culture and way of life being the reason for unsustainable development. Gender and equality are other recurring themes in the public lectures.



Focus on the Climate

The issue of climate change is the greatest challenge of our time. The University's research and dissemination of knowledge is important in order to achieve a more sustainable society and reduced climate impacts. But we must also control our own carbon dioxide emissions, especially from travel, transport and energy.

TRANSPORTATION

Objective:

The University aims to reduce emissions of greenhouse gases by 4 per cent between 2007 and 2012

Results in brief:

- Increase of carbon dioxide emissions by 14%.
- Number of kilometres for use of private cars reduced by 4%.
- The share of train travel of total domestic travel increased by 3% to 79%.



Climate-Neutral Goods Transport

A new collaborative project entitled "Climate-neutral goods transport by road" has been started by researchers from the University of Gothenburg and Chalmers, Preem, Volvo Trucks, Schenker and the Swedish Road Administration (Vägverket). The aim is to show how climate impacts from road-based goods transport in Sweden can be reduced by various measures and what the contributing actors can contribute.

The University's climate impacts were monitored over the year by calculating the carbon dioxide emissions from travelling and energy use for all departments. The results made many people aware how different modes of transport affect the climate. Comparisons between departments made many people wonder why energy use at their place of work exceeded that of other departments and made them look at ways of reducing it.

Car Pooling for the Environment

A car pool with 4 environmentally friendly cars was started in December in some parts of the University (Central administration and UFL). The aim is to make employees use safe, environmentally approved cars for official purposes rather than their own private cars. Indirectly, a positive effect is also achieved if employees who need to travel on official business at work do not travel to work by private car and instead cycle or use public transport. When the car pool was launched a special 'travel day' was organised for employees to spread information about the car pool, public transport, cycling and how to avoid travelling by organising electronic meetings.

Travelling

Air travel is the least carbon-friendly mode of travel. The good news is that the University has succeeded in turning the trend of increasing domestic air travel into a reduction of 4 per cent. International air travel increased by 11 per cent, which may be a result of the growth in the University's

international commitments.

The decreasing trend in the number of kilometres travelled by private car is continuing. Figures show a reduction of 4 per cent compared to 2006. Total train travel amounted to more than 4.5 million kilometres, an increase of 18 per cent from 2006. The share of train travel in total domestic travel (air and train) was 79 per cent, an increase of 3 per cent.

Results show an increase in the amount of carbon dioxide emissions by 14 per cent. The aim was to reduce emissions by 4 per cent, which means that the University is moving in the wrong direction in this particular area.

Digital Meetings Reduce Travelling

The number of electronic meetings, so-called e-meetings, increased over the year by 14 per cent (from 2927 to 3335). Interest in electronic meetings is growing, and the University's management are now using Marratech.

Over the year, the IT department has been working to increase the use of electronic meetings by organising two presentations for the staff, by procuring three extra virtual rooms, a new server and new instructions in Swedish.

The Division of Conference Services has offered cost-free video conferences. However, this type of connection seems to be decreasing. There were 183 hours of video conferences, which is a decrease with 39 per cent.

Table 4. Extent and emission quantities per mode of travel (CO₂ emission factor is based on GU's climate model and M.Aronsson's examination project 2007)

Year	Air (international)	Air (domestic)	Train	Private car	Total
2007 (km)	25 976 049	1 180 583	4 521 920	1 197 167	32 875 719
2006 (km)	23 298 190	1 185 581	3 841 031	1 247 070	29 571 872
Emmissions 2007 (CO ₂ , kg)	3 065 173	225 491	26,2	130 491	3 421 181 kg (2 933 002 kg 2006)

Energy Efficiency

The University of Gothenburg is one of Sweden's largest knowledge providers, and aims to furnish students with information that will contribute to a sustainable society. In addition to providing knowledge about sustainable development in the teaching it is important that the University practises what it teaches. Efforts to make buildings more energy efficient are in progress in a number of areas. New light fittings are installed, time-control systems for ventilation and lighting are overhauled, the number of servers are reduced and made more efficient and campaigns that stress the importance of closing fume cupboards are in progress, which will lead to large savings.

Energy Surveys in Two Buildings

Two of the University's departments, Zoology and HDK (the School of Design and Crafts) have carried out extensive energy surveys through the examination projects of Lisa Håkansson, Carl Palstam and Emma Petersson. These surveys have led to proposals for more efficient energy use of buildings and activities. In both cases it turns out to be the relatively simple measures that make the greatest savings: adjusting ventilation running times, making staff close fume cupboards when they are not in use, better time controls for lighting and installing motion sensors in some places. These measures will also be introduced in other University buildings.



Vice Chancellor Pam Fredman meets Al Gore at his visit in city of Göteborg.

