hdk

Zürcher Hochschule der Künste
Zurich University of the Arts

SUSTAINABILITY REPORT 2020–21
OPERATIONAL SUSTAINABILITY

OPERATIONAL SUSTAINABILITY AT ZHDK

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ZHdK strives to practise a culture of sustainability and embraces the 17 Sustainable Development Goals of the United Nations (SDG). ZHdK provides a university environment that promotes the development of solutions for ecological, social and economic transformation. ZHdK integrates the topic of sustainability into the everyday organizational life of its members, and uses sustainability as an important criterion for decision-making (see Strategy ZHdK 2019–2023).

The sub-strategy for operational sustainability, "Sustainable Campus", defines five target clusters to be implemented into everyday campus life: climate neutrality and decarbonization, natural resources and biodiversity, equal opportunities and inclusion, health and well-being, and learning and working. It also describes the ten action areas in which ZHdK Services are working towards these goals. They include, for example, catering, buildings, mobility, procurement and employment conditions.

The sustainability report presents relevant data, developments and possible courses of action in these areas of operational sustainability every two years (see Chapter 2.10 Reporting and communication).

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OPERATIONAL SUSTAINABILITY GOALS

Up to 2021

Greenhouse gas emissions have fallen by 44% since 2018

In future

Generate solar power on the roof of the Toni Campus

1 Operational sustainability goals
1.1 Climate neutrality and decarbonization

At the request of the student organization, VERSO, ZHdK signed the Climate Emergency Letter in 2019. In its sub-strategy for “Operational Sustainability”, it defined its goal of climate neutrality from 2022, along with ambitious decarbonization plans. To this end, ZHdK has been compiling an annual carbon footprint since 2018. This is drawn up by environmental consulting specialists from Carbotech in accordance with the Greenhouse Gas Protocol. Besides CO_2, other greenhouse gases such as methane and laughing gas are also taken into account. The climate impact is summarized in CO_2 equivalents (CO_2eq). System boundaries are drawn during the survey and assumptions are made to determine the main emissions of ZHdK with proportionate effort.

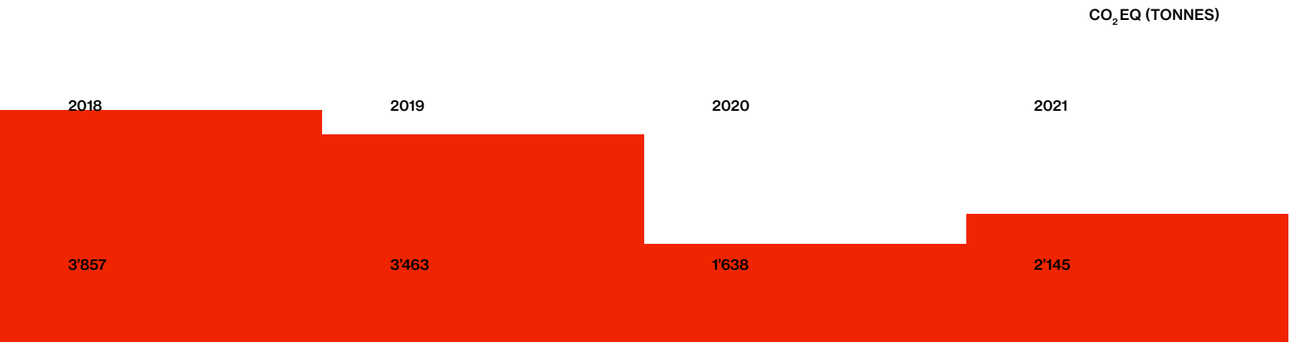
In comparison to 2018–19[1], greenhouse gas emissions fell substantially in the years 2020–21. In 2021, they measured 2,133 tonnes, which was 44% less than the emissions in 2018. The reduction can largely be attributed to pandemic-related adjustments in teaching and operations. A shift outside the system boundaries of ZHdK in the area of catering is assumed as people ate at home rather than in the canteen. In the other areas, it can be assumed that no significant shift took place. In the area of Mobility, digital mobility proved to be far more environmentally friendly than physical travel. This also applies for data transfer, taking into consideration the increased energy use, particularly when compared with fossil fuel-powered means of transport (see Chapter 2.3 Mobility).

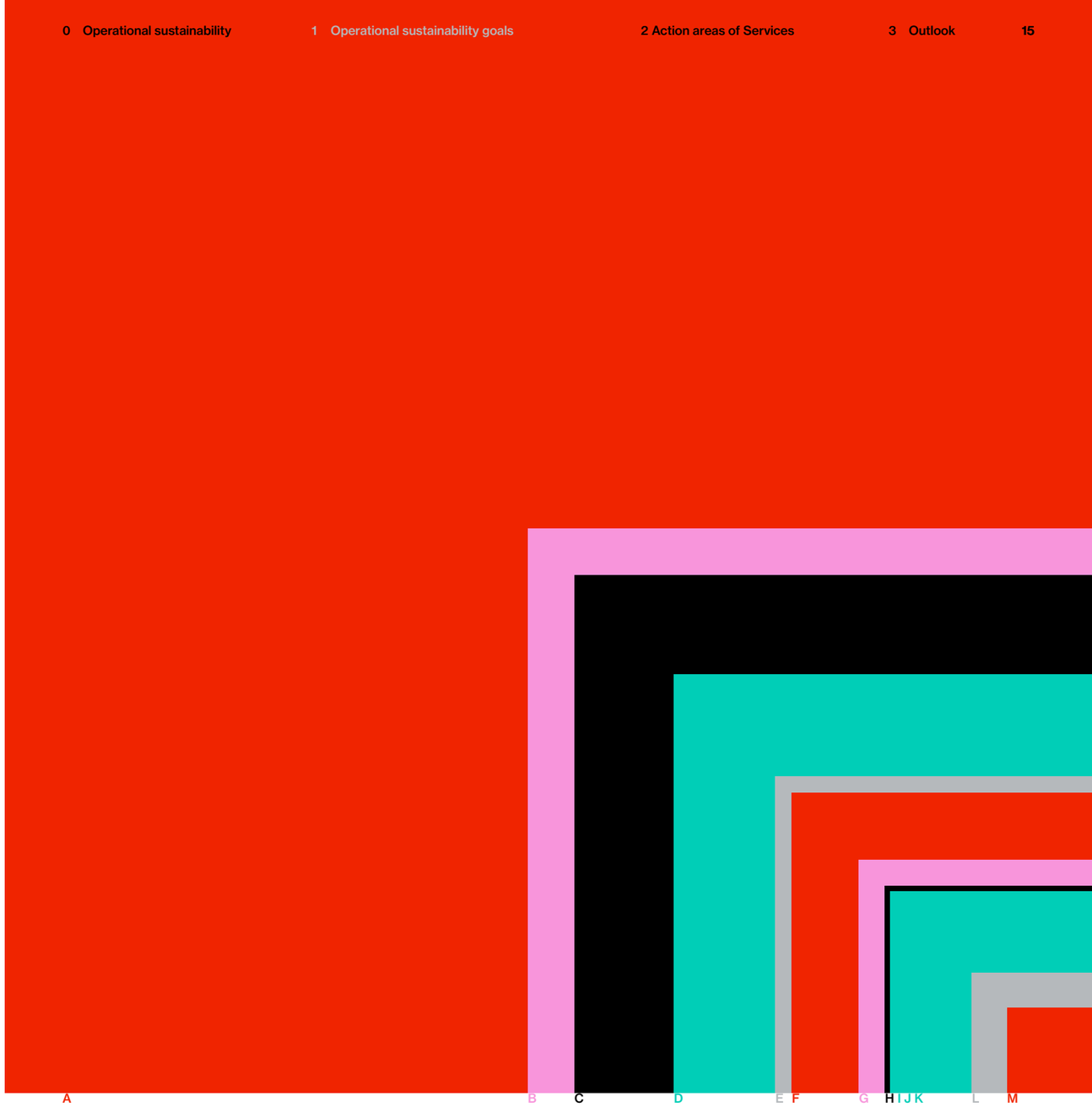
Changes in electricity use are having very little effect on ZHdK’s own carbon footprint as the hydropower electricity purchased can be produced with extremely low emissions. Nevertheless, efficient renewable energy use is an important goal of ZHdK. With lower on-campus consumption, the university contributes to a higher proportion of renewable energy in the national electricity mix, as overall there is still insufficient renewable energy in Switzerland. There are plans to install photovoltaic systems on the roof terrace of the Toni Campus to contribute further in this area.

The individual sources of emissions are outlined in detail in Chapters 2.1 to 2.6. Chapter 3.2 describes the envisaged decarbonization path up to 2030 and the plans for climate compensation from 2022.

1 Compared with the publication of the initial environmental assessment in the 2019 Sustainability Report, the collection of consumption data has improved, and emission factors have been updated in accordance with Ecoinvent Update 3.8. Values have been adjusted retrospectively.

2 Estimation, see Chapter 2.3 Mobility





PROPORTIONS OF CO_2EQ 2021

TOTAL 2,145 TONNES CO_2EQ

	Category	CO_2eq (T)	Proportion (%)
A	Heating	1,056.4	49.3
B	Catering	285.2	13.3
C	Commuting[2]	239.6	11.2
D	IT hardware, AV equipment	165.2	7.7
E	Paper	95.1	4.4
F	Air travel	80.5	3.8
G	Waste	48.9	2.3
H	Teaching workshops material	37.8	1.8
I	Cleaning	37.3	1.7
J	Vehicle fleet	37.1	1.7
K	Electricity	35.8	1.7
L	Digital mobility	12.2	0.6
M	Train travel	7.2	0.3
N	Water	6.5	0.3

Up to 2021 **Re-evaluation of the ecological factor for greenhouse gases**

In future **Promote biodiversity at ZHdK locations**

1 Operational sustainability goals
1.2 Natural resources and biodiversity

ZHdK has defined its goal of becoming climate neutral from 2022, along with ambitious decarbonization plans. At the same time it is also promoting environmentally friendly use of other natural resources in university operations. Thus, the environmental assessment is also evaluated on its overall environmental impact. This will ensure that the decarbonization measures taken by ZHdK have a positive or at a least neutral effect in other areas of environmental protection, such as biodiversity conservation.

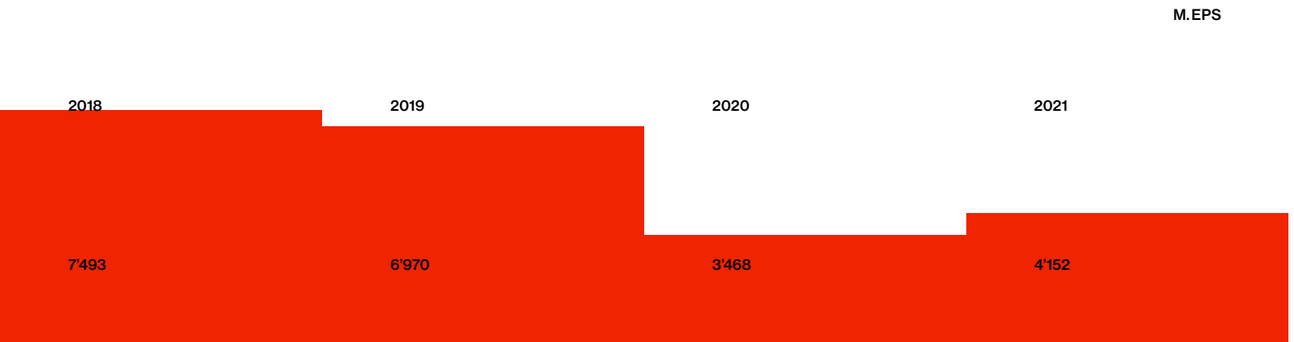
The Ecological Scarcity (Ecopoints or EP) Method is used to assess the environmental impact. It is internationally standardized and is based on environmental targets set out in laws or policies in Switzerland. The consumption of resources such as energy, water and land, pollutant discharges into the air, water and soil as well as waste and noise are assessed and summarized in environmental impact points (Ecopoints). The factors for evaluating the environmental impact were updated in 2021 and published by the Federal Office for the Environment. Taking into account the new scientific findings, new legal and political foundations as well as new international agreements, the ecological factor for greenhouse gases, among others, was doubled compared to the previous version in 2013.[3]

