Environmental Review 2023

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Lilia Daianova, Environmental Cooordinator, KI

Maya Petrén, Environmental Coordinator, KI

Stina Delden, Environment and Sustainability Consultant, Envima

Anna Flisberg, Environment and Sustainability Consultant, Envima

Karolinska Institutet

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Contents

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Introduction

Background

An environmental review forms the basis for a public authority's focus areas and continued development of its environmental management system. In order to fulfil the requirements of the Ordinance on Environmental Management in Government Agencies (Förordning (2009:907) om miljöledning i statliga myndigheter), Karolinska Institutet's (KI's) environmental review must be up-to date and updated in response to substantial changes to KI's operations, or at least every five years. KI's most recent environmental review was carried out in 2018 (reg. no 1-437/2018).

Aim

The aim of an environmental review is to identify, analyse, describe and assess potential positive as well as negative environmental impacts of KI's activities, and to update the results of the previous environmental review. The aim of this environmental review is to produce documentation for KI's development of goals and actions in its continued efforts to reduce negative environmental impacts.

Scope

KI's environmental review 2023 considers all of KI's activities carried out in Sweden and is based on statistics of those activities from 2022.

Method

This environmental review is based on the results of KI's most recent environmental review (2018), but has been further developed in terms of a broader anchoring within the organisation and an expanded register of environmental aspects.

Changes in KI's operations, that have impact on KI's environmental management and KI's environmental impact since the most recent environmental review, have been considered. The same valuation model as in 2018 was used in assessing environmental aspects. The results of the environmental review have been anchored with the University Management.

The review was led by KI's Environmental Coordinators at the Sustainable Development & Equal Opportunities Office, Faculty Office & International Relations (FIR) in University Administration (UF) with the support of externally contracted environment and sustainability consultants from Envima.

Karolinska Institutet (KI) –organisation

KI educates students and conducts research in medicine, life sciences and health. The university's mission is to carry out education and research, and to collaborate with the wider community in a mutual exchange of knowledge and skills for the benefit of society. KI's operations are governed by the Higher Education Ordinance (Högskoleförordningen) and annual public service agreements.

KI's vision is to advance knowledge about life and strive towards better health for all, as described in KI's Strategy 2030.

The Board of Karolinska Institutet (Konsistoriet) is the university's highest decision-making body and the President is the Head of the university. Education and research are conducted in 22 departments at mainly two campuses: Campus Solna and Campus Flemingsberg. An organisational chart for KI is presented in *Annex 1*.

Table 1: KI in figures 2022

Employees (full-time equivalents)	4 867
Revenue	SEK 7 863 million
Registered students (including executive and professional education), number	12 817
Student number converted to full-time equivalent students	6 629

KI's systematic work on environment and sustainable development

KI has a systematic environmental management work coordinated by central environmental coordinators at the Sustainable Development & Equal Opportunities Office (HULV), FIR. Each head of department is responsible for

environmental management within their respective department. They also appoint one or more environmental and sustainability representatives, who works on issues related to environmental management and represent the department in university-wide network meetings. The environmental management is evaluated and followed up in several ways, including in internal environmental audits conducted under a three-year audit plan.

KI's Environment and Climate Action Plan 2021–2024 includes KI's environmental and climate work and defines goals and activities. The Environment and Climate Action Plan is updated on a regular basis or whenever necessary.

As a result of KI's "Climate Strategy 2030" and of KI signing the Climate Framework, the university has undertaken to implement an environmental and climate action program in line with the Paris Agreement and the 1.5-degree target. For KI this means advancing knowledge about climate changes and health, while at the same time minimising its own environmental and climate impact.

The Department of Dental Medicine is environmentally certified according to the international environmental management standard ISO 14001:2015. The most recent certification was obtained in November 2023.

Operational changes

Several changes have occurred in KI's operations since the environmental review in 2018 which may have affected KI's environmental management and brought changes to its environmental impact. These include:

New premises
60 per cent of employees and 80 per cent of clinical research moved to new premises (NEO, ANA 8, Biomedicum and KM-B) during 2018.

New internal steering documents and reviews in the environmental area
Climate Strategy 2030 and Environment and Climate Action Plan 2021–2024 were drawn up and adopted.

Emissions of greenhouse gases were mapped in 2022.

Organisational changes
A new management organisation was introduced in 2019.

KI Housing AB (previously owned by KI), which managed KI student accommodation and guest apartments, was closed down. Since 2023 these operations are managed by the Facilities Offices at University Administration, UF.

The Sustainable Development & Equal Opportunities Office was established in the autumn of 2021 within FIR at University Administration. The unit's tasks are to further develop and run KI's environmental management system as well as to provide support to core operations on issues related to environment, climate and sustainable development.