Clearer Incentives

In 2007 two seminars were organised to give University staff and substantial landlords advice about how to make room use more energy efficient and to discuss how to facilitate this process.

From the beginning of the year greater incentives for faculties to improve energy efficiency were introduced by decentralising the accounting and debiting for electricity use. By introducing measures that reduce energy each faculty can make economies and savings.

The University is also collaborating with property owners to increase the number of metering points to be able to measure electricity use at more local levels.

Greener Electricity

Choosing electricity produced by renewable sources like wind and solar power or biofuel helps to reduce climate impact. Since 2007 the University of Gothenburg is using a green supplier, Bra Miljöval-el, for all its electricity needs, a total of approximately 7 million kWh. In cooperation with Akademiska Hus the University has prepared an offer to switch to Bra Miljöval-el for the faculties that occupy buildings owned by Akademiska Hus.

Relocation Saves Energy

The University of Gothenburg is spread over the city in a large number of buildings. Over the year the possibility of reducing the number of locations has been analysed and several relocations have already taken place or will take place in 2008, which will reduce heating costs. Relocations to more energy efficient buildings have also taken place, for instance, from a house with oil-fired central heating to a building with district heating. A number of properties have also been converted to district heating.

ENERGY

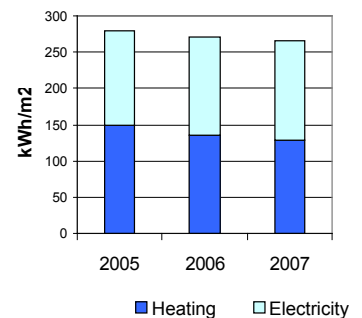
Objective:

The University aims to reduce the use of electricity, heating and cooling in its buildings

Results in brief:

- Green electricity totalling 7 million kWh has been consumed in University buildings
- Energy consumption was reduced by 2% in 2007

Diagram 3. Energy consumption 2005-2007



Klimat-Åskar - An Environmental Award

A new award was introduced to encourage departments to work actively to reduce their climate impact. The prize is awarded every year to the department that has reduced its emissions the most, calculated per member of staff. The first award went to the Finance Division, which today has the lowest emissions per employee.

Resource Management

Our most important products, educated students and research results, require resources in the form of goods and services. It is our aim to make the use of these resources more sustainable, ecologically, socially and financially.

PURCHASING

Objective:

The University's purchasing should be an example to other organisations in terms of economic, cultural, social and environmental aspects

Results in brief:

- Questions about the suppliers' sustainability performance (equality, ethics, work environment, and the environment) are asked in all major procurements.
- In 6 of 13 framework procurements (46%) environmental requirements were placed on the products / services.
- An overhaul of the purchasing organisation led to the appointment of special purchasers.
- Information to facilitate environment-conscious purchases has been improved.

CFK Report Reveals the Trends

Dr Ulrika Holmberg in the Center for Consumer Science (CFK) in the School of Business, Economics and Law puts together a report that gives a survey of private consumption in Sweden every year. This year's report shows that private consumption increased by more than 30% between 1996 and 2006.

A Large Purchaser

The University is a large purchaser of goods and services and an important client for many companies. The purchasing and procurement policy of the University of Gothenburg requires all procurement of goods, services and contracts to be made with the least possible impact on the environment. By making environmental and ethical demands on the products that the University purchases, greater quality and choice may become available from the suppliers. This will further speed up the development and increase the supply of sustainable goods in society. For all major purchases made by the University, environmental and ethical perspectives form part of the selection criteria submitted to suppliers, as well as, of course, economic considerations.

Procurements This Year

In 2007, the University made 23 large framework procurements. In addition to questions asked about the companies' environmental and sustainability performance, direct environmental demands were also placed on the product in 6 of these procurements. When this was not done it was mainly a case of procuring consultancy services. This is an area where there is potential for further development in order to impose environmental demands for intellectual services and equipment intended for research.

Purchaser Decides

In the framework agreements, there is usually the opportunity to purchase a large supply of goods, not just products with better environmental credentials required in the procurement. It is up to the individual purchaser in the University to decide and to choose the most environmentally friendly products. Close to one hundred purchasers in the University were asked how many times in 2007 they made specific demands on or asked questions about the environmental criteria of

the purchased products. The replies show a great variation between 0 and 100% of all cases. About one fifth of those interviewed said that they never made any environmental demands. Most of them assumed that environmental requirements were already included in the procurement since they made their purchases as part of the University's framework agreement. There was a common misunderstanding that more environmentally friendly products are included in the framework agreement. About one third of those interviewed said that they had asked questions or made environmental demands in more than half of their purchases.