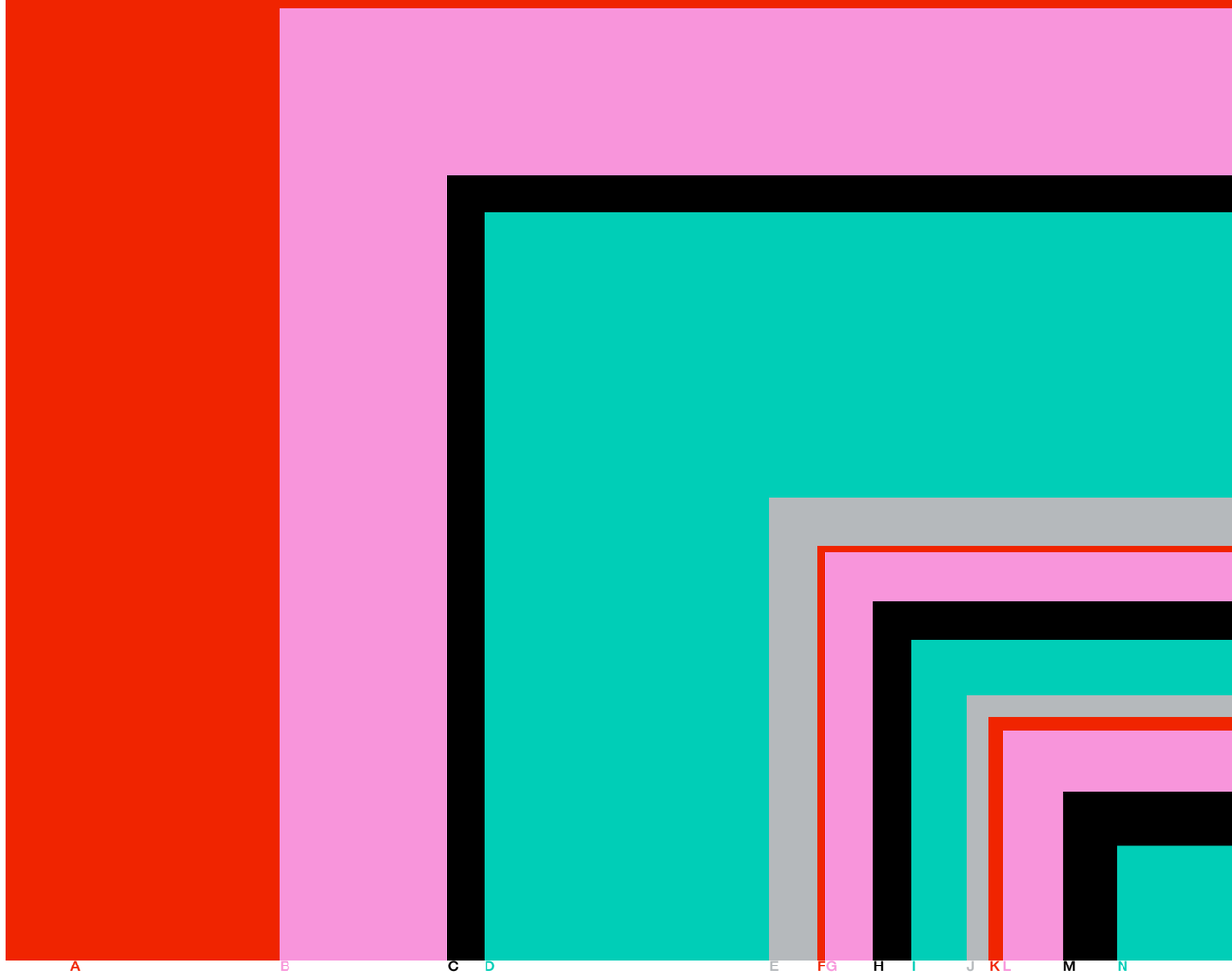
Overall, the assessment according to the EP Method confirms the development and volumes of the carbon footprint. The three most important operational levers for environmental protection are also heating, mobility and catering.[4] Individual areas are more significant compared with the carbon footprint, in particular catering, IT hardware and AV equipment, but also electricity and teaching workshops materials. In these areas, the assessment according to the Ecopoints Method also shows, for example, the environmental impact of nitrogen fertilizer use or the extraction of rare soils. The results show that a focus on climate protection measures is currently a sensible idea for ecologically responsible university operations.

To create a biodiversity-oriented campus is another goal of ZHdK. The roof garden of the Toni Campus was intentionally set up as a high-quality green space. Initial investigations as part of the research and art project "Sounding Soil" revealed a high level of activity in the soil, which suggests that there is a functioning earth ecosystem. Further systematic investigation of biodiversity at the locations of ZHdK may follow.

3 Federal Office for the Environment, Swiss Eco Factors 2021 according to the Ecological Scarcity Method

4 For more information on the average Swiss consumption, see Environment Switzerland 2018, p.31





PROPORTION OF 2021 ECOPOINTS 2021 TOTAL 4,152 MILLION EPS

	Category	EPs (million)	Proportion (%)
A	Heating	1,356	32.7
B	Catering	827	19.9
C	Commuting	555	13.4
D	IT hardware, AV equipment	504	12.1
E	Paper	194	4.7
F	Electricity	156	3.8
G	Air travel	149	3.6
H	Teaching workshops material	116	2.8
I	Cleaning	92	2.2
J	Vehicle fleet	64	1.5
K	Waste	54	1.3
L	Water	48	1.2
M	Digital mobility	25	0.6
N	Train travel	13	0.3

Up to 2021 **Higher staff turnover among women**

In future **Introduce resignation monitoring as at 2022**

1 Operational sustainability goals
1.3 Equal opportunities and inclusion

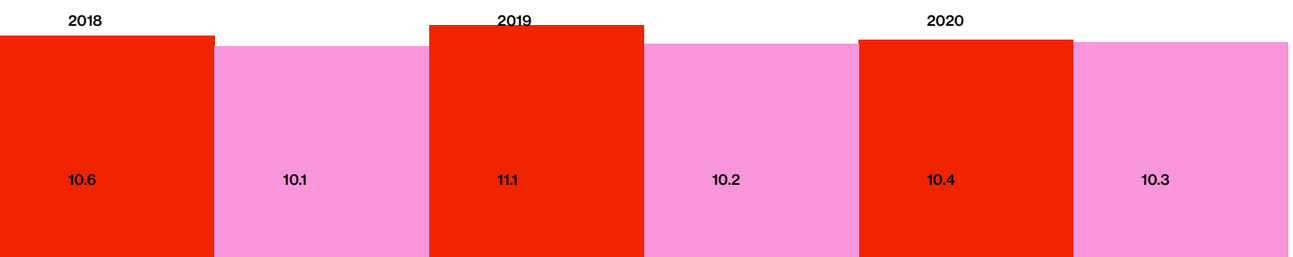
Equal opportunities, equality, inclusion and diversity are a matter of course at ZHdK. Reports have been produced in these areas for longer than in the area of environmental sustainability. The annual reports of ZHdK present selected key figures. Moreover, the sustainability report contains findings from the equal pay analysis, the gender equality report and diversity benchmarking.

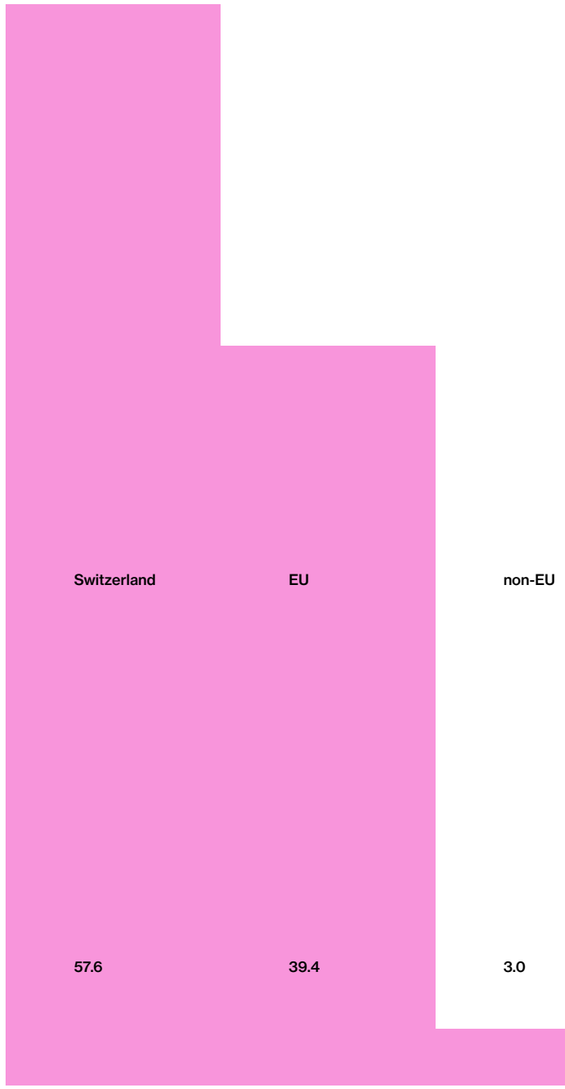
In 2020, ZHdK detected an unexplainable wage difference of 1.4%. This value is significantly lower than the 5% tolerance threshold of the federal government, and continues the positive decline in wage differences (1.5% in 2019, 1.9% in 2018). The goal is a gender-specific wage difference of zero. Pay parity is analysed with Logib, the federal government's equal pay instrument.

Since 2013, ZHdK has compiled an annual gender equality report. To contextualize this internal reporting, it has been taking part in the St.Gallen Diversity Benchmarking for Swiss Universities since 2018. With funding from the federal programme Diversity, Inclusion and Equal Opportunity in the Development of Universities, the benchmarking analyses the diversity dimensions of gender, age and nationality. In 2020, the proportion of women (48%) and men (52%) holding management positions at ZHdK was almost the same. Moreover, the "proportion of senior positions" shows the number of women and men in management positions in relation to the total number of personnel in the gender equality reporting. In 2020, the values were virtually the same. This suggests that women have the same opportunities as men when it comes to management positions. The diversity benchmarking shows that women in academic positions at ZHdK seem to find it easier to gain management positions than is generally the case among universities of applied sciences. At the same time, women are also under-represented in these positions at ZHdK. The staff turnover rate among women at ZHdK is much higher than that of the men, as well as the average at universities of applied sciences. As at 2022, ZHdK has started carrying out resignation monitoring to better understand the higher staff turnover rate.