The Council for Environment and Sustainable Development (previously the Environmental Council) continues its active advisory, inspiring and knowledge-enhancing role, and provides support to the President on environment, climate and sustainable development issues.

Along with many other higher education institutions, KI has signed the Climate Framework and is active in the Higher educations Climate Network. With KTH Royal Institute of Technology and Stockholm University, KI has started the Stockholm Trio network, within which a group called Stockholm's Trio for Sustainable Actions (STSA) has been formed for joint development of environmental action at the three universities.

National commitments, advanced cooperation between universities, and the Council's proactive work internally help KI draw up visions and long-term goals for its environmental action program.

Research and education
New centres with links to the environment, climate and sustainable development were formed, such as the Centre for Health Crises and the Centre of Excellence for Sustainable Health (CESH).

New compulsory internal courses were developed and carried out, e.g. in laboratory safety and the handling of chemicals.

Implementation

The environmental review was carried out with broad anchoring within the organisation as an important element of both the review itself and of continuing environmental and climate action. The following steps were included:

1. Anchoring and preparatory work
   - Anchoring with the university management at the annual management review of the environmental management system.
   - Analysis of previous environmental reviews, operational changes, internal steering documents and recent operations analyses.
   - Collection and analysis of relevant data, including on core operations, statistics on KI's use of resources (e.g. energy), waste, use of chemicals and emissions, and data regarding premises and finances.
2. Compilation of a comprehensive list of environmental aspects, known as an environmental aspect register, by means of revising and complementing the existing comprehensive list from 2018.
3. Environmental aspect valuation – all environmental aspects were assessed using the model that was developed for the 2018 environmental review to enable comparisons between years. The valuation was carried out by members of the Council for Environment and Sustainable Development and specialist functions within KI, including central coordinators for chemicals safety, radiation protection, biosafety, and waste management, as well as purchase and procurement officers, export control coordinators and others, at two workshops. The process is described in greater detail below.
   Compilation of the assessments and the addition of each environmental aspect's connection to Agenda 2030 Sustainable Development Goals and relevant legislation.
4. Individual interviews with the President and the University Director. The aim of the interviews was to present preliminary results of the environmental review and to obtain the President's and University Director's insights from their overall perspectives of KI operations. A flow chart is shown in *Figure 1*.

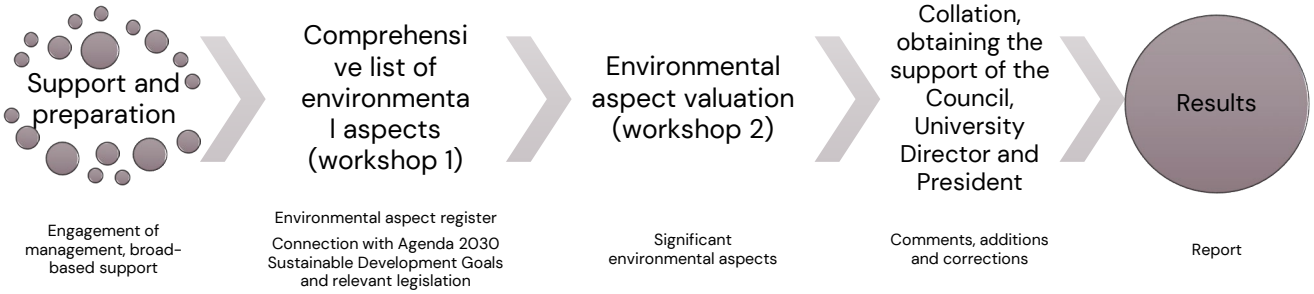

Figure 1. Flow chart of the process.

Extensive anchoring in the establishment of the environmental aspect register and environmental aspect valuation

In order to achieve broader anchoring than in the previous environmental review, all members of the Council for Environment and Sustainable Development as well as a number of specialists were invited to participate in steps 4 and 5 above. A total of 30 individuals were invited to the workshops, see Table 2, of which 22 participated at one or more occasions. Cross-sectoral discussion groups consisted of specialists, representatives from the core activities, individuals with more comprehensive over view, environment and sustainability representatives, committee representatives (from KFU, KU and KF) and student representatives. These cross-sectoral discussions were much appreciated.

