

# KTH's sustainable development objectives 2016-2020

## Education

Objectives 2016-2020:

- KTH shall increase all employees' and students' knowledge of and involvement in issues relating to sustainable development.
- Sustainable development shall be integrated into all educational programs at all levels so that students can contribute to the sustainable development of society after graduation.

Sustainable development shall be integrated into all of KTH's educational programs, including doctoral programs. There should also be educational programs at all levels with a sustainability focus. In all architectural and five year engineering programs students should have an opportunity to develop a sustainability profile through selection of elective courses or the possibility to choose a master program or track with a sustainability focus. Within KTH's environmental management system, all schools shall establish an action plan on how to strengthen the integration of sustainable development into the school's educational programs. This may, if possible, be integrated with educational programs and development plans. Evaluations, assignments and investigations mandated centrally and related to education should include/integrate sustainable development. A pedagogical course on Learning for Sustainable Development should be held at least once a year. Seminars and network meetings for teaching staff shall be arranged. Employees and students at KTH shall be provided with knowledge and awareness of sustainable development relating to their work and student life. KTH will offer employees both broad general education and necessary specialized training programs, for example in chemical management. Future quality assurance evaluations shall include sustainable development.

## Background

The skills and attitudes that students develop throughout their education at KTH will have indirect impacts on sustainable development after their graduation. Upon completion of their education, students at all levels should have the basic knowledge and tools they need to make relevant assessments and evaluations related to sustainable development. The Swedish Higher Education Ordinance includes learning outcomes related to sustainable development. In 2012, a self-evaluation of the fulfillment of learning outcomes related to sustainable development was conducted at all three- and five year engineering programs, and five year architecture program. The self-evaluations worked as a basis for dialogues with the school's management during visits in 2013, resulting in written action plans for program development within environment and sustainable development 2013 and 2014. In 2015, a follow-up of KTH's programs was conducted to assess fulfillment of national learning outcomes, KTH's

environmental objectives and the targets outlined in KTH's Strategic Plan 2013-2016 with regards to sustainable development within the three- and five year engineering programs, and architecture programs at KTH.

KTH offers various opportunities for employee training in environmental and sustainable development. A variety of courses are available, for example an open web-based basic training on sustainable development, as well as specialized training in areas such as chemical management and learning for sustainable development.

### Follow-up

Follow-up will be conducted by analyzing learning outcomes on program- and course level, and course content. Quantitative indicators are determined by the number of courses that include environment and sustainable development, the number of programs that focus on sustainability, the number of teachers who complete the pedagogical course in Learning for Sustainable Development, and the results from the Alumni career survey and the mid-way questionnaire to students regarding sustainable development. Qualitative evaluation based on the students' evaluations of learning activities and examinations shall be incorporated in the follow-up.

Follow-up of employee training is conducted by compiling a list of participants who have completed the courses. Documented staff training plans are also followed up centrally, at KTH's schools and the university administration. New indicators for follow-up may also be relevant.

Responsible for follow-up: KTH Sustainability Office, KTH Schools

### **Research**

Objectives 2016-2020:

- KTH's research for sustainable development shall increase.
- The integration of sustainable development in KTH's research base shall increase.

KTH's research base includes faculty positions, faculty funding, research centers and external funding. All KTH schools should conduct research for sustainable development. Sustainable development should be a driving force behind the development of new research. Competency about sustainable development shall be integrated into more disciplines. KTH's research shall develop, apply and disseminate technologies, practices, attitudes and skills that contribute to sustainable development. Future assessments of KTH research shall include sustainable development.

### Background

The results of KTH's research are an important part of the indirect impacts KTH has on sustainable development. KTH should be one of the leading technical universities in Europe in terms of scope and quality of research in the fields of the environment and sustainable development. Today, research in the fields of the environment and sustainable development is

conducted in many parts of the organization. At KTH there are research groups where the main focus is the environment and sustainability, research groups where findings contribute to solutions for sustainable development and there are also groups where environment and sustainable development are aspects of their research.