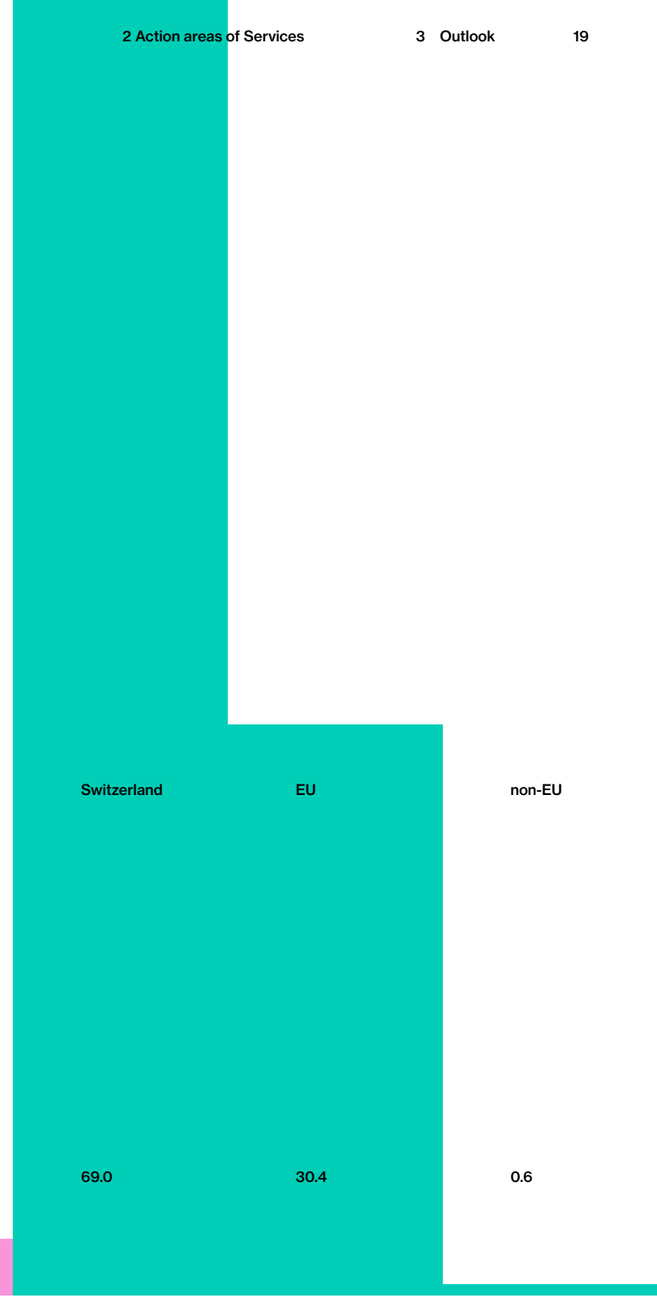
With regard to the diversity dimensions of age and nationality, the benchmarking revealed a slightly higher than average proportion of foreign employees at ZHdK. Among the lecturers with managerial responsibility, the proportion of foreign lecturers was almost 10 percentage points higher than the average of the universities of applied sciences. The proportion of over-50-year-olds is higher among lecturers than the average of the universities of applied science. At around 72%, the proportion of lecturers with a managerial role is the highest. On the other hand, the proportion of lecturers aged 30 years or younger is lower than the average. Many staff will retire in the next few years. ZHdK would be able to incorporate the diversity dimension into its recruitment and succession planning by also employing younger lecturers, for example.

5 Reports are available internally on intern.zhdk.ch/gleichstellung/diversity





NATIONALITY OF LECTURERS WITH A MANAGERIAL ROLE
ZURICH UNIVERSITY OF THE ARTS (%)



NATIONALITY OF LECTURERS WITH A MANAGERIAL ROLE
AVERAGE OF UNIVERSITIES OF APPLIED SCIENCES (%)

Up to 2021

Number of psychological counselling sessions has doubled

In future

Make healthy food on campus more affordable

1 Operational sustainability goals
1.4 Health and well-being

ZHdK places great importance on the physical and mental well-being of its members. To this end, it has introduced among other things, an operational healthcare management system (BGM)[6], whose offerings are aimed at staff and students. Currently, the absence statistics as well as the number of psychological counselling sessions serve as health and well-being indicators (see Chapter 2.9 Employment conditions and human resources development).

The details of staff who are required to record their hours (ZLS) are included in the absence statistics, which equates to around 46% of staff. This identifies the number of health-related absence days per full-time equivalent (FTE) with and without long-term absences of more than 30 days. There is no comparable data available for lecturers or students with performance agreements. In 2020, the number of health-related absences fell despite the Covid-19 pandemic. This is an indicator of the effectiveness of the protection concepts at ZHdK. However, in 2021, the value increased above the level of the previous years, particularly for illness-related absences lasting more than 30 days. This could be due to the long-term consequences of a Covid-19 infection. On the other hand, the pandemic and efforts to combat it in Switzerland had far-reaching effects on daily life, professional life and study. This greatly impacted the psychological health of university members. The immense psychological stress was confirmed by the number of psychological counselling sessions that took place. It was twice as high in 2021 than in 2019. The counselling sessions are mostly frequented by students.

Part of the “Health and well-being” goal is to provide healthy, balanced food for all university members on campus. This was confirmed by university members in the 2021 guest survey[7] of the catering facilities on the Toni Campus. The opportunity to eat healthily received above-average approval ratings of 4.5 out of 6 points. At the same time, the student organization VERSO determined that many students are unable to afford to eat on campus on a daily basis due to the meal prices (see Chapter 2.1 Catering).

ZHdK also deems the goals of “health and well-being” and “equal opportunities and inclusion” to be part of its role as employer and purchaser. In 2020 and 2021, criteria in these areas were considered more often for procurements (see Chapter 2.6 Purchasing and procurement).

6 A report on operational health management and a safety report containing information on occupational safety and health protection are submitted to the University Board.

7 Assessment is available internally at intern.zhdk.ch/catering

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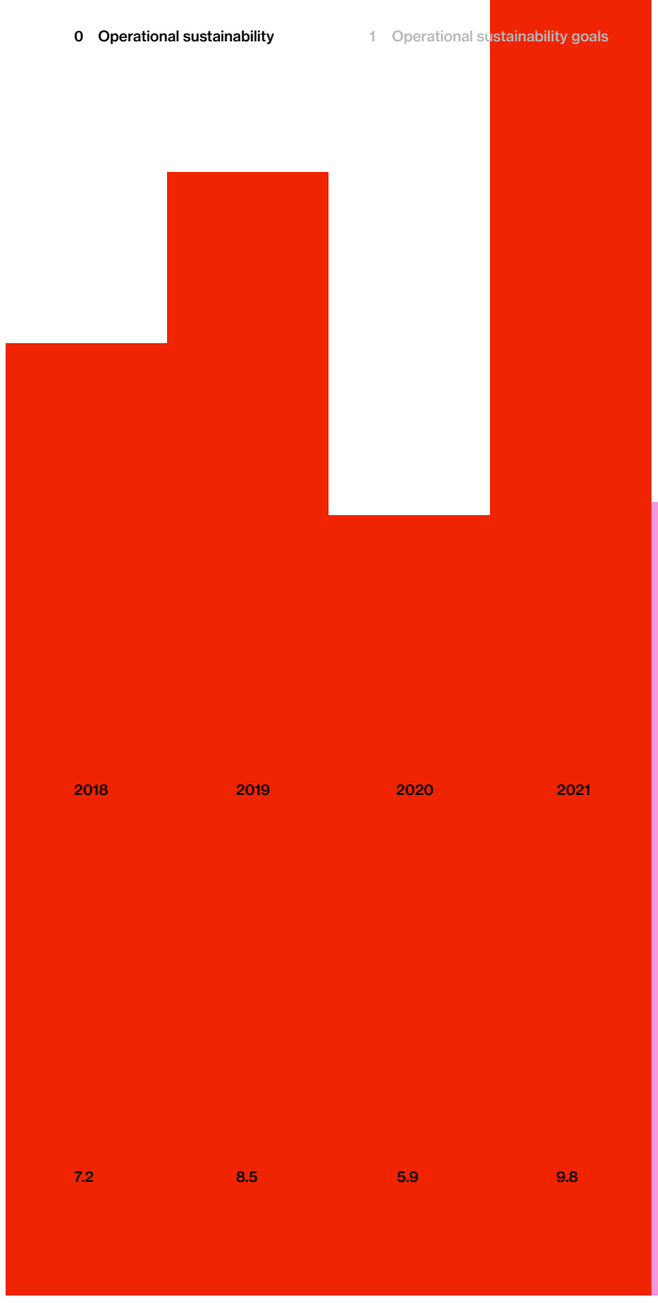
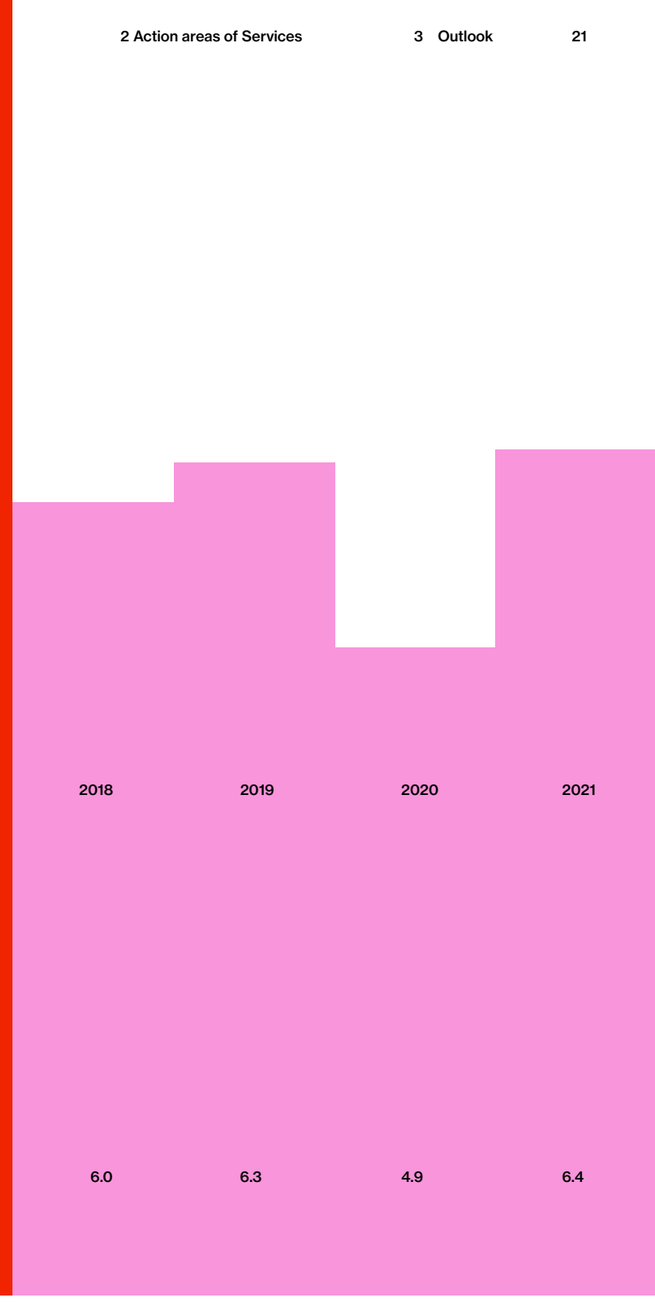


ABSENCE DUE TO ILLNESS (DAYS PER FTE)



ABSENCE DUE TO ILLNESS WITHOUT LONG-TERM ABSENCES LASTING MORE THAN 30 DAYS (DAYS PER FTE)

Up to 2021

Sustainability Committee begins its work

In future

Increase collaboration between operations and faculty

1 Operational sustainability goals
1.5 Learning and working

The “learning and working” goal is a new focal area in the sub-strategy for “Operational Sustainability” which arose from the strategy development process with internal stakeholders at ZHdK. In 2020, Services started to develop a sub-strategy to implement the overarching strategic sustainability objectives of ZHdK in operations. The strategy was developed in the Sustainability working group of Services with the external support of tsuku and included internal stakeholders such as the Sustainability Committee, the Gender & Diversity Office, the Head of the International Affairs Office and the Digital Council, as well as the VERSO Sustainability Committee. After the consultation process in the University Assembly, it was finally approved by the University Board. This process showed the importance of input from university members and collaboration between faculty and operations, and resulted in the formulation of the “learning and working” goal: university operations should offer ZHdK staff and students the opportunity to research, trial, and experience sustainable development. At the same time, all university members should contribute to sustainable operations. All staff should have the requisite information, skills and opportunities to play a part in implementing a “sustainable campus” in their working areas.

The connection between faculty and operations was institutionalized with the representation of Services on the Sustainability Dossier in 2021. The Sustainability Committee was set up in August 2020 with the aim of promoting and raising the profile of the positions of the arts, design and teaching in this area. The Sustainability Committee started its work in February 2021. Services is also involved here in the role of Chair of the Committee. The interaction between operations and faculty on the topic of sustainability at ZHdK became closer and more multifaceted from 2020–21. For example, Services were invited to explore ecology and sustainability on the Toni Campus with students as part of the “Ecologics” Z-module. The 2020–2021 Sustainability Report was designed by ZHdK students for the first time (see Chapter 2.10 Reporting and communication).