Table 2. List of invitees to the workshops

Members of the Council for Environment and Sustainable Development
Chair
Vice-chair
Faculty representative from the Committee for Research (KF)
Faculty representative from the Committee for Higher Education (KU)
Faculty representative from the Committee for Doctoral Education (KFU)
Head of the Department of Clinical Neuroscience (CNS)
Head of Unit, Sustainable Development & Equal Opportunities Office (HULV/FIR)

Facilities Director, Property and Facilities Office (FA)
Environment and Sustainability Representative at the University Administration (UF)
Environment and Sustainability Representative at the Department of Oncology–Pathology
Environment and Sustainability Representative at the Department of Neurobiology, Care Sciences and Society (NVS)
Student representative, Medicinska Föreningen (MF)
Student representative, Odontologiska Föreningen (OF)
Student representative, Students for sustainable development (SSD)
Specialists
Travel Manager, Finance Office (EA)
Biosafety Coordinator, FA
Environmental Coordinator, FA
Chemicals Safety Coordinator, FA
Radiation Protection Expert, FA
Export Control Coordinator, FA
Representative(s) from the Purchase and Procurement Unit (EA)
Representative(s) from the Property Management Unit (FA)
Facility manager (Neo / Ana Futura / Biomedicum)
Environment and Sustainability Representative FM Biomedicum
Environmental Coordinators (HULV/FIR)

Environmental aspects register

An environmental aspect is an activity with an environmental impact. The environmental aspects in the 2018 review were revised and updated. This led to certain environmental aspects being combined (e.g. management of substances classified as hazardous), while others were split into two or more. Several new environmental aspects were also identified, e.g. collaboration with the surrounding community. A total of 38 environmental aspects were identified in the environmental review. These were grouped into seven aspect areas, of which three were new. The number of aspects per area is specified in brackets:

1. Knowledge development (6)
2. Purchase and use of goods and services (8), new
3. Use and management of premises (8)
4. Travel and transportation (4)
5. Waste management and emissions (6)

6. Funding and capital management (2), new
7. Emergency situations, extraordinary circumstances, risks (4), new

A list of all the identified environmental aspects, the environmental aspect register, including descriptions, key figures, and life cycle assessments of impacts are in *Annex 2* (in Swedish only). The environmental impacts of KI's activities may be positive or negative, and can also be divided into direct or indirect environmental impacts, *Figure 2*.

Direct environmental impact – a negative or positive change in the environment which arises as a result of the authority's activities, and which is not an indirect environmental impact.

Indirect environmental impact – a negative or positive change in the environment which arises as a result of some other entity than the authority taking an action that is a consequence of the authority having issued regulations or taken some other decision, provided advice, carried out education, or furnished information. (Ordinance on Environmental Management in Government Agencies, 2009:907)

Figure 2. Definitions of direct and indirect environmental impacts

Binding legal requirements

KI has a compilation of binding legal requirements concerning the environment in a web-based system, Notisum. This environmental review links each aspect to a list of laws and regulations, with references available in the web-based system.

UN Sustainable Development Goals

In 2015 the UN's member states adopted the 2030 Agenda for Sustainable Development, with 17 Sustainable Development Goals (and 169 targets), to be implemented by 2030 in order to achieve sustainable development.

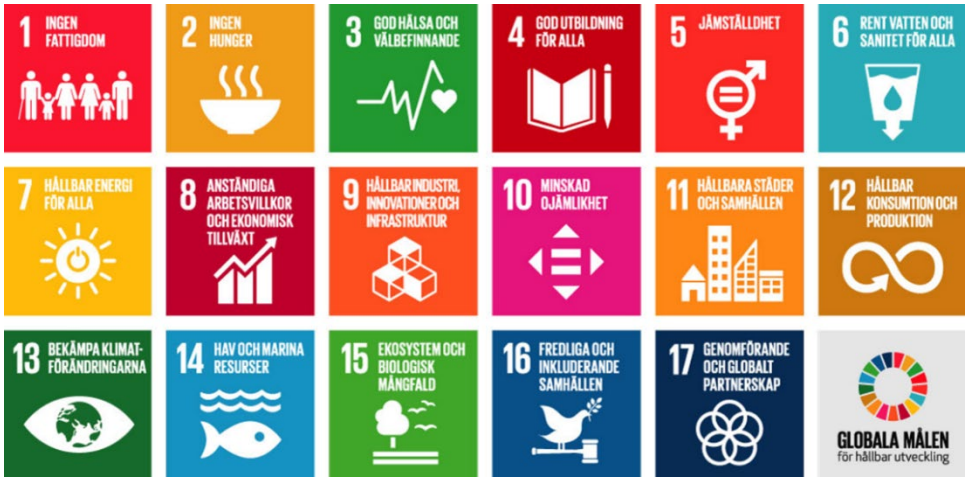

Figure 3. The 17 Sustainable Development Goals in Agenda 2030

The connection between this environmental review's aspect areas and the Sustainable Development Goals was identified during the review, see Table 3.

Table 3. Connections between KI's environmental aspect areas and the 17 Sustainable Development Goals (SDGs) in Agenda 2030.