### Follow-up

For follow-up a number of quantitative indicators are used including: publications and citations linked to relevant keywords, grants from selected financiers, and faculty positions with a focus on sustainability as a subject based on a number of keywords and ranking lists where possible.

Responsible for follow-up: KTH Sustainability Office

## **Collaboration**

Objectives 2016-2020:

- In collaboration with new and existing partners, stakeholders and students, KTH shall work to contribute to sustainable development of society.
- A stronger picture of KTH as a leading technical university in sustainable development shall be conveyed through communication, dialogue and interaction with the surrounding community.

Collaboration strengthens the quality of research and education for sustainable development. KTH shall work with partners that contribute to sustainable development and involve students in KTH's work for sustainable development. KTH shall develop a strategy for how the brand should be associated with sustainable development. This includes increasing the visibility of KTH and our societal impact in relation to sustainable development. Marketing of KTH's educational programs should emphasize that with an engineering education one can directly contribute to a sustainable development of society. KTH's sustainability work must be visible on KTH's homepage ([www.kth.se](http://www.kth.se)).

### Background

Internal and external collaboration is central in the process for sustainable development. KTH's reputation makes the university attractive as a partner in the area of sustainability. KTH accepts and shows social responsibility through external and visible activities in the areas of the environment and sustainable development. Activities such as projects and seminars have been conducted by and for students.

In addition to KTH's strategic partners, KTH has other organized collaborations which include other companies, government agencies, universities and organizations.

### Follow-up

Quantitative indicators of the number of press releases, articles on the web and similar related to KTH and sustainable development and visibility in the media is monitored. KTH's collaborations linked to sustainable development are analyzed and monitored. The number of adjunct professors, affiliated faculty and industry doctoral students with sustainability profiles is monitored. Student projects and student collaborations are followed up. Follow-up of how the outside world perceives the KTH brand in relation to sustainable development is to be followed-up. New indicators for monitoring/ follow-up may also be relevant.

Responsible for follow-up: KTH Sustainability Office

## **Work Environment**

Objectives 2016-2020:

- KTH is to have a good physical, organizational and psychosocial work environment.
- KTH shall work systematically and preventively to ensure a good work environment.

### Background

A good working environment contributes positively to creativity and health, and provides a basis for good performance and results. Work environment refers to anything which affects employees and students: attitudes, leadership, approach and behavior towards each other, work premises, equipment, furniture, chemical products, work methods, work organization, cooperation and social interaction as well as opportunities for recovery and personal growth.

Follow-up: indicators shall be developed.

Responsible for follow-up: Human Resources Department, KTH Schools

## **KTH's campuses<sup>1</sup>**

### Objectives 2016-2020:

- KTH's campuses shall be sustainably developed and managed. Ecological and social values shall be preserved and strengthened.
- The highest environmental performance must be sought when constructing or renovating facilities and buildings.
- KTH's energy consumption shall be reduced by 10 % (electricity, district heating and cooling) per fulltime employee, full-time student and per square metre.
- The use of sustainable means of travel and transport to, from and between our campuses shall increase
- KTH shall increase the knowledge of and have a safe and effective management of hazardous waste.
- Appropriate conditions for sorting all relevant waste fractions should be fully available at KTH, the amount of waste per person shall decrease and the sorted waste shall increase.
- KTH's campuses shall be used in education, research and collaboration for sustainable development.

Ecological and social conditions shall be included in all development planning. Ecological values must be preserved and strengthened where necessary, for example, through the protection of old oak trees, the replanting of trees and the selection of plants. Buildings shall be environmentally certified to the highest class possible within reasonable economical boundaries. Energy consumption shall be reduced without compromising the indoor climate. The share of renewable and locally produced energy shall increase. Sustainable means of transportation should be encouraged by making it easier for those who cycle, walk and use public transport and to increase the share of pedestrians, cyclists and users of public transportation.