ACTION AREAS OF SERVICES

Up to 2021

Switch to reusable packaging in the Chez Toni bistro

In future

Develop catering concept with a focus on social and ecological sustainability

2 Action areas of Services

2.1 Catering

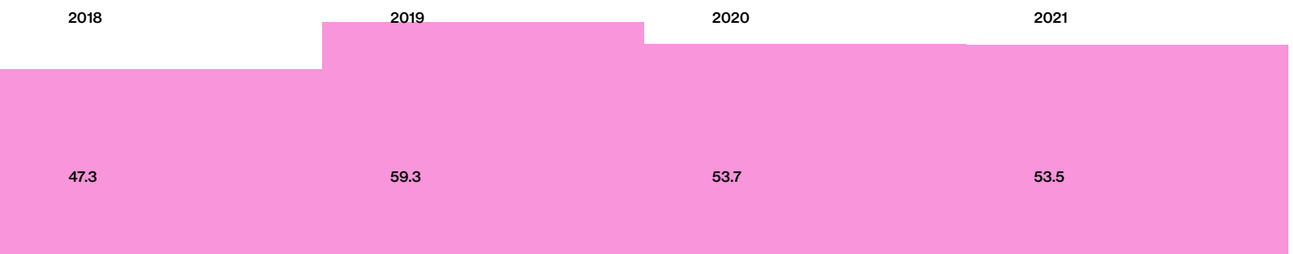
The catering facilities on the Toni Campus should offer university members attractive, healthy, affordable and sustainable food and drink options. They are operated by the ZFV Group. University members' satisfaction with the catering on the Toni Campus is gauged with regular surveys (see Chapter 1.4 Health and well-being). ZHdK and Zurich University of Applied Sciences (ZHAW) constituted a canteen council in the 2021 autumn semester to better address the needs of those using their catering facilities. It is working on developing a new catering concept that will be implemented in 2024. Good food, pleasant surroundings and cost-effectiveness are just as much a focus here as social and environmental sustainability.

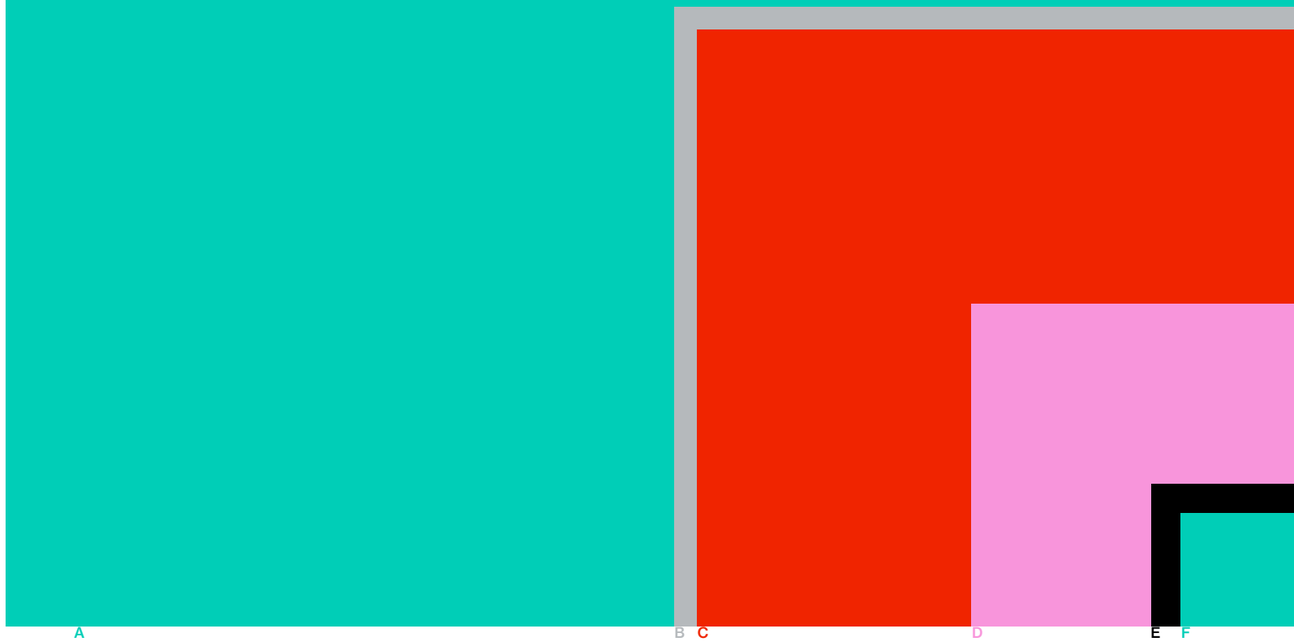
The quantities purchased by ZFV for the Toni Campus location were evaluated for their carbon footprint. Besides the meals in the canteen, it also includes disposable material, catering and the range of food and drink offered by the cafés. In 2021, 285 tonnes of CO_2eq were generated, which corresponds to 13% of all the emissions of ZHdK. After heating and mobility, catering is still the third largest lever for ZHdK's climate protection measures. In 2020 and 2021, university members were on campus far less frequently than in previous years due to the pandemic. Thus, they were also unable to use the catering offer on the Toni Campus as often. The number of purchased meals fell by more than 50% compared with 2018; greenhouse gas emissions did the same on a comparable scale. Here the assumption is a shift outside the system boundaries of ZHdK, so the number of grocery purchases at home increased. The proportion of vegetarian/vegan meals also fell to 54% in 2020 and 2021, compared with 59% in 2019. This may have been due to the higher number of meals containing meat on offer during the reduced pandemic-related operating hours. Meat, poultry and fish account for 65% of the emissions in the catering area. Therefore, a vegetarian/vegan offer on campus could be a key element in the decarbonization path of ZHdK and thus commensurate with the long-term climate strategy of the federal government (see Chapter 3 Outlook).

The proportion of disposable materials contributing to the greenhouse gas emissions could be further reduced, and measured less than 1% in 2021. This was due to a range of optimization measures undertaken by ZFV. The Chez Toni bistro has not used any disposable material since 2020. A test with a range of returnable cups was undertaken in the other cafés in autumn 2021. One of the biggest challenges in this area was the low return of deposit-free dishes. In cases where disposable products were still required, a switch was made to more environmentally friendly material.

8 In the Molki canteen in 2020 and 2021, including pandemic-related meal sales in the Momento coffee bar.

PROPORTION OF VEGETARIAN/VEGAN DISHES (%)[8]





PROPORTIONS OF CO_2EQ FROM CATERING 2021 TOTAL 285 TONNES CO_2EQ

	Category	CO_2eq (T)	Proportion (%)
A	Meat, fish	186.1	65.3
B	Grains, pulses, vegetables, fruit, oils and fats	43.3	15.2
C	Milk products, eggs	40.0	14.0
D	Drinks	11.8	4.1
E	Disposable material	2.4	0.8
F	Coffee beans	1.5	0.5

Up to 2021

Reduction in weather-adjusted heat consumption on the Toni Campus

In future

Set up permanent sport and relaxation spaces on the roof terrace

2 Action areas of Services
2.2 Buildings

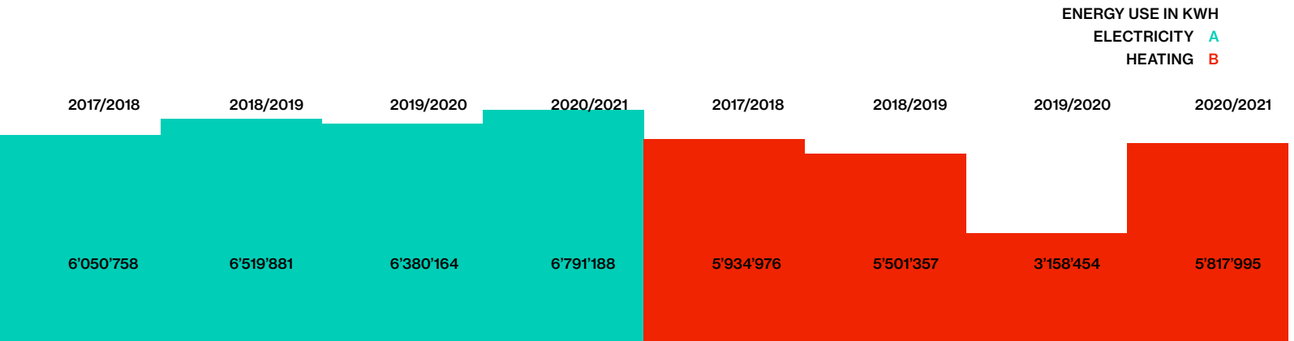
Besides structural aspects, the “Buildings” action area includes on-campus energy consumption and recycling processes as well as the ZHdK vehicle park.

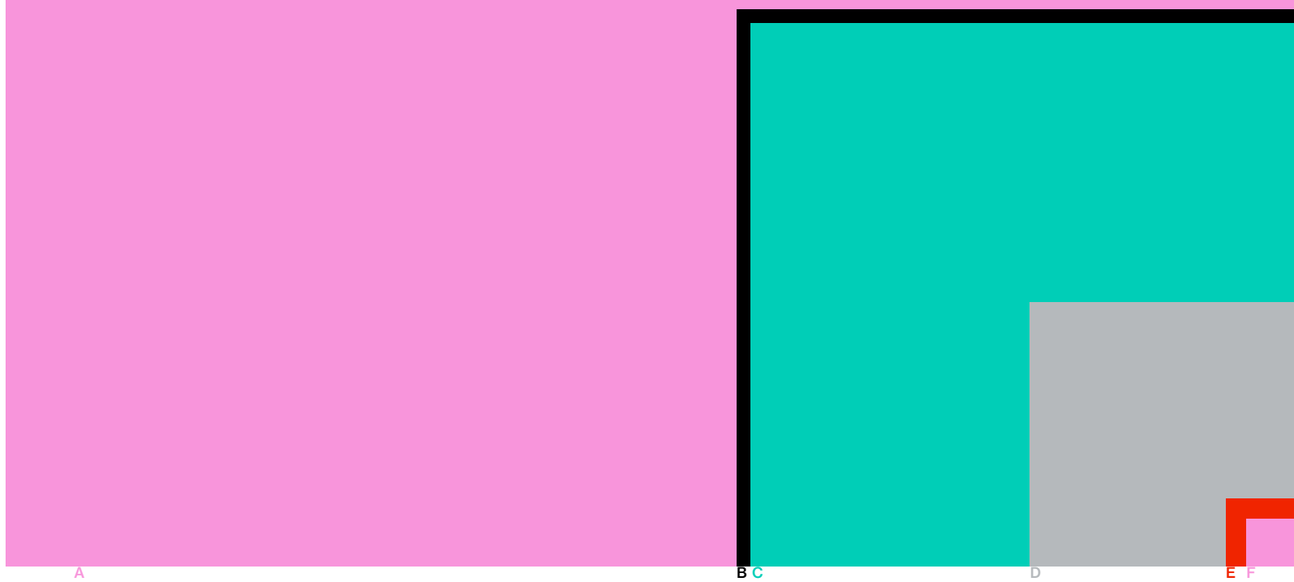
The decision was made to install all-gender toilets on every floor of the Toni Campus in 2020 to supplement gender-separate toilet areas and promote inclusivity on campus. To create further rest areas, two relaxation spaces as well as quiet working stations for use by all university members were set up temporarily in freed-up spaces on the roof terrace level in 2020. A permanent set-up is planned for 2023. The planning work for larger modifications to improve the indoor climate on the Toni Campus has progressed.

In 2020 and 2021, the focus was on maximum ventilation of the buildings to ensure the lowest possible virus load to protect people's health during the Covid-19 pandemic. This had an effect on the heating and electricity consumption, and also reduced the energy efficiency of the buildings overall. Nevertheless, it was possible to reduce the weather-adjusted heat consumption on the Toni Campus by 15% from 2017/18 to 2020/21. This trend needs to be continued and also implemented for the other ZHdK locations as well (see Chapter 3 Outlook).

The Ausstellungsstrasse and Gessnerallee locations generate heat with their own natural gas heating systems, which burnt 20% climate-friendly biogas in 2021. Heating for the Toni Campus is obtained from the Zurich district heating network. The energy of the district heating network mainly comes from the waste heat from waste incineration[9], but also from wood, ambient heat, natural gas and oil. The emissions from these energy sources accounted for the largest share of ZHdK’s carbon footprint with 1,056 tonnes CO_2eq or 50% in 2021. ZHdK obtains electricity exclusively from renewable sources, currently mainly from hydropower, as specified in the canton’s energy supply contract. Accordingly, the electricity consumption in 2021 caused less than 2% of ZHdK’s carbon footprint. Nevertheless, efficient handling of renewable energy is one of ZHdK’s goals (see Chapter 1.1 Climate neutrality and decarbonization).