Easier to Make Purchasing Environmentally Aware

In order to make it easier for purchasers to be environmentally aware when they make purchases there is a guide with environmental tips. In the agreements database there is information about the suppliers and their environmentally friendly products and some tips about what to consider when choosing a product. These two information sources have been improved over the year.

In order to improve professionalism and the awareness of environmental considerations some individuals with special responsibility for purchases have been appointed in each unit. In the past nearly all members of staff were able to make purchases. With a limited number of appointed purchasers it is now possible to give special training to these purchasers about purchasing rules and environmental and ethical considerations. Further such training will be given in 2008.



Waste Management

The various activities at the University gave rise to 0.29 kg per person (student and staff) per working day during 2007. Total waste has increased since 2006, which is partly explained by the fact that some material-intensive activities have been added during the year.

More than one third of the waste went to recycling, hazardous waste or compost. The objective of reaching 75% for this category is still some way off.

50 ton of glass vessels was collected during the year and all of it was used for new glass or glass wool. Sorting metal gives the greatest recycling gain; 95% of the energy is saved if aluminium is made of recycled material instead of new. The amount of metal collected at the University corresponds to energy savings equivalent to 17 cubic metres heating oil or the yearly cost of heating for seven small houses. Three tons of hard plastic containers contributed a further three cubic metres of saved heating oil.

The University's waste plan is reviewed every year in order to improve sorting. Most faculties have their own guide for local waste sorting, including student areas.

Some units also introduced trials for composting.



Recycling room at Tjärnö Marine Biological Laboratory.

For several years leftover food has been composted at Tjärnö Marine Biological Laboratory and at Stenebyskolan. The total amount of compost at the University is 102 tonnes per year.

The largest share of the waste, 64 per cent, is used for energy production.

Recycling Electronic Waste

Half the hazardous waste was made up of e-waste: 42 tonnes in 2007. This represents a considerable reduction compared to the previous year when the figure was 71 tonnes. That year many computer monitors were exchanged. In Sweden E-waste is recycled by certified e-waste recycling companies. The metal is used for raw material and the plastic is burned for energy production.

Discarded white goods are emptied of freon, which is removed and destroyed. Metals, plastics and insulation are recycled and turned into new products.

Demonstration of Hazardous Waste

During the University's 'laboratory days' more than 300 visitors were trained in risk assessment in handling hazardous waste. The participants were given a practical demonstration outdoors in how to deal with hazardous waste.

WASTE

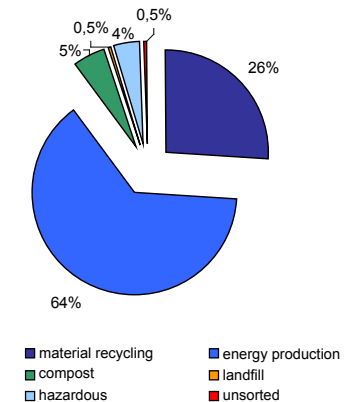
Objective:

Waste recycled, composted or disposed of as hazardous waste should make up 75% of total amount of waste.

Results in brief:

- 35% of all waste was recycled, composted or disposed of as hazardous waste.
- One person at the University (students and staff) produced on average 0.29 kg waste per working day.

Diagram 4. Amount of waste in 2007 divided into types. The total amount of waste in 2007 was 1,900 tonnes.



Hazardous Chemicals to be Replaced

As part of the University's objective to reduce environmental impacts from chemical products several new measures were introduced during 2007; for example, the University was one of the major initiators in a national group for chemical substitution.

CHEMICALS

Objective:

The University aims to substitute and reduce the use of hazardous chemical products

Results in brief:

- A national substitution group has been formed.
- 300 visitors attended 'laboratory days.'
- A film, 'The Sustainable Laboratory,' was produced.



Medical drugs in drains

Associate professor Joakim Larsson and his team show in their research that discharges of drugs from pharmaceutical industries can be a very big problem. As a result of the study the pharmaceutical industry has recently initiated a change in global production guidelines in order to include standards for emissions.

More Substitutions

In 2007, a national substitution group was formed, whose aim it is to develop alternatives to hazardous chemicals and to provide information about chemical substitutions available today. It consists mainly of county councils and universities that play a leading role in environmental work, for example, the University of Gothenburg. This group is the driving force behind environmentally adapted laboratory work, and has over the year collected many good examples of substitutions carried out in different parts of Sweden. It supports and encourages moves for reduced environmental impacts from chemical products.

Fairs and Film As Inspiration

In order to provide inspiration and information about how the University can reduce environmental impacts in laboratories, two well-attended 'laboratory days' were organised. A fair with suppliers of laboratory equipment alternated with presentations dealing with virtual experiments, micro-scale experiments and environmentally adjusted use of chemicals at the University of Gothenburg. The suppliers focussed on energy efficient equipment, ready-made 'kits' and methods to cut the use of chemicals. In total 26 suppliers gave about 15 presentations over two half-days. Visitors included researchers, doctoral students and laboratory staff. A film about the University's laboratories and their environmental impacts was also launched.