Hazardous waste, particularly chemicals, will promptly be sent for destruction. The proportion of sorted waste will increase by installing appropriate recycling receptacles on all of KTH's premises. Sorting of organic waste and cardboard packaging will be introduced. To improve waste management, KTH will increase collaboration with landlords and restaurants on our campuses. The amount of waste shall be reduced through planning, smart purchasing and procurement and through dialogue with suppliers as well as through increased internal reuse.

Campus will be increasingly used in education and research to test new sustainable solutions while strengthening sustainable campus development.

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<sup>1</sup> "KTH's campuses" objective includes the aspects, energy, new construction and renovation, outdoor environment, transports and waste.

## Background

KTH operates on five different campus areas and our activities affect them and the surrounding environments in different ways, through, for example, the use of buildings, transport planning and the use of green spaces. As part of our work with previous environmental goals, procedures for environmental requirements in buildings were introduced, and energy consumption has decreased since 2012. *The Campus Plan 2014* included a number of investigations related to trees and green areas on KTH Campus, these were conducted in collaboration with KTH's landlord.

KTH generates large amounts of household waste and hazardous waste. Recycling receptacles have been surveyed, evaluated and installed in more locations. Statistics for hazardous waste have been collected and old chemicals appropriately disposed of.

## Follow-up

Environmental standards in construction projects and the number of environmentally certified buildings shall be followed-up. Completed projects in conjunction to the Campus Plan 2014 and other improvement projects on the campuses related to transport and ecology and implemented joint projects with students connected to campus shall be followed-up.

Energy sources and energy use is followed up using statistics from the landlords and KTH's own measurements. These are reported per full-time employee, full-time student and per square meter.

Follow-up of waste uses statistics from waste contractors and landlords and are reported per full-time employee equivalent and per full-time student.

New indicators for monitoring/ follow-up may also be relevant.

Responsible for follow-up: KTH Sustainability Office, Department for Building and Environment, KTH Schools

## **Travel**

Objectives 2016-2020:

- Achieve a 20% percent reduction in carbon emissions resulting from business travel per full-time employee equivalent.
- KTH shall increase knowledge of and create conditions for IT solutions for travel free meetings.

Carbon dioxide emissions from travel shall continue to decline. The need to travel shall always be evaluated and digital forms of meetings shall replace physical travel as often as possible. Train travel shall replace short-haul flights under 500 km. Taxi and car rental shall be used sparingly and the use of environmentally classified cars and car-pooling is encouraged. Equipment for digital meeting forms such as videoconferences and teleconferences will be easily accessible and the employee's knowledge about different

solutions should be increased through training. Effective and functional support will be available for digital meetings. The possibilities to introduce carbon offsetting or internal taxation shall be investigated.

### Background

KTH employees generate large amounts of carbon dioxide emissions through travel, especially business travel by air. KTH is among the top five public authorities in Sweden when it comes to carbon dioxide emissions from long flights. As a part of KTH's environmental work, new guidelines for meetings and travel have been developed which clarify environmental aspects of travel and statistics have been improved. In 2014 carbon dioxide emissions from travel had fallen by about 17% and train travels had increased by 10% compared with 2012.

### Follow-up

Monitoring of business travel carbon dioxide emissions is based on statistics provided by KTH's travel agency (incl. flight, train, taxi, rental car) and from the payroll system (mileage). Follow-up of travel free meetings is conducted using documentation of the use of meeting systems and completed training courses, as well as qualitatively.

Responsible for follow-up: KTH Sustainability Office, KTH's travel manager and KTH's IT department.

## **Purchasing and Procurement**

Overall objectives 2016-2020:

- Sustainability requirements shall be made in all procurements, calls and purchases, where possible. Sustainability requirements shall be continuously evaluated and developed.