Reduced operation during the Covid-19 pandemic resulted in a record low quantity of combustible waste from 2020–21. At the same time, various initiatives were also undertaken to reduce the use of disposable material. In the catering area, the quantities of disposable material purchased fell well below the expected factor caused by the pandemic, which equated to around 6.5 tonnes less combustible waste in 2021 than in 2018. The recycling rate on the Toni Campus improved slightly in 2021; however, at 33%, it was still considerably lower than the Swiss recycling rate of 53%.[12] It is possible to improve it further with better recycling and on-campus reuse. In 2021, a new contract was concluded with the waste disposal contractor for the Toni Campus and three other ZHdK locations. The main focus in this area was





PROPORTIONS OF CO_2EQ FROM ENERGY CONSUMPTION 2021[10] TOTAL 1,092 TONNES CO_2EQ

	Category	CO_2eq (T)	Proportion (%)
A	Heating Toni Campus	773.0	70.8
B	Heating Ausstellungsstrasse	145.6	13.3
C	Heating Gessnerallee	137.8	12.6
D	Electricity Toni Campus	32.4	3.0
E	Electricity Gessnerallee	1.9	0.2
F	Electricity Ausstellungsstrasse	1.5	0.1

on transparent recycling processes, exemplary handling of valuable materials, and the opportunity for ongoing optimization. As part of the new collaboration, paper and carton was collected separately, which made it easier to recycle materials. For example, university members can contribute by using reusable dishes responsibly, reusing materials on-campus, or using existing recycling stations to further conserve resources.

From 2020–2021, there was significant demand for disinfectant and medical masks due to the Covid-19 pandemic, which were provided for university members at no cost. The increase in purchase quantities is also reflected in the doubling of greenhouse gas emissions in the area of “Cleaning”.

Facility management has developed a concept with the vehicle representatives for the vehicle fleet, which provides for a gradual switch to alternative power technologies and an increase in the use of e-cargo bikes by 2030. In the process, the condition and lifespan of the current fleet as well as technological advancements are being considered, in particular with regard to alternative forms of propulsion for large transporters. By improving joint use, the goal is to increase the utilisation of the vehicle fleet, which will provide added value for staff and generally reduce the environmental impact of vehicle manufacturing. ZHdK can also make it easier for university members to switch to electric cars by setting up a charging infrastructure on campus.

9 The assessment of greenhouse gas emissions from waste incineration follows the Greenhouse Gas Protocol.

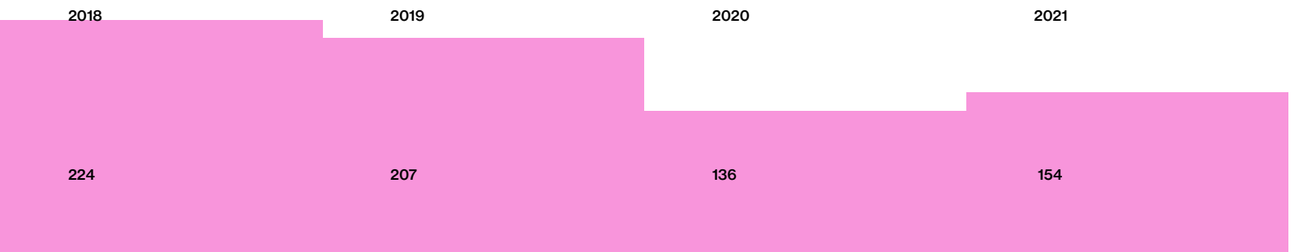
10 Calculated from the consumption data of the second half of 2020 and the first half of 2021 according to the previous years due to the data availability.

11 Further locations are not currently being recorded. The distribution of consumption values is partly determined using distribution keys for locations that are operated with other users. The increase in electricity consumption on the Toni Campus from 2017/18 to 2018/19 can be attributed to an adjustment made to the distribution keys.

12 Waste statistics of the Federal Office of the Environment

13 Data is collected for the Toni Campus and applied to the universities ZHdK and ZHAW based on the number of persons.

DISPOSAL AND RECYCLING QUANTITIES (TONNES)



PROPORTIONS OF DISPOSAL AND RECYCLING QUANTITIES 2021[13]

TOTAL 154 TONNES

	Category	Tonnes	Proportion (%)
A	Combustible waste	95.5	61.9
B	Paper and carton	18.2	11.8
C	Food waste and cooking oils	16.0	10.4
D	Other recycling	11.6	7.5
E	Mixed debris/bulky construction waste	7.2	4.7
F	Lightweight iron	5.2	3.4
G	Hazardous waste	0.6	0.4

Up to 2021

Analysis of the environmental impact of digital mobility

In future

Carry out survey of commuting

2 Action areas of Services
2.3 Mobility

In the Mobility action area, Services is focused on setting up framework conditions for sustainable mobility, such as regulations or infrastructure and information provision on the effects of mobility on the climate.

The mobility behaviour of ZHdK staff and students was largely determined by the travel restrictions as well as the obligation to work at home and learn at a distance during the Covid-19 pandemic, which explains the significant fall from 2020 to 2021. In 2021, the Mobility area caused 16% of the greenhouse gas emissions of ZHdK with air travel, train travel, commuting and digital mobility; in 2018, it was still 48%. The most significant change was in the area of air travel. Air travel had accounted for 38% of the total emissions of ZHdK in 2018; however, this figure fell to only 4% in 2021.

The emissions from commuting were estimated for the 2020–21 Sustainability Report. Data collections of other universities in Zurich on commuting behaviour before 2020 served as reference material. No data has been collected at ZHdK yet as commuting behaviour fluctuated significantly as a result of the decisions taken to stem the spread of the pandemic.

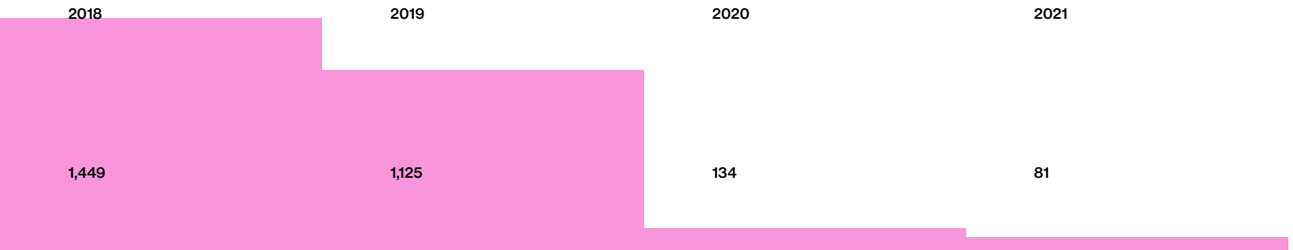
The question of the environmental impact of "digital mobility" was frequently discussed during the pandemic. Thus, the emissions caused outside the ZHdK campus by mobile work and study were investigated in the 2020–21 environmental assessment. The analysis revealed that they arose for the most part from power consumption, and that digital mobility has clear ecological benefits. In addition to a reduction of around 1,200 tonnes of CO_2eq due to the changes in mobility behaviour in 2021 compared to 2019, there are greenhouse gas emissions of around twelve tonnes from mobile work and study ("digital mobility"). Although a lack of physical mobility is not desirable for ZHdK, digital mobility is climate-friendly by comparison. This applies in particular when the transport means is powered by fossil fuels, such as cars with combustion engines or aeroplanes.[14]

14 See the calculations of the Federal Office for the Environment Environmentally friendly work model. It is also better for the climate to work from home.

15 Estimation is based on the place of residence using the modal split of 20% slow traffic (walking, bike), 76% public transport, 4% private cars, individual flights over a short distance (less than 0.5%).

16 Calculation according to the "VDR + RFI 2.0" standard, taking into account the increased greenhouse gas effect of high-altitude flights.

CO_2EQ FROM AIR TRAVEL (TONNES)[16]



PROPORTIONS OF CO_2EQ FROM COMMUTING 2021[15] TOTAL 240 TONNES CO_2EQ

	Category	CO_2eq (T)	Proportion (%)
A	MIT (car, motorbike, etc.)	131.9	55.1
B	PT (train, tram, etc.)	65.0	27.1
C	Plane	42.7	17.8

Up to 2021 **Massive expansion of the support for digital collaboration**

In future **Assessment of the working conditions in IT hardware production**

2 Action areas of Services
2.4 Digitality

2020–21 was delayed due a lack of time resources.

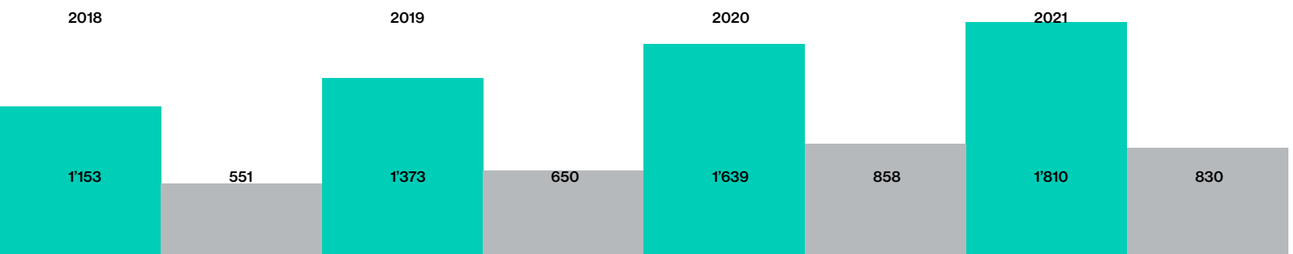
In 2020, the total number of meeting hours in the standard video conference software amounted to around 566,000, which equates to almost 65 years. Triggered by the demands of the Covid-19 pandemic, ZHdK made huge improvements to the support and infrastructure for digital collaboration. It expanded its hardware and software support significantly. Staff received a home office package, and all university members were also assisted with any technical issues on private devices related to their work at ZHdK.

The infrastructure on campus was also upgraded for video conferences and digital collaboration. Meeting rooms and IT training rooms were equipped with video conference systems and additional mobile video conference systems were purchased. As part of the Digital Skills & Spaces programme, the “NEAR TOOLBOX” and “NEAR SHIFT” spaces were set up specifically to facilitate hybrid collaboration between physical and virtual participants. This expansion is reflected in the 25% increase in emissions from IT and AV capital goods in the environmental assessment. Nevertheless, the advantages of digital mobility outweigh this from an ecological perspective (see Chapter 2.3 Mobility).

The planned audit of the working conditions in the delivery chain of IT procurements with Electronics Watch in

MEETING HOURS IN THE STANDARD ZHDK SOFTWARE FOR VIDEO CONFERENCES

LAPTOPS AND SCREENS IN THE ZHDK INVENTORY
LAPTOPS A
SCREENS B



Up to 2021 **Lending concept for tools introduced**

In future **Adapt flexible recycling system for disposal spaces**

2 Action areas of Services
2.5 Materials and workshop materials

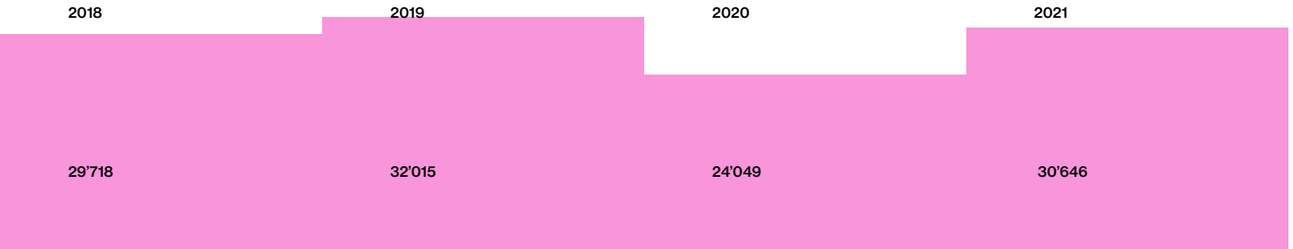
In this action area, Services focus on reuse, further use and recycling of materials, in particular in teaching workshops. Experimentation with new materials and methods and knowledge transfer within the university is connected with this. In 2020–21, a permanent circulation zone was set up for workshop materials and reusable objects. A shelf stand is available for storing MDF, plywood and chipboard – this category of materials is particularly relevant with respect to environmental impact and on-campus reusability. The circulation zones not only conserve natural resources but are also cost-effective for students who undertake projects. A collection system consisting of flexible, stackable containers was introduced in the teaching workshops to better recycle valuable material on campus that can no longer be reused. Plans are in the pipeline to expand the system to the decentralized disposal areas on the Toni Campus in 2022–23.