Connection between aspect area and SDG	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Knowledge development																	
Purchase and use of goods and services																	
Use and management of premises																	
Travel and transportation																	
Waste management and emissions																	
Funding and capital management																	
Emergency situations, extraordinary circumstances, risks																	

Connections between identified environmental aspects, binding requirements and SDGs (targets) are in *Annex 3* (in Swedish only).

Valuation model

The same valuation model that was used to assess the environmental aspects in the 2018 review was used in this year's environmental review.

In step 1, each environmental aspect's scope and environmental impact was assessed on a scale from 1 to 3.

1: limited scope/environmental impact

2: moderate scope/environmental impact

3: considerable scope/environmental impact

The scope and environmental impact were assessed as limited, moderate or considerable in consideration of KI's other environmental aspects. An environmental impact can be positive or negative.

In step 2, the likelihood of the risk of negative environmental aspects and/or the likelihood of the possibility of positive environmental aspects were assessed on the same scale as above (1 to 3). In conclusion, the consequences of the risks or possibilities were assessed.

The four valuations for each environmental aspect were added up, resulting in a point score of between 4 and 12 points. Those environmental aspects

that received 10 or more points in the valuation were deemed *significant environmental aspects*.

Results

The results of the valuation of the 38 identified environmental aspects show that over 70 per cent the environmental aspects received 8 points or more, and internal environmental action must strive to reduce the negative environmental impact of these aspects.

Significant environmental aspects

Significant environmental aspects are those KI operations that have the greatest environmental impact, and that KI needs to prioritise to manage. To reduce the negative or increase the positive environmental impact of the significant environmental aspects, specific environmental goals will be formulated, followed by activities to achieve those goals to be prepared and implemented.

The environmental aspect valuation indicates that the following environmental aspects are significant, see *Table 4*.

Table 4. KI's significant environmental aspects

Significant environmental aspect	Positive or negative	Direct or indirect	Valuation result, points
Higher education (incl. bridging programs and professional and executive education)	positive	indirect	10
Research (incl. commissioned research)	positive	indirect	10
Purchase and use of consumables for laboratory and office activities	negative	direct	10
Purchase and use of laboratory and clinical equipment	negative	direct	10
Purchase and use of substances classified as hazardous	negative	direct	10
Electricity use	negative	direct	10
Business travel	negative	direct	11

A full presentation of the valuation results in *Annex 4* (in Swedish only).

Conclusions

KI's activities cause positive as well as negative environmental impacts. The greatest positive environmental impact is from activities linked to KI's mission: education, research and collaboration. Business travel continues to be the environmental aspect at KI with the highest negative impact. Additionally, the purchase and use for education and research purposes of consumables, equipment, and substances classified as hazardous were assessed as significant environmental aspects in KI's activities, along with electricity use.

The results of this environmental review will serve as the basis for revision of KI's steering documents on environment, climate and sustainable development, and for continued development of environmental management.

Links and related documents

Campusplan, KI Campus Solna 2030, Akademiska Hus, dnr 2-1225/2017

Ett KI för hållbar utveckling, projekt, slutrapport, dnr 2-4400/2019

Handlingsplan miljö och klimat 2016-2018, dnr 1-85/2016

Handlingsplan miljö och klimat 2019, dnr 1-893/2018

Handlingsplan miljö och klimat 2021-2024, dnr 1-607/2021

Klimatstrategi 2030, dnr 1-32/2021

Klimatkartläggning, dnr 1-1113/2022

Lokalförsörjningsplan 2023-2025, dnr 2-634/2023

Miljöutredning 2018, dnr 1-437/2018

Notisum, KI:s lagförteckning

Revisionsplan intern miljörevision VT22-VT24, dnr 1-307/2022

Rektorsbeslut om obligatorisk kurs i laboratoriesäkerhet för medarbetare och studenter som är verksamma i KI:s laboratorieverksamheter, dnr. 1-636/2022

Riktlinjer för miljö och hållbar utveckling, dnr 7039/2011-019

SFS 1998:1003, Högskoleförordning

SFS 2009:907, Förordning om miljöledning i statliga myndigheter

Årsredovisning för KI 2022, dnr 1-417/2022

Centrum för hälsokriser: https://ki.se/samverkan/centrum-for-halsokriser

The Centre of Excellence for Sustainable Health (CESH): https://ki.se/en/collaboration/centre-of-excellence-for-sustainable-health

Annexes

In Swedish only

Annex 1: KI's organisation 2023

Annex 2: Environmental aspect register 2023

Annex 3: Connections between environmental aspects, SDGs (targets) and legislation

Annex 4: Environmental aspect valuation 2023

Annex 5: KI's list of laws and regulations 2023