KTH shall establish and develop sustainability requirements for procurement, suborders and purchasing. The number of procurements in which sustainability requirements are made shall increase and the requirements shall be continuously developed. Knowledge of requirements for sustainable procurement, suborders and purchases will be improved through training.

### Background

KTH is a major consumer of goods and services. By setting environmental and sustainability requirements in procurements at KTH, better purchasing decisions can be made. KTH's work with the environmental management system has included the development of new procedures for procurement both centrally and at individual schools. KTH Sustainability Office has been involved in formulating environmental requirements. The number of procurements with environmental requirements increased from 2012 to 2014, both in number and value.

### Follow-up

Follow-up of sustainability requirements in procurement will be conducted using statistics and information on the number of completed procurements and purchases including the

economic value of these. A qualitative assessment of the sustainability requirements in procurements shall also be conducted.

Responsible for follow-up: KTH Sustainability Office, Procurement Group

## **Management of Chemicals**

Overall objectives 2016-2020:

- KTH shall increase knowledge of and create conditions for an effective management of chemicals from safety, environmental and health perspectives.

Further improvements shall be made in all areas of chemicals management. All who use chemicals shall have correct information and knowledge of how to handle chemicals from a safety, environmental and health perspective. New tools for the chemicals management shall be introduced in more places and additional specialized courses will be held. Quantities of purchased chemicals will be followed-up and the quality of risk assessments will be improved. Emissions of hazardous substances into air and water shall be examined and reduced where deemed relevant.

### Background

Chemicals are used extensively in education and research at KTH. Over 13 000 different chemicals are used. In the work with reaching the environmental goals, work has included focused chemicals audits, procedures concerning for example risk assessment have been introduced, a number of trainings have been carried out and new tools for chemical management tested.

### Follow-up

Follow-up of chemical management is conducted through annual inventory of chemicals in KTH's chemical management system (KLARA), total annual use of solvents and flammable goods, conducted risk assessments, records of staff training and through the internal environmental audits.

Responsible for follow-up: KTH Sustainability Office

## **Donation and foundation management**

Overall objectives 2016-2020:

- Funds of KTH's affiliated foundations and donations shall be invested so that they contribute to sustainable development.

The possibility of investing KTH's foundation and donation capital so it contributes to sustainable development shall be evaluated and new investment policies to support such developments shall be established. Investments shall maintain a good return while contributing to sustainable development.

### Background



KTH manages affiliated foundations and receives donations, these funds are to be invested if they are not to be used within two years. These funds are invested according to the "Investment Policy for KTH's affiliated foundations," and "Investment Policy for KTH's donation capital".

#### Follow-up

Asset managers provide information on how investments meet the sustainability criteria stated in the policies.

Responsible for follow-up: KTH's Finance Office

### **Organisation and management**

Overall objectives 2016-2020:

- Environmental and sustainability issues shall be integrated into regular activities and operations and be included in all relevant processes, plans and decisions.

Relevant processes, plans and decisions where environmental and sustainable development issues should be included shall be identified and the perspective increasingly integrated during the objective period. The environmental management system shall be integrated into regular activities, operations and governance. Sustainable development objectives shall be integrated in KTH's Strategic plan and other strategic documents. At the school level, KTH's environmental work shall be integrated into development plans and operational plans and other relevant documents.

#### Background

KTH began implementation of the environmental management system in 2011 when the KTH environmental group / KTH Sustainability Office<sup>2</sup> was formed under the university administration's Department for Building and Environment. The Environmental group / KTH Sustainability Office has been overall responsible for the environmental work and has together with KTH Schools and their environmental representatives carried out the implementation of the environmental management system. The schools have implemented the environmental management system locally with help from environmentally representatives and school management.

#### Follow-up

Integration of the environmental management system is monitored at central and school level through internal environmental audits and the management review.

New indicators for monitoring/ follow-up may also be relevant.

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<sup>2</sup> Miljögruppen vid Universitetsförvaltningen heter KTH Sustainability Office fr.o.m. den 1/1 2016.