Greener Cleaning

The University of Gothenburg is committed to reducing the use of chemicals in cleaning processes. Liquid-free techniques, so-called dry-method cleaning, are introduced, which reduce the amount of chemicals used and produce better results. Most of the substances used are environ-

mentally approved, except, for example, 'Polish-bort,' which was reduced by 20% from 2006 to 2007. In some cases the use went up: 'Allrent,' 'Grovent' and 'Sanitrent' all increased by 15%.

Examples of Chemical Substitutions

- The School of Design and Crafts now uses citric acid instead of sulphuric acid for etching baths in their jewellery workshop.
- The Lundberg Laboratory now uses SYBR Green, a considerably more environment-friendly alternative than ethidium bromide, which was earlier used to visualise nucleic acids on agarose gel.
- Whenever possible, the Department of Plant and Environmental Sciences cleans completed PCR reactions (20ul) with used MILLIPOR MultiScreen PCR 96-Well Plate instead of PCR cleaning-kits. In the MILLIPOR MultiScreen PCR 96-Well Plate system the reaction is diluted with MilliQ water (250 ul / reaction) and unwanted byproducts are removed by vacuum filter.
- The Department of Physics has replaced dye lasers with solid-state lasers. Environmentally hazardous dyes have been removed.
- The Institute of Biomedicine is aiming to replace propylene oxide with acetone.
- In order to reduce the use of chemicals the Institute of Biomedicine has begun using 384 well plates instead of 96 well plates.
- The Institute of Clinical Sciences is using a new filter paper method for the analysis of the growth factor IGF-1. This saves a large amount of energy since centrifugation and storing at -80C are no longer necessary.
- The Wallenberg Laboratory has purchased a Meso-Scale Discovery Sector Imager with greater sensitivity, which reduces the need for reagents. In addition, a new kit for RNA extraction is now used where the need for reagents, the number of plastic pipes and plastic tips have been reduced by a third.

Human Capital

The University is a knowledge organisation, which survives by developing and updating its competencies. For some types of strategically important development the University has decided to coordinate its activities, for instance, in terms of work environment, the environment, equality, safety and pedagogical development.

Competence Development in Equality

In 2006 and 2007, three separate training courses have been given for a total of approximately 70 participants. The courses, which are primarily intended for equality representatives at faculty and department level, deal with legislation, the representatives' roles and responsibilities and the introduction and monitoring of action plans.

The courses consist of lectures, seminars and workshops. The aim is for all representatives to take these courses. Information campaigns have also been provided for staff and students about current legislation. They include advice about where turn in cases of potential harassment, offensive behaviour or discrimination.

1,700 Saw Film About Climate Change

In 2007 more than 1,700 staff and students saw 'An Inconvenient Truth' by Al Gore at special screenings arranged by the University. The film, which deals with the problem of climate change, was the public event of the year. It was preceded by a film about the University's environmental work, entitled 'The Sustainable University.' When Al Gore received the Nobel Peace Prize and became the recipient of the Gothenburg Prize for Sustainable Development, the University invited one hundred guests to a special climate event at Scandinavium to celebrate the occasion.

A Mixed Bag with Long Sustainability

The Sahlgrenska Academy set a good example when it comes to informing and educating employees about their own environmental work. Professor Mats Sandberg has played a leading role in the training, and management, employees, research students and undergraduates on 16 programmes were educated over the year. In

addition, a tailor-made course for more than 200 future dispensers, chemists and doctors, 'Medicines and the Environment' was given.

The Environmental Unit organised training courses on a number of subjects:

- Sustainable lighting
- Working with distance conferences
- What is environmentally adjusted travel?
- Courses on the environment and sustainable development in terms of what the employees themselves can contribute
- A seminar on perspectives of alternative automotive fuels
- Courses on ecological food and environmentally adjusted conferences for the University's conference and guest service



Ecological Christmas buffet at the Department of Food, Health and Environment

COMPETENCE

Objective:

All members of staff should be made aware of how to contribute to a sustainable development in their area of responsibility

Results in brief:

- 51% of employees took part in some form of environmental training
- Total number of staff training hours was 4,950 (includes students who watched a film, and programmes at the Sahlgrenska Academy)
- 70 participants attended courses in equality and equal treatment

Health, Pleasure and Climate

One of the most successful events of the year was organised by the Department of Food, Health and Environment just before Christmas: a vegetarian, ecological buffet with food from all over the world combined with a presentation about the importance of food for soul, body and environment. A very tasty and colourful experience!