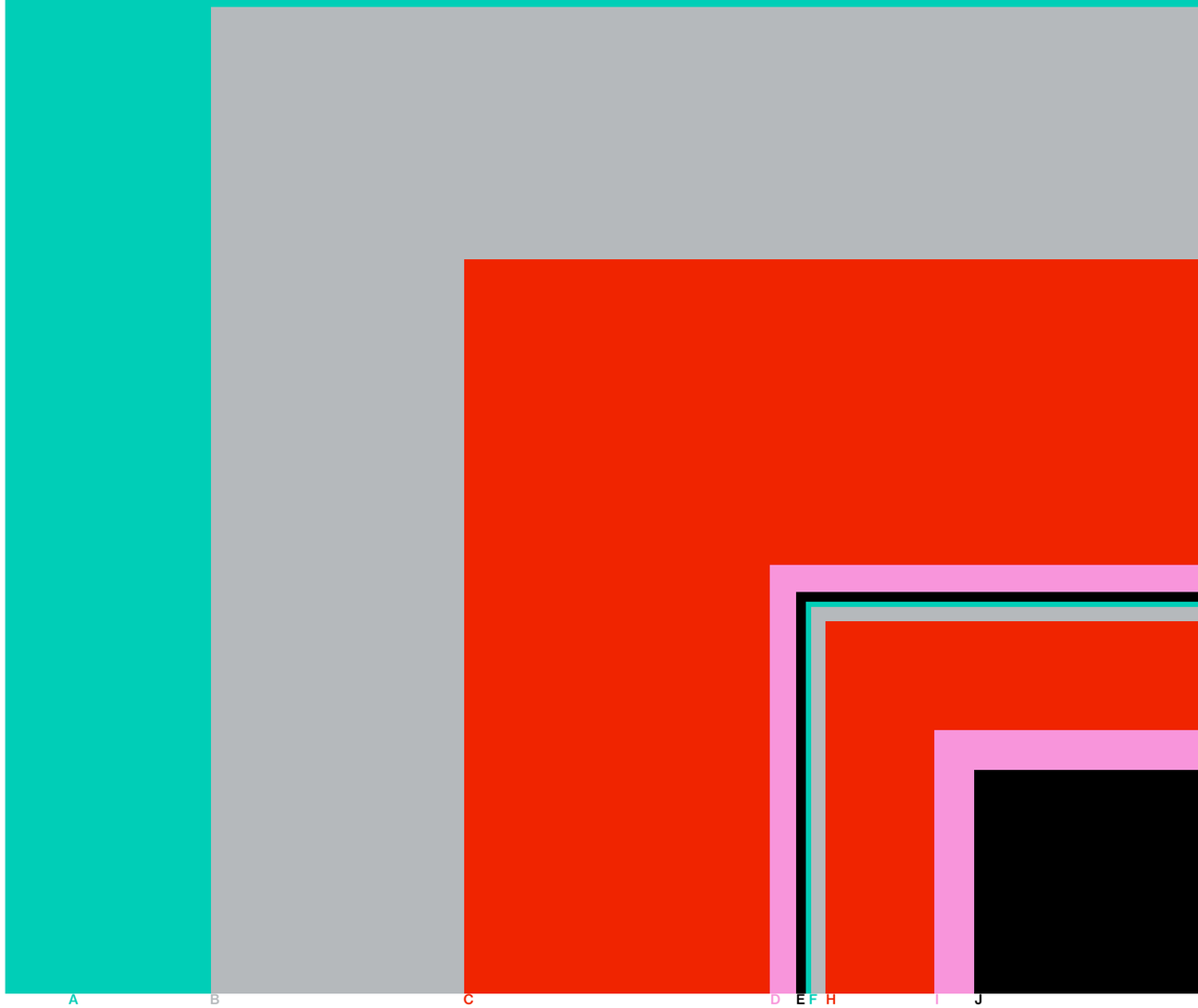
In 2021, material purchases in the teaching workshops caused 38 tonnes of CO_2eq, which is less than 2% of all ZHdK emissions.[18] The share of the environmental impact was less than 3%. The individual materials have very different effects on the environment. For example, solid wood boards and clay cause barely any environmental pollution, although they make up around 30% of the purchase quantity in terms of weight.

In 2020 and 2021, the teaching workshops tested environmentally friendly alternatives to oil and lubricants, and investigated solvent-free varnishes and paints. With the installation of new splitting plants and energy-efficient lighting in the textile workshop, where there are special lighting requirements, an eco-friendly daily work routine was demonstrated in the workshops. A lending concept for joint use of tools was implemented. This daily search for sustainable production and working methods by the teaching workshops as well as exemplifying and passing them on is an important lever for the protection of natural resources.

18 Other material consumption, such as in the production workshops of the Department of Performing Arts and Film and the Museum of Design, has not yet been recorded.

MATERIAL PURCHASES (KG)





PROPORTIONS OF CO_2EQ FROM MATERIAL PURCHASES TEACHING WORKSHOPS 2021

TOTAL 38 TONNES CO_2EQ

	Category	CO_2eq (T)	Proportion (%)
A	MDF, plywood, chipboard	14.0	37.0
B	Lightweight metal	9.6	25.3
C	Textiles	5.3	14.0
D	Plexiglass	1.8	4.8
E	Other	1.6	4.2
F	Paper, foils, screen printing materials	1.5	4.0
G	Steel	1.5	3.9
H	Polystyrene, Ureol	1.4	3.6
I	Plastic sheets PS	0.7	1.8
J	Solid wood, solid wood boards	0.5	1.3

Up to 2021 **New position in central purchasing filled**

In future **Consider sustainability criteria in all submissions**

2 Action areas of Services
2.6 Purchasing and procurement

Due to its annual procurement and investment volumes of around CHF 8 million, ZHdK has a certain purchasing power that enables it to effect changes in consumption and production patterns. As in all the other action areas of sustainable university operations, a holistic understanding of sustainability should be applied to purchasing and procurement: purchasing should be both environmentally and socially responsible.

The guidelines of ZHdK already provide for procurement according to economic and sustainable criteria. The revision of public procurement law with its paradigm shift to increased sustainability and quality competition enables a stronger emphasis on sustainability criteria and consideration of the entire product life cycle in the future. Price is no longer the most important decision-making criterion.

In the reporting years 2020–21, requirements for environmental and social sustainability were formulated in various submissions, including waste disposal and security services as well as stage technology. The teaching workshops continued to evaluate their suppliers according to social and ecological criteria, and published the results internally.[19]

For the ZHdK environmental assessment, among other things, the procurement area of paper was assessed with printing orders sent to the central printing stations and external printing orders. The greenhouse emissions in this area fell by 40% from 2018 to 2021. These figures reflect the strategic approach of ZHdK: digital and hybrid publications were promoted.

In 2021, ZHdK filled a new position for central purchasing. The new incumbent is an expert in the area of sustainable procurement. This laid the requisite foundations to introduce the purchasing platform “P4U” at ZHdK in the next two years, which is already in use at the University of Zurich. Considering sustainability criteria will thus become easier for ZHdK employees.

19 Criteria and suppliers available internally: intern.zhdk.ch/129875

PROPORTIONS OF CO_2EQ FROM PAPER CONSUMPTION IN 2021 TOTAL 95 TONNES CO_2EQ

	Category	CO_2eq (T)	Proportion (%)
A	Printed materials	87.1	91.6
B	Printer paper	8.0	8.4

Up to 2021

Streaming support for events in online or hybrid form

In future

Assist event planners with organizing more sustainable events

2
2.7

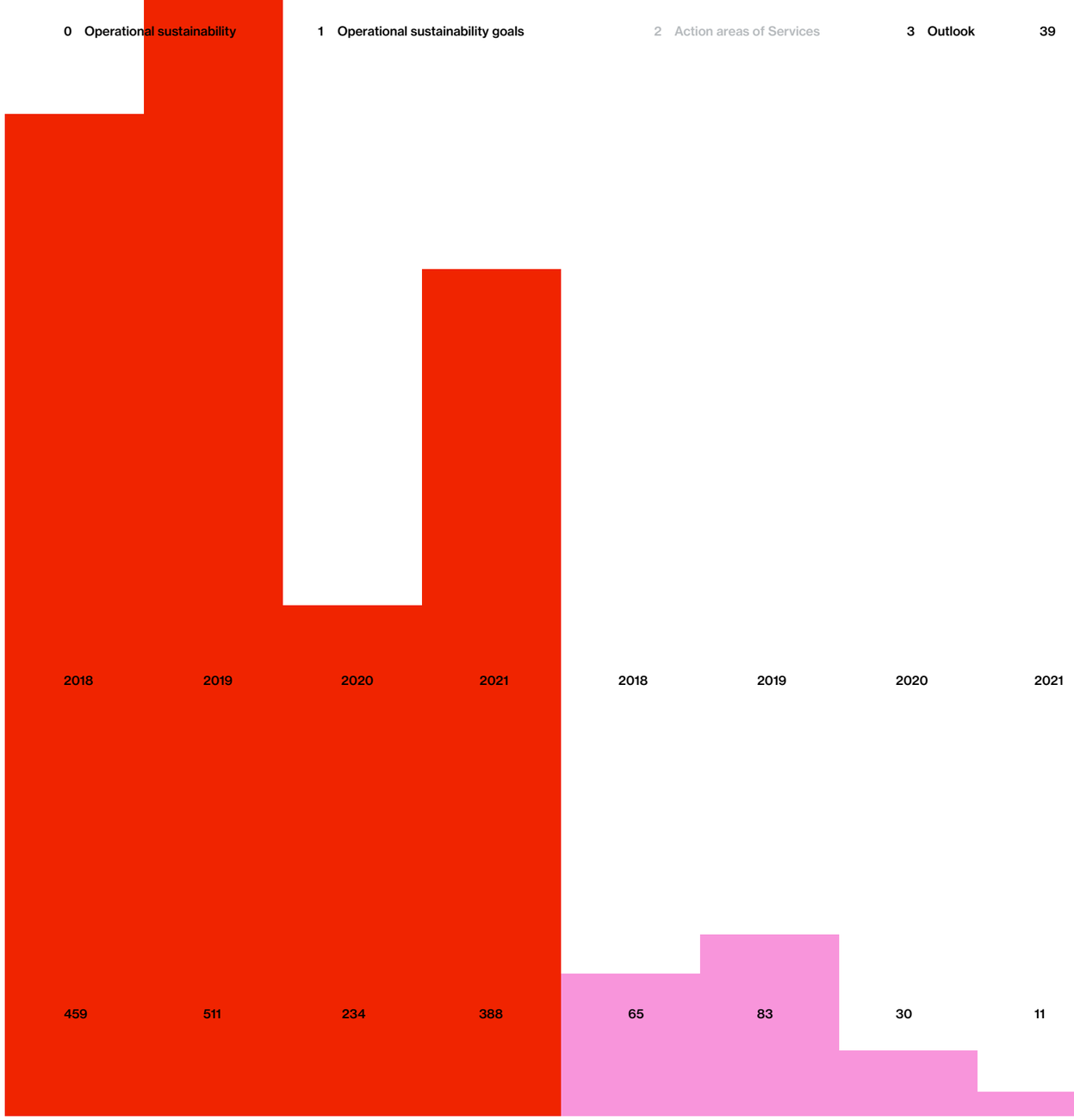
Action areas of Services
Events

In 2022, it is conceivable that the requirements for events will normalize and the activities in this action area will be intensified.

Events were defined as a new action area of Services for the implementation of operational sustainability goals. The focus is on the organizational aspects of planning and running events at ZHdK. Events are deemed to be key learning opportunities for ZHdK staff and students, and a way to experience sustainable practices.

As an event location, ZHdK offers a vibrant environment in which to present teaching and research findings in the form of performances, concerts, exhibitions and conferences, as well as events of partner organizations and external event planners.

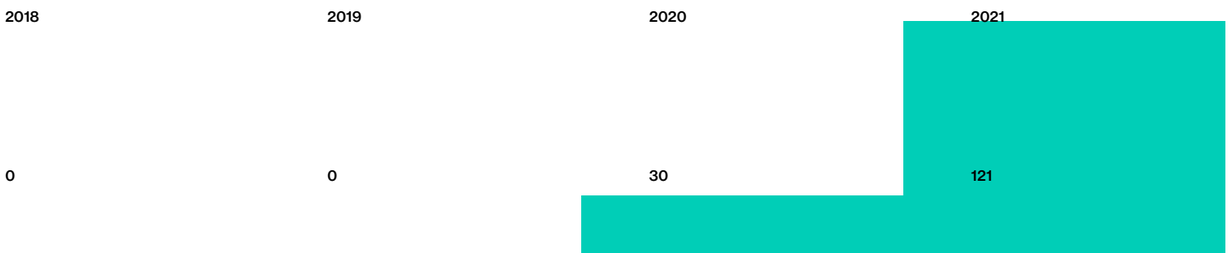
Events which could take place during the Covid-19 pandemic were run and supported by Event Services in line with the current adjusted protection concepts regarding participation limits, hygiene measures, distance rules, contact data collection and certificate checks. Streaming technology and intensive support made it easier to run online and hybrid events. After a pandemic-related break, Event Services organized the participation of ZHdK in the 2021 National Future Day, which promotes gender equality early on when it comes to future opportunities for men and women, and their choice of profession. They provided organizational and technical support for the Student Sustainability Week in 2020 and 2021.



EVENTS SUPPORTED BY EVENT SERVICES

OF WHICH ARE EVENTS OF PARTNER ORGANIZATIONS AND EXTERNAL EVENT ORGANIZERS

EVENT-SPECIFIC COVID-19 PROTECTION CONCEPTS



Up to 2021 **Standardization of the compensation policy for student jobs**

In future **Determine indicators of diversity among the student body**

2 Action areas of Services
2.8 Study conditions

Services assist students with administrative and financial processes throughout their academic journey, from application and enrolment procedures through to graduation and their departure from ZHdK, and offer advice on and support with all aspects of student life. During the advisory sessions, ZHdK students receive help with visas, residency permits, health insurance and equivalency recognition applications. They are also offered budgeting advice and information about financial support options. Salutations and/or preferred first names of trans and intersex people are already used before they are changed by official decree, which was requested by four students in 2021.

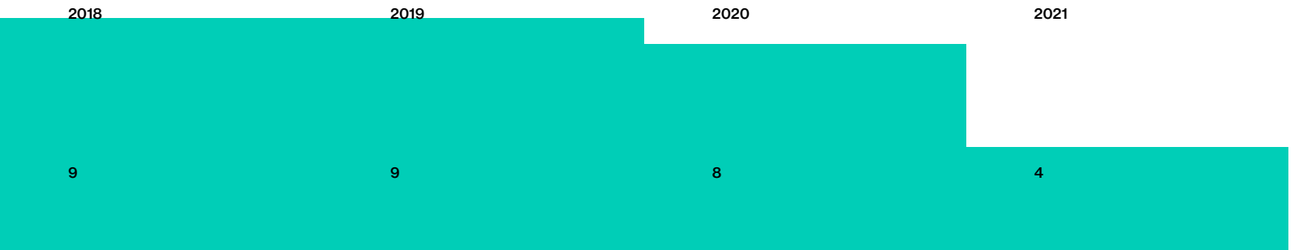
Around 90 students use the counselling sessions of the University Office every year, around two thirds of whom are international students. Information is also available online. With this advisory service, ZHdK also makes every effort to ensure that students are able to study irrespective of their social background or financial means. In hardship cases, students have the opportunity to directly apply for financial relief in the form of an exemption from the majority of their study fees at ZHdK. A hardship case is deemed to exist when a student's financial situation is barely sufficient for them to fund their studies and their living costs. Applications are welcome every semester; exemptions are guaranteed for two semesters. In 2020, 173 applications were approved (95% of the submitted applications); in 2021, 176 applications were approved (96% of the submitted applications). In 2021, 8% of students were exempt from study fees. This is an indicator of the number of students in a precarious financial situation.

The compensation process for student work was standardized at the request of the student organization, VERSO, in order to ensure fair and transparent wages for student jobs at ZHdK. Since 2020, there has been a university-wide, four-level model in place which considers the type, duration and scope of the work. At ZHdK, students receive the same support for extra-familial childcare as employees. In 2020, this was offered independently of time and place to better meet the need of employees and students.

The Gender & Diversity Office developed the "Protection of the Integrity of ZHdK Staff and Students" concept in 2020 to protect ZHdK staff and students against discrimination such as sexual harassment, transgressive behaviour, racism, abuse and bullying. As a result of this, ZHdK appointed internal representatives for staff and students to contact anonymously at any time for an initial discussion if they suffer discriminatory behaviour. Like the departments and the Office of the President, Services appointed its own representative in 2021.

20 Reduction due to the Covid-19 pandemic

ASVZ SPORTS OFFER (NUMBER OF COURSES)[20]



EXEMPTIONS FROM STUDENT FEES 2021

	Category	Students	Proportion (%)
A	Students without partial exemption	1,993	92.0
B	Students with partial exemption	173	8.0

Up to 2021

Up to 100 pandemic-related e-mails answered daily by health management

In future

Expand internal continuing education on sustainability topics

2 Action areas of Services
2.9 Employment conditions and human resources development

This action area of Services includes topics such as recruitment and salary classification (See Chapter 1.3 Equal opportunities and inclusion) as well as human resources development measures and support offers for staff.

In 2020 and 2021, personnel resources were also stretched to the limit in the human resources management area to deal with the Covid-19 pandemic. Operational health management (BGM), which is located in this area, set up a BGM e-mail and hotline and guaranteed intensive support. BGM was the central point of contact for university members for questions related to dealing with the pandemic at ZHdK, and answered up to 100 e-mails daily at times.

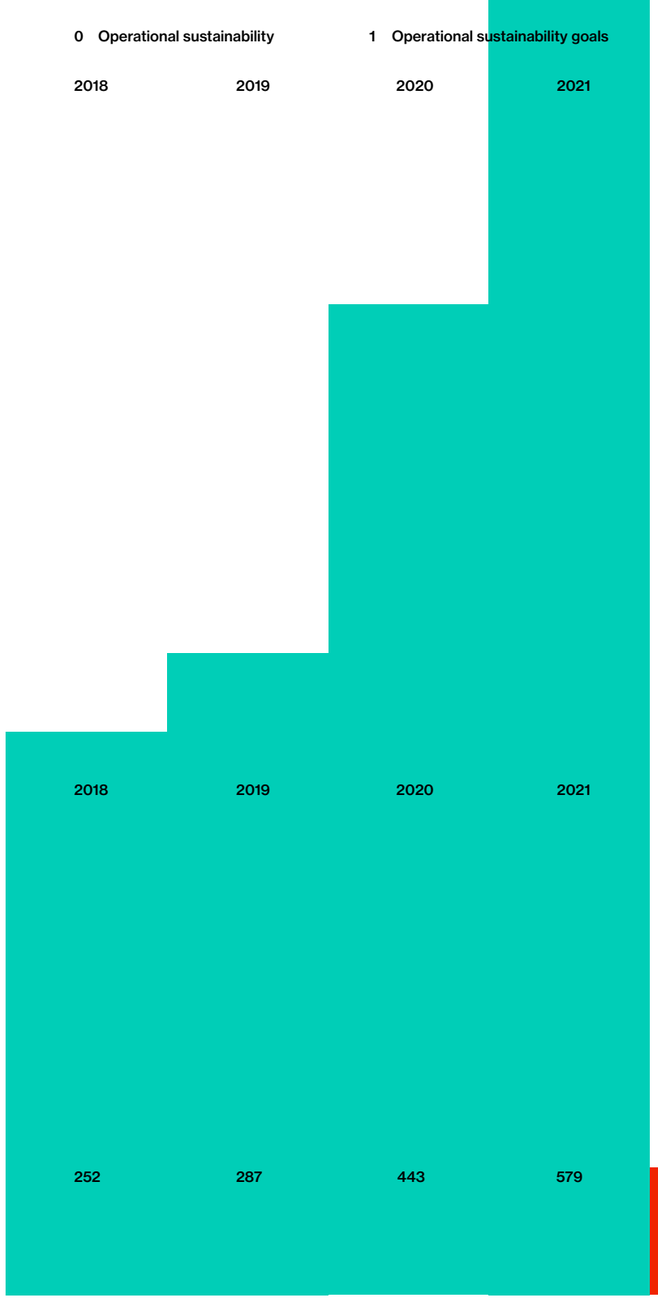
The already established offer of psychological counselling became more important in light of the stressful situations that occurred in 2020–21. It was advertised more frequently and supplemented by easy-to-access telephone or video-supported online advisory sessions. Existing BGM offers such as ergonomic advice and the flu vaccination drive were also continued where possible during the pandemic.

Most of BGM's services are also open to students. For example, the opportunity for free psychological counselling is frequently used. The offer of individual psychological counselling was complemented by workshops on the topics of examination stress, procrastination, and working techniques for students – also in relation to studying at home. The workshop "Psychological stress suffered by students" for lecturers, research associates and heads of programme provides information on the possibilities and limits of supporting students as well as tips for conducting talks.

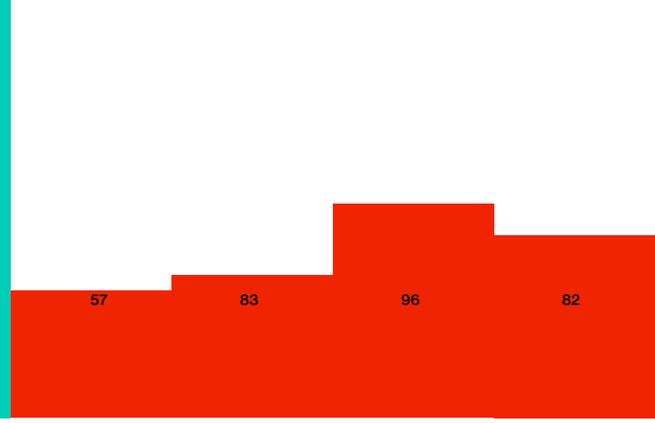
In 2020, internal ZHdK continuing education was relocated in Services. It offered the opportunity for closer links with BGM and other operational sustainability goals. The existing programme was expanded in line with the pandemic-related changes in the workday to include workshops on the topic of working from home as well as virtual collaboration and tips on remote management. Offers on stress management and relaxation exercises in the workplace were supplemented with a new course entitled "Meditation and mindfulness". The number of registrations and positive feedback about this this new course show that staff are interested in prevention also in the area of mental health.

Services supported their staff by developing their knowledge and skills in the area of sustainable development with personalized continuing education or course attendance alongside their work as well as at a low-key level with the choice of topics at the annual Services team event. Skills and tasks in the area of sustainable university operations were incorporated into the job descriptions of service employees. Services also maintains a link with other universities for specialist continuing education; for example, for sustainable business travel, procurements and its carbon footprint/climate neutrality.

21 Has also been open to students since 2021.



PSYCHOLOGICAL COUNSELLING (NUMBER OF SESSIONS)



FLU VACCINATIONS (PARTICIPANTS IN THE FREE VACCINATION DRIVE)[21]

Up to 2021

Sustainability report designed by students of the Bachelor Visual Communication

In future

Expand indicators of the well-being of university members

2 Action areas of Services
2.10 Reporting and communication

The reporting on operational sustainability provides university members with information and key figures. It makes developments transparent, imparts knowledge and generates discussion. The two-yearly reports become more comprehensive with every edition, so they should not be read as if they were exhaustive.

The most important expansion in terms of content in 2020–21 compared to the 2019 report was undertaken on the topics of equal opportunities and inclusion, in line with the goals defined for the Sustainable Campus.