The Faculty Level

The Vice Chancellor's Office issues some general guidelines for the sustainability work at faculty level. They include the need for each faculty to have their own action plan, to define responsibilities and powers and to monitor legal requirements. Most faculties go beyond these basic requirements and extend their work to include detailed and ambitious aims and objectives. At faculty level the responsibility for this work lies with special environmental coordinators, and many faculties have achieved important results over the year. A short presentation of the sustainability work done at each faculty follows below.

The Sahlgreńska Academy

In 2007, the Sahlgreńska Academy focussed on the implementation of the plan for integrating sustainability work in the undergraduate programme. Another important task was to provide incentives for environmental work and to prepare audits in the Institute of Biomedicine and some areas of Clinical Sciences and Medicine.

Other concrete measures include:

- The introduction and establishment of a new 'Routine for the application of environmental management system at department and unit level' including a checklist to simplify all environmental work
- Information to all new undergraduates (16 programmes) and research students about sustainable development in the Sahlgreńska Academy
- Conducting a travel survey of all employees in cooperation with the Traffic and Public Transport Authority
- The training of staff, environmental representatives and students on the theme of 'Medication and the environment' (Joakim Larsson)
- Complete integration of the Academy's environmental management systems in the new web system.

The Faculty of Science

Two units have been incorporated into the environmental management system in 2007: Dacapo in Mariestad, after its move to new premises, and Tjärnö Marine Biological Laboratory, after some years with its own environmental certificate.

Over the year, varied and nuanced environmental work has been done in several areas according to the prevailing conditions in each faculty. There is considerable cooperation between the departments, Akademiska Hus and the Division of Buildings and Services.

Resources and Waste

The Botanical building has a useful model for practical environment work that engages many people. There is an annual clean-

ing day, which ends with a common lunch. This year began with a presentation about energy-saving measures, freezers and old machinery were defrosted, and discarded chemicals were disposed of. Mathematical Sciences has introduced small waste bags instead of wastepaper baskets. The amount of waste has been reduced and paper recycling has increased.

Energy

The Department of Cell and Molecular Biology is responsible for energy issues in the Lundberg Laboratory. As a result of improved maintenance it has been possible to cut electricity use in the greenhouse by nearly 30%, and refrigeration gases in the laboratory's climate system have also been reduced. The campaign to keep fume cupboards closed has led to a steady reduction in electricity use by nearly 10%. In cooperation with the Division of Buildings and Services the Department of Zoology has carried out an energy survey with the aim of identifying new ways of saving energy.

Information, Communication, Education and Pleasure

Environmental news is on the weekly agenda in many departments, and questions about practical solutions to environmental problems can easily be discussed locally. The Department of Mathematical Sciences, the faculty office and the Department of Conservation have exchanged ordinary coffee, tea, chocolate and fruit for ecological and fair-trade products. The Department of Conservation also held an 'environment day' for its employees in which a film about the University's environmental work was shown together with Al Gore's 'An Inconvenient Truth.'

Since our students probably are our most important environmental considerations, it is encouraging to be able to report that about 60 of the faculty's students attended this year's edition of 'Håll Bar Het,' special student fair about sustainability, which includes seminars about sustainable, technical solutions, future energy systems and an environment cabaret, as well as food for pleasure, health and climate and the ecological inspiration of the Swedish national team of chefs.



The Faculty of Arts

In 2007, the Faculty of Arts decided to implement an action plan for the environment and sustainable development for the period 2007-2010. The objective for cooperation with the community was completed

10-11 November. The theme for this year's 'Humanities Days' was 'Climate.' A digital, non-scientific version of some of the presentations is available on the Faculty's homepage.

The Dean has appointed Martin Hellström (Vice-Dean) as the management's representative. The management's presentation was held on 17 May. Environmental coordinators and representatives have amended the waste sorting guide, and all departments except two now use the new guide. In the external audit in June there were no discrepancies or remarks and the Faculty's work on environmental issues is progressing regularly and methodically. Staff are becoming more actively involved in environmental work and environmental issues are better integrated into seminars / discussions. At department level employees are continuing to work with waste sorting, efforts to reduce paper consumption, electricity use and travel and transport.

- Individual researchers have taken part in various events and given presentations about sustainable development, nationally as well as internationally. Here follow some examples:
- One researcher was invited to a workshop at the Swedish National Heritage Board about the European Landscape Convention
- A paper entitled 'Do Cows Belong in Nature: Translations of Farming in Swedish and Australian Landscapes' was presented at the conference for the European Association for Studies of Australia (EASA) at Roskilde, Denmark 27-29 September
- Seminars in the interdisciplinary project 'Ownership and Cultivation for Long-term Sustainable Landscape Preservation'
- 'Sustainable Eating Children's Way' is a collaborative project between the Departments of Ethnology, Business Administration, Food, Health and Environment, and Chalmers. The project studies children's foodscapes through their active involvement
- a project called 'The Global City' has been concluded, and research funding has been awarded for a new project, 'Reclaim the City: Urban Conflicts and a Sustainable City'
- lectures about sustainable development in several departments and annual online courses will continue in the future since this has been a successful concept.

The Faculty of Fine, Applied and Performing Art

The School of Design and Crafts is working in an exemplary manner to incorporate perspectives of the environment and sustainable development in their activities. The workshops are characterised by orderliness and a high level of awareness about hazardous chemicals and their use. The School of Photography also has a high level of awareness about environmental questions and their handling of chemicals is good. Likewise, the Academy of Music and Drama and the Göteborg Organ Center have incorporated new routines to avoid threats to



the environment when working with dangerous substances. There is nevertheless an urgent need for a more active incorporation of environmental issues in all the Faculty's programmes, and a further strengthening of this commitment is planned for 2008. In particular, the environment will be emphasised in the Faculty's research.

The Faculty of Social Sciences

The work of integrating sustainable development in the teaching continued with four seminars for invited teachers and students. In the first seminar entitled 'The Condition of the World,' Al Gore's film 'An Inconvenient Truth' was shown. It was followed by a discussion and comments from a group of researchers from the Faculty of Science. The series continued with issues concerning the condition of Sweden, like the carbon footprint from Swedish food production and material flows in society. Subsequent seminars dealt with Sweden's environmental policy and political challenges and with the importance of household and individual consumption in relation to our overall success in making society sustainable.

In the new action plan environmental research in the social sciences is a target area for improvement. In the autumn of 2007 discussions took place about organising seminars where research funders are invited in order to promote research and to develop a network of contacts for the Faculty's departments as well as with outside bodies. The first seminar is planned for February 2008 to deal with the need and potential for integrated research in the social sciences. The departments report that external research projects dealing with sustainable development attracted over 20 million SKR in 2007, an increase of about 6 million compared to the previous year.

Locally, in the process of refurbishing premises at Haga, the Faculty has introduced measures to reduce the cost of lighting. In many cases occupancy sensors have been installed and low energy light bulbs are used in corridors and offices. It is estimated that these measures will reduce the amount of energy used for equivalent areas by 30 to 40 per cent.

Most of the environmental work at the Faculty of Social Sciences during 2007 consisted of developing a new action plan for environmental and sustainability work. Improvements have also been made to the Faculty's environmental web. The homepage and the Faculty's environmental guide have been amended and provided with clearer search links and a more attractive layout.

The School of Business, Economics and Law

The focus of the School's environmental work has mainly been on improving research and education in relation to the environment, sustainability and corporate social responsibility. The School has its own action plan that includes environmental targets to strengthen areas where environmental impacts are considered to be vitally important. Research and teaching have been identified as the most important areas for prioritisation.

Several environmental events and activities took place in 2007. A large number of students completed doctoral or licentiate degrees in Environmental Science, Environmental Economics and Business Administration. A new research institute in Environmental Economics at Peking University has been established in cooperation with the Environmental Economics Unit. The Department of Business Administration has started a forum for environmental issues in research and teaching. The research group in Human and Economic Geography held meetings at regular intervals.



In 2007, the Department of Economic History formed a unit for research and teaching on the subject of Environmental Economic History. The intention is to establish this subject as a natural part of Economic History. The unit has initiated research about the history of ecological milk and taken part in the development of courses for a new Master's programme. Cooperation has started with researchers from Chalmers to prepare cross-subject research funding applications in the coming years. The unit also initiated the formation of a national Swedish network of economic historians specialising in environmental history.

Courses have been given at undergraduate, master's and doctoral level, and research, advice and other activities have been increased. In cooperation with other faculties we run a comprehensive environmental programme in the social sciences (SMIL). Over the year we developed our own and unique master's programme for SMIL in the areas of Environmental Management, Environmental Economics, Environmental Geography and Environmental Economic History. We continued to develop and improve courses and pedagogical aspects in SMIL and other programmes.

We have also published many articles on environmental issues dealing with environmental law, economics, geography and corporate social responsibility. We continue to develop the link between research and teaching and with the community. In cooperation with property services and property owners we have made improvements to attain our targets in relation to energy and climate issues.

The Faculty of Education

The Faculty of Education replaced the environment council with an environment committee with a different composition. The aim is to improve the supervision of all environmental work. The main task of the environment committee is to implement the Faculty's environmental targets within the specified time limits.

The evening activities in the Faculty's three buildings have now been concentrated to House A, which has led to a reduction in energy consumption in the other two buildings because of reduced ventilation and lighting.