The 2020–21 report was designed by ZHdK students for the first time. A select team from the Bachelor Visual Communication redesigned the entire layout and all the infographics. This resulted in a shift to revamped text and colour compositions, on the basis of texts, figures and facts, The report also reflects ZHdK in terms of design, offers students in this degree programme a practical, learning opportunity with a real client, and brings operations and faculty members closer together.

OUTLOOK

3 Outlook
3.1 Key implementation areas 2022 and 2023

In 2020–21, important steps were taken towards operational sustainability in the next few years. With the development of the sub-strategy for operational sustainability, "Sustainable Campus", goals and action areas were defined for ecologically and socially responsible university operations. The outlined decarbonization path points the way to a climate-neutral ZHdK and is a top priority for Services. For example, when it implements the sub-strategy and the decarbonization path, Services will undertake the following in 2022 and 2023

1 Begin the upgrade of the roof terrace of the Toni Campus by setting up "Work&Relax", a permanent space for sport and relaxation. The planning for further greening and depaving of the roof terrace area, which will contribute to biodiversity and lower heat levels, will be firmed up with the Real Estate and Building Department. A photovoltaic system will cover part of the need for renewable power by own production.

2 Reduce energy use in the buildings by successively retrofitting the lighting in the corridors with LED technology that contains movement sensors. The energy efficiency of the building facilities will be continually optimized in collaboration with the participating stakeholders.

3 Call for new tenders for catering on the Toni Campus. With the involvement of the joint canteen council of ZHdK and ZHAW, a new catering concept is being developed that considers all aspects of sustainability from an affordable offer to fair production conditions, through to a climate-friendly selection of food.

4 Formulate a procurement policy at ZHdK. It will contain principles that are particularly important to ZHdK, along with prescribed guidelines and processes.

5 Link operational health management more closely with internal continuing education, and expand the range of courses.

6 Establish resignation monitoring. Questions such as work-life balance, management culture, working environment, development opportunities and gender equality make it possible to identify university-relevant topics and derive measures.

7 Focus more closely on topics of social sustainability in connection with the study conditions at ZHdK. The sustainability working group of Services will be extended with a representative from the University Office.

8 Strengthen the collaboration with the Sustainability Dossier and other actors outside Services to achieve operational sustainability through joint commitment of all university members.

3 Outlook
3.2 Decarbonization path and climate compensation

ZHdK has decided that university operations will be climate-neutral from 2022, and it has ambitious decarbonization plans. In this way, it is contributing to the climate protection goals of the federal government as well as those of the canton and city of Zurich to limit global warming to maximum 1.5 degrees in line with the Paris Agreement. In setting its goals, ZHdK is following scientific findings such as the reports of the Intergovernmental Panel on Climate Change (IPCC) as well as global initiatives such as the "Race to Zero for Universities and Colleges". In line with these, the outlined decarbonization path of ZHdK envisages a reduction of 50% up to 2030 compared with the base year 2018.

The decarbonization path outlines how to reduce the university's greenhouse gas emissions. In the process, realistic developments outside the area of influence of ZHdK are considered; for example, the increase in efficiency of airlines. In line with the emission sources of ZHdK, the reduction can be implemented predominantly in the areas of heat consumption, mobility and catering.

In the area of heat supply, likely changes in the city of Zurich have already been considered: Energie 360°, the current natural gas supplier for the Gessnerallee and Ausstellungsstrasse locations, plans to offer only renewable energy sources by 2040. At the same time, the city of Zurich plans to gradually shut down the gas network. A connection to the district heating network is expected for Ausstellungsstrasse by 2030. ERZ Disposal and Recycling Zurich are following specific plans to ensure district heat supply without fossil fuels such as oil or gas. In this way, the greenhouse gas emissions will be significantly reduced. In the ZHdK assessment, these developments will result in around 20% fewer emissions from heat supply. A further 30% reduction in emissions can be achieved by increasing building efficiency. Moreover, the current trend towards reducing heat consumption on the Toni Campus must be continued. The effectiveness and acceptability of different measures must be checked with the participating stakeholders. During the "Toni Campus Indoor Climate" project, a reduction in the average room air temperatures during the heating period can potentially be implemented in occupational physiology terms by controlling the temperature more accurately. Lowering the temperature by two degrees could reduce the heat consumption on Toni Campus by approximately 14%. At the Ausstellungsstrasse and Gessneralle locations, the current trend towards increasing heat consumption must be reversed.

It is assumed that air travel will need to halve in order to reduce the ZHdK greenhouse gas emissions by fifty per cent. Together with the commitment of airlines to increase their own efficiency on an annual basis, the contribution of air travel to the total emissions may reduce from 38% to 29%, and remain the largest source of emissions. Train travel is expected to increase, so the share of emissions will be 2% by 2030. In the case of commuting, it is assumed that the share of mobile work and studying without journeying to the campus will be around 30%. Emissions can be reduced by around 40% in this area if electromobility levels among staff increase and they commute to and from work less frequently by aeroplane. The commuting calculations are connected with a degree of uncertainty as data is still being collected in this area. In the case of the ZHdK vehicle fleet, there are plans for a switch to alternative drive technologies such as batteries or fuel cells. If university members are given access to charging infrastructure as well, this will also have a positive effect on commuting.

In the catering area, switching to a vegetarian-vegan offer could reduce around 60% of the emissions, which equates to 8% of the total ZHdK emissions. In the area of paper/printed materials, digital publications have already increased in comparison to 2018, which led to a reduction in emissions by around 40% in 2021. A further reduction of 10% is expected by 2030. The emissions from disposing of combustible ZHdK waste should also be reduced by half, primarily through improved recycling and on-campus reuse.

From 2022, unavoidable ZHdK greenhouse gas emissions will be compensated according to the assessment from last year, so that ZHdK can be climate-neutral. Compensation via natural or technical reductions in CO_2 is preferred, i.e. physical "neutralization" of greenhouse gases by removing them from the atmosphere and storing them long-term.[22] Currently, targeted use of biochar in agriculture is already possible. Biochar is high in carbon and is extremely stable in the ground, where it can also act as a sponge for water and nutrients.[23] Reforestation projects, in which forests act as CO_2 sinks, are similarly effective, but they require several years to develop their potential.[24] Forest protection projects which prevent deforestation and the release of already stored CO_2 are a further option. It is comparable to the effect of projects to rewet moors. Moors absorb and store significant amounts of carbon. If they dry out, the carbon reacts with the oxygen in the air, expelling large amounts of CO_2 in the process. This process is stopped by rewetting.[25]

By taking approaches such these, ZHdK can "dispose of" its greenhouse gas emissions correctly, along with any other waste. In the process, only compensation projects that are holistically designed and, for example, involve the local population and support biodiversity will be selected. The primary goal is still rapid decarbonization.

22 See Information for Specialists Federal Office for the Environment Negative emission technologies

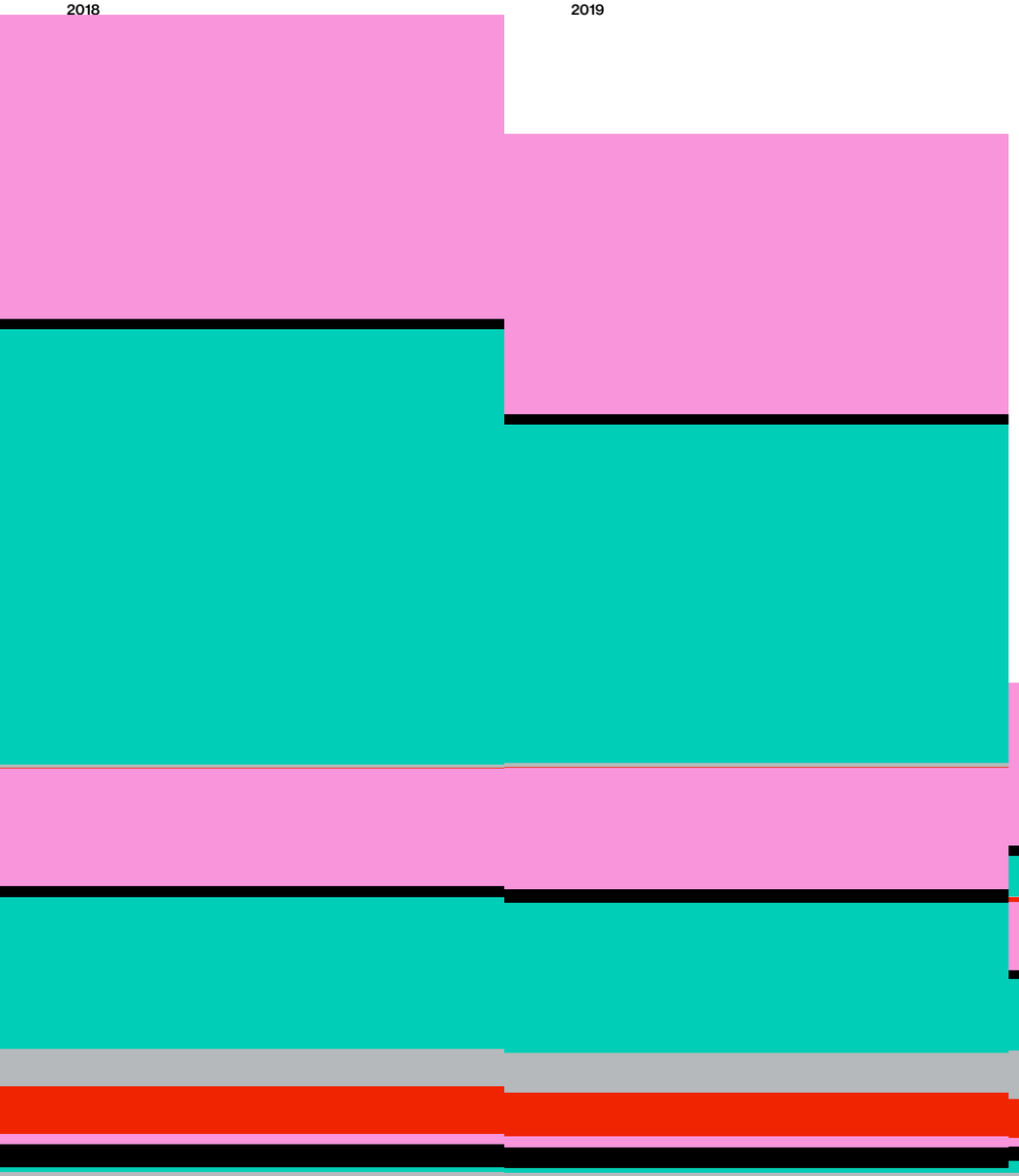
23 See Agroscope publications on Biochar

24 See ETH study on Potential of reforestation

25 See the report of the Swiss Federal Institute for Forest, Snow and Landscape Research on the Protection of Swiss Moors

26 Estimation, see Chapter 2.3 Mobility

DECARBONIZATION PATH 2018–2030 IN TONNES OF CO_2EQ



	Category	Proportion 2018	Reduction 2018–30	2018	2019	2020	2021	2030	Proportion 2030
A	Heating	26.2%	-50.0%	1,012	931	543	1,056	506	26.2%
B	Electricity	0.8%	-6.3%	32	34	33	36	30	1.5%
C	Air travel	37.6%	-61.4%	1’449	1’125	134	81	559	29.0%
D	Train travel	0.2%	168.4%	10	13	5	7	26	1.3%
E	Digital mobility	0.0%	1100.0%	1	1	15	12	12	0.6%
F	Commuting	10.1%	-41.1%	391	406	227	240	230	11.9%
G	Vehicle fleet	0.9%	-41.4%	36	44	28	37	21	1.1%
H	Catering	13.1%	-60.5%	506	499	239	285	200	10.4%
I	IT hardware, AV equipment	3.2%	29.1%	124	132	161	165	160	8.3%
J	Paper	4.1%	-46.2%	158	147	128	95	85	4.4%
K	Teaching workshops material	0.8%	0.0%	32	35	29	38	32	1.7%
L	Waste	2.0%	-49.4%	79	71	49	49	40	2.1%
G	Cleaning	0.5%	0.0%	18	15	41	37	18	0.9%
D	Water	0.3%	0.0%	11	10	8	7	11	0.6%
	TOTAL			3,857	3,463	1,638	2,145	1,929	

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