Travel and transport: In 2005, when the Faculty was still in Mölndal, a travel survey was carried out among staff. This year a follow-up survey was done by the city's Traffic and Public Transport Authority. Results show that as a consequence of the move into the city more employees live closer to their place of work and that the most common ways of travelling to work are public transport, cycling or walking. The greatest environmental gain is that only one fifth of employees now use private cars to travel to work. For students the most common mode of transport to get to the Faculty is public transport, one fifth of them cycle and those who live nearby walk. Only very few students use private cars. The Faculty also sponsored all those who joined the Bike challenge 2007 with a start pack. Five teams with a total of about 30 riders took part. The part of the Department of Sport Education that was still in Mölndal moved to the city during the summer. As a result the travelling habits of students and staff who move between different sporting venues in the city were dramatically changed. In order not to disrupt the timetabling too much 50 ladies bikes were purchased. Students and teachers can use the bikes as long as they are at the Department of Sport Education. A good solution for the environment, the budget and everybody's health.

Environmental profiles: in June Ingrid Pramling Samuelsson, Professor of Pedagogics at the Department of Education, was the environmental profile of the month for her increasing involvement in sustainable development in pre-school education. Ingrid believes that it is important that young children are taken into account in all discussions about sustainable development. In December, Helene Wählander, researcher and teacher in the Department of Food, Health and Environment, was the environmental profile of the month for her long-standing work on sustainable food consumption. In order to provide inspiration for the University's staff Helene and her students organised an ecological, vegetarian Christmas buffet as part of a food and environment seminar.

Sustainable development: in the teacher training programme (Home Economics) sustainable development is integrated in all courses and subcourses, as well as in some courses in Food, Health and Environment. The department has organised a number of public events dealing with sustainable development. In the teacher training programme (general entry) sustainable development in various perspectives is included in one subcourse. Over the year, about 600 students took part in this course. The climate film 'An Inconvenient Truth' was shown for staff and students on two occasions.

The Education and Research Board for Teacher Training

Environmental work has been a subject of discussion throughout the year. Board meetings have been dealing with environmental issues, and environmental work is an urgent and vital part of the activities.

In 2007, two representatives for the Education and Research Board for Teacher Training (UFL), Mikael Olsson and Sverker Jagers, took

part in a national seminar series for teacher educators on learning about sustainable development and global issues. The series was organised by The Global School (SIDA and the Swedish National Agency for School Improvement) in collaboration with Stockholm Institute of Education.

Worth mentioning is that the teacher training is carried out in approximately 40 departments in the following faculties: the School of Business, Economics and Law, the Faculty of Arts, the IT University, the Faculty of Fine, Applied and Performing Art, the Faculty of Science, the Sahlgrenska Academy (Institute of Health and Care Sciences), the Faculty of Social Sciences and the Faculty of Education. Based on the Faculty's objectives for 2006 a working group has prepared a proposal for increasing the integration of sustainable development in teacher training. The group consists of Sverker Jagers (the Faculty of Social Sciences), Mikael Olsson and Johan Boman (the Faculty of Science) and a student representative, Anders Lind. The proposal was submitted to the Faculty board in January 2008.

Since November 2007 UFL is included in a car pool at the central administration. As a registered member of the car pool staff at UFL will help reduce negative environmental impacts while travelling to schools and colleges to supervise students' teaching practice.

Over the year all staff members in the faculty office have actively contributed to the drawing up of an action plan for 2007-2010. There have been opportunities to discuss suitable targets and to come up with proposals for continuing the work on the plan. Other measures to reduce negative environmental impacts include the decision only to order environmentally friendly print products (using the swan as symbol) from May 2007. At a conference for study counsellors UFL recommended travelling by train rather than using private cars. UFL has started using ecological coffee and fair-trade tea. As a Christmas present the employer gave all faculty office staff the book "100 sätt att rädda världen" (100 ways of saving the world) by Johan Tell, which includes tips about what we as individuals can do to help achieve a more sustainable future.

The IT University

One of the objectives for the IT University is to initiate collaboration with an organisation called Miljöbron ('the environmental bridge'). Two representatives from Miljöbron were invited to give a presentation about their work and to establish a contact. Miljöbron is an organisation that facilitates links between small and medium-sized companies and higher education in western Sweden.



Their track record is impressive and their enterprise has been boosted as a result of the debate about climate change. Their compass now includes sustainable development in a broader definition of climate issues.

Miljöbron carries out short

assignments (10-20 hours), course projects (2-10 weeks), examination projects (10-20 weeks) and paid project employment. For all

their work (excluding paid employment) they insist on including an academic component in the projects. The main focus of the meeting was to understand what types of activities the IT University should initiate and what potential projects might look like. The discussion showed that the IT University should aim for collaborative projects, which can be facilitated by Miljöbron. Some existing projects were discussed.

A plan for collaborative action has been agreed:

- To identify a suitable course at the IT University as a first reference project (2-10 weeks). The requirements of the course must be presented to Miljöbron in the spring of 2008 to give them enough time to find a suitable assignment for the autumn of 2008.
- To appoint a coordinator and contact person for Miljöbron. This must be an individual with a good knowledge of the educational activities at the IT University.
- To organise a presentation by Miljöbron at our Careers Day (Gösta) and for all students planning their examination projects.
- To put together an examination project with the IT University as employer / client in order to analyse the problematic of dual environmental management groups.

The University Library

A new system to create virtual servers (VMwareESX) was installed in the summer of 2007. It consists of three servers, which, with special software, can replace around 20 old servers. The number of servers has been reduced from nearly 40 to around 20 despite an increase in efficiency, which has resulted in greater running dependability and lower energy costs.



During the autumn of 2007, a new method for remote on / off controls of personal computers has been introduced. All computers are now switched off automatically at night. They are also switched off during the day if they are logged out but not switched off. The computers can be switched on temporarily for software updates to make sure functionality is not impaired. This remote on / off facility had earlier been installed on the Library's public computers. This means that all 900 of the Library's personal computers are switched off at night, which saves a great deal of energy.

In 2007, the share of domestic air travel was reduced to 2% of total domestic travel outside Gothenburg. In addition, a Marratech licence (a software for digital meetings) has been purchased and there has been a marked increase in the use of this facility compared to travelling to hold meetings.

During 2007-2008, the University Library will introduce a web-based system for dealing with shortcomings (GÄRDA), where users can register proposals and report failings and deviations in the Library's environmental work.

Glossary

The Bicycle Challenge	A competition in Gothenburg which aims to induce more people to leave their cars and ride their bicycles to work and/or on-the-job.
The Brundtland Commission	In 1987 the Brundtland Commission presented its report “Our Common Future”. The Commission had concluded that our existing rate of social development is not sustainable in the long run. Sustainable development was defined by the Commission; see below under Sustainable Development.
Core facilities	Core Facilities within the Sahlgrenska Academy is a coordinated resource within the area of biological science. Core Facilities provides advanced technical equipment and highly qualified skills, as well as educational programmes within the different disciplines.
EMAS	Echo Management and Audit Scheme, the EU’s organisation for environmental management and auditing. The EU standard for environmental management systems, which is almost identical with ISO 14 001, though it differs on certain points, such as the requirement of public environmental reporting. www.miljostyrning.se
EPSD	EPSD, the European Panel for Sustainable Development, is a network of universities and other research institutions. The University of Gothenburg, Chalmers, Lund University and individual researchers at Charles University in Prague and London School of Economics founded EPSD.
Environmental audit	A management instrument which involves an examination and assessment of how the environmental organisation, management routines and equipment function with the purpose of protecting the environment.
Environmental coordinator	Person coordinating the environmental work at the faculty level.
Environmental manual	Contains all documentation within the University’s environmental management system.
Environmental management system	Comprehensive management system which includes a systematic introduction of an organisation’s own environmental policy.
Environmental representative	Person responsible for the environmental work at the level of departments or sections.
Fare-trade certified	Certification which guarantees that those who produce the product have fair and just working and living conditions.
GAME	I“Göteborg Action for Management of the Environment” (GAME) is a collaborative project in western Sweden between various social agents. The common theme is sustainable development. GAME initiates projects and activities which require collaboration between several agents.
GMV	The Centre for Environment and Sustainability, is Chalmers’ and the University of Gothenburg’s shared organisation for work with the environment and sustainable development.
GU	The University of Gothenburg
Indicators	Indicators is used synonymously with key figures; indicators are measured to follow the development of a certain environmental aspect.
IPCC	International Panel of Climate Change is the UN’s research panel for questions about
ISO 14 001	International Organisation for Standardization = ISO. The international standard for environmental management systems. The standard’s main purpose is to support the work with environmental protection and to prevent environmental pollution, while the necessary consideration is given to socioeconomic needs. A certification according to ISO 14 001 is a sign of systematic environmental work, of work with those areas where the organisation has the greatest environmental impact and of the ability to demonstrate continual improvements in the environmental area.
KLARA	An IT-based chemical management system, which provides updated risk and waste information.
Marratech	A software program used for electronic meetings.
National environmental objectives	The Swedish parliament has established 16 environmental objectives, which apply to the whole of Sweden. See http://miljomal.nu
Sustainable development	Sustainable development is defined according to the Brundtland Commission: “that development meets today’s needs without jeopardising the ability of future generations to meet their needs”.
Unique visits	A measurement which is used to measure the attraction of a certain website. The term “unique” means that individuals who have moved between the pages of the same website are not double counted.

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Read more about the University's work for